

# Shifts in U.S. Merchandise Trade in 1996

Investigation No. 332-345

Publication 3051

July 1997

**U.S. International Trade Commission**



Washington, DC 20436

# U.S. International Trade Commission

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## PREFACE

On August 27, 1993, on its own motion and pursuant to section 332(b) of the Tariff Act of 1930 (19 U.S.C. 1332(b)), the U.S. International Trade Commission (USITC) instituted investigation No. 332-345, *Annual Reports on U.S. Trade Shifts in Selected Industries*, for the purpose of preparing annual trade shifts reports. The current report format was developed by the USITC in response to congressional interest in establishing a systematic means of examining and reporting on the significance of major trade shifts, by product and with leading U.S. trading partners, in the services sector and in all agricultural and manufacturing industries.

On December 20, 1994, the Commission on its own motion expanded the scope of this study to include selected service industries. Under the expanded scope, the Commission publishes two reports annually, one entitled *Shifts in U.S. Merchandise Trade* and the second entitled *Recent Trends in U.S. Services Trade*. A separate report covering services trade was instituted in order to provide more comprehensive coverage of U.S. trade performance and overall economic competitiveness.

A significant amount of the work contained in this recurring report is basic research required to maintain a proficient level of trade expertise that the Commission has found essential in its statutory investigations and in apprising its varied customer base of global industry trends and competition issues. The information compiled in this report, such as import, export, trade balance, and industry profile data (domestic consumption, production, employment, and import penetration) for nearly 300 major industry/commodity groups, is not replicated elsewhere in the Government.

The current report briefly summarizes and analyzes the major trade shifts that occurred in 1996 in terms of both industries/commodities and the leading U.S. trading partners. It also discusses the following: certain trade developments with countries or regions where there are current noteworthy U.S. trade interests, and factors affecting trends in selected commodities where notable factors are affecting U.S. trade. This report also summarizes trade information and profiles basic statistics of industry/commodity groups.

The information and analysis in this report are 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.

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## Glossary of Frequently Used Abbreviations and Acronyms

APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
ATC	WTO Agreement on Textiles and Clothing
Bbl	A barrel of 158.98 liters measured at 15.6° C
BEA	Bureau of Economic Analysis
CBERA	Caribbean Basin Economic Recovery Act
ECU	European Currency Unit
EIU	The Economist Intelligence Unit
EU or EU-15	European Union
FAS	Foreign Agriculture Service
FIE	Foreign-invested enterprises
FFE	Foreign-funded enterprise
F.R.	Federal Register
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GPO	Government Printing Office
HTS	Harmonized Tariff Schedule
IMF	International Monetary Fund
ITA	International Trade Administration
MERCOSUR	Southern Cone Common Market
MFA	Multifiber Arrangement
MFN	Most favored nation
NAFTA	North American Free Trade Agreement
NICs	Newly industrialized countries
NPC	National People's Congress
NTDB	National Trade Data Bank
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
TPL	Tariff preference level
USDA	U.S. Department of Agriculture
USDOC	U.S. Department of Commerce
USITC	U.S. International Trade Commission
USTR	United States Trade Representative
WTO	World Trade Organization



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# CHAPTER 1

## Introduction

The trade analysts of the U.S. International Trade Commission (USITC or the Commission) Office of Industries routinely monitor trade developments in all agricultural and manufacturing industries, and in the services sector, as part of the USITC mission. Trade monitoring at the major sector and subsector levels (referred to as industry/commodity-groups in this report) is a facet of the research and analysis undertaken by the Office of Industries in its responsibilities to provide advice and technical information on industry and trade issues. Trade monitoring enables the USITC to better anticipate and address the issues of concern in its various roles under U.S. trade statutes.<sup>1</sup> This annual report analyzes significant merchandise trade shifts on an aggregate basis, on a bilateral basis, and at the industry/commodity-group level in greater detail. This series is part of the Commission's recurring reports that facilitate the development of core competencies and expertise, and enable the Commission to provide objective and in-depth analysis to the Congress, the public, and other agencies related to emerging and complex trade and economic issues.

For trade monitoring purposes, *U.S. Harmonized Tariff Schedule (HTS)* headings/subheadings, and the corresponding export categories, are assigned into industry/commodity groups by the USITC.<sup>2</sup> These groups are aggregated into sectors. Table 1-1 at the end of this chapter shows the major sectors, the industry/commodity groups in the sector, and *HTS* coverage by chapter, for each sector.

This report does not analyze U.S. trade shifts in services, which, as noted in the Preface, is the subject of a complementary USITC annual report.<sup>3</sup> Thus, throughout this report (except in the lead paragraph of chapter 2), references to trade balances represent only U.S. balances in merchandise trade. However, in assessing the U.S. merchandise trade deficit in 1996, it is important to note that the United States recorded a trade surplus in services of \$73.4 billion, which, when added to the \$208.3 billion merchandise trade deficit, reduced the total trade deficit to \$134.9 billion.

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<sup>1</sup>Major roles include determining whether U.S. industries are materially injured or threatened with material injury by unfair imports, conducting studies on the international competitiveness of U.S. industries, and advising the President and the Congress on the likely effects of trade-policy changes and proposals.

<sup>2</sup>All import and export data in this report are official statistics of the U.S. Department of Commerce.

<sup>3</sup>The report on services, U.S. International Trade Commission, *Recent Trends in U.S. Services Trade* (investigation No. 332-345), USITC publication 3041, May 1997, covers 1990-95 data. The report covering 1996 data will be issued in 1998.

## TRADE DATA NOTE

Although all import and export figures presented in this report are official statistics of the U.S. Department of Commerce (Commerce), these figures may be substantially different from the figures presented by other government agencies and private institutions that cite Commerce as the source for trade data. Possible reasons for these discrepancies are as follows:

- Figures in this report include merchandise trade only; other reported figures may include services.
- Figures are not seasonally adjusted; the values of other reported figures may be so adjusted.
- Imports are on an imports for consumption/customs value basis; other reported import figures may be on a general imports/customs value basis.
- Exports are on a domestic export/f.a.s. basis; other reported export figures may be on a total export/f.a.s. basis, which include reexports of foreign merchandise.
- Imports and exports may not include all errata because certain errors may not be corrected by Commerce in time to be included in this report.
- Figures may be adjusted for errors that are not of sufficient magnitude to be changed in Commerce data.
- There are no adjustments for carryover (imports and exports received late or not processed for any reason and then subsequently included in the following month's figures are reassigned to the month of entry/exportation), and trade is reported as originally released by Commerce. Other reported figures may adjust import/export trade for carryover.

Chapter 2 of the report summarizes U.S. merchandise trade that occurred in 1996, as compared with levels in 1995. Coverage of the individual merchandise sectors include data showing U.S. import, export, and trade balance shifts by major industry/commodity sectors and shifts in trade with major U.S. trading partners. In addition, a tabular summary details the most significant industry/commodity group year-to-year shifts that occurred within each of the major industrial and agricultural sectors.<sup>4</sup>

Chapter 3 provides analysis of the important shifts in U.S. trade with each major trading partner. In addition, other current noteworthy trade developments involving specific countries or country groups are discussed. Chapter 4 analyzes factors affecting trends in selected commodities that have been subject to specific monitoring requirements or recent bilateral agreements; affected importantly by longer-range trends; or have been the subject of trade-remedy action.

Chapters 5 through 14 address specific major industrial and agricultural sectors, with each chapter providing both a general sector overview and in most cases, analyses of specific industry/commodity groups. These chapters also identify significant bilateral shifts in merchandise trade within each major sector. A statistical summary table of industry/commodity groups follows each major sector analysis.

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<sup>4</sup>See chapter 3 of the 1993 annual report for long-range assessments of common factors affecting trends in selected industry/commodity sectors. U.S. International Trade Commission, *U.S. Trade Shifts in Selected Industries: 1993 Annual Report* (investigation No. 332-345), USITC publication 2805, Sept. 1994.



The report includes four appendixes. Appendix A lists the specific industrial and agricultural commodity groups that the Commission monitors. Appendix B provides official and estimated data for 1992-96 on domestic consumption, production, employment, trade, and import penetration for the nearly 300 industry/commodity groups covered in this report. USITC international trade analysts have estimated certain of these data, based on primary and secondary Government and industry sources. The estimated data are subject to change either from future secondary sources, or from the detailed surveys the USITC often conducts in the course of statutory investigations or other work. Appendix C lists the political entities included in the country groupings shown in this report. Appendix D discusses the effect of exchange rate shifts on trade, and summarizes the major changes in exchange rates that occurred in 1996.

Table 1-1  
USITC major sectors, *HTS* coverage, and code for industry/commodity groupings

Major sector	<i>HTS</i> chapters <sup>1</sup>	USITC code for industry/ commodity grouping <sup>2</sup>
Agricultural products	1-24, 35, 41, 43,51, 52	AG001-AG045, AG062-AG064
Forest products	14, 44-49	AG046-AG061
Chemicals and related products	13-15, 22, 25, 27-40	CH008-CH047
Energy-related products	27- 29, 34,36, 38	CH001-CH007
Textiles, apparel, and footwear	39, 40, 42, 43, 50-65	CH048-CH079
Minerals and metals	25, 26, 68-76,78-84	MM001-MM045
Machinery	84, 85, 87	MT003-MT010, MT013-MT024, MT026-MT029, MT031, MT032, MT034-MT036, MT045, MT046
Transportation equipment	84-89	MT001, MT002, MT011, MT012, MT025, MT030, MT033, MT037-MT044
Electronic products	37, 84, 85, 88, 90, 91	ST001-ST030
Miscellaneous manufactures	42, 66, 67, 71, 87, 92-97	MM046-MM067
Special provisions	98-99	none

<sup>1</sup>Products in some chapters are divided between sectors; however, no products are in more than 1 sector. Chapter 77 of the *HTS* is not used (it is reserved for possible future use).

<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of *HTS* headings/subheadings and corresponding export categories for trade monitoring purposes. See app. A for a list and title of each of these groupings.



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## CHAPTER 2

# U.S. Merchandise Trade Performance

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Total U.S. merchandise and services trade (exports plus imports) in 1996 was \$1,746.8 billion, an increase of \$86.5 billion (7 percent) from 1995. Merchandise trade accounted for \$1,372.6 billion (79 percent) of total trade in 1996, and amounted to 18 percent of U.S. GDP.

The U.S. merchandise trade deficit expanded by \$15.1 billion (8 percent) to \$208.3 billion in 1996, up from the \$193.2 billion deficit recorded in 1995 (table 2-1 and figure 2-1), but the 1996 deficit increase was smaller than the \$17.2 billion (10-percent) deficit increase that occurred in 1995. Both U.S. exports and imports increased by 7 percent (U.S. exports grew to \$582.1 billion, while imports increased by \$790.5 billion in 1996). However, the absolute increase of \$50.8 billion in U.S. imports was 43 percent larger than that of U.S. exports, which increased by \$35.7 billion. The ratio of exports and imports to total trade remained unchanged at 42- and 58-percent, respectively, for the third straight year.

Factors affecting U.S. merchandise trade performance in 1996 included increased consumer spending in the United States, which spurred both U.S. production and imports; changes in the relative level of interest rates and exchange rates<sup>1</sup> between the United States and its trading partners; different growth rates in global economies; and structural impediments in key foreign markets. The expansion in the U.S. trade deficit during 1996 was led by substantial increases in the value of imports of crude petroleum and petroleum products, natural gas, computers, and motor vehicles. The trade deficit also increased because of large decreases in the value of exports of various agricultural and forest products, including wood pulp and wastepaper, cotton, and fats and oils, as well as benzenoid commodity chemicals, miscellaneous organic chemicals, and steel mill products. Increases in the value of certain U.S. exports partially offset the drop in the foregoing products. These groups included aircraft, computers and computer peripheral equipment, cereals, oilseeds, motor vehicles, precious metals and related articles, construction and mining equipment, medical goods, and petroleum products.

All major sectors except agricultural products and chemicals and related products continued to experience deficits in 1996. Electronic products, transportation equipment, and

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<sup>1</sup>See app. D for a discussion of how exchange rate shifts affect trade.

machinery were the only major sectors in which there were reductions in the U.S. sectoral deficit in 1996. The reductions were as follows: \$6.0 billion (12 percent) to \$43.5 billion in electronic products; \$4.5 billion (14 percent) to \$27.0 billion for transportation equipment; and \$1.1 billion (33 percent) to \$2.2 billion in the machinery sector. These changes represented significant turnarounds from 1995, when the deficit in these three sectors expanded, by \$11.1 billion (30 percent) in the electronic products, by \$7.4 billion (31 percent) in transportation equipment, and by \$575 million (22 percent) in the machinery sector.

**Table 2-1**  
**U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by major industry/commodity sectors, 1995 and 1996<sup>1</sup>**

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
<b>U.S. exports of domestic merchandise:</b>				
Agricultural products	65,431	69,046	3,615	5.5
Forest products	27,461	25,509	-1,952	-7.1
Chemicals and related products	67,463	69,598	2,135	3.2
Energy-related products	12,842	14,600	1,758	13.7
Textiles and apparel	15,039	16,459	1,420	9.4
Footwear	671	761	90	13.4
Minerals and metals	39,350	40,459	1,109	2.8
Machinery	56,936	61,034	4,098	7.2
Transportation equipment	104,138	115,694	11,556	11.1
Electronic products	126,866	137,022	10,156	8.0
Miscellaneous manufactures	14,046	14,393	347	2.5
Special provisions	16,221	17,561	1,340	8.3
<b>Total</b>	<b>546,465</b>	<b>582,137</b>	<b>35,672</b>	<b>6.5</b>
<b>U.S. imports for consumption:</b>				
Agricultural products	37,807	41,526	3,720	9.8
Forest products	29,155	28,957	-197	-0.7
Chemicals and related products	52,452	57,481	5,029	9.6
Energy-related products	60,336	76,396	16,059	26.6
Textiles and apparel	50,074	52,268	2,194	4.4
Footwear	12,095	12,708	613	5.1
Minerals and metals	63,024	66,192	3,169	5.0
Machinery	60,208	63,241	3,033	5.0
Transportation equipment	135,621	142,695	7,075	5.2
Electronic products	176,403	180,543	4,141	2.3
Miscellaneous manufactures	39,367	42,515	3,148	8.0
Special provisions	23,120	25,946	2,826	12.2
<b>Total</b>	<b>739,660</b>	<b>790,470</b>	<b>50,809</b>	<b>6.9</b>
<b>U.S. merchandise trade balance:</b>				
Agricultural products	27,625	27,520	-105	-0.4
Forest products	-1,694	-3,448	-1,754	-103.6
Chemicals and related products	15,011	12,116	-2,894	-19.3
Energy-related products	-47,494	-61,796	-14,302	-30.1
Textiles and apparel	-35,035	-35,809	-774	-2.2
Footwear	-11,424	-11,948	-523	-4.6
Minerals and metals	-23,674	-25,734	-2,060	-8.7
Machinery	-3,272	-2,207	1,065	32.6
Transportation equipment	-31,483	-27,001	4,482	14.2
Electronic products	-49,536	-43,521	6,015	12.1
Miscellaneous manufactures	-25,321	-28,121	-2,800	-11.1
Special provisions	-6,899	-8,385	-1,486	-21.5
<b>Total</b>	<b>-193,196</b>	<b>-208,333</b>	<b>-15,137</b>	<b>-7.8</b>

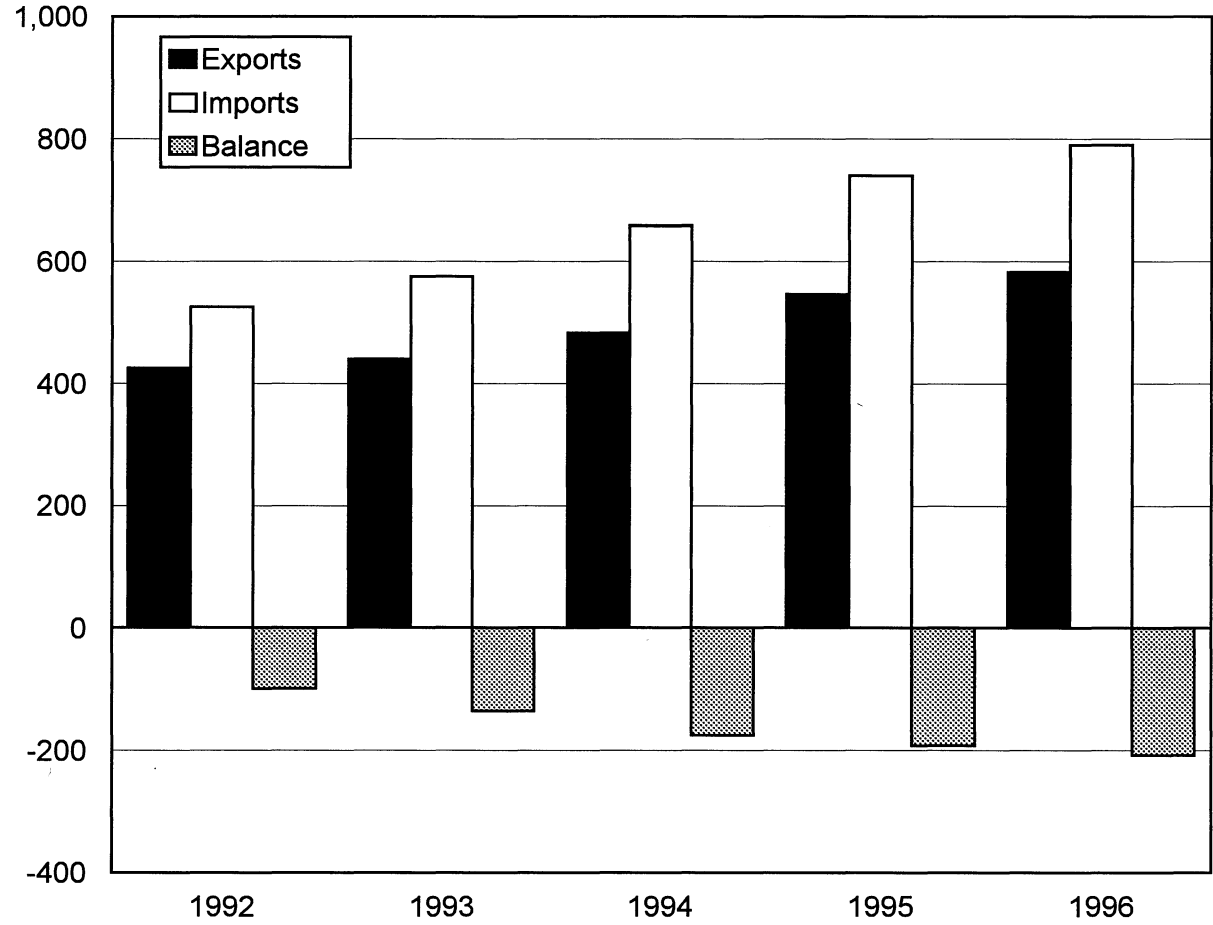
<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data.

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

**Figure 2-1**  
**U.S. merchandise trade with the world: Exports, imports, and trade balance, 1992-96**

*Billion dollars*



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

## U.S. IMPORTS

U.S. imports rose in every major industry/commodity sector during 1996 (figure 2-2), with the exception of forest products which decreased just slightly, by \$197 million (less than 1 percent) to \$29.0 billion. A substantial portion of the rise in total imports was accounted for by increased imports of energy-related products (up by \$16.1 billion, or 27 percent, to \$76.4 billion); transportation equipment (up by \$7.1 billion, or 5 percent, to \$142.7 billion); chemicals and related products (up by \$5.0 billion, or 10 percent, to \$57.5 billion); electronic products (up by \$4.1 billion, or 2 percent, to \$180.5 billion); and agricultural products (up by \$3.7 billion, or 10 percent, to \$41.5 billion).

The principal factor driving increased imports of energy-related products was a \$5-to-\$6-per-barrel increase in the price of crude petroleum in late 1996 primarily due to tensions in the Persian Gulf. This was the main reason for the \$14.1 billion increase in the trade deficit in energy-related products, which was equivalent to 93 percent of the total increase in the U.S. merchandise trade deficit. Although the value of imports of crude petroleum increased by \$2.8 billion (7 percent) to \$44.8 billion in 1996, in terms of quantity, imports decreased by 3 percent, from 2.7 billion barrels in 1995 to 2.4 billion barrels.

This price increase contributed to the growth in petroleum product imports as well, which rose \$9.1 billion (94 percent) to \$18.9 billion in 1996. Higher-than-usual demand for residual and distillate fuel oils used for heating in the harsh 1996 winter also helped boost imports of these products. Cold winter weather also contributed to increased prices for natural gas, leading to a \$1.5 billion (20-percent) increase in imports to \$9.2 billion in 1996, according to data reported by the U.S. Department of Energy.

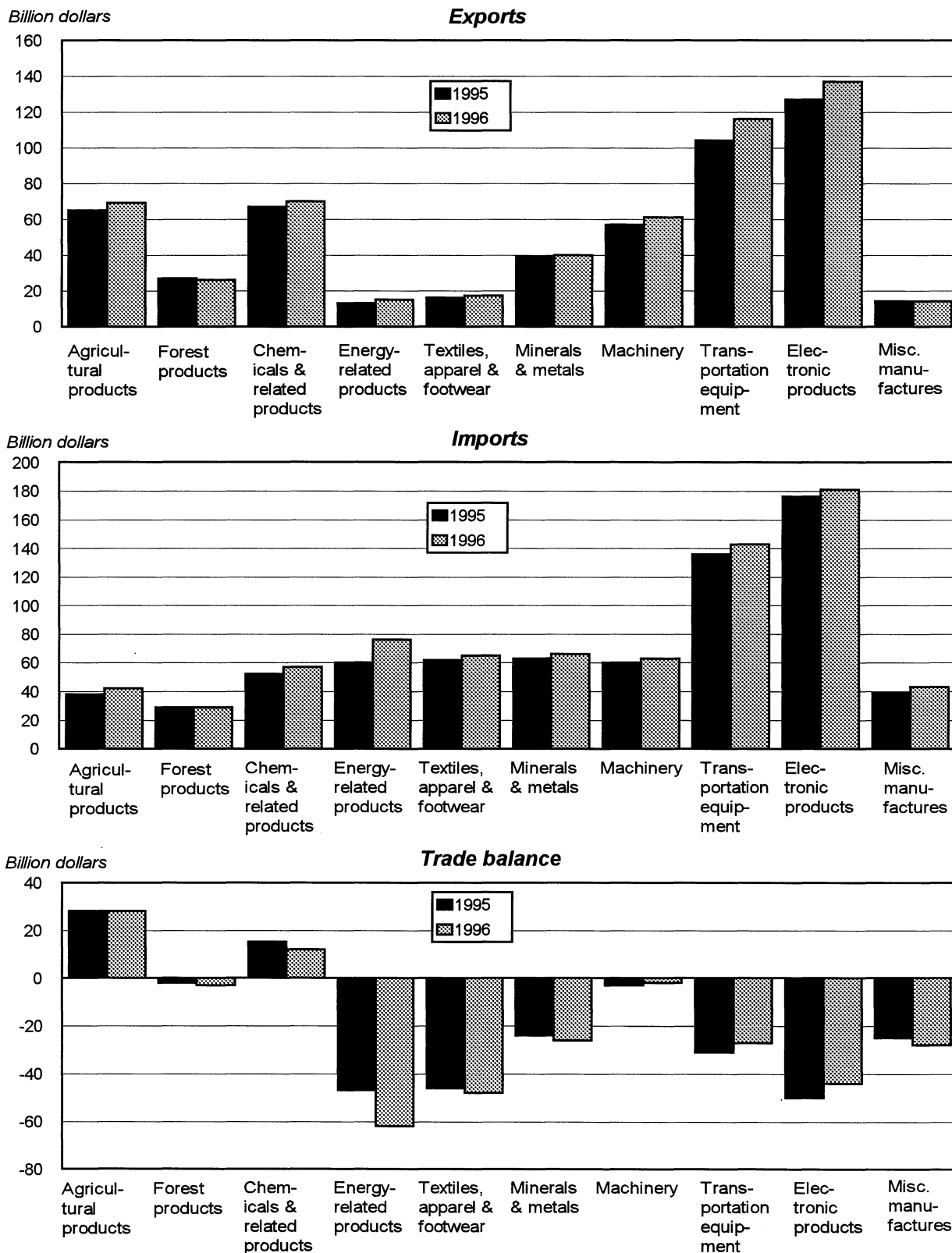
Imports of transportation equipment were mainly driven by a large surge in demand for motor vehicles and internal combustion piston engines, other than for aircraft. These two product categories accounted for 68 percent of total transportation equipment imports in 1996. U.S. imports of motor vehicles grew by \$3.0 billion (4 percent) to \$87.4 billion in 1996. Canada continued its role as leading supplier, accounting for 39 percent of total imports. Increased imports from Canada and Mexico reflected the increasing integration and interdependence of the three markets, as well as strong motor vehicle demand in the United States. However, motor vehicle imports from Japan, the other major supplier, fell by \$2.1 billion (7 percent) to \$26.9 billion, reflecting efforts begun in 1994 by Japanese auto manufacturers to increase production capacity in the United States. In order to take advantage of currency fluctuations, Japanese producers are reportedly employing a "roving production" strategy that will allow them to move production quickly from region to region.<sup>2</sup> Engine imports rose \$1.0 billion (12 percent) to \$9.4 billion. The growth in this product area was driven by a \$733 million increase (42 percent) to \$2.5 billion in imports from Canada, largely because Ford began production of its first V-10 engines at its Windsor, Ontario, facility for use in automobiles assembled in the United States.

The growth in U.S. imports of chemicals and related products was largely due to the strong U.S. economy and economic growth among major U.S. trading partners. The largest increase occurred in imports of medicinal chemicals, which rose \$2.5 billion (29 percent) to

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<sup>2</sup>"Weaker Yen Causing Japanese to Repatriate Manufacturing," *BNA International Trade Daily*, Nov. 5, 1996.

**Figure 2-2**  
**U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by major commodity sectors, 1995 and 1996**



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

\$11.2 billion in 1996. A surge in imports from Ireland, in particular, reflected moves by pharmaceutical companies to build plants and take advantage of low labor costs and tax incentives. Also, the World Trade Organization (WTO) Agreement on Pharmaceuticals enacted 3 years ago in 1994 helped boost imports in 1996 by mandating duty-free treatment for over 8,000 pharmaceutical products. Other import increases occurred in the following sectors: plastics and rubber products, which rose \$346 million (2 percent) to \$19.8 billion; inorganic chemicals, which grew \$639 million (14 percent) to \$5.3 billion; and organic chemicals, which increased \$949 million (9 percent) to \$10.8 billion.

The growth in U.S. imports of electronic products was led by an increase of \$5.1 billion (9 percent) to \$61.5 billion in imports of automatic data processing machines (computer products). Intense competition between U.S. computer hardware suppliers in 1996 has significantly lowered prices for these products and expanded the market, helping boost imports of price-competitive Asian products. Also, increased corporate purchases of computer products in 1996, coupled with wider Internet-use, which spurred demand for computers, has contributed to the surge in U.S. imports. Other major changes included a decrease in the value of semiconductor imports, which fell by \$2.4 billion (6 percent) to \$36.8 billion. This decrease was caused by a large decline in semiconductor prices as a result of overproduction and excess inventories in 1995 (the number of units imported actually increased in 1996). Imports of audio/video apparatus, mainly consumer electronic products, also declined in 1996 by \$860 million (13 percent) to \$5.9 billion, mainly as a result of price reductions. Imports from Pacific Rim countries, which account for more than 90 percent of U.S. imports in this category, fell by almost \$1 billion (15 percent) to \$5.4 billion.

In the agricultural products sector, imports in all industry/commodity groupings increased in 1996. U.S. imports of cotton rose from \$10 million to \$283 million, due to lower-than-expected domestic production during the 1995 crop year and increased foreign production that lowered foreign cotton prices relative to U.S. prices. In terms of absolute growth, the greatest changes occurred in imports of alcoholic beverages, which increased \$640 million (16 percent) to \$4.6 billion; grains and oilseeds, up \$603 million (21 percent) to \$3.5 billion; fresh and processed fruits, which rose \$578 million (28 percent) to \$2.7 billion; sugar and tropical products, up \$551 million (7 percent) to \$8.6 billion; and tobacco products, up \$450 million (63 percent) to \$1.2 billion.

## U.S. EXPORTS

U.S. exports grew in all major sectors except forest products, which recorded a decline of \$2.0 billion (7 percent) in 1996. The main export growth was in transportation equipment (up by \$11.6 billion, or 11 percent, to \$115.7 billion) and electronic products (up by \$10.2 billion, or 8 percent, to \$137.0 billion).

Aircraft was the leading export product in the transportation sector, increasing by \$6.9 billion (29 percent) to \$30.8 billion. The improving financial status of international air carriers over the last several years has resulted in more orders for U.S.-made aircraft. Construction and mining equipment exports also grew substantially because of increased mining and infrastructure construction in Australia and Asia.

A strong rise in U.S. computer and related products sales was the principal reason for the increase in electronic products exports, which grew \$3.5 billion (10 percent) to \$38.0 billion.



The United States produces technologically advanced products that are in increasing demand in foreign markets. Exports of medical equipment also increased substantially, as a result of rising demand for innovative U.S. goods by foreign countries that are upgrading their health care facilities.

## U.S. BILATERAL TRADE

U.S. bilateral trade is shown in table 2-2 and figure 2-3. Trade deficits with major U.S. trading partners expanded in 1996, with the exception of Japan, Korea, and the United Kingdom. The U.S. trade deficit with Japan contracted by \$10.3 billion (17 percent) to \$51.2 billion, mainly because of lower world prices for semiconductors (a significant export to the U.S. market) and a decrease in automobile and automobile parts exports (an increasing proportion of these products were supplied to the U.S. market by Japanese plants in the United States). A decrease in U.S. imports from Japan of \$7.6 billion (6 percent) to \$114.8 billion contributed to the improvement in the trade deficit in 1996. Despite the decrease in the U.S. trade deficit with Japan, this country continued to maintain the largest portion of the total U.S. merchandise trade deficit.

Among major trading partners, the U.S. had a trade surplus only with Korea and the United Kingdom. Between 1995 and 1996, the U.S. surplus with Korea increased dramatically, from \$457 million to \$2.9 billion, an increase of \$2.4 billion (more than 500 percent). Changes in U.S.-Korea trade reflect significant unit price decreases for semiconductors (a major U.S. import from Korea) and exchange rate fluctuations. The 1995 U.S. trade deficit of \$240 million with the United Kingdom turned to a surplus in 1996, reaching \$104 million, an improvement of \$378 million.

The U.S. trade deficit with China, the second-largest after Japan, expanded by \$5.6 billion (17 percent) to \$39.4 billion in 1996. Structural impediments to the entry of U.S. goods to the Japanese and Chinese markets may have affected the trade balances with these countries.<sup>3</sup> Deficits with Canada and Mexico grew \$5.6 billion (18 percent) to \$37.2 billion, and \$2.7 billion (16 percent) to \$19.5 billion, respectively.

Three years after the implementation of the North American Free Trade Agreement (NAFTA), total U.S. trade with Canada and Mexico continued to increase. Canada was by far the largest source of U.S. imports and the largest U.S. export market in 1996. Imports from Canada rose \$11.4 billion (8 percent) to \$156.3 billion, the increase consisted mainly of energy products, motor vehicles, automobile parts, and lumber. Exports to Canada, dominated by motor vehicles and parts, also increased, albeit at a slower pace, by \$5.9 billion (5 percent) to \$119 billion due to Canadian Government budgetary constraints and corporate downsizing, which slowed consumer spending. Mexico was the third-largest source of U.S. imports and the third-largest U.S. export market in 1996, and accounted for the largest bilateral changes in both exports and imports during 1996. U.S. imports rose by \$12.5 billion (20 percent) to \$74.2 billion. The increase resulted, in part, from (1) continuing effects of the peso devaluation during 1994-95, which reduced the cost of Mexican labor and made Mexican exports more competitive on the world market, and (2) U.S. tariff and quota reductions under the NAFTA in 1996. Production-sharing operations have increased in the last year, especially as many Asian

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<sup>3</sup>See Office of the United States Trade Representative (USTR), *1997 National Trade Estimate Report on Foreign Trade Barriers*, pp. 43-59 and 183-228.

Table 2-2

All merchandise sectors: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	113,261	119,123	5,862	5.2
Japan	60,962	63,585	2,623	4.3
Mexico	44,881	54,686	9,805	21.8
China	11,613	11,801	189	1.6
Germany	21,175	22,191	1,017	4.8
United Kingdom	26,320	28,678	2,359	9.0
Korea	24,483	25,433	950	3.9
Taiwan	18,036	16,920	-1,115	-6.2
Singapore	13,648	14,677	1,029	7.5
France	13,296	13,544	248	1.9
All Other	198,792	211,498	12,705	6.4
Total	546,465	582,137	35,672	6.5
EU-15	116,316	119,719	3,403	2.9
OPEC	18,894	21,555	2,660	14.1
Latin America	92,760	105,056	12,295	13.3
CBERA	14,870	15,375	504	3.4
Asian Pacific Rim	176,566	183,534	6,968	3.9
ASEAN	36,720	40,235	3,515	9.6
Central and Eastern Europe	2,152	2,485	333	15.5
U.S. imports for consumption:				
Canada	144,882	156,299	11,417	7.9
Japan	122,402	114,762	-7,640	-6.2
Mexico	61,721	74,179	12,458	20.2
China	45,370	51,209	5,839	12.9
Germany	37,126	39,215	2,089	5.6
United Kingdom	26,594	28,574	1,980	7.4
Korea	24,026	22,532	-1,494	-6.2
Taiwan	28,875	29,797	922	3.2
Singapore	18,493	20,249	1,756	9.5
France	16,497	17,914	1,417	8.6
All Other	213,675	235,740	22,064	10.3
Total	739,660	790,470	50,809	6.9
EU-15	130,835	141,455	10,619	8.1
OPEC	33,110	40,784	7,674	23.2
Latin America	103,447	122,817	19,371	18.7
CBERA	12,550	14,545	1,995	15.9
Asian Pacific Rim	298,464	300,270	1,806	0.6
ASEAN	61,803	65,955	4,151	6.7
Central and Eastern Europe	2,576	2,799	223	8.7
U.S. merchandise trade balance:				
Canada	-31,621	-37,176	-5,555	-17.6
Japan	-61,441	-51,177	10,263	16.7
Mexico	-16,840	-19,493	-2,653	-15.8
China	-33,757	-39,408	-5,651	-16.7
Germany	-15,951	-17,024	-1,073	-6.7
United Kingdom	-274	104	378	( <sup>2</sup> )
Korea	457	2,902	2,445	534.6
Taiwan	-10,839	-12,877	-2,038	-18.8
Singapore	-4,845	-5,572	-727	-15.0
France	-3,201	-4,370	-1,169	-36.5
All Other	-14,883	-24,242	-9,359	-62.9
Total	-193,196	-208,333	-15,137	-7.8
EU-15	-14,519	-21,735	-7,216	-49.7
OPEC	-14,216	-19,230	-5,013	-35.3
Latin America	-10,686	-17,761	-7,075	-66.2
CBERA	2,320	830	-1,490	-64.2
Asian Pacific Rim	-121,898	-116,736	5,162	4.2
ASEAN	-25,083	-25,720	-637	-2.5
Central and Eastern Europe	-424	-314	111	26.0

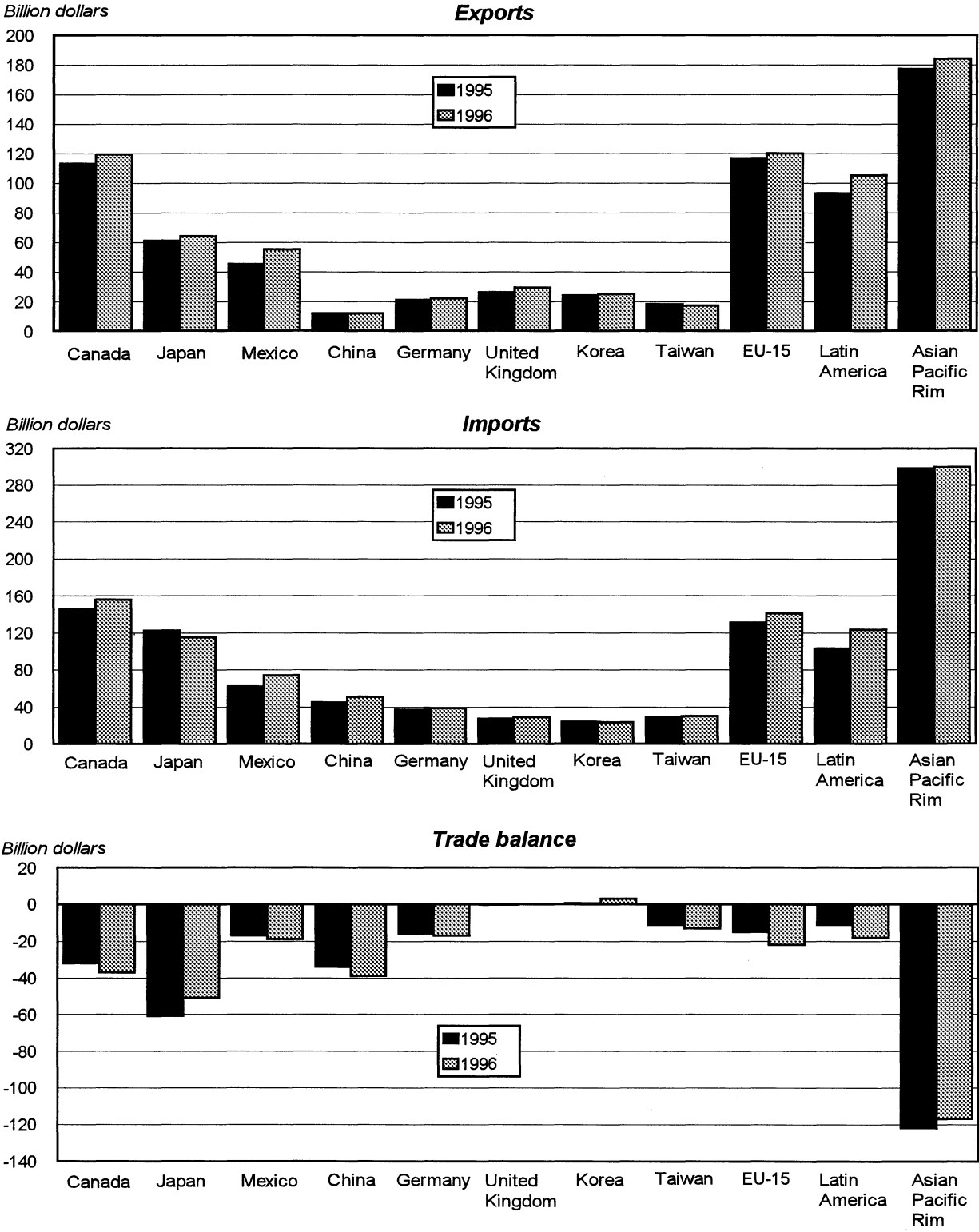
<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Figure 2-3**  
**U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by major trading countries and country groups, 1995 and 1996**



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

firms, as well as U.S. firms, opened or expanded assembly plants in Mexico to take advantage of relatively low-cost labor. The expansion of the assembly industry in Mexico contributed to the increase of \$9.8 billion (22 percent) to \$54.7 billion in U.S. exports to Mexico in 1996. This growth accounted for over one-quarter of the total increase of U.S. exports in 1996.

The U.S. trade surplus with Latin America (not including Mexico) declined from \$6.2 billion in 1995 to \$1.7 billion in 1996, largely reflecting the increased price of imports of crude petroleum and petroleum products from Venezuela and other countries in the region, and slower growth in exports to countries that were taking budgetary and financial measures to avoid duplicating the economic crisis that Mexico experienced following its devaluation of the peso in December 1994. While U.S. imports from Latin America grew by \$6.9 billion (17 percent) in 1996 to \$48.6 billion, exports rose by just \$2.5 billion (5 percent) to \$50.4 billion.

Table 2-3 shows the relative sizes of the economies, U.S. trade, U.S. trade balance, and the balance of the bilateral deficit or surplus as a ratio to the U.S. GDP for the major partner countries. A summary of the significant shifts in trade with these countries is present in the following section of this chapter. The total U.S. merchandise trade deficit was equal to 2.8 percent of the nominal U.S. GDP in 1996; the bilateral deficit with Japan (the largest for the United States) represented 0.7 percent of nominal U.S. GDP in 1996. Table 2-4 indicates the leading U.S. import and export products for the largest bilateral trading partners.

**Table 2-3**  
**U.S. bilateral merchandise trade balances with major partners, in dollars and as a ratio to nominal U.S. gross domestic product (GDP), 1996**

Partner	Nominal GDP	U.S. imports	U.S. exports	U.S. merchandise trade balance	Ratio of the merchandise trade balance to U.S. GDP
	<i>Billion dollars</i>	<i>Million dollars</i>			<i>Percent</i>
United States .....	7,576	790,470	582,137	-208,333	-2.75
Mexico .....	328	74,179	54,686	-19,493	-0.26
Canada .....	580	156,299	119,123	-37,176	-0.49
Japan .....	4,651	114,762	63,585	-51,177	-0.68
China .....	830	51,209	11,801	-39,408	-0.52
United Kingdom .....	971	28,574	28,678	104	( <sup>1</sup> )
Venezuela .....	64	12,425	4,604	-7,821	-0.10
Germany .....	2,380	39,215	22,191	-17,024	-0.22
Saudi Arabia .....	140	10,001	7,098	-2,904	-0.04
Singapore .....	94	20,249	14,677	-5,572	-0.07
Korea .....	491	22,532	25,433	2,902	0.04

<sup>1</sup>Less than 0.005 percent.

Note.—These countries are selected on the basis of the largest shifts in trade (imports and exports) during 1995-96. The countries that rank as the largest trading partners (which are not necessarily the countries with the largest shifts) are shown in table 2-2.

Source: U.S. trade data compiled from official statistics of the U.S. Department of Commerce; estimated GDP data for Mexico, Canada, Japan, China, United Kingdom, Venezuela, Germany, Saudi Arabia, Singapore, and Korea are from U.S. Department of State, *Country Reports on Economic Policy and Trade Practices* (Washington, DC: GPO, 1997) pp. 24, 42, 47, 64, 121, 194, 220, 274, 307, and 356. GDP data for the United States are from International Monetary Fund, *International Financial Statistics* (Washington, DC: IMF Publication Services, Apr. 1997).

**Table 2-4**  
**Leading U.S. import and export products, by major partner, 1996**

<b>Partner</b>	<b>Leading imports</b>	<b>Leading exports</b>
Canada . . . . .	Passenger cars Crude petroleum Motor vehicle parts Certain lumber	Passenger cars, trucks, and motor vehicle parts Computers and related products Integrated circuits Spark-ignition reciprocating internal combustion engines
Japan . . . . .	Passenger cars Computers and related products Integrated circuits Computer parts/accessories and related products	Computers and related products Corn Motor vehicles Integrated circuits
Mexico . . . . .	Motor vehicles Crude petroleum Insulated wire and cable Trucks	Motor vehicle parts Integrated circuits Insulated wire and cable Computers and related products
China . . . . .	Certain toys Footwear Travel goods, handbags, wallets, etc. Reception apparatus for radiotelephony, etc.	Powered aircraft, spacecraft and launch vehicles Fertilizers Cotton, not carded or combed Wheat and meslin
Germany . . . . .	Passenger cars Motor vehicle parts Turbojets, turbopropellers, and other gas turbines, including aircraft engines Print machinery including ink-jet machinery	Computer parts/accessories and related products Computers and related products Passenger cars Nonelectrical medical, surgical, dental, and veterinary instruments
United Kingdom . . . . .	Turbojets, turbopropellers, and other gas turbines, including aircraft engines Passenger cars Crude petroleum Automatic data processing machines	Unwrought gold Computers and related products Computer parts/accessories and related products Powered aircraft, spacecraft and launch vehicles
Korea . . . . .	Integrated circuits Computer parts/accessories and related products Computers and related products Passenger cars	Integrated circuits Powered aircraft, spacecraft and launch vehicles Corn Computers and related products
Taiwan . . . . .	Computers and related products Computer parts/accessories and related products Integrated circuits Iron or steel screws, bolts, nuts, washers, etc.	Integrated circuits Corn Soybeans Powered aircraft, spacecraft and launch vehicles
Singapore . . . . .	Computers and related products Integrated circuits Computer parts/accessories and related products Heterocyclic compounds	Integrated circuits Computer parts/accessories and related products Prepared unrecorded media for sound Powered aircraft, spacecraft and launch vehicles
France . . . . .	Powered aircraft, spacecraft and launch vehicles Turbojets, turbopropellers, and other gas turbines, including aircraft engines Integrated circuits Hand paintings and drawings	Turbojets, turbopropellers, and other gas turbines, including aircraft engines Computer parts/accessories and related products Computers and related products Parts of balloons, aircraft, spacecraft, etc.

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and comparable export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

## SUMMARIES OF SIGNIFICANT BILATERAL/MULTILATERAL SHIFTS

Among the 10 U.S. trading partners that accounted for the largest shifts in bilateral trade during 1995-96 (table 2-5),<sup>4</sup> Japan and Korea were the only two countries with which the United States had a significant reduction in its bilateral trade deficit. The situation with Japan is especially notable. The deficit with Japan in 1996 was \$51.2 billion, but it represents a decline of \$10.3 billion, following a decline of \$5.0 billion in the previous year. The last year there was an expansion of the trade deficit with Japan was in 1994 (\$6.4 billion increase). Trade with Mexico reflected the beginning of economic recovery in 1996 following the peso-related recession of 1994/95. After contributing a \$17.4 billion increase to the deficit in 1995, trade with Mexico added only \$2.7 billion to the deficit in 1996 as U.S. exports rebounded. Finally, in contrast to 1995, Venezuela and Saudi Arabia appear in the top 10 countries with the largest shifts in bilateral trade, largely because of an increase in the price of crude petroleum.

An analysis of the underlying factors and the leading commodities responsible for trade shifts for each of the 10 countries is provided in chapter 3. Important developments in the European Union (EU) and the Organization of Petroleum Exporting Countries (OPEC) are also included because trends in these country groupings affect member countries that appear among these 10 trading partners. A summary of these analyses is shown in table 2-6. In addition, analyses of Chile and sub-Saharan Africa are provided in chapter 3. Although Chile and the sub-Saharan countries are small U.S. trading partners, special circumstances apply as Chile may be considered for inclusion in NAFTA in the future, and the U.S. Congress is considering legislation to assist sub-Saharan African economies.<sup>5</sup>

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<sup>4</sup>The countries are ranked based on the absolute value of the total change in the value of both U.S. imports and exports (i.e., the change in imports is added to the change in exports, disregarding the negative signs). The effect on the bilateral trade balance with each country is also shown on the table (for example, if the change in imports from a certain country was greater than the change in exports to that country, then the bilateral effect would be to increase the U.S. trade deficit with the country).

<sup>5</sup>On September 26, 1996, Congressmen Crane, Rangel, and McDermott introduced H.R. 4198, entitled African Growth and Opportunity: the End of Dependency Act of 1996. The bill, which would authorize a new trade and investment policy in sub-Saharan Africa, will be reintroduced and considered in the 105<sup>th</sup> Congress.

**Table 2-5**

**Top absolute bilateral U.S. trade shifts (changes) in imports, exports, and total, and resulting change in U.S. trade balance, by trading partners, during 1995-96**

(Million dollars)

Rank	Partner	Change in exports	Change in imports	Total change <sup>1</sup>	Change in bi-lateral balance <sup>2</sup>
1	Mexico .....	9,805	12,458	22,263	-2,653
2	Canada .....	5,862	11,417	17,278	-5,555
3	Japan .....	2,623	-7,640	10,263	10,263
4	China .....	189	5,839	6,028	-5,651
5	United Kingdom .....	2,359	1,980	4,339	378
6	Venezuela .....	127	3,211	3,338	-3,084
7	Germany .....	1,017	2,089	3,106	-1,073
8	Saudi Arabia .....	1,116	1,843	2,959	-727
9	Singapore .....	1,029	1,756	2,785	-727
10	Korea .....	950	-1,494	2,445	2,445

<sup>1</sup>This equals the absolute value of the change in exports plus the absolute value of the change in imports.

<sup>2</sup>This equals the change in exports minus the change in imports.

Note.—Calculations based on unrounded data.

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

**Table 2-6**

**Summary of significant bilateral/multilateral shifts during 1995-96**

**MEXICO**

- Total U.S. trade with Mexico in 1996 was \$128.9 billion (9 percent of total U.S. merchandise trade).
- Although the U.S. trade deficit with Mexico rose by \$2.7 billion (16 percent) in 1996, U.S. exports to Mexico achieved record growth (\$9.8 billion or 22 percent) as did U.S. imports from Mexico (\$12.5 billion or 20 percent).
- Increased U.S. exports to Mexico, and increased real GDP and improving rates of employment in Mexico demonstrate that the Mexican economy is recovering from the effects of the peso devaluation in 1994-95; however, the rising rate of violence has tempered growth.
- Mexico remained the-third largest trading partner with the United States in 1996, in part because of certain NAFTA provisions that boosted regional trade in the transportation, electronics, and agricultural sectors.

**CANADA**

- Total U.S. trade with Canada in 1996 was \$275.4 billion (20 percent of total U.S. merchandise trade).
- The merchandise trade deficit with Canada reached \$37.2 billion in 1996, an expansion of \$5.6 billion (18 percent) from the preceding year. Weak Canadian consumer demand because of persistently high rates of unemployment and virtually no growth in disposable incomes, budget constraints on the Canadian Government, and continued downsizing in the private sector held U.S. export growth to \$5.9 billion (5 percent) in 1996, at \$119.1 billion. A relatively strong U.S. economy resulted in U.S. imports from Canada increasing by \$11.4 billion (8 percent) in 1996, to \$156.3 billion.
- Product sectors accounting for the most significant increase in U.S. imports from Canada in 1996 were energy products, transportation equipment, lumber, electronic products, and furniture. U.S. imports of energy products rose mostly in response to an increase in crude oil prices. Trade in motor vehicles and parts is the result of the highly rationalized nature of North American car production. The increase in U.S. imports of electronic products reflects the strong position of Canadian-based Northern Telecom in the U.S. market and a more open U.S. market because of the deregulation of the U.S. telecommunications market.

**Table 2-6--Continued**  
**Summary of significant bilateral/multilateral shifts during 1995-96**

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**CANADA--Continued**

- Electronic products and motor vehicles and parts accounted for the most significant increases in U.S. exports to Canada in 1996. Canadian spending on high-tech electronic products has risen at an annual rate of 17 percent since 1991. Investment in telephone and cable systems in Canada, which will total close to \$16 billion over the next 5 years, reflects the eventual start-up of direct-to-dome satellite broadcasting systems, planned convergence of cable and telephone networks, and the licensing of new wireless systems and cable channels.

**JAPAN**

- Total U.S. trade with Japan in 1996 was \$178.3 billion (13 percent of total U.S. merchandise trade).
- The U.S. trade deficit with Japan fell by \$10.3 billion (17 percent) in 1996, mostly due to a \$7.6 billion (6 percent) decline in U.S. imports and a slight increase in U.S. exports. The U.S. trading relationship with Japan, the United States' second-largest trading partner, remains a primary focus of bilateral relations.
- The net decrease in U.S. imports from Japan was due to significant decreases in imports of semiconductors, computers and automobiles and their parts. A \$2.0 billion drop in U.S. imports of semiconductors was attributed to a severe decline in the global price of memory devices, despite a slight increase in U.S. demand. Automobiles and their parts accounted for a \$2.2 billion decline, largely due to consumer demand being met by Japanese-owned production facilities transplanted to North America. In addition to strong U.S. demand for Japanese-made sports-utility vehicles, the continued relative weakness of the value of the yen against the dollar for much of 1996 contributed to strong U.S. demand for Japanese passenger vehicles.
- U.S. exports to Japan increased by \$2.6 billion (4 percent) to \$63.6 billion in 1996. Half of the total increase (\$1.1 billion) was evenly divided between computers and corn, while most of the remaining increases were distributed among exports of medical instruments, office machines and parts, motor vehicle parts, semiconductors, and other electronic equipment. The popularity of personal computers and increased use in Japan caused a rise in consumer demand for computers.

**CHINA**

- Total U.S. trade with China in 1996 was \$63.0 billion (5 percent of total U.S. merchandise trade).
- The U.S. trade deficit with China grew by \$5.7 billion (17 percent) to \$39.4 billion, second in size to that with Japan in 1996, compared with an increase of \$4.4 billion (15 percent) to \$33.8 billion in 1995. The expansion in the trade deficit with China reflected a nearly flat growth trend in U.S. exports to China while U.S. imports from China increased sharply in 1996.
- The rate of increase in U.S. exports to China decreased sharply, from 27 percent in 1995 to 2 percent in 1996, despite sustained rapid real growth in GDP in China. This occurred because China continues, notwithstanding considerable progress in opening its market since 1992, to maintain relatively high tariffs and other taxes, and a broad array of non-tariff measures (NTMs) to control, restrict, or prohibit imports. U.S. companies that produce in China for the local market are often required to export a significant portion of their production; U.S. companies sometimes establish production facilities in China because imports from their U.S. facilities are not allowed. This both decreases U.S. exports and, where export performance requirements exist, increases U.S. imports.
- In sharp contrast to flat U.S. exports to China, the 13-percent increase in U.S. imports from China in 1996 was only slightly below the 18-percent increase registered in 1995. U.S. markets are open to most imports of predominantly low-labor-cost goods from China, and the U.S. rate of real GDP growth accelerated, pulling in substantially more imports.
- Although a broad array of industries and products experienced large growth in U.S. imports from China in 1996, those that had the greatest increases were toys, and computers and parts.

**EUROPEAN UNION**

- Total U.S. trade with the EU in 1996 was \$261.2 billion (19 percent of total U.S. merchandise trade).
- The primary EU economic focus was on the ability of the member states to meet the convergence criteria before the



**Table 2-6--Continued**  
**Summary of significant bilateral/multilateral shifts during 1995-96**

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#### **EUROPEAN UNION--Continued**

scheduled single currency in 1999. This has led to disagreements among governments and their citizens as social welfare programs are cut in an effort to reduce government deficits. Meanwhile, unemployment averaged 11 percent at the end of 1996. As domestic demand remains relatively weak, European producers have turned to export markets to help ease these difficulties.

- The United States continues to negotiate with the EU regarding Mutual Recognition Agreements to further reduce constraints on U.S. exports due to variations in standards and testing among the EU member states. This has long-term implications for the ability of U.S. exports to be distributed throughout the EU.

#### **UNITED KINGDOM**

- Total U.S. trade with the United Kingdom in 1996 was \$57.3 billion (4 percent of total U.S. merchandise trade).
- There was a big increase in exports of U.S.-made aircraft to the United Kingdom. Because large aircraft were fitted with British-made Rolls Royce engines, there was a large increase of U.S. imports of aircraft engines from the United Kingdom. There was a large increase in jet engine exports to the United Kingdom for use in regional- and commuter-type aircraft.
- There was a decrease in imports of crude oil from the United Kingdom in 1996, owing to a shut-down in certain North Sea oilfields for routine maintenance. Largely offsetting this increase, in dollar terms, was an increase in U.S. imports of heating oils from the United Kingdom because of the cold winter in the Northeast United States, an increase in the price of crude petroleum, and low inventories of oil at U.S. refineries.

#### **GERMANY**

- Total U.S. trade with Germany in 1996 was \$61.4 billion (4 percent of total U.S. merchandise trade).
- The German market remained relatively weak due to the lingering effects of the 1990-1993 economic slowdown, the continuing costs of reunification, and the tightening of the economy called for by the EU convergence criteria.
- Passenger vehicles dominated trade between the United States and Germany, with U.S. imports reaching \$8.3 billion in 1996, accounting for one-third of the total increase in U.S. imports from Germany. A strong U.S. market, along with renewed efforts by German producers to develop the U.S. market, contributed to this pattern. The increase in U.S. exports of motor vehicles to Germany nearly equaled the increase in U.S. imports, growing by \$518 million (79 percent) to \$1.2 billion, mainly because of U.S. exports of vehicles made by German companies in their U.S. plants.
- Trade in medical goods between the United States and Germany moved from a deficit in 1995 to a surplus in 1996, reflecting a strong German market for medical goods. Germany has an aging population and continues to upgrade equipment in eastern Germany. The domestic health care system is undergoing reforms similar to the United States' in the early 1990s. This gives U.S. producers already experienced in such adjustments an advantage.

#### **ORGANIZATION OF PETROLEUM EXPORTING COUNTRIES**

- Total U.S. trade with OPEC member countries in 1996 was \$62.3 billion (5 percent of total U.S. merchandise trade).
- A large increase in the price of crude petroleum and downstream petroleum products was mainly responsible for U.S. imports increasing \$7.9 billion (23 percent) to \$42.6 billion. U.S. imports in terms of quantity increased only 5 percent.
- Crude petroleum and refined petroleum products accounted for over 90 percent of U.S. imports from OPEC countries.

#### **VENEZUELA**

- Total U.S. trade with Venezuela in 1996 was \$17.0 billion (1 percent of total U.S. merchandise trade).

**Table 2-6--Continued**  
**Summary of significant bilateral/multilateral shifts during 1995-96**

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**VENEZUELA--Continued**

- More than 70 percent of Venezuelan production of crude petroleum and refined petroleum products is exported to the United States.
- U.S. imports of crude petroleum and refined petroleum products from Venezuela increased by 65 million barrels (12 percent) to 605 million barrels in 1996, primarily because of increased imports of reformulated and other gasolines.

**SAUDI ARABIA**

- Total U.S. trade with Saudi Arabia in 1996 was \$17.1 billion (1 percent of total U.S. merchandise trade).
- Saudi Arabia produced 3.2 billion barrels of crude petroleum in 1996, and exported almost 90 percent of this production. More than 90 percent of total export revenues is derived from petroleum.
- The quantity of U.S. imports from Saudi Arabia was virtually unchanged in 1996, although the value of imports increased \$1.2 billion.
- U.S. exports to Saudi Arabia increased \$1.1 billion, mostly because of higher purchase of advanced military products.

**SINGAPORE**

- Total U.S. trade with Singapore in 1996 was \$34.9 billion (3 percent of total U.S. merchandise trade).
- Total U.S. trade with Singapore grew by 9 percent, well below annual gains of 15 percent to 19 percent during 1993-95. Although the trade deficit with Singapore reached a record \$5.6 billion in 1996, the rise in the deficit of \$727 million (15 percent) was much smaller than the increases of \$1.3 billion in 1995 and \$1.5 billion in 1994. Both U.S. exports of \$14.7 billion and U.S. imports of \$20.2 billion also advanced to new highs in 1996, but the rate of growth of each was about one-half as much as in 1995. The rate of export growth of 8 percent (\$1.0 billion) was the smallest so far in the 1990s and the rate of import growth of 9 percent (\$1.8 billion) was the smallest since 1991.
- The pattern of U.S. trade with Singapore largely mirrors changes in the electronic products sector, which accounts for the vast majority of total trade (70 percent in 1996). Two-way trade in electronics grew by just 10 percent in 1996, to almost \$24.5 billion, compared with annual growth of 28 percent in 1995 and about 20 percent during 1992-94. The slowdown reflected a global reduction in the high rate of growth in the electronic products sector.

**KOREA**

- Total U.S. trade with Korea in 1996 was \$48.0 billion (4 percent of total U.S. merchandise trade).
- In 1996, the U.S. trade deficit with Korea rose to \$2.9 billion (535 percent) from \$457 million in 1995. In 1996, the prices of many of Korea's major export products decreased, while the prices of many of its major import items increased. Despite import and export volumes remaining almost constant, these price changes led to the deterioration in Korea's trade balance with the United States.
- Declining international prices for Korea's major exports (electric and electronic goods and semiconductors) and increased competition from other exporters reduced the value of Korea's exports to the United States. For the year, U.S. imports from Korea fell \$1.5 billion (6 percent) to \$22.5 billion.
- Significant increases in world prices for grains, one of Korea's main imports from the United States, also contributed to Korea's trade deficit with the United States. For the year, U.S. exports to Korea rose \$950 million (4 percent) to \$25.4 billion.
- The rising costs of labor, the appreciation of the won as compared to the yen, and the more rapid depreciation of the yen (than the won) as compared with the dollar undercut Korea's export competitiveness in the U.S. market.

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

## SUMMARIES OF SIGNIFICANT COMMODITY SHIFTS

The industry/commodity groupings with the most significant shifts during 1995-96 are summarized in tables 2-7 through 2-12. These shifts are presented in rank order according to changes in absolute value and in percentage terms for U.S. export growth and declines (tables 2-7 and 2-8), U.S. import growth and declines (tables 2-9 and 2-10), and U.S. trade balance increases and declines (tables 2-11 and 2-12) between 1995 and 1996.

The top three industry/commodity groupings contributing to the 1996 deficit were automobiles, trucks, buses, etc. (MT038), crude petroleum (CH004), and computers and related equipment (ST018). In total, these accounted for \$131.8 billion (63 percent) of the total U.S. deficit in 1996.<sup>6</sup> This is a slight decrease from 1995 when these products accounted for 65 percent of the total deficit. The top three groupings with trade surpluses were aircraft, spacecraft, and related equipment (MT042), cereals (AG030), and oilseeds (AG032), which together accounted for a total surplus of \$46.8 billion. These six groups not only were a large component of the 1996 trade deficit, they also exhibited significant shifts during 1995-96 which, among other industry/commodity groupings, are discussed in greater detail in chapters 5-14.

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<sup>6</sup>Codes such as MT038 are used by the U.S. International Trade Commission to identify major groupings of *HTS* headings/subheadings and corresponding export categories for trade monitoring purposes. See app. A for a list and title of each of these groupings.

Table 2-7

## Domestic export growth: Ranking of top 20 industry/commodity groups, 1995 and 1996

USITC code	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
————— Million Dollars —————					
Rank order based on change in absolute value growth:					
MT042	Aircraft, spacecraft, and related equipment . . . . .	23,839	30,754	6,915	29.0
ST018	Automatic data processing machines . . . . .	34,476	37,977	3,501	10.2
AG030	Cereals . . . . .	14,674	16,751	2,077	14.2
AG032	Oilseeds . . . . .	5,661	7,638	1,977	34.9
MT038	Automobiles, trucks, buses and bodies and chassis of the foregoing . . . . .	21,899	23,466	1,567	7.2
MM020	Precious metals and related articles . . . . .	6,475	7,886	1,412	21.8
MT012	Construction and mining equipment . . . . .	7,887	9,203	1,316	16.7
ST024	Medical goods . . . . .	8,966	10,217	1,251	14.0
CH005	Petroleum products . . . . .	6,583	7,604	1,021	15.5
ST030	Measuring, testing, controlling, and analyzing instruments . . . . .	11,572	12,578	1,006	8.7
ST016	Diodes, transistors, integrated circuits, and similar semiconductor solid-state devices . . . . .	23,317	24,135	818	3.5
ST013	Apparatus for making, breaking, protecting, or connecting electrical circuits . . . . .	7,502	8,200	698	9.3
CH028	Perfumes, cosmetics, and toiletries . . . . .	1,875	2,537	662	35.3
ST005	Unrecorded magnetic tapes, discs, and other media . . . . .	2,030	2,670	640	31.5
MM031	Chain and miscellaneous products of base metal . . . . .	3,555	4,183	628	17.7
MT041	Miscellaneous vehicles and transportation-related equipment . . . . .	3,390	3,969	579	17.1
AG013	Animal feeds . . . . .	3,822	4,375	553	14.5
MT039	Certain motor-vehicle parts . . . . .	22,265	22,793	528	2.4
MT014	Farm and garden machinery and equipment . . . . .	4,309	4,836	527	12.2
MT020	Machine tools for cutting metal and parts; tool holders, work holders; dividing heads and other special attachments for machine tools . . . . .	1,722	2,228	506	29.4
Rank order based on changes in percentage growth:					
CH004	Crude petroleum . . . . .	1	460	458	31,732.6
MM039	Lead and related articles . . . . .	86	163	77	89.5
MM035	Iron construction castings and other nonmalleable cast-iron articles . . . . .	26	44	18	69.2
ST029	Drawing and mathematical calculating and instruments . . . . .	172	275	103	60.2
MM002	Certain miscellaneous minerals substances . . . . .	7	11	4	54.1
CH020	Synthetic dyes and azoic couplers . . . . .	267	385	117	43.9
CH001	Electrical energy . . . . .	47	69	23	48.9
CH065	Sweaters . . . . .	32	46	14	43.1
AG045	Furskins . . . . .	157	224	67	42.3
MM050	Silverware and certain other articles of precious metal . . . . .	74	103	29	39.5
CH007	Major primary olefins . . . . .	145	199	54	37.4
ST021	Optical fibers, optical fiber bundles and cables . . . . .	475	646	170	35.8
AG039	Wine and certain other fermented beverages . . . . .	236	320	84	35.6
CH028	Perfumes, cosmetics, and toiletries . . . . .	1,875	2,537	662	35.3
CH078	Other wearing apparel . . . . .	910	1,230	320	35.2
AG032	Oilseeds . . . . .	5,661	7,638	1,977	34.9
CH071	Neckwear, handkerchiefs, and scarves . . . . .	29	39	10	34.3
ST005	Unrecorded magnetic tapes, discs and other media . . . . .	2,030	2,670	640	31.5
CH031	Explosives, propellant powders, and related items . . . . .	250	328	78	31.1
AG051	Tools and tool handles of wood . . . . .	18	24	5	29.8

Note.—Calculations based on unrounded data.

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

**Table 2-8**  
**Domestic export declines: Ranking of top 20 industry/commodity groups, 1995 and 1996**

USITC code	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million Dollars</i>					
Rank order based on change in absolute value growth:					
AG054	Wood pulp and wastepaper	6,241	4,059	-2,182	-35.0
AG064	Cotton, not carded or combed	3,681	2,715	-966	-26.2
CH010	Benzenoid commodity chemicals	2,258	1,487	-771	-34.2
AG033	Animal or vegetable fats and oils	2,529	1,826	-702	-27.8
CH012	Miscellaneous organic chemicals	7,697	7,031	-666	-8.7
MM025	Steel mill products, all grades	4,665	4,065	-600	-12.9
ST006	Records, tapes, compact discs, computer software, and other recorded media	3,814	3,453	-361	-9.5
MM007	Certain ores, concentrates, ash and residues	704	362	-342	-48.6
MM036	Copper and related articles	2,708	2,370	-338	-12.5
MM023	Iron and steel waste and scrap	1,703	1,425	-277	-16.3
MM037	Unwrought aluminum	1,294	1,057	-237	-18.3
MM038	Aluminum mill products	2,974	2,771	-204	-6.9
AG002	Cattle and beef	2,648	2,447	-200	-7.6
MM004	Copper ores and concentrates	486	287	-199	-41.0
AG007	Frozen fish	1,754	1,557	-197	-11.2
CH034	Polyvinyl chloride resins in primary forms	856	680	-176	-20.5
CH017	Fertilizers	3,319	3,151	-168	-5.1
MM065	Miscellaneous articles	1,420	1,254	-166	-11.7
MT043	Ships, tugs, pleasure boats, and similar vessels	1,220	1,058	-162	-13.3
AG046	Logs and rough wood products	3,063	2,909	-153	-5.0
Rank order based on changes in percentage declines:					
AG062	Ethyl alcohol for nonbeverage purposes	265	128	-137	-51.7
MM007	Certain ores, concentrates, ash and residues	704	362	-342	-48.6
AG063	Wool and other animal hair	35	20	-15	-43.5
MM004	Copper ores and concentrates	486	287	-199	-41.0
AG054	Wood pulp and wastepaper	6,241	4,059	-2,182	-35.0
CH010	Benzenoid commodity chemicals	2,258	1,487	-771	-34.2
AG033	Animal or vegetable fats and oils	2,529	1,826	-702	-27.8
AG037	Nonalcoholic beverages, excluding fruit and vegetable juices	332	244	-88	-26.5
AG064	Cotton, not carded or combed	3,681	2,715	-966	-26.2
CH057	Sacks and bags of textile materials	26	19	-7	-25.8
CH008	Other olefins	242	192	-50	-20.7
CH034	Polyvinyl chloride resins in primary forms	856	680	-176	-20.5
AG010	Dairy produce	636	506	-130	-20.5
MM037	Unwrought aluminum	1,294	1,057	-237	-18.3
MM058	Children's vehicles	44	36	-8	-18.2
MM049	Umbrellas, whips, riding crops, and canes	10	9	-2	-16.9
MM023	Iron and steel waste and scrap	1,703	1,425	-277	-16.3
MM044	Table flatware and related products	35	30	-6	-15.8
CH074	Leather apparel and accessories	122	103	-19	-15.5
MM047	Certain other leather goods	93	80	-14	-14.8

Note.—Calculations based on unrounded data.

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

**Table 2-9**  
**Domestic import growth: Ranking of top 20 industry/commodity groups, 1995 and 1996**

USITC code	Industry/commodity group	U.S. imports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
————— <i>Million Dollars</i> —————					
Rank order based on change in absolute value growth:					
CH005	Petroleum products .....	9,777	18,915	9,138	93.5
ST018	Automatic data processing machines .....	56,308	61,457	5,149	9.1
CH006	Natural gas and components .....	5,157	8,253	3,097	60.0
MT038	Automobiles, trucks, buses, and bodies and chassis of the foregoing .....	84,384	87,367	2,983	3.5
CH004	Crude petroleum .....	42,077	44,849	2,772	6.6
CH026	Medicinal chemicals .....	8,654	11,189	2,535	29.3
AG047	Lumber .....	5,515	6,829	1,314	23.8
MT042	Aircraft, spacecraft, and related equipment .....	6,135	7,353	1,218	19.8
MM054	Furniture and selected furnishings .....	8,423	9,497	1,074	12.8
MT002	Internal combustion piston engines other than for aircraft .....	8,389	9,403	1,015	12.1
MT001	Aircraft engines and gas turbines .....	5,285	6,241	956	18.1
MM060	Toys and models .....	4,526	5,481	955	21.1
MM025	Steel mill products, all grades .....	11,786	12,680	894	7.6
MM019	Natural and synthetic gemstones .....	6,666	7,412	747	11.2
MM020	Precious metals and related articles .....	4,676	5,330	654	14.0
CH013	Miscellaneous inorganic chemicals .....	4,194	4,823	629	15.0
CH079	Footwear and footwear parts .....	12,095	12,708	613	5.1
MT039	Certain motor-vehicle parts .....	16,298	16,867	569	3.5
MT036	Insulated electrical wire and cable and conduit, glass and ceramic insulators .....	5,398	5,935	536	9.9
AG012	Sugar and other sweeteners .....	885	1,407	523	59.1
Rank order based on change in percentage growth:					
AG064	Cotton, not carded or combed .....	10	283	273	2,619.0
CH009	Primary aromatics .....	246	588	341	138.5
CH005	Petroleum products .....	9,777	18,915	9,138	93.5
MT019	Metal rolling mills and parts thereof .....	278	533	255	91.7
CH007	Major primary olefins .....	496	897	400	80.7
AG042	Cigars and certain other manufactured tobacco .....	117	207	90	77.0
AG041	Unmanufactured tobacco .....	550	923	373	67.7
CH006	Natural gas and components .....	5,157	8,253	3,097	60.0
AG012	Sugar and other sweeteners .....	885	1,407	523	59.1
CH051	Knit fabrics .....	334	520	186	55.5
CH003	Coal, coke, and related chemical products .....	847	1,253	407	48.0
AG036	Fruit and vegetable juices .....	635	929	294	46.3
MM028	Metal construction components .....	258	374	115	44.7
MM023	Iron and steel waste and scrap .....	300	433	133	44.2
MM006	Zinc ores and residues .....	13	18	5	40.7
ST021	Optical fibers, optical fiber bundles and cables .....	154	216	62	40.0
AG004	Sheep and meat of sheep .....	85	119	34	39.6
MT027	Boilers, turbines, and related machinery .....	363	499	136	37.4
MM057	Prefabricated buildings .....	67	92	25	36.7
AG013	Animal feeds .....	580	779	199	34.4

Note.—Calculations based on unrounded data.

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

Table 2-10

## Domestic import declines: Ranking of top 20 industry/commodity groups, 1995 and 1996

USITC code	Industry/commodity group	U.S. imports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
————— Million Dollars —————					
Rank order based on change in absolute value decline:					
ST016	Diodes, transistors, integrated circuits and similar semiconductor solid-state devices	39,168	36,771	-2,397	-6.1
AG054	Wood pulp and wastepaper	3,845	2,665	-1,180	-30.7
ST004	Tape recorders, tape players, video cassette recorders, turntables, and compact disc players	6,733	5,873	-860	-12.8
MM037	Unwrought aluminum	4,585	3,828	-757	-16.5
AG058	Printing and writing papers	4,192	3,565	-627	-15.0
MT046	Molds and molding machinery	3,528	3,030	-498	-14.1
AG028	Coffee and tea	3,427	2,958	-469	-13.7
ST007	Radio transmission and reception apparatus, and combinations thereof	8,528	8,071	-458	-5.4
AG002	Cattle and beef	2,627	2,248	-378	-14.4
AG057	Newsprint	4,418	4,063	-355	-8.0
MM038	Aluminum mill products	2,048	1,737	-311	-15.2
MT018	Textile machinery parts	1,752	1,528	-224	-12.8
MT017	Printing, typesetting, and bookbinding machinery and printing plates	2,009	1,796	-213	-10.6
ST012	Electrical capacitors and resistors	1,879	1,691	-188	-10.0
CH047	Natural rubber	1,629	1,468	-162	-9.9
AG009	Shellfish	3,884	3,741	-142	-3.7
MT011	Forklift trucks and similar industrial vehicles	1,136	1,007	-129	-11.3
ST014	Television picture tubes and other cathode-ray tubes	1,116	987	-129	-11.5
CH032	Polyethylene resins in primary form	1,192	1,086	-106	-8.9
MM013	Ceramic household articles	1,658	1,556	-102	-6.1
Rank order based on change in percentage decline:					
CH057	Sacks and bags of textile materials	76	17	-60	-78.3
MM004	Copper ores and concentrates	127	70	-56	-44.4
MM050	Silverware and certain other articles of precious metal	139	83	-55	-39.9
AG054	Wood pulp and wastepaper	3,845	2,665	-1,180	-30.7
AG043	Cigarettes	51	38	-14	-26.3
AG063	Wool and other animal hair	214	173	-41	-19.0
MM037	Unwrought aluminum	4,585	3,828	-757	-16.5
MM038	Aluminum mill products	2,048	1,737	-311	-15.2
AG058	Printing and writing papers	4,192	3,565	-627	-15.0
MM008	Precious metal ores and concentrates	87	74	-13	-14.7
AG002	Cattle and beef	2,627	2,248	-378	-14.4
MT046	Molds and molding machinery	3,528	3,030	-498	-14.1
AG028	Coffee and tea	3,427	2,958	-469	-13.7
CH054	Cordage, nets, and netting	162	140	-22	-13.6
MT018	Textile machinery and parts	1,752	1,528	-224	-12.8
ST004	Tape recorders, tape players, video cassette recorders, turntables, and compact disc players	6,733	5,873	-860	-12.8
AG051	Tools and tool handles of wood	130	114	-16	-12.3
ST014	Television picture tubes and other cathode-ray tubes	1,116	987	-129	-11.5
MT011	Forklift trucks and similar industrial vehicles	1,136	1,007	-129	-11.3
MT017	Printing, typesetting, and bookbinding machinery and printing plates	2,009	1,796	-213	-10.6

Note.—Calculations based on unrounded data.

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

Table 2-11

## U.S. trade position increases: Ranking of top 30 industry/commodity groups, 1995 and 1996

USITC code	Industry/commodity group	U.S. balance		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million dollars</i>					
MT042	Aircraft, spacecraft, and related equipment . . . .	17,704	23,401	5,697	32.2
ST016	Diodes, transistors, integrated circuits, and similar semiconductor solid-state devices . . . .	-15,851	-12,636	3,214	20.3
AG030	Cereals . . . . .	13,990	15,961	1,971	14.1
AG032	Oilseeds . . . . .	5,439	7,358	1,919	35.3
MT012	Construction and mining equipment . . . . .	4,239	5,520	1,281	30.2
ST004	Tape recorders, tape players, video cassette recorders, turntables, and compact disc players . . . . .	-5,978	-4,908	1,070	17.9
ST024	Medical goods . . . . .	4,015	4,850	835	20.8
MM020	Precious metals and related articles . . . . .	1,798	2,556	758	42.1
MT041	Miscellaneous vehicles and transportation- related equipment . . . . .	1,881	2,553	672	35.8
MT046	Molds and molding machinery . . . . .	-2,227	-1,588	639	28.7
MT014	Farm and garden machinery and equipment . .	834	1,457	622	74.6
AG058	Printing and writing papers . . . . .	-2,772	-2,171	600	21.7
CH028	Perfumes, cosmetics, and toiletries . . . . .	707	1,261	554	78.3
ST030	Measuring, testing, controlling, and analyzing instruments . . . . .	4,907	5,442	535	10.9
MM037	Unwrought aluminum . . . . .	-3,291	-2,772	520	15.8
ST005	Unrecorded magnetic tapes, discs, and other media . . . . .	94	599	505	539.8
AG028	Coffee and tea . . . . .	-3,198	-2,721	476	14.9
AG005	Poultry . . . . .	2,118	2,554	436	20.6
ST012	Electrical capacitors and resistors . . . . .	-308	116	424	( <sup>1</sup> )
ST019	Photographic supplies . . . . .	26	446	420	1,628.2
AG057	Newsprint . . . . .	-3,827	-3,411	416	10.9
ST013	Apparatus for making, breaking, protecting, or connecting electrical circuits . . . . .	-1,026	-628	397	38.7
AG013	Animal feeds . . . . .	3,242	3,595	354	10.9
ST007	Radio transmission and reception apparatus, and combinations thereof . . . . .	-1,924	-1,571	353	18.4
MM032	Industrial fasteners of base metal . . . . .	-844	-494	351	41.5
CH078	Other wearing apparel . . . . .	-1,388	-1,046	342	24.6
MT017	Printing, typesetting, and bookbinding machinery and printing plates . . . . .	-712	-375	337	47.3
MT023	Semiconductor manufacturing equipment and robotics . . . . .	3,087	3,409	322	10.4
ST014	Television picture tubes and other cathode- ray tubes . . . . .	275	579	304	110.6
CH045	Miscellaneous rubber or plastic products . . . .	-1,661	-1,358	303	18.3

<sup>1</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data.

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



Table 2-12

## U.S. trade position declines: Ranking of top 30 industry/commodity groups, 1995 and 1996

USITC code	Industry/commodity group	U.S. balance		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million dollars</i>					
CH005	Petroleum products	-3,194	-11,312	-8,117	-254.1
CH006	Natural gas and components	-4,382	-7,484	-3,101	-70.8
CH004	Crude petroleum	-42,076	-44,389	-2,314	-5.5
CH026	Medicinal chemicals	-564	-2,643	-2,079	-368.8
ST018	Automatic data processing machines	-21,832	-23,480	-1,647	-7.5
MM025	Steel mill products, all grades	-7,121	-8,615	-1,494	-21.0
MT038	Automobiles, trucks, buses, and bodies and chassis of the foregoing	-62,485	-63,901	-1,416	-2.3
AG047	Lumber	-3,067	-4,399	-1,332	-43.4
AG064	Cotton, not carded or combed	3,671	2,432	-1,238	-33.7
AG054	Wood pulp and wastepaper	2,396	1,394	-1,002	-68.7
MM060	Toys and models	-3,946	-4,884	-938	-41.8
AG033	Animal or vegetable fats and oils	1,264	346	-918	-23.8
MM054	Furniture and selected furnishings	-5,122	-5,978	-857	-72.6
MM019	Natural and synthetic gemstones	-6,398	-7,165	-768	-16.7
MT002	Internal combustion piston engines, other than for aircraft	384	-383	-766	( <sup>1</sup> )
CH010	Benzenoid commodity chemicals	1,445	679	-766	-53.0
CH012	Miscellaneous organic chemicals	2,794	2,061	-733	-26.2
MT001	Aircraft engines and gas turbines	3,356	2,722	-633	-18.9
CH079	Footwear and footwear parts	-11,424	-11,948	-523	-4.6
CH013	Miscellaneous inorganic chemicals	-78	-593	-515	-660.8
AG012	Sugar and other sweeteners	-531	-1,027	-496	-93.4
ST006	Records, tapes, compact discs, computer software, and other recorded media	2,898	2,459	-439	-15.1
CH011	Benzenoid specialty chemicals	1,424	995	-429	-30.1
MM061	Games and fairground amusements	-1,364	-1,792	-428	-31.4
MM023	Iron and steel waste and scrap	1,402	993	-410	-29.2
MM036	Copper and related articles	-694	-1,102	-408	-58.8
ST010	Television apparatus (except receivers and monitors), including cameras, camcorders, and cable apparatus	-3,244	-3,627	-382	-11.8
AG041	Unmanufactured tobacco	850	468	-382	-45.0
MT043	Ships, tugs, pleasure boats, and similar vessels	301	-72	-373	( <sup>1</sup> )
CH007	Major primary olefins	-352	-698	-346	-98.6

<sup>1</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data.

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



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## CHAPTER 3

# Significant Bilateral/Multilateral Shifts and Other Trade Developments

### SIGNIFICANT BILATERAL/MULTILATERAL SHIFTS

#### Mexico

Total U.S. merchandise trade with Mexico in 1996 was \$128.9 billion (9 percent of total U.S. trade). For the second year in a row, the United States recorded a trade deficit with Mexico, which increased by \$2.7 billion (16 percent) to \$19.5 billion in 1996. U.S. imports from Mexico rose by \$12.5 billion (20 percent) in 1996 to \$74.2 billion, while U.S. exports increased at a faster rate, by \$9.8 billion (22 percent) to \$54.7 billion. The growth in U.S. exports in 1996 was in contrast to a decline of \$4.3 billion in 1995.

The continuing deficit can be partially attributed to the continuing effects of the Mexican peso devaluation in 1994-95<sup>1</sup> and subsequent recession, combined with continued expansion of the maquiladora industry, which led to increased imports from Mexico. The peso crisis increased the price of U.S.-made goods in the Mexican market and lowered the price of Mexican goods in the U.S. market. Mexican President Ernesto Zedillo also announced an economic austerity package on March 9, 1995, to stabilize the Mexican economy and restore investor confidence. The higher taxes, lower government spending, and increased price of consumer goods mandated by the austerity plan had the effect of reducing demand for many nonsubsistence products in Mexico.

The state of the Mexican economy is currently being debated by experts. Some believe that increasing real GDP, rebounding U.S. exports to Mexico, improving rates of employment (in some regions), and declining interest rates in Mexico demonstrate that the Mexican economy may be emerging, to some degree, from the 1995 recession.<sup>2</sup> However, increasing violence in urban centers related to the transit of drugs and the economic hardships, coupled with domestic demand still below its level in 1994, has led other analysts to remain skeptical of whether the Mexican economy has significantly recovered.<sup>3</sup>

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<sup>1</sup>For more background on the origins of the Mexican peso devaluation and its implications, see Edwin Truman, "The Mexican Peso Crisis: Implications for International Finance," *Federal Reserve Bulletin*, vol. 82, No. 3, Mar. 1996, pp. 199-209.

<sup>2</sup>Tim Coone, "Mexico: Uneven Growth," *Latin Trade*, Nov. 1996, p. 12.

<sup>3</sup>See Kevin G. Hall, "Study: Mexico Losing Appeal to Investors," *The Journal of Commerce*, Nov. 4, 1996, p. 3A; and Elisabeth Malkin, "Bang! Bang! Welcome to Mexico," *Business Week*, Oct. 1996, p. 58.

## U.S. imports

Mexico was the third-largest source of U.S. imports in 1996, accounting for 9 percent of the total. The peso devaluation reduced the cost of Mexican labor and made Mexican exports much more competitive in the world market. The implementation of NAFTA has further facilitated two-way trade between Mexico and the United States through mutual reduced and/or eliminated tariffs and quotas. In addition, many Asian firms, facing rising labor costs at home, opened or expanded assembly plants in Mexico to take advantage of relatively low-cost Mexican labor.<sup>4</sup> Furthermore, in order to qualify for duty-free entry to the United States under NAFTA, many of these Asian participants in the maquiladora industry (the assembly of foreign components for re-export)<sup>5</sup> have increased their use of U.S.-made components; some have purchased U.S. component producers, while others have persuaded their Asian components suppliers to relocate production facilities to North America (usually to the United States). The import sectors experiencing the greatest growth in 1996 included transportation equipment, petroleum products, electronic products, and apparel.

The transportation sector as a whole accounted for 19 percent (\$14.4 billion) of total U.S. imports from Mexico in 1996. The majority of these Mexican exports, chiefly motor vehicles and auto parts, were produced by subsidiaries of U.S. firms. Many of the components used in the assembly of these goods are made in the United States, indicating integration within the North American auto industry. Following the decline of the peso and a subsequent weak domestic market, many Mexican facilities began to export production originally intended for the local market, causing U.S. imports of automobiles to increase \$3.3 billion (40 percent) and certain motor-vehicle parts to increase by \$330 million (15 percent) (table 3-1).

Intra-industry trade and the growth of the maquiladora industry along the U.S.-Mexico border continued to enhance sector trade in the petroleum products needed to fuel those factories. Crude oil was the second-leading import from Mexico in 1996. U.S. imports of crude petroleum from Mexico increased \$1.4 billion (24 percent) to \$7.0 billion.<sup>6</sup> Likewise, U.S. imports of apparel from Mexico increased (by 35 percent), partially at the expense of U.S. imports from the Caribbean region, Central American, and Asia.<sup>7</sup> The devaluation of the peso also reduced Mexican wage rates to levels in parity with, or even lower than, those in the Caribbean.

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<sup>4</sup>Kerry Pechter, "Mexico Beats China," *International Business*, Jan. 1994, p. 22.

<sup>5</sup>For more information on export processing in Mexico, see USITC, *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)*, USITC publication 3032, Apr., 1997, pp. 2.1-2.5.

<sup>6</sup>Refined petroleum products were the 10th-most important U.S. export to Mexico. U.S. exports of refined petroleum products to Mexico increased, by \$237 million (28 percent) to \$1.1 billion.

<sup>7</sup>Garments assembled in Mexico from fabric that has been formed and cut in the United States can enter totally free of duty and quota under the NAFTA-created provision 9802.00.90. Apparel from Caribbean and Central American suppliers continues to be subject to duty on the value added offshore, while apparel from Asia, which does not use U.S.-formed and -cut fabric, is subject to full duties and quota restrictions. For more detail on the potential diversion of apparel assembly from the Caribbean to Mexico, see Sidney Weintraub, *NAFTA at Three: A Progress Report*, (Washington, DC: The Center for Strategic and International Studies, 1997), pp. 41-43.

**Table 3-1**  
**Leading changes in U.S. imports from Mexico, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Transportation equipment:				
Autos, trucks, and buses .....	8,386	11,714	3,329	40
Certain motor-vehicle parts .....	2,170	2,500	330	15
Energy-related products:				
Crude petroleum .....	5,682	7,033	1,351	24
Petroleum products .....	308	583	275	90
Electronic products:				
Computers, related equipment, and parts .....	1,918	3,060	1,142	60
Television apparatus (cameras, camcorders) .....	805	1,082	277	34
Telephone apparatus .....	512	742	230	45
Television receivers, video monitors .....	3,022	3,249	227	8
Apparel articles and accessories .....	2,778	3,744	966	35
Machinery:				
Wiring harnesses .....	3,327	3,761	434	13
Air-conditioning equipment .....	604	801	197	33
Other:				
Furniture .....	1,196	1,525	328	27
Tomatoes .....	406	580	174	43
<b>Decreases:</b>				
Cattle and beef .....	551	131	-421	-76
Copper and related articles .....	484	403	-81	-17
Electrical capacitors and resistors .....	410	329	-81	-20
<b>All other</b> .....	<b>29,162</b>	<b>32,942</b>	<b>3,781</b>	<b>13</b>
<b>Total</b> .....	<b>61,721</b>	<b>74,179</b>	<b>12,458</b>	<b>20</b>

Note.—Calculations based on unrounded data.

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

U.S. imports of electronic products also increased substantially, commensurate with the increase in U.S. exports to Mexico in the electronic component sector. The relatively developed infrastructure, labor skills, and educational level found along the Mexico border continue to attract investment in the electronics industry, mainly from Asian and U.S. firms.<sup>8</sup> Within the electronic products sector, imports of computers and parts from Mexico experienced the third-greatest increase of all products in value terms, rising by \$1.1 billion (60 percent) to \$3.1 billion (table 3-1). Television receivers and video monitors were among the top U.S. electronics imports from Mexico, totaling \$3.2 billion in 1996. Japanese and Korean-owned firms continued to invest in Tijuana<sup>9</sup> and Mexicali, taking advantage of U.S. interstate highway connections to the port of Long Beach, California, through which many of the Asian parts used in the assembly of televisions enter the United States. The only major electronic imports from Mexico to decline in 1996 were electrical capacitors and resistors, by \$81 million (20 percent); office machines, by \$23 million (9 percent); and special purpose tubes, by \$12 million (25

<sup>8</sup>Joel Millman, "Asian Investment Floods Into Mexican Border Region," *Wall Street Journal*, Sept. 6, 1996, p. A10.

<sup>9</sup>Damon Darlin, "Maquiladora-ville," *Forbes*, May 6, 1996, pp. 111-112.

percent). Increasingly, electronic subassemblies manufactured from U.S. parts by certain producers in the maquiladora industry are being shipped directly to maquiladora customers in Mexico for further assembly, after which the final product is exported to the United States, sold domestically in Mexico, or exported to third countries.

### U.S. exports

Mexico remained the third-largest market for U.S. exports in 1996, accounting for 9 percent of total exports and 27 percent of the total growth in U.S. exports. The elimination and reduction of Mexican tariffs and/or quotas on many items under NAFTA, combined with the continued growth of the maquiladora industry are the main reasons for the increase in U.S. exports to Mexico in 1996. The implementation of NAFTA also had the effect of increasing specialization and boosting regional intra-industry trade in many sectors, thus increasing two-way trade overall. U.S. sector and product exports experiencing the greatest growth included motor vehicles, electronic products, corn, and certain other agricultural products (table 3-2).

Many firms have invested in Mexican assembly plants in recent years to reduce their costs. Labor costs in Mexico were further reduced following the devaluation of the peso. Further, companies that had been producing in Asia or importing from Asian sources were able to cut customs and transportation costs by shifting production/assembly to Mexico. In addition, these companies were able to significantly shorten delivery time to U.S. customers. Asian firms, in particular, increased their investment in Mexico, in large part because of proximity to the electronics and computer industries in California, Arizona, and Texas as sources for components, capital equipment, and engineers and managerial staff. Asian companies have invested in Baja California more than in other regions in Mexico because of proximity to the ports in Long Beach and Los Angeles, as well as the multilingual Asian population in California.<sup>10</sup> NAFTA-mandated changes in the rules-of-origin requirements encouraged many of these companies to source components from the United States for further assembly and processing in Mexico. This trend can be seen most clearly in the rise in U.S. exports of such electronic products<sup>11</sup> as semiconductors, electrical circuit apparatus, electrical capacitors and resistors, and telephone apparatus (table 3-2). The only major U.S. electronic products experiencing a decline in exports to Mexico in 1996 were analyzing instruments (by \$99 million or 11 percent), television receivers and video monitors (by \$41 million or 13 percent), and radio transmission apparatus (by \$23 million or 4 percent).

The reduction of quantitative restrictions and export performance specifications required by NAFTA, and an improved Mexican economy, combined to boost U.S. exports of motor vehicles by \$779 million (194 percent) in 1996 (table 3-2). Following the peso devaluation and resultant loss of purchasing power for most Mexicans, sales of cars and trucks plummeted in 1995; however, auto executives have been predicting renewed growth in sales and

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<sup>10</sup>Joel Millman, "Asian Investment Floods Into Mexican Border Region: Access to U.S. Market Draws Makers of Televisions, Toys - and Shabu-Shabu," *The Wall Street Journal*, Sept. 6, 1996, p. A10; and Tim Coone, "The Aztec-Asian Connection," *Latin Trade*, Sept., 1996, p. 17.

<sup>11</sup>The electric products sector as a whole accounted for \$12.9 billion (24 percent) of total U.S. exports to Mexico in 1996.

**Table 3-2**  
**Leading changes in U.S. exports to Mexico, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
————— Million dollars —————				
<b>Increases:</b>				
Autos, trucks, and buses .....	402	1,181	779	194
Electronic products:				
Computers, related equipment, and parts .....	1,188	1,947	759	64
Semiconductors .....	1,573	2,091	518	33
Electrical circuit apparatus .....	1,932	2,424	492	25
Electrical capacitors and resistors .....	690	907	217	32
Telephone apparatus .....	398	589	191	48
Stereo equipment, VCRs, tape players and parts ..	129	314	185	144
Agricultural products:				
Corn .....	384	1,023	639	167
Soybeans .....	485	859	374	77
Wheat .....	148	326	178	120
Cattle and beef .....	91	204	113	125
Other:				
Wiring harnesses .....	1,301	1,623	322	25
Refined petroleum .....	764	988	224	29
Industrial fasteners .....	308	519	211	69
Steel mill products .....	647	827	180	28
Air conditioning equipment and parts .....	341	494	153	45
<b>Decreases:</b>				
Wood pulp and wastepaper .....	590	333	-258	-44
Internal combustion piston engines .....	1,155	977	-178	-15
Measuring, testing, controlling, and analyzing instruments .....	880	781	-99	-11
<b>All other</b> .....	<b>31,475</b>	<b>36,279</b>	<b>4,805</b>	<b>15</b>
<b>Total</b> .....	<b>44,881</b>	<b>54,686</b>	<b>9,805</b>	<b>22</b>

Note.—Calculations based on unrounded data.

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

exports of cars and trucks in line with 1996 growth.<sup>12</sup> U.S. exports of piston engines and certain motor-vehicle parts, however, declined in 1996 by \$178 million (15 percent) and \$42 million (1 percent), respectively. This was due to expansions in Mexican engine and parts capacity and a NAFTA-related change in the maquiladora law that now permits a higher percentage of engines and other auto parts assembled in Mexico from U.S. components to be sold directly to motor vehicle assembly plants in Mexico without being shipped back to the United States first.

The substantial increase in U.S. exports of corn, wheat, and soybeans can be partially attributed to improved market access in Mexico, combined with poor growing conditions due to a lingering drought in Mexico. Mexico became the third-leading market, after Japan and the European Union, for U.S. exports of grain and oilseeds, surpassing Korea and Taiwan for the first time in 1996. Several U.S. agricultural and forest product exports, like wood pulp and

<sup>12</sup>Lindsay Chappell, "Ford Chief Takes Europe Post After Making Gains in Mexico," *Automotive News*, Jan. 27, 1997.

wastepaper,<sup>13</sup> animal and vegetable fats, nonalcoholic beverages, lumber, newsprint, and malt beverages, declined slightly in 1996, reflecting domestic demand still below that of 1994, especially for industries producing for the Mexican market.

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## Canada

Total U.S. merchandise trade with Canada in 1996 was \$275.4 billion (20 percent of total trade). The merchandise trade deficit with Canada reached \$37.2 billion in 1996, an expansion of \$5.6 billion (18 percent) from the preceding year. Budget constraints on the Canadian Government and continued downsizing in the private sector held U.S. export growth to \$5.9 billion (5 percent) in 1996, for a total of \$119.1 billion, while a relatively strong U.S. economy contributed to growth in U.S. imports from Canada, which increased by \$11.4 billion (8 percent) to \$156.3 billion. Proximity, shared infrastructure, similar markets, and the strong presence of Canadian subsidiaries of U.S. corporations<sup>14</sup> promote trade between the United States and Canada. Although the Canadian market is just one-tenth the size of the United States, Canada is the United States' largest trading partner for both exports and imports.<sup>15</sup> The leading goods imported from Canada tend to be resource based or the results of co-production, such as motor vehicles, while the leading U.S. exports to Canada are generally industrial equipment and parts used in Canadian plants.

The Canadian Government maintained a tight fiscal policy in 1996 in order to reduce its budget deficit and its subsequent level of foreign debt.<sup>16</sup> Canada's net public and private external debt rose steeply, from US\$89 billion (26 percent of GDP) in 1984, to US\$422 billion (75 percent of GDP) in 1995.<sup>17</sup> Canadian consumers continued to put off discretionary purchases, despite an improved economy and the lowest prime lending rate (4.75 percent) since 1956, because of persistently high rates of unemployment and virtually no growth in disposable incomes.<sup>18</sup>

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<sup>13</sup>U.S. exports of wood pulp and waste paper to Mexico declined by \$258 million (44 percent) to \$333 million in 1996. According to an industry expert, however, 1995 was a record year overall for wood pulp export because they were higher than expected in terms of price per ton and quantity, which partially explains the decline in 1996.

<sup>14</sup>According to U.S. Department of State, *Country Reports on Economic Policy and Trade Practices* (Washington, DC: GPO, Mar. 1997), p. 22, roughly 40 percent of the assets of Canadian manufacturing companies are foreign-owned; of this total, about 75 percent belong to U.S. firms.

<sup>15</sup>Canada reportedly is the most trade-intensive industrial nation, with foreign sales accounting for 43 percent of real GDP. More than one-half of manufactured goods are shipped abroad, and roughly one in five jobs depends on external markets. Scotiabank: The Bank of Nova Scotia, *Global Economic Outlook* (Nova Scotia, Canada, Jan. 1997), p. 5.

<sup>16</sup>*Ibid.*, p. 1.

<sup>17</sup>U.S. Department of State, *Country Reports*, Mar. 1997, p. 1.

<sup>18</sup>On a per capita basis, inflation has outstripped personal disposable income gains for the past seven years. The Scotiabank, *Global Economic Outlook*, Jan. 1997, p. 1.



## U.S. imports

The major product sectors and commodities accounting for the most significant increases in U.S. imports from Canada in 1996 in terms of value were energy products, transportation equipment, lumber, electronic products, and furniture (table 3-3). U.S. imports of energy products<sup>19</sup> rose by \$3.1 billion (25 percent) in 1996, to \$15.8 billion--reflecting an increase in price. The increase in the value of crude petroleum imports was the result of a jump in the world price of crude which rose by about \$5 to \$6 per barrel at the end of 1996. In terms of quantity, U.S. imports of crude petroleum increased by just 2 percent. The quantity of petroleum products imported from Canada increased by about 15 percent in 1996 because an extremely cold winter in the U.S. northeast resulted in unusually high U.S. demand for heating fuels such as distillate and residual fuel oils. U.S. imports of energy products from Canada should increase in near the future with the start up of the Express Pipeline in Alberta and the Hibernia project in late 1997.

**Table 3-3**  
**Leading changes in U.S. imports from Canada, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Energy products:				
Crude petroleum .....	6,139	7,367	1,228	20
Natural gas and components .....	4,590	5,684	1,094	24
Refined petroleum products .....	1,886	2,709	823	44
Transportation equipment:				
Motor vehicle engines .....	1,766	2,499	733	42
Aircraft and parts .....	1,482	2,191	709	48
Automobiles, trucks, and buses .....	33,277	33,727	450	1
Certain motor vehicle parts .....	6,383	6,753	371	6
Electronic products:				
Telephone apparatus .....	1,292	1,745	453	35
Integrated circuits and other semiconductor devices .....	1,695	2,104	409	24
Other:				
Lumber .....	5,064	6,378	1,314	26
Furniture .....	2,442	2,903	461	19
Gold .....	1,311	1,666	355	27
Cattle and beef .....	1,215	1,454	240	20
<b>Decreases:</b>				
Wood pulp and wastepaper .....	3,226	2,209	-1,017	-32
Computers and parts .....	4,057	3,381	-677	-17
Molds and molding machinery .....	1,580	1,208	-372	-26
Newsprint .....	4,371	4,019	-352	-8
Unwrought aluminum .....	2,836	2,486	-350	-12
Printing and writing papers .....	2,412	2,216	-197	-8
<b>All other</b> .....	<b>57,858</b>	<b>63,600</b>	<b>5,742</b>	<b>10</b>
<b>Total</b> .....	<b>144,882</b>	<b>156,299</b>	<b>11,417</b>	<b>8</b>

Note.--Calculations based on unrounded data.

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

<sup>19</sup>Crude petroleum, natural gas and components, and refined petroleum products.

U.S. imports of motor vehicles and parts rose by \$1.6 billion (4 percent) in 1996, to \$43.0 billion. Trade in motor vehicles and parts is the result of the highly rationalized nature of North American car production. The increase in imports of motor vehicles and parts is likely to continue as Toyota Motor Corp., and Honda Motor Co., Ltd. are completing multimillion dollar expansions of their Ontario plants in Alliston and Cambridge.<sup>20</sup> Chrysler is also expanding existing capacity, and Ontario (the Province with the largest amount of Canadian car and light truck production) has initiated an effort to win investment, mainly in automotive components.<sup>21</sup>

U.S. imports of aircraft and parts rose by \$709 million (48 percent) in 1996, to \$2.2 billion. The increase in imports was largely accounted for by midsized aircraft such as certain multi-engine, turbofan-powered, civil aircraft; parts for civil aircraft; new nonmilitary helicopters; and undercarriage assemblies and parts thereof. Producers in the United States have chosen not to compete in the midsized (30-70 seat aircraft) market, as price competition between many competitors has reduced profit margins to a minimum.<sup>22</sup> U.S. production is concentrated in either small (up to 19 passengers) or large (120+) aircraft.

U.S. imports of lumber rose by \$1.3 billion (26 percent) in 1996, to \$6.4 billion. The increase in the value of imports was largely the result of rising prices in anticipation of the limits placed on supply by the Canada-U.S. softwood lumber agreement. The price of random length 2x4 lumber from spruce, pine, or fir (lumber used for home building and other construction) also strengthened to US\$352 per 1,000 board feet in 1996, from US\$250 in 1995, as a result of strong U.S. residential construction.<sup>23</sup> The Canada-U.S. softwood lumber agreement will effectively require Canada's four largest lumber exporting provinces--British Columbia, Quebec, Alberta, and Ontario--to limit their exports to the United States for 5 years.<sup>24</sup> The 5-year agreement that took effect April 1, 1997, initiated a quota on wood sent from Canadian Provinces in excess of 14.7 billion board feet.<sup>25</sup>

U.S. imports of electronic products rose by \$1.0 billion (31 percent) to \$4.5 billion in 1996, with telephone equipment and semiconductors accounting for much of the growth. Increased imports in these two product categories reflects the strong position of Canadian-based Northern Telecom in the U.S. market, and the use of Canadian assembly plants by U.S. semiconductor producers to supply markets in both Canada and the United States. The deregulation of the U.S. telecommunication market further encouraged U.S. imports of leading-edge routing and switching equipment, signal compression technology, and communication software from Canada in 1996.

U.S. imports of furniture rose by \$461 million (19 percent) to \$2.9 billion in 1996. U.S. imports of household and office furniture from Canada are encouraged by proximity, shared infrastructure, and similar markets. Canadian household furniture producers face

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<sup>20</sup>Barrif McKenna, "Japan Heats Up Battle Over Canadian Auto Tariffs," *The Globe and Mail (Toronto)*, Apr. 23, 1997, p. 23.

<sup>21</sup>John Griffiths, "Ontario in Drive for Investment in Car Components," *London Financial Times*, Mar. 25, 1997, p. 4.

<sup>22</sup>Industry contact, telephone interview by USITC staff, Apr. 18, 1997.

<sup>23</sup>Scotiabank, "Global Economic Outlook," Jan. 1997, p.11.

<sup>24</sup>U.S. Trade Representative, "Canada-United States: Softwood Lumber Agreement," May 29, 1996, *International Legal Materials*, Sep. 1996, vol. XXXV, No. 5, p. 1195.

<sup>25</sup>See "Lumber" in chapter 6 for more information.

significantly lower transportation costs in the U.S. market than their East Asian or European Union (EU) competitors, and have access to abundant sources of competitively priced lumber suitable for wood furniture. A significant portion of the growth in imports from Canada was accounted for by motor vehicle seats (which are considered a part of the "furniture" industry for purposes of the *HTS*). Johnson Controls, Lear Seating, Delphi Interior, and Magna International Inc.<sup>26</sup> established seat assembly operations in Canada roughly a decade ago in order to supply the North American car market (chiefly the U.S. Big Three and Japanese transplants). Most of the imports of car seats from Canada are assembled from U.S.-made parts and materials.

### U.S. exports

Motor vehicles and parts and electronic products accounted for the most significant increases in U.S. exports to Canada in 1996 (table 3-4). U.S. exports of engines and other motor vehicle parts, of which only the most significant product categories are listed, exceed exports of finished vehicles to Canada. In 1996, however, exports of finished vehicles grew at a faster pace than exports of all parts. Exports of cars, trucks, and buses rose by \$762 million (7 percent) to \$12.2 billion. Exports of engines and parts also exhibited strong growth in 1996, with exports of finished spark ignition, internal combustion, piston engines rising by \$252 million (11 percent) to \$2.5 billion and exports of parts of internal combustion engines climbing by \$226 million (19 percent) to \$1.4 billion. Exports of certain other motor vehicle parts, however, were nearly flat in 1996, rising by only \$155 million (1 percent) to \$12.8 billion.

U.S. exports of electronic products rose by \$970 million (12 percent) in 1996, to \$9.2 billion. Canadian firms are investing heavily in such productivity-improving products as computers, telecommunications equipment, and other office machines. Spending on these high-tech products has risen at an annual rate of 17 percent since 1991.<sup>27</sup> Investment in telephone and cable systems in Canada, which will total close to \$16 billion over the next 5 years, reflects the eventual start-up of direct-to-home satellite broadcasting systems, planned convergence of cable and telephone networks, and the licensing of new wireless systems and cable channels.<sup>28</sup> New purchases of high-tech products are being supported by low Canadian borrowing costs.<sup>29</sup> Increased U.S. exports of semiconductors also reflect expanded production and/or assembly in Canada of products incorporating semiconductors: chiefly, motor vehicle equipment, computer equipment, telecommunications equipment, and measuring and controlling instruments.

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<sup>26</sup>Johnson Controls and Lear Seating accounted for roughly two-thirds of North American car seat production in 1996. Delphi Interior, and Magna International Inc. the next largest independent suppliers, accounted for close to 10 percent of such shipments in 1996. Magna is a Canadian-owned company. Industry contact, telephone interview by USITC staff, Apr. 16, 1997.

<sup>27</sup>Scotiabank, *Global Economic Outlook*, Jan. 1997, p. 6.

<sup>28</sup>Ibid., p. 10.

<sup>29</sup>Ibid., p. 1.

**Table 3-4**  
**Leading changes in U.S. exports to Canada, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Transportation equipment:				
Automobiles, trucks, and buses .....	11,396	12,159	762	7
Spark ignition, internal combustion, piston engines for motor vehicles .....	2,271	2,522	252	11
Parts of internal combustion engines for motor vehicles .....	1,176	1,402	226	19
Electronic products:				
Telephone apparatus .....	1,159	1,591	432	37
Integrated circuits and other semiconductor devices .....	2,376	2,666	290	12
Computers and related equipment .....	3,332	3,580	248	7
<b>Decreases:</b>				
Wood pulp and waste paper .....	599	280	-318	-53
<b>All Other</b> .....	90,952	94,923	3,971	4
<b>Total</b> .....	113,261	119,123	5,862	5

Note.—Calculations based on unrounded data.

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

The product sector with the most significant reduction in U.S. exports to Canada in 1996 was woodpulp and wastepaper. Much of the \$318 million (53-percent) decline to \$280 million was caused by a contraction in the world price of newsprint, by about 30 percent at yearend 1996, compared with yearend 1995.<sup>30</sup>

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### Japan

Total U.S. merchandise trade with Japan in 1996 was \$178.3 billion (13 percent of total U.S. trade). The U.S. trade deficit with Japan decreased by \$10.3 billion (17 percent) between 1995 and 1996 as the deficit moved to \$51.2 billion, largely due to the \$7.6 billion (6 percent) decline in U.S. imports from Japan.<sup>31</sup> Japan is the United States' second-largest trading partner, following Canada, for both imports and exports. In addition, a slight increase of \$2.6 billion

<sup>30</sup>Martha M. Hamilton, "Pressing Efforts to End a Slump: With Demand Rebounding, Cyclical Industry Hopes It's on Upswing," *The Washington Post*, May 4, 1997, p. H2.

<sup>31</sup>This bilateral trade deficit improvement was, by far, the largest the United States had with any country in 1996. This was the second consecutive year of improvement as the U.S. trade deficit with Japan also decreased by \$5.0 billion (8 percent) to \$61.4 billion in 1995.

(4 percent) in U.S. exports to Japan reduced the deficit. Both increases and decreases in the global prices of some commodities influenced the trade balance. The U.S. trading relationship with Japan remains a primary focus of bilateral relations.

Although the U. S. trade position with Japan improved overall in 1996, demand for U.S. products in Japan was hampered in part by the slowly recovering Japanese economy. Japan has not yet fully recovered from six years of slow economic growth, but its real GDP growth rate of 3.7 percent in 1996 was the highest since this slower period began.<sup>32</sup> Some analysts claim that most of the economic growth Japan has experienced since 1992 was due to six government spending packages totaling \$606 billion that were meant to stimulate domestic consumption.

The Japanese strategy for economic recovery focused on investment in public works, which in turn stimulated domestic construction firms that in most cases do not rely on imports. After very strong growth during the first part of 1996 due to higher consumer spending, housing investment, and corporate spending, the economy contracted midyear.<sup>33</sup> The \$130 billion of public works funding invested in the first quarter reportedly was not supplemented because the Japanese Government budget was falling deeper into deficit.<sup>34</sup> By the final quarter of the year, private spending on cars and homes, as well as corporate capital spending, increased slightly, as did Japanese export growth.

Japan's depreciating yen also affected trade; since early 1995, the nominal value of the yen has depreciated slightly more than one-third against the U.S. dollar.<sup>35</sup> A weaker yen affects U.S.-Japan trade by making Japanese exports relatively more attractive in the global market than U.S. exports. An estimated 40 percent of the economic growth Japan experienced at the end of the year was attributed to increased Japanese exports.<sup>36</sup>

Nontariff trade barriers (NTBs) in Japan persisted in 1996, as reported by the United States Trade Representative (USTR) and the U.S. Department of State.<sup>37</sup> U.S. trade reportedly is affected by discriminatory standards and exclusionary business practices which help to protect domestic companies and limit the entry of competitive foreign products into the Japanese market.<sup>38</sup> The 1993 United States Framework for a New Economic partnership set an agenda to improve market access for U.S. products. Under the Framework, Japan made commitments to improve foreign market access by reforming government procurement, competition policy, foreign direct investment conditions, and monitoring of existing agreements. Several industry-specific agreements have been concluded under the Framework agreement, for example, the

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<sup>32</sup>The Japanese economy grew less than 2 percent annually for years 1992-1995. U.S. Department of State, *1997 Country Reports on Economic Policy and Trade Practices* (Washington, DC: GPO, Mar. 1997), pp. 42-46.

<sup>33</sup>"A Strong Quarter Stirs Optimism in Japan," *New York Times*, June 19, 1996, p. D4 and "Japan Says its Economy Shrank for First Time Since '94," Sept. 14, 1996, p. 32.

<sup>34</sup>"Japan's Road to Bankruptcy is Paved with Public Works," *New York Times*, Mar. 1, 1997, p. 1 and "Japanese Economy Grows but Just Barely," *New York Times*, Dec. 5, 1996, p. D8.

<sup>35</sup>"Rising Surplus, Rising Wrath," *Economist*, Mar. 22, 1997, p. 13.

<sup>36</sup>"Japan's Economy Expanded At 3.9% Rate in 4th Quarter," *New York Times*, Mar. 4, 1997, p. C4.

<sup>37</sup>USTR, *1997 National Trade Estimate Report on Foreign Trade Barriers* (Washington, DC: GPO, 1997) p. 185, and U.S. Department of State, *Country Reports*, Mar. 1997, p. 42.

<sup>38</sup>USTR, *1997 National Trade Estimate Report*, p.186.

1995 U.S.-Japan Automotive Agreement. Since the agreement was concluded, 24 additional specific agreements have been signed.

### U.S. imports

U.S. imports from Japan decreased \$7.6 billion (6 percent) to \$114.8 billion in 1996. Imports declined in all major categories of Japanese goods: semiconductors, automobiles and parts, computers and parts, and other high tech equipment (table 3-5). The most significant decline was a \$2.0 billion (21 percent) drop in U.S. imports of semiconductors. The fall in the value of these imports was due to a severe decline in the global price of memory devices. In particular, the unit price of dynamic random access memories (DRAMs) declined 70 percent in 1996, offsetting a rise in the quantity of DRAMs imported from Japan.<sup>39</sup>

**Table 3-5**  
**Leading changes in U.S. imports from Japan, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Video games .....	1,117	1,438	321	29
Aircraft parts .....	473	766	293	62
Medicinal chemicals .....	933	1,186	253	27
<b>Decreases:</b>				
Transportation equipment:				
Passenger vehicles .....	28,246	26,443	-1,803	-6
Motor vehicle parts .....	4,348	3,924	-424	-10
Trucks .....	1,160	765	-395	-34
Construction, mining and other industrial vehicles .....	1,588	1,285	-303	-23
Electronic products:				
Semiconductor devices .....	9,654	7,665	-1,990	-21
Computers .....	10,267	9,411	-856	-8
Tape players, VCRs, turntables, and CD players .....	2,200	1,754	-447	-20
Telecommunications equipment .....	812	474	-338	-42
Photocopy apparatus .....	2,656	2,380	-276	-10
Electrical circuit apparatus .....	2,027	1,803	-224	-11
Parts of computers and other office machines .....	4,736	4,519	-218	-5
Television picture tubes and other CRTs .....	629	487	-142	-23
<b>All other</b> .....	<b>51,556</b>	<b>50,462</b>	<b>-1,094</b>	<b>-2</b>
<b>Total</b> .....	<b>122,402</b>	<b>114,762</b>	<b>-7,640</b>	<b>-6</b>

Note.—Calculations based on unrounded data.

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

<sup>39</sup>U.S. imports of DRAMs increased by 16 percent in 1996. Semiconductor Industry Association, Global Billings Report, Feb. 1997, <http://www.semichips.org/btobill/book.html>, Apr. 9, 1997. Although the demand for personal computers was strong in 1996, global DRAM producers added capacity and increased production in anticipation of even greater growth. See "Diodes, Transistors, Integrated Circuits, and Similar Semiconductor Solid-state Devices" in chapter 13 for more information.

U.S. imports of passenger vehicles and motor vehicle parts from Japan declined for the second year in a row, dropping by \$2.2 billion<sup>40</sup> (6 percent) to \$30.4 billion. The decline is attributed to a greater portion of U.S. consumer demand being met by Japanese-owned production facilities transplanted to North America.<sup>41</sup> However, during the final months of 1996, strong U.S. demand especially for sports utility vehicles, outstripped transplant output and Japanese auto shipments to the United States soared.<sup>42</sup> The overall decline in the 1996 U.S. passenger vehicle trade deficit with Japan was countered by this yearend surge. The continued relative weakness of the value of the yen against the dollar for much of 1996, despite a significant appreciation of the yen against the dollar during the year as a whole, contributed to strong U.S. demand for Japanese passenger vehicles.<sup>43</sup> Japanese sources claim that despite the rise in U.S. auto imports from Japan during the final months of 1996, Japan's auto surplus with the United States will continue to decline, based on the pledges of the U.S.-Japan Auto Agreement and continued expansion of overseas production by Japanese manufacturers.<sup>44</sup>

U.S. imports of computers and computer peripherals from Japan, the leading supplier of these products to the U.S. market, decreased, while U.S. imports from Singapore, Taiwan, Malaysia, and China rose. Many Japanese manufacturers of these products have moved some production offshore to avoid high production costs at home caused by high labor costs and a historically strong yen (although during 1995/96, the yen depreciated versus the U.S. dollar). Imports from Japan of construction, mining, and other industrial vehicles decreased by \$303 million (23 percent) to \$1.3 billion in 1996, in part because of the relative strength of the Japanese yen.<sup>45</sup> U.S. imports of photocopiers from Japan declined \$276 million (10 percent) because of increased U.S. imports of less expensive photocopy machines from other Asian countries, and a shift in production in Japan to advanced capability machines, the type mainly supplied by U.S. producers. The increased popularity of next-generation video games in the United States, driven by the wide availability of 64 bit technology, is reflected in a \$321 million (29 percent) increase in video game imports from Japan.

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<sup>40</sup>Passenger vehicle imports declined by \$1.8 billion and motor vehicle parts declined \$424 million.

<sup>41</sup>The strong yen in 1994 and 1995 pushed Japanese car makers to expand production capacity overseas. Ayako Doi, "With U.S. Passenger Car Share Nearing 30% Japanese Fret About Revival of Trade Friction," *Japan Automotive Digest*, Jan. 13, 1997, p.1. See the section in this report on Internal Combustion Piston Engines, other than Aircraft, for information about the strategy of the transplants to deal with exchange rate fluctuations.

<sup>42</sup>"Surge of Auto Exports Sends Trade Surplus Up for First Time in Two Years," *Japan Automotive Digest*, Dec. 23, 1996, p. 10, and "Japan's December Vehicle Imports Down, but Up 13 % From Year Before," *BNA International Trade Daily*, Jan. 10, 1997.

<sup>43</sup>The average price on 1997 model-year Japanese passenger vehicles reportedly increased very little and extensive rebates were offered in the fall of 1996. "Strong Dollar Weakens U.S. Automakers," *Los Angeles Times*, Feb. 13, 1997 via NewsEDGE. Furthermore, several Japanese producers reported large portions of their parent company profits in the first half of the year from exchange rate conversion. For example Toyota reported that 68 percent of the growth in operating income was attributable to the exchange rate conversion. "For Japan's Auto Makers, Windfall From Yen," *New York Times*, Nov. 11, 1996, p. 36. See the section in this report on Motor Vehicles for details about the "roving production" strategy of Japanese producers that allows them to change production location as a means to circumvent the effect of currency fluctuations, and for the market in Japan that faces U.S. exporters.

<sup>44</sup>"Auto Surplus With U.S. Will Fall as New Plants Open, Says Study," *Japan Automotive Digest*, Dec. 23, 1996, p. 10.

<sup>45</sup>See "Construction and Mining Equipment" in chapter 12 for more details.

## U.S. exports

U.S. exports to Japan increased by \$2.6 billion (4 percent) in 1996 to \$63.6 billion (table 3-6). This was only one-quarter of the 19-percent increase in exports between 1994 and 1995. Overall demand for U.S. exports in Japan slowed as Japan's economic growth remained relatively sluggish during most of the year, and the comparatively weak yen (stronger dollar) persisted, especially in the last quarter of the year. Half of the total increase (\$1.1 billion) was evenly divided between computers and corn, while most of the remaining increases were distributed among exports of medical instruments, office machines and parts, motor vehicle parts, semiconductors, and other electronic equipment. U.S. corn exports to Japan continued to fill the gap that Japan experienced when, in 1994, China shifted from being a net corn exporter and Japan's leading supplier, to being a net importer. However, the apparent increase in U.S. corn exports in 1996 was primarily due to a 55-percent price increase in the commodity, and not an increase in volume.<sup>46</sup>

U.S. exports of computer hardware<sup>47</sup> to Japan increased \$809 million as Japanese businesses installed local area networks which require individual personal computers (PCS) and other peripherals.<sup>48</sup> Consumer demand for PCS also rose in Japan as home PCS increased in popularity, and internet use increased. U.S. exports of medical instruments increased by \$312 million (30 percent) during the year to \$1.4 billion, while exports of measuring and controlling instruments rose by \$348 million (22 percent) to \$1.9 billion. U.S. industries are considered to be very competitive in scientific and medical instruments, and demand is strong in Japan, which has one of the fastest growing elderly populations in the world. Increased expenditures by public and private hospitals to update cardiac and other critical care units have especially benefited U.S. suppliers.<sup>49</sup>

Exports of U.S. passenger vehicles declined \$542 million (19 percent) in 1996 to \$2.3 billion. Motor vehicles accounted for 5 percent of the total value of U.S. merchandise exports to Japan in 1995, but that share declined to 4 percent in 1996. Motor vehicles had been the number one U.S. export to Japan in terms of value in 1995, but fell to number three in 1996.

A combination of factors contributed to the decline: reduced demand in the Japanese market; intense competition among Japanese car dealers, many of whom have small profit margins;<sup>50</sup> and a stronger dollar, especially in the last quarter of the year.<sup>51</sup> Japanese demand

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<sup>46</sup>USDA, Economic Research Service, *Feed Outlook*, FDS-0297, Table 4, Feb. 13, 1997.

<sup>47</sup>Includes computers and office machine parts.

<sup>48</sup>See "Automatic Data Processing Machines" in chapter 13 for more information.

<sup>49</sup>Jill Topkins Weiss, "Med Tech 102: The Medical Device Handbook," *Deutsche Morgan Grenfell: US Equities Research*, Nov. 18, 1996, pp. 1-111.

<sup>50</sup>"Selling U.S. Cars in Japan: More Than a Matter of Trade Policy," *Financial Times*, Sept. 19, 1996, p. 6.

<sup>51</sup>According to some analysts, Japanese consumers are less satisfied by the design of U.S.-made vehicles, a further difficulty U.S. car makers face in the Japanese market. "Why Big Three Cars Don't Sell in Japan: The Best Guess is They Are Neither Hakurai Nor Haikara," *The Japan Automotive Digest*, Jan. 20, 1997, p. 1.



**Table 3-6**  
**Leading changes in U.S. exports to Japan, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
————— Million dollars —————				
<b>Increases:</b>				
Electronic products:				
Computers .....	2,485	2,999	514	21
Measuring and controlling instruments .....	1,563	1,911	348	22
Medical instruments .....	1,037	1,350	312	30
Parts of computers and other office machines ...	1,717	2,012	295	17
Semiconductor devices .....	1,898	2,111	213	11
Telephone equipment .....	833	1,032	199	24
Other:				
Corn .....	1,910	2,462	551	29
Motor vehicle parts .....	813	1,071	259	32
Aircraft parts .....	1,222	1,455	233	19
Perfume and cosmetics .....	159	347	188	118
<b>Decreases:</b>				
Passenger vehicles .....	2,888	2,346	-542	-19
Chemical woodpulp .....	603	351	-252	-42
Frozen fish .....	1,352	1,136	-217	-16
Cattle and beef .....	1,680	1,490	-190	-11
Boilers, turbines and related machinery .....	282	99	-183	-65
Medicinal chemicals .....	1,126	946	-181	-16
Gold .....	219	71	-148	-68
<b>All Other</b> .....	<b>39,175</b>	<b>40,396</b>	<b>1,221</b>	<b>3</b>
<b>Total</b>	<b>60,962</b>	<b>63,585</b>	<b>2,623</b>	<b>4</b>

Note.—Calculations based on unrounded data.

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

for reverse imports (Japanese vehicles manufactured in the U.S.) declined 18 percent in 1996<sup>52</sup> and reportedly was caused by the slow-to-recover Japanese economy and the difficulty of servicing the Japanese market from abroad.<sup>53</sup> U.S. automobile exporters must contend with domestic car makers in Japan who, due to abundant profits from export sales, can afford to offer attractive sales incentives in their home market.<sup>54</sup> The competitive advantage of Japanese car makers at home was even more pronounced as the stronger dollar dampened demand for all dollar-denominated imports. Some industry sources cite the delayed implementation of the U.S.-Japan Auto Agreement of 1995 as another cause of the lack of U.S. export growth.<sup>55</sup>

<sup>52</sup>“Japan’s December Vehicle Imports Down, But Up 13 % From Year Before,” *BNA International Trade Daily*, Jan. 10, 1997.

<sup>53</sup>“Servicing the Market: Japanese Makers Era of ‘Reverse Imports’ May be Coming to an End,” *Japan Automotive Digest*, Oct. 14, 1996, p. 1.

<sup>54</sup>“In Signal of Importers’ Mounting Problems, Chrysler Japan Gives its President the Gate,” *Japan Automotive Digest*, Apr. 7, 1997, p. 1.

<sup>55</sup>Slightly more than one-half of the agreed-upon number of dealers selling U.S. cars had been set up in Japan by year end. “U.S. Car Sales in Japan Hampered by Low Yen, Lack of Dealerships, Card Says,” *BNA International Trade Daily*, Nov. 19, 1996.

The \$252 million (42 percent) decline in U.S. exports of chemical woodpulp to \$351 million was a reflection of price decreases. The price of major grades of bleached kraft pulp declined 21-37 percent between 1995 and 1996. After peaking in 1995, pulp prices fell back closer to 1994 prices in 1996; the volume of U.S. woodpulp exports to Japan remained steady in 1996.<sup>56</sup>

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## China

Total U.S. merchandise trade with China in 1996 was \$63.0 billion (13 percent of total U.S. trade). The U.S. trade deficit with China grew by \$5.7 billion (17 percent) to \$39.4 billion in 1996, second in size to that with Japan. This bilateral trade-deficit increase was the largest in terms of dollars that the United States had with any country in 1996.<sup>57</sup> The expansion in the trade deficit with China reflected nearly flat growth in U.S. exports to China while U.S. imports from China increased sharply in 1996.<sup>58</sup> The 13-percent increase in U.S. imports from China in 1996 was only slightly below the 18-percent increase registered in 1995. In contrast, the rate of increase in U.S. exports to China decreased sharply from 27 percent in 1995 to 2 percent in 1996. The ratio of the value of imports to exports increased from 3.9-to-1 in 1995 to 4.3 in 1996, a ratio much higher than that of any other top-10 U.S. trading partner.

U.S. exports to China in 1996 were flat even though real GDP growth in China continued to grow rapidly, up from 9.5 percent in 1995 to an estimated 9.7 percent in 1996.<sup>59</sup> As recently as 1994 in commenting on economic conditions in China in 1993, the U.S. Department of State noted that "Some estimates based on purchasing-power-parity comparisons suggest that China has already become the third-largest economy in the world. Many foreign firms see China as a key growth market ...."<sup>60</sup> U.S. exports were flat because China continues,

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<sup>56</sup>For more detailed discussion of woodpulp exports, see chapter 6.

<sup>57</sup>This compared with an increase of \$4.4 billion (15 percent) in 1995. The United States has registered a merchandise trade deficit with China in each year starting with 1983, or for 13 consecutive years.

<sup>58</sup>Total U.S. trade with China amounted to \$63.0 billion in 1996, ranking it as the fourth-largest U.S. trading partner, up from the fifth-largest partner in 1995.

<sup>59</sup>"In Brief," *China Trade Report*, vol. 35 (Feb. 1997), p. 13.

<sup>60</sup>U.S. Department of State, *Country Reports on Economic Policy and Trade Practices* (Washington, DC: GPO, Mar. 1994), p. 43. That same year, the USTR stated that "China is now the fastest growing major economy in the world." USTR, *1994 National Trade Estimate Report on Foreign Trade Barriers* (Washington, DC: GPO, Mar. 1994), p. 43. Real GDP grew by 11.8 percent in 1994. U.S. Department of State, *Country Reports*, Mar. 1997, p. 24. Despite a low average per capita income, China, with one-quarter of the world's population, has a notable and rapidly growing middle class. To further stabilize the structure of the economy and sustain economic growth in 1996, which should have led to increased U.S. exports to China, the Chinese monetary authorities brought the rate of growth of the money supply down to well within the targets for its various measures, contributing to an easing of inflationary pressure experienced in recent years. Shi Liu, "A Stable Financial Operation in 1996," *China Economic News* (Hong Kong), vol. 18, No. 9

(continued...)

despite considerable progress in opening its market since 1992, to maintain relatively high tariffs and other taxes, and a broad array of nontariff measures (NTMs) to control, restrict, or prohibit imports.<sup>61</sup> China did not need to limit its imports to preserve foreign exchange because Central bank foreign exchange reserves totaled \$105 billion at yearend 1996, up by \$31.5 billion (43 percent) from the beginning of the year. The exchange rate of the renminbi to the dollar varied little from 8.3-to-1 during 1996.<sup>62</sup> In contrast with the controlled or closed markets in China, U.S. markets are open to most imports from China, and the U.S. rate of real GDP growth accelerated from 2.0 percent in 1995 to 2.4 percent in 1996,<sup>63</sup> pulling in substantially more imports.

### U.S. imports

U.S. imports from China increased by \$5.8 billion (13 percent) to \$51.2 billion in 1996, the third-largest bilateral increase in U.S. imports recorded in 1996, behind Mexico and Canada.<sup>64</sup> Continued growth of the U.S. economy, open and free competitive markets, and falling U.S. tariff rates pursuant to Uruguay Round commitments contributed to this strong growth in U.S. imports from China.

As the following tabulation shows, consumer products from China remained in strong demand in the United States during 1996. The leading U.S. imports from China, by value, consisted of electronic products (particularly computers and parts, radio and telephone apparatus, audio and video equipment, and office machines); toys, games, and sporting goods; textiles and apparel; footwear; and luggage, handbags, and personal leather goods.

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<sup>60</sup>(...continued)

(Mar. 10, 1997), pp. 6-7. In response, the Chinese economy experienced less rapid growth in inflation, with the retail price index up by 6.1 percent and the resident consumer price index up by 8.3 percent over those of 1995. Yu Shan, "A Rise of 6.1% in Retail Prices '96," *China Economic News* (Hong Kong), vol. 18, No. 5 (Feb. 3, 1997), p. 3.

<sup>61</sup>USTR, *National Trade Estimate*, Mar. 1997, pp. 43-59 and U.S. Department of State, *Country Reports*, Mar. 1997, pp. 24-32.

<sup>62</sup>Liu, "A Stable Financial Operation in 1996," p. 7. According to U.S. Department of State, *Country Reports*, Mar. 1997, p. 26, the authorities claim to be using a "managed float" in their exchange rate policy. Also, the renminbi became convertible on current account (trade) transactions on Dec. 1, 1996, but it is still not fully convertible on capital account.

<sup>63</sup>"Value Line Forecast for the U.S. Economy," *Value Line Selection & Opinion*, May 30, 1997, p. 6801.

<sup>64</sup>China was the fourth-largest source of U.S. imports in 1996.

<u>Sector/product</u>	<u>Value of U.S. imports from China</u> <i>(Million dollars)</i>	<u>Percent of all U.S. imports from China</u>
Electronic products . . . . .	11,180	22
Toys, games, and sporting goods . . . .	7,504	15
Textiles and apparel . . . . .	7,378	14
Footwear . . . . .	6,367	12
Luggage, handbags, and personal leather goods . . . . .	1,665	3
Total . . . . .	34,094	67

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

Although the majority of the leading imports from China continued to be consumer goods, the number one ranking of electronic products is consistent with the desire of the Chinese Government to shift the composition of exports from such labor-intensive, low-technology products as shoes, apparel, and textiles to capital-intensive, high-technology products. The Ministry of Electronic Industry reportedly announced a policy of promoting the growth of more than 20 electronic products, hoping to develop and optimize the structure of the industries producing them. The products included “large-scale integrated circuits; micro computers; softwares (sic); computer information networks and value-added service systems; intelligence cards and relative machines and tools, mobile communications; numerical-controlled exchanges; optical transmission systems and related products; new generation digital audio-visual products; large screen color TV sets; projection TVS; component and part chips; liquid crystal display devices; energy-saving lamps; global positioning systems; and fuzzy control products.”<sup>65</sup>

Traditionally, foreign investors, often joint ventures between U.S., Asian, or other foreign producers and Chinese manufacturers, have been attracted to China primarily to benefit from its low labor costs for production of exports and to gain access to its large potential consumer market. For 1996 alone, \$73.2 billion were committed to 24,529 approved projects, or foreign-funded enterprises (FFE), with \$42.4 billion “put to actual use.” The areas favored for project approval included capital and technology-intensive projects, “projects encouraged by the State,” projects for infrastructural facilities, and basic industries.<sup>66</sup>

Based on Chinese Customs data, China’s leading exports to all countries were machinery and electrical products (32 percent), clothing (17 percent), textiles (8 percent), shoes (4 percent), steel (3 percent), toys (3 percent), plastic products (2 percent), and marine and

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<sup>65</sup>Dong Jian, “Priority to Development of More Than 20 Kinds Domestic Electronic Products,” *China Economic News* (Hong Kong), vol. 18, No. 8 (Mar. 3, 1997), p. 5.

<sup>66</sup>At yearend 1996, China had an aggregated total foreign direct investment (FDI) exceeding \$177.2 billion “put to actual use.” The total number of FFEs approved equaled 283,793 (\$469.3 billion had been committed) at yearend 1996, of which more than 140,000 FFEs were operating, employing 17 million workers. Zhang Jin, “Foreign Investment Put to Use Exceeds US\$177.2 Billion,” *China Economic News* (Hong Kong), vol. 18, No. 6 (Feb. 17, 1997), p. 3.

aquatics (1 percent). Among these leading export products, a 10-percent increase in machinery and electrical products compared with 1995 levels was only exceeded by a 14-percent increase in toys. China reported that its exports increased only by \$2.3 billion (2 percent) to \$151.1 billion in 1996, down sharply from the 23 percent rate of growth it reported in 1995.<sup>67</sup> These exports are a main source of foreign exchange to fund the \$116.3 billion net foreign debt owed by China at yearend 1996.<sup>68</sup> Hong Kong (22 percent of total exports) was China's leading export market in 1996, followed by Japan (20 percent of total exports), and the United States (18 percent of total exports). Hong Kong re-exports the majority of the imports from China to either the United States or the European Union. China reported that exports to the United States increased by \$2.0 billion (8 percent) to \$26.7 billion in 1996.<sup>69</sup>

The major shifts in U.S. imports from China were spread over a large number of industry/commodity groups and products, reflecting the huge size of the U.S. economy, its openness to imports, and the much larger magnitude of U.S. imports from China than that of U.S. exports to China. The industries experiencing the greatest increases in imports from China in 1996 were toys, with import growth of \$857 million (26 percent) to \$4.1 billion; and computers and parts, with imports rising by \$797 million (36 percent) to \$3.0 billion (table 3-7).<sup>70</sup>

Besides toys, other mainly low technology, labor-intensive miscellaneous manufactures products showing significant import growth in 1996 included furniture; dolls; lamps and lighting fixtures; and games. Additional electronic products that exhibited substantial growth in imports in 1996 were certain telephone and telegraph apparatus and parts; office machines;

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<sup>67</sup>Liu Ping, "China's Import and Export in 1996," *China Economic News* (Hong Kong), vol. 18, No. 5 (Feb. 3, 1997), pp. 6-7 and Li Liangui, "China's Imports and Exports Totaled US\$280 billion in 1995," *China Economic News* (Hong Kong), vol. 17, No. 7 (Feb. 12, 1996), p.11. Total trade grew by only \$9.1 billion (3 percent) to \$289.9 billion in 1996, down from a 19 percent growth rate in 1995, compared with 1994. One observer attributed the sharp reduction in growth of trade to major adjustments being made in foreign trade and macroeconomic policy as China implements measures to open and restructure its economy to become more competitive and enter the World Trade Organization (WTO). These changes resulted in FFEs gaining a larger share of total trade and state-owned enterprises having a smaller share. Many of the latter have experienced significant problems in changing to meet market competition, the observer noted. "Quandary Still Haunts China's Foreign Trade," *China Economic News* (Hong Kong), vol. 18, No. 6 (Feb. 17, 1997), pp. 1-2. State-owned enterprises accounted for about 40 percent of total industrial output in 1996. U.S. Department of State, *Country Reports*, Mar. 1997, p. 25. Liu, "China's Import and Export in 1996," p. 6, reported that the share of total trade accounted for by FFEs rose from 39 percent in 1995 to 47 percent in 1996. Total trade of FFEs rose by \$27.4 billion (25 percent) to \$137.1 billion in 1996, while that of state-owned enterprises actually fell by \$18.0 billion (11 percent) to \$145.2 billion, but still accounted for 50 percent of total trade.

<sup>68</sup>Huang Gang, "SAEC Sets Major Task for 1997," *China Economic News* (Hong Kong), vol. 18, No. 9 (Mar. 10, 1997), p. 3. Such debt increased by \$9.7 billion (9 percent) during 1996.

<sup>69</sup>The USTR has explained the much lower figure reported for Chinese exports to the United States compared with U.S. imports from China by stating that Chinese export data "may significantly understate" the value of Chinese exports because such exports are routinely calculated using a value-added method rather than internationally accepted accounting methods. USTR, *1994 National Trade Report Estimate*, p. 43. Furthermore, China considers many products destined for the United States that are shipped through Hong Kong to be exports of Hong Kong, while the United States classifies them as Chinese exports.

<sup>70</sup>Such imports increased by \$988 million (79 percent) to \$2.2 billion in 1995.

**Table 3-7**  
**Leading increases in U.S. imports from China, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Miscellaneous manufactures:				
Toys .....	3,285	4,142	857	26
Furniture .....	878	1,110	232	26
Dolls .....	868	1,082	214	25
Lamps and lighting fittings .....	1,095	1,285	190	17
Games .....	529	634	105	20
Electronic products:				
Computers and parts .....	2,233	3,030	797	36
Certain telephone and telegraph apparatus and parts .....	479	944	465	97
Office machines .....	646	802	156	24
Microphones, loudspeakers, and audio amplifiers ..	383	521	138	36
Medical goods .....	140	240	100	71
Apparatus for making, breaking, protecting, or connecting electrical circuits .....	401	501	99	25
Apparel products:				
Shirts and blouses .....	1,261	1,385	124	10
Women's and girls' suits, skirts, and coats .....	607	719	112	18
Footwear .....	5,817	6,367	550	9
Miscellaneous rubber or plastic products .....	1,267	1,413	146	12
Electrical household appliances and certain heating equipment .....	901	1,027	125	14
Petroleum products .....	5	115	109	2,044
All other .....	24,575	25,892	1,317	6
<b>Total .....</b>	<b>45,370</b>	<b>51,209</b>	<b>5,839</b>	<b>13</b>

Note.—Calculations based on unrounded data.

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

microphones, loudspeakers, and audio amplifiers; medical goods; and apparatus for making, breaking, protecting, or connecting electrical circuits. Specific types of apparel that had large increases in 1996 were shirts and blouses, and women's and girls' suits, skirts, and coats.<sup>71</sup> Other products with notable increases in imports from China in 1996 included footwear; miscellaneous rubber or plastics products; certain household appliances; and petroleum products.

### U.S. exports

China was the 13th-largest U.S. export market in 1996. U.S. exports to China increased only slightly in 1996, rising by \$189 million (2 percent) to \$11.8 billion.<sup>72</sup> Sustained growth of the Chinese economy and reduction of certain trade barriers to U.S. exports should

<sup>71</sup>The United States and China concluded a broad-ranging bilateral accord in Feb. 1997 on textile and apparel products that will cover future bilateral trade. It covered quotas and visa requirements for certain textile and apparel articles imported by both countries. U.S. Department of State telegram No. 040894, "Textiles/China: Exchange of Notes," prepared by U.S. Department of State, Washington, DC, Mar. 5, 1997.

<sup>72</sup>The value of this increase was only the 33d-largest bilateral increase recorded in 1996.

have acted to stimulate U.S. export growth. For example, China reduced the tariffs on approximately 5,000 products on April 1, 1996, lowering the simple average tariff rate from 35.9 percent to 23 percent. But China also imposes a value-added tax (VAT) of 17 percent on both imported and domestic products, which, USTR reported, amounts to a 40-percent tax when the VAT is added to the 23-percent tariff.<sup>73</sup> Many exceptions to the published tariffs existed in 1996. For example, FFEs were still exempt from paying tariffs on imported equipment and materials, although this privilege was scheduled to be phased out in 1997.<sup>74</sup> In exchange for lower tariffs, China imposed export, local content, and foreign exchange balancing requirements on FFEs. This meant they had to export a large share of production and purchase materials and components in China, “detract(ing) from China’s investment climate.”<sup>75</sup> USTR also noted that the unpredictable application of tariff rates and the lack of uniformity in the application of customs valuation practices created difficulties for companies exporting to, or importing into, China and sometimes resulted in much lower tariffs.<sup>76</sup> The Department of State concluded, “high and unpredictable tariffs make importing into the Chinese market difficult.”<sup>77</sup> Furthermore, China’s failure to publish all trade laws and regulations (“lack of regulatory transparency”) created an uncertain business climate and remained “an important problem” in 1996, despite “important progress in publishing trade-related rules,” according to the Department of State. At the same time, China continues to maintain significant and pervasive controls over entry of imports.<sup>78</sup> China uses such barriers to adjust its imports of specific products to its perception of the level of domestic supply and demand conditions. China routinely conducts surveys to establish supply and demand conditions in various markets. The state authorities then intervene to try to adjust levels of capacity and supply to meet their perception of demand.<sup>79</sup> Such tariffs and NTMs effectively deny access to such low-technology

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<sup>73</sup>USTR, *1997 National Trade Estimate*, pp. 44-45. USTR stated that “U.S. industry complains that the ... VAT ... discourages consumers by raising prices.” Furthermore, “Since some domestic and foreign firms are able to avoid the VAT through negotiation, U.S. firms who ‘play by the rules’ are at a competitive disadvantage.”

<sup>74</sup>Zhai Da, “Period for Exemption of Import Tariffs for FFEs Extended,” *China Economic News* (Hong Kong), vol. 18, No. 4 (Jan. 27, 1997), pp. 2-3. FFEs accounted for 54 percent of China’s total imports in 1996. Liu, “China’s Import and Export in 1996,” p. 6.

<sup>75</sup>U.S. Department of State, *Country Reports*, Mar. 1997, p. 28.

<sup>76</sup>USTR stated that “Tariffs may vary for the same product, depending on whether the product is eligible for an exemption from the published MFN tariff. High-technology items whose purchase is incorporated into state or sector plans, for instance, have been imported at tariff rates significantly lower than the published MFN rates. In addition, import tariffs have sometimes been reduced or even not applied, either through temporary tariff rates published by China’s General Administration of Customs (Customs) or through informal means.” With regard to China’s lack of uniformity in the application of customs practices, USTR reported “Different ports of entry may charge significantly different duty rates on the same products. Because there is flexibility at the local level in deciding whether to charge the official rate, actual customs duties, like many taxes, are often the result of negotiation between businesspeople and Chinese customs officers. Allegations of corruption often result.” USTR, *1997 National Trade Estimate*, p. 45.

<sup>77</sup>U.S. Department of State, *Country Reports*, Mar. 1997, p. 27.

<sup>78</sup>In addition, “China currently retains NTMs on 384 tariff line items, according to Chinese trade officials.” China used unscientific sanitary and phytosanitary measures, quotas, and high tariffs to impede entry of U.S. exports of some agricultural goods. China has established new NTMs on procedures for purchases of large-size medical equipment, and new registration regulations apply to foreign but not domestic chemicals. *Ibid.*, pp. 25-28.

<sup>79</sup>For example, China banned the establishment of any FFEs in the tobacco industry over a 5-year period after “Government officials said supply and demand in China’s tobacco industry--the world’s

(continued...)

consumer goods as miscellaneous manufactures products; textiles and apparel; and footwear.<sup>80</sup> However, the February 1997 United States-China bilateral textile and apparel accord achieved unprecedented access commitments to the Chinese market for U.S.-manufactured textile and apparel products. These included “phased-in reductions of textile and apparel tariff rates by China over 2-4 years, and a commitment by China to phase out existing non-tariff barriers (including import licenses) and to not establish any new WTO-inconsistent non-tariff barriers.”<sup>81</sup> The tariffs on automobiles are as high as 120 percent, which sharply curbs U.S. exports from entry into China. It imposed high tariff rates and technology transfer requirements as part of an import-substitution industrial policy it announced for the automotive industry in July 1994.<sup>82</sup> The U.S. Department of State reported that during 1996 China increased tariffs on certain important U.S. export commodities, e.g., the tariff rate on grains went from duty free to 1 percent. China also imposed tariff-rate quotas on imports of grains, oilseeds, and vegetable oils, which have regularly been leading U.S. exports to China, by applying low rates on

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<sup>79</sup>(...continued)

largest--was in balance and new Sino-foreign joint ventures were not needed.” “In Brief,” *China Trade Report*, vol. 34 (Sept. 1996), p. 13. Another major illustration of this process is covered in “Overcapacity for 18 Kinds of Industrial Products,” *China Economic News* (Hong Kong), vol. 18, No. 10 (Mar. 17, 1997), pp. 4-5, which gives capacity utilization ratios ranging from 3.5 percent to 48.6 percent. It gives the three causes for capacity underutilization as “insufficient effective market demand,” “serious redundant construction and blind expansion,” and “excessive import products.” See also, “A Survey to the ‘97 Domestic Chemicals Market,” *China Economic News* (Hong Kong), vol. 18, No. 7 (Feb. 24, 1997), p. 10, devoted entirely to fertilizers; “Forecast of China’s Chemicals Market in 1997,” *China Economic News* (Hong Kong), vol. 18, No. 3 (Jan. 20, 1997), pp. 9-10; “Predicted S&D of Eight Consumer Goods,” *China Economic News* (Hong Kong), vol. 18, No. 1 (Jan. 6, 1997), pp. 10-11; and Zhong Xing, “A Bigger Eye on the New Round of Redundant Construction Projects,” *China Economic News* (Hong Kong), vol. 18, No. 9 (Mar. 10, 1997), pp. 2-3, covering possible purported overbuilding in the auto, electric machine, chemical, and metallurgy industries. Large companies are clearly preferred to small “inefficient” companies.

<sup>80</sup>Total U.S. exports to China for the miscellaneous manufactures products sector, the textile and apparel sector, and footwear were only \$242 million, \$213 million, and \$8 million in 1996, respectively. The comparable figures for total U.S. imports from China of the miscellaneous manufactures products sector, the textile and apparel sector, and footwear were \$13.6 billion, \$7.4 billion, and \$6.4 billion, respectively.

<sup>81</sup>“Textiles/China: Exchange of Notes,” Mar. 5, 1997.

<sup>82</sup>This policy is a violation of the Memorandum of Understanding China signed with the United States on Oct. 10, 1992, in which China agreed to stop using industrial policies. U.S. Department of State, *Country Reports*, Mar. 1997, pp. 26-27. Prior to the imposition of this policy, China imported \$624 million of U.S. cars and trucks in 1993. Such imports totaled only \$57 million in 1996. The Chinese Government invested RMB46.02 billion in the automotive industry during 1991-95 and plans to spend RMB146.7 billion during 1996-2000. Hang Sheng, “China’s Auto Makers to Group Up,” *China Economic News* (Hong Kong), vol. 18, No. 11 (Mar. 24, 1997), p. 5. Thus, General Motors Corporation (GM) invested in China to gain access to its market. China also required GM to transfer technology to its Chinese joint-venture partner. Lynne Curry, “Fast Track: After a Few False Starts, General Motors is Focusing on a Joint Venture That Will Make Mid-sized Sedans With Shanghai Automotive Industry Corp.,” *China Trade Report*, vol. 34 (Dec. 1996), pp. 8-10. China was also reviewing draft industrial policies in the fall of 1996 for the electronics, machinery, and construction industries, all industries of great interest to U.S. exporters. U.S. Department of State, *Country Reports*, Mar. 1997, p. 26.



commodities imported in-quota and rates which may exceed 100 percent on over-quota imports, which the U.S. Department of State characterized as “prohibitively high tariff rates.”<sup>83</sup>

As shown in the following tabulation, the leading U.S. export sectors (by value) to China during 1996 were transportation equipment (mainly aircraft, aircraft engines, gas turbines, and parts; and construction and mining equipment); agricultural products (especially cotton, corn, wheat, soybeans, and soybean oilcake); electronic products (for example, radio transmission and reception apparatus; computers and parts; telecommunications equipment; and certain instruments); machinery (particularly industrial machinery); and chemicals and related products (notably fertilizers, plastics, and inorganic chemicals).

<u>Sector</u>	<u>Value of U.S. exports to China</u> <i>(Million dollars)</i>	<u>Percent of all U.S. exports to China</u>
Transportation equipment . . . .	2,206	19
Agricultural products . . . . .	2,181	18
Electronic products . . . . .	1,971	17
Machinery . . . . .	1,809	15
Chemicals and related products . . . . .	1,765	15
<b>Total . . . . .</b>	<b>9,932</b>	<b>84</b>

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

China reported that its imports during 1996 consisted principally of machinery and electronic products and industrial raw materials, goods used in its modernization and development and as inputs for its exports. The former accounted for \$61.4 billion (44 percent) of total Chinese imports, up by \$2.1 billion (4 percent) in 1996. Machinery and electronic products with imports of over US\$1 billion in 1996 included textile machinery, metal processing machines, plastic and rubber processing machines, integrated circuits, aircraft, computers, accessories for television sets and radio communications equipment, automobile parts, and transport and loading equipment.<sup>84</sup> Chinese data show China’s imports increased by \$6.8 billion (5 percent) to \$138.8 billion in 1996. China had a merchandise trade surplus of \$12.2 billion in 1996, a decline of \$4.5 billion (27 percent) compared with 1995. Japan (21 percent of total imports) was China’s leading import source in 1996, followed by the EU (14 percent), the United States (12 percent) and Hong Kong (6 percent). Imports from the United States, according to Chinese data, increased slightly, by \$100 million (1 percent) to \$16.1 billion.

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<sup>83</sup>Ibid., p. 25.

<sup>84</sup>The value of industrial raw materials was not reported. The quantity increase for individual articles was instead given. Reportedly, “among the imports, raw materials increased rapidly.” Liu, “China’s Import and Export in 1996,” p. 7. The industrial raw materials for which the quantity imported increased the most rapidly were steel, primary-shaped plastics, crude oil, finished oil, paper and paper plates, ox and horse leather, iron ore dust, woven cotton textiles, and synthesized fiber yarn.

The Government's restrictive measures and import priorities contributed to the recent large annual swings in U.S. exports to China of such products as aircraft and aircraft engines,<sup>85</sup> fertilizers, soybean oil, cotton, corn, wheat, radio transmission and reception apparatus, and steel mill products. Wheat, chemical fertilizers, and cotton are affected by a policy that restricts imports to firms that have special permits. Crude oil, refined oil, and tobacco and tobacco products must also be handled by such firms. China plans to lift this requirement in three years for rubber, rolled steel, timber, wool, acrylic fiber, and plywood. U.S. exports of steel mill products have experienced sharp swings in recent years. Most of these products are of great interest to U.S. exporters. The next stage of reform will be "gradually reducing the government interference in the management of the enterprises." China will try to allow "fair competition for foreign goods to enter the Chinese market," "while protecting its own fledgling industries in accordance with international practices." The Chinese Ministry of Foreign Trade and Economic Cooperation plans to increase the transparency of its policies and to establish "in three years a foreign trade legal system."<sup>86</sup>

The greatest growth in U.S. exports to China occurred in products and commodities needed to modernize and expand its aircraft industry, to feed its people and livestock, and to provide inputs for the electronic products industries. After decreasing sharply in 1995, U.S. exports of aircraft and engines increased significantly, up by \$657 million (58 percent) to \$1.8 billion in 1996 (table 3-8). Among agricultural products, exports of soybeans increased very rapidly, by \$364 million (718 percent) to \$414 million, as did animal foods (mostly soybean oilcake), which rose by \$127 million (868 percent) to \$141 million. Exports of such electronic products as integrated circuits and semiconductor devices, and unrecorded magnetic tapes, discs, and other media also increased by notable amounts.

China adjusted its demand sharply downward for agricultural products and the fertilizers used to grow such products in 1996. U.S. exports of cereals (almost entirely corn and wheat) to China experienced the largest drop among all products and commodities that year, falling by \$697 million (61 percent) to \$441 million (table 3-9). Exports of animal or vegetable fats and oils (mostly soybean oil) declined sharply in 1996, by \$281 million (71 percent) to \$114 million; exports of cotton to China decreased less rapidly, by \$101 million (12 percent) to \$727 million. Fertilizer exports (another commodity subject to very volatile Chinese demand) fell by \$311 million (26 percent) to \$893 million in 1996. Steel mill products and radio transmission and reception apparatus also experienced noteworthy decreases in U.S. exports to China during 1996, after both had experienced significant growth in 1995.

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<sup>85</sup>The Civil Aviation Administration of China announced plans in early 1996 to increase sharply spending on aviation infrastructure to meet projected growth of more than 20 percent in the volume of passengers and cargo and to take delivery of aircraft from U.S. and EU suppliers. This followed a sharp cut in aircraft purchases in 1995 "to slow air traffic growth and improve safety standards." "In Brief," *China Trade Report*, vol. 34 (Mar. 1996), p. 3.

<sup>86</sup>"Restrictions to Be Lifted for Six Kinds of Import Goods," *China Economic News* (Hong Kong), vol. 18, No. 11 (Mar. 24, 1997), p. 4.

**Table 3-8**  
**Leading increases in U.S. exports to China, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Transportation equipment:				
Aircraft .....	1,040	1,578	539	52
Aircraft engines, gas turbines, and parts .....	102	221	118	116
Agricultural products:				
Soybeans .....	51	414	364	718
Animal feeds (mostly soybean oilcake) .....	15	141	127	868
Electronic products:				
Integrated circuits and semiconductor devices .....	94	183	89	94
Unrecorded magnetic tapes, discs, and other media .....	25	105	80	320
All Other .....	10,286	9,159	-1,126	-11
<b>Total .....</b>	<b>11,613</b>	<b>11,801</b>	<b>189</b>	<b>2</b>

Note.—Calculations based on unrounded data.

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

**Table 3-9**  
**Leading decreases in U.S. exports to China, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Agricultural products:				
Cereals (corn and wheat) .....	1,138	441	-697	-61
Animal or vegetable fats and oils (mostly soybean oil) .....	395	114	-281	-71
Cotton, not carded or combed .....	829	727	-101	-12
Fertilizers .....	1,204	893	-311	-26
Steel mill products .....	137	54	-83	-60
Radio transmission and reception apparatus .....	541	462	-79	-15
All Other .....	7,369	9,110	1,741	24
<b>Total .....</b>	<b>11,613</b>	<b>11,801</b>	<b>189</b>	<b>2</b>

Note.—Calculations based on unrounded data.

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

## European Union

Total U.S. merchandise trade with the European Union in 1996 was \$261.2 billion (19 percent of total U.S. trade). Weak demand in most EU-member states, coupled with the relatively stronger U.S. economy increased the U.S. trade deficit with the EU by \$7.2 billion (50 percent) to \$21.7 billion in 1996. Exports to the EU grew by \$3.4 billion (3 percent) to \$119.7 billion, while imports grew by \$10.6 billion (8 percent) to \$141.5 billion (table 3-10). The growth in U.S. exports was constrained by a combination of tight European fiscal policy, relatively slow growth, the expanding focus by U.S. exporters on trading partners in Asia and Latin America, and a strengthening in the real value of the U.S. dollar, after 2-years in which it depreciated. The general increase in U.S. imports was largely a function of the strength of the U.S. economy during 1996. The resulting increase in the trade deficit with the EU, led by Italy and France, accounted for nearly half of the total expansion of the U.S. merchandise trade deficit with all EU countries in 1996.

The merchandise trade balance between the United States and the EU also reflects weak demand resulting from the Economic and Monetary Union (EMU), the EU plan to create a common monetary policy with a single currency. The associated convergence criteria<sup>87</sup> call for tight controls on government expenditures in each member country. Member states that wish to participate in the European single currency scheduled for 1999 will be evaluated based on their performance during 1996-97 in specified economic indicators.<sup>88</sup>

Although most countries have reduced government spending and tightened monetary policy to meet the convergence criteria, there is concern among EU-member states that not all countries will be ready to join EMU, especially the southern European countries. The restrictions associated with meeting the convergence criteria, meanwhile, have been felt throughout Europe. Unemployment in 1996 averaged about 11 percent and real GDP growth in 1996 was 1.6 percent. Spending cuts, slow growth, and corporate downsizing have combined to inhibit demand. Governments have found it difficult to reduce welfare and other benefits, and efforts to do so have often been met by strikes and other opposition.<sup>89</sup> Reunification costs have increased Germany's deficit such that Germany may have a difficult time meeting the deficit criterion. The European Governments' attempts to implement required austerity measures have been hindered by slow growth and high unemployment,<sup>90</sup> which have been attributable, in part, to continued government ownership of uncompetitive industries, large government payrolls, and high costs for health care, unemployment benefits, and retirement systems. Furthermore, many European companies have downsized and/or shifted production abroad to remain competitive with U.S. and Japanese companies.

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<sup>87</sup>Detailed in the Treaty on European Union of 1992, the convergence criteria call for governments to have achieved gross national debt of not more than 60 percent of GDP, government deficits of not more than 3 percent of GDP, stable foreign exchange rates, interest rates that should not exceed by more than 2 percentage points the average of the three lowest rates among member states, and inflation that should not exceed by more than 1.5 percentage points the average of the three best performing member states.

<sup>88</sup>The United Kingdom and Denmark both have the option to opt-out of the single currency.

<sup>89</sup>For example, truck drivers in France went on strike for 12 days in November 1996 until the government agreed to their demands regarding state-funded retirement benefits, which illustrates the dilemma facing individual governments regarding social welfare and spending cuts.

<sup>90</sup>"Insecure or Jobless, Europeans Renew Protests," *New York Times*, Mar. 25, 1997, p. C4.

Table 3-10

EU: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Austria	1,962	1,954	-9	-0.4
Belgium	11,717	11,604	-113	-1.0
Denmark	1,467	1,690	224	15.2
Finland	1,207	2,390	1,184	98.1
France	13,296	13,544	248	1.9
Germany	21,175	22,191	1,017	4.8
Greece	1,459	804	-655	-44.9
Ireland	3,673	3,380	-293	-8.0
Italy	8,450	8,263	-187	-2.2
Luxembourg	370	235	-135	-36.4
Netherlands	15,984	15,484	-500	-3.1
Portugal	878	938	60	6.9
Spain	5,396	5,313	-83	-1.5
Sweden	2,964	3,251	287	9.7
United Kingdom	26,320	28,678	2,359	9.0
Total	116,316	119,719	3,403	2.9
U.S. imports for consumption:				
Austria	1,951	2,082	131	6.7
Belgium	5,996	6,745	749	12.5
Denmark	1,940	2,124	184	9.5
Finland	2,263	2,390	127	5.6
France	16,497	17,914	1,417	8.6
Germany	37,126	39,215	2,089	5.6
Greece	451	479	27	6.1
Ireland	4,067	4,749	683	16.8
Italy	16,339	18,036	1,697	10.4
Luxembourg	234	203	-31	-13.4
Netherlands	6,309	6,582	273	4.3
Portugal	1,048	1,014	-34	-3.2
Spain	3,814	4,231	417	10.9
Sweden	6,208	7,118	910	14.7
United Kingdom	26,594	28,574	1,980	7.4
Total	130,835	141,455	10,619	8.1
U.S. merchandise trade balance:				
Austria	12	-128	-140	( <sup>2</sup> )
Belgium	5,721	4,859	-863	-15.1
Denmark	-473	-434	40	8.4
Finland	-1,056	( <sup>3</sup> )	1,056	100.0
France	-3,201	-4,370	-1,169	-36.5
Germany	-15,951	-17,024	-1,073	-6.7
Greece	1,007	325	-682	-67.7
Ireland	-394	-1,369	-976	-247.9
Italy	-7,889	-9,773	-1,884	-23.9
Luxembourg	136	33	-104	-75.9
Netherlands	9,675	8,902	-773	-8.0
Portugal	-170	-76	94	55.5
Spain	1,581	1,082	-500	-31.6
Sweden	-3,244	-3,867	-623	-19.2
United Kingdom	-274	104	378	( <sup>2</sup> )
Total	-14,519	-21,735	-7,216	-49.7

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.<sup>2</sup>Not meaningful for purposes of comparison.<sup>3</sup>Less than \$500,000.

Note.--Calculations based on unrounded data.

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

## U.S. imports

The changes in U.S. imports from the EU (table 3-11) of items such as motor vehicles, aircraft engines, and petroleum products are primarily products of the United Kingdom and Germany.<sup>91</sup> However, major shifts in medicinal chemicals and steel mill products were accounted for by trade with other EU countries as well.

U.S. companies took advantage of the elimination of duties in 1995 on most pharmaceutical products under the Uruguay Round Agreements and increased their imports of intermediate and finished products from the EU. U.S. imports from the EU increased by \$1.8 billion (33 percent) to \$7.4 billion in 1996, with the leading suppliers being the United Kingdom and followed by Germany, Ireland, and Italy. Importantly, Ireland was responsible for the largest increase in U.S. imports of pharmaceutical products which rose by \$740 million (117 percent) to \$1.4 billion, as firms established new plants that benefit from Ireland's low labor costs and tax incentives on most medicinal chemicals.

**Table 3-11**  
**Leading changes in U.S. imports from the EU, 1995-96**

Sector/commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
<b>Increases:</b>				
Medicinal chemicals .....	5,596	7,440	1,845	33
Refined petroleum products .....	1,369	2,676	1,307	96
Motor vehicles .....	11,967	12,988	1,021	9
Steel mill products .....	3,692	4,337	645	18
Aircraft engines and gas turbines .....	3,437	3,989	552	16
Measuring, testing, and controlling instruments .....	2,104	2,389	285	14
<b>Decreases:</b>				
Crude petroleum .....	2,261	1,463	-798	-35
Integrated circuits and similar semiconductor devices .....	3,430	2,721	-709	-21
Printing and writing paper .....	1,376	1,055	-322	-23
<b>All Other</b> .....	<b>95,603</b>	<b>102,397</b>	<b>6,794</b>	<b>7</b>
<b>Total</b> .....	<b>130,835</b>	<b>141,455</b>	<b>10,619</b>	<b>8</b>

Note.—Calculations based on unrounded data.

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

U.S. imports of steel mill products from the EU increased by \$645 million (18 percent) to \$4.3 billion. German products accounted for 27 percent of total imports, followed by France (15 percent), the United Kingdom (11 percent), and Italy (9 percent). Belgium had the most significant expansion in exports of steel mill products to the United States, with U.S. imports increasing by \$165 million (90 percent) to \$350 million. Iron or nonalloy steel semifinished products led U.S. imports in this category, as U.S. steelmakers required additional inputs to

<sup>91</sup>See sections on U.S. bilateral trade with Germany and the United Kingdom for discussions of U.S.-EU trade in these product categories.

meet strong U.S. demand and compensate for domestic outages, such as the blast furnace outage at U.S. Steel in April and the work stoppage at Wheeling-Pittsburgh in October.

The U.S. recorded a trade surplus with the EU in semiconductors of \$165 million in 1996, improving from the trade deficit of \$257 million in 1995. The bilateral trade balance was affected by a decline in U.S. imports of semiconductors from the EU of \$709 million (21 percent) to \$2.7 billion. The decline in value reflects overall global pricing trends, specifically in memory devices, resulting from oversupply after strong growth in demand in 1994-95.<sup>92</sup> Exports of semiconductors by the United Kingdom and Ireland to the U.S. market declined by 22 percent and 65 percent, respectively. However, modest increases in imports from Sweden and the Netherlands occurred in logic and microcomponent devices, reflecting the specialization of multinational corporations' European operations.

### U.S. exports

EU standards, testing, labeling, and certification regulations remained a concern for U.S. exporters during 1996, as differences among member states and lack of participation in the EU standards-setting process hinder the ability of U.S. exporters to sell or distribute certain products throughout the EU.<sup>93</sup> Continued negotiations between the United States and the EU regarding mutual recognition agreements are addressing certification and testing issues in such sectors as telecommunications, information equipment, pharmaceuticals, medical devices, and electromagnetic compatibility.<sup>94</sup>

Significant U.S. export growth occurred in nonmonetary gold bullion and motor vehicles, primarily to the United Kingdom and Germany, respectively.<sup>95</sup> In addition to these principal markets, exports grew to other EU member states (table 3-12). U.S. exports to Finland increased by 98 percent, primarily as the result of the delivery of military aircraft and parts. Finnish expenditures on such products totaled \$1.1 billion in 1996. Conversely, there was a 45-percent decrease in U.S. exports to Greece, as trading patterns returned to normal in 1996, after an aircraft purchase in 1995.

The EU is the leading market for U.S. oilseed exports, comprising about 32 percent of total U.S. oilseed exports. The volume of U.S. exports of oilseeds remained relatively flat in 1996, while prices rose significantly due to increased demand and tight world supplies. Oilseed exports to the EU increased by \$298 million (14 percent) to \$2.4 billion in 1996, of which 96 percent was in soybeans. Additional changes in U.S. exports to the EU are shown in table 3-12.

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<sup>92</sup>See "Diodes, Transistors, Integrated Circuits, and Similar Semiconductor Solid-state Devices" in ch. 13 for more information.

<sup>93</sup>Internal harmonization is being addressed by the "New Approach" directive, however, this process is closed to direct participation by U.S. firms. For more information see U.S. Department of State, *Country Reports on Economic Policy and Trade Practices*, Washington, DC, 1997, p. 82.

<sup>94</sup>USTR, *National Trade Estimate*, Washington, DC., Mar. 1997, p. 104.

<sup>95</sup>See "Precious Metals and Related Articles" in ch. 10 and "Motor Vehicles" in ch. 12 for more information.

**Table 3-12**  
**Leading changes in U.S. exports to the EU, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Gold .....	1,216	2,433	1,217	100
Aircraft and parts .....	7,805	8,796	991	13
Medical goods .....	3,843	4,392	549	14
Motor vehicles .....	1,735	2,187	451	26
Medicinal chemicals .....	3,870	4,245	375	10
Oilseeds .....	2,142	2,440	298	14
<b>Decreases:</b>				
Wood pulp and waste paper .....	1,970	1,301	-669	-34
Cigarettes .....	1,712	1,329	-382	-22
Integrated circuits and similar semiconductor devices .....	3,173	2,886	-287	-9
<b>All Other</b> .....	<b>88,850</b>	<b>89,710</b>	<b>860</b>	<b>1</b>
<b>Total</b> .....	<b>116,316</b>	<b>119,719</b>	<b>3,403</b>	<b>3</b>

Note.--Calculations based on unrounded data.

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

Although not resulting in a major trade shift, U.S. exports of automatic data processing machines (computers) continued to be the leading and single largest U.S. export product to the EU accounting for \$13.5 billion (11 percent) of total U.S. exports to the EU in 1996. U.S. exports of these products grew by \$338 million (3 percent) during 1995-96, despite a slowdown in global demand for these products.

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### United Kingdom

Total U.S. merchandise trade with the United Kingdom was \$57.3 billion in 1996 (4 percent of total U.S. trade). The U.S.-United Kingdom balance of trade moved from a U.S. deficit of \$274 million in 1995 to a surplus of \$104 million in 1996, a change of \$378 million. In 1996, U.S. exports to the United Kingdom rose by \$2.4 billion (9 percent) to \$28.7 billion, while U.S. imports from the United Kingdom increased by \$2.0 billion (7 percent) to \$28.6 billion. The United Kingdom was the fourth-largest export market for the United States in 1996 and the seventh-largest supplier of imports.

#### U.S. imports

Imports of residual and distillate fuel oils from the United Kingdom nearly tripled in 1996, rising by \$750 million to \$1.1 billion (table 3-13). This precipitous increase in imports



of fuel oil reflected the combination of a very cold winter in the Northeastern United States, a \$5 to \$6 per barrel increase in the crude petroleum price, and low inventories of oil at U.S. refineries. The price increase, which took effect in late 1996, likely resulted in even greater price increases for downstream petroleum products. The rise in U.S. imports from the United Kingdom in residual and distillate fuel oils was offset by a \$771-million decrease (35 percent) in U.S. imports of crude petroleum to \$1.4 billion. The reduction in imports of crude petroleum was caused by a shut-down of certain North Sea oil field operations for routine maintenance in late 1996.

**Table 3-13**  
**Leading changes in U.S. imports from the United Kingdom, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Distillate and residual fuel oils . . . . .	382	1,132	750	196
Aircraft turbine engines . . . . .	1,267	1,573	306	24
Dosage-form pharmaceuticals . . . . .	662	959	297	45
Computers and related equipment . . . . .	1,213	1,360	147	12
Automobiles, trucks, and buses . . . . .	1,564	1,690	127	8
Aircraft parts . . . . .	430	546	116	27
<b>Decreases:</b>				
Crude petroleum . . . . .	2,211	1,440	-771	-35
Integrated circuits . . . . .	510	316	-194	-38
Paintings . . . . .	521	335	-186	-36
<b>All Other</b> . . . . .	<b>17,834</b>	<b>19,223</b>	<b>1,389</b>	<b>8</b>
<b>Total</b> . . . . .	<b>26,594</b>	<b>28,574</b>	<b>1,980</b>	<b>7</b>

Note.--Calculations based on rounded data.

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

U.S. imports of aircraft turbine engines from the United Kingdom increased by \$306 million (24 percent) in 1996 to \$1.6 billion, while imports of other aircraft parts rose by \$116 million (27 percent) to \$546 million. A large part of the aircraft engine increase was attributable to increased imports of Rolls Royce turbojet engines for large civil aircraft. These engines, fitted to the larger Boeing aircraft (747, 757, 767, and 777), roughly paralleled the rate of U.S. shipments of such aircraft.

Imports of dosage forms of finished pharmaceuticals increased by \$297 million (45 percent) to \$959 million in 1996 as a result of expanded related-party trade and the implementation of a "zero-for-zero" provision in the Uruguay Round Agreement. Pharmaceutical manufacturers are concentrating production of particular products in a single selected location, such as the United Kingdom, and are importing/exporting to serve other markets, such as the United States.<sup>96</sup> The United Kingdom, particularly Scotland, has been one favored location because of its tax and development incentives, the presence of a well-educated workforce, and ready access to other EU countries for product distribution.

<sup>96</sup>See "Medicinal Chemicals" in ch. 7 for more information.

U.S. imports of computers and related equipment from the United Kingdom increased by \$147 million (12 percent) in 1996 to \$1.4 billion, due to increased assembly in plants located in economically depressed regions in the United Kingdom, particularly in Scotland. As noted above, many computer manufacturers have established assembly plants in such regions in order to take advantage of tax incentives, skilled labor, and ease of access to European markets. Many of these assembled computers and related equipment are sold in export markets, including the United States. The United States is not a major export market for United Kingdom-assembled computers, nor, compared with Asian countries, is the United Kingdom a major import supplier of assembled computers to the United States.

Imports of electronic integrated circuits decreased by \$194 million (38 percent) in 1996 to \$316 million due to the worldwide slowdown of demand for computers, a major consumer of semiconductors and integrated circuits, from the very high level in 1995. The decrease in imports from the United Kingdom was significantly more rapid than the decline in overall U.S. imports of these products. However, in contrast with East Asian countries, the United Kingdom is not a major import supplier of semiconductors and integrated circuits to the United States.

U.S. imports of oil paintings decreased by \$186 million (36 percent) in 1996 to \$335 million. High-valued paintings are often sold through auction houses, such as Sotheby's and Parke-Bernet, based in London, with showrooms and auctions in the United States. Major shows are held irregularly and in varied locations, at the discretion of the auction houses. For major works of art, which account for the bulk of the dollar value of international art trade, interested buyers bid on works wherever the show is held, often through an agent.

## **U.S. exports**

U.S. exports of gold bullion to the United Kingdom nearly tripled in 1996, rising by \$1.5 billion to \$2.3 billion (table 3-14). This jump has been attributed to movement of gold held by the Bank of England at the Federal Reserve Bank of New York.<sup>97</sup> London is both a major trading and distribution center for gold.

U.S. exports of civil aircraft and aircraft engines to the United Kingdom also exhibited strong growth in 1996. Exports of large civil aircraft rose by \$493 million (62 percent) to \$1.3 billion, primarily due to increased deliveries to British airlines by the Boeing Commercial Airplane Group. Exports of turbine aircraft engines climbed by \$180 million (23 percent) to \$972 million. These engines were mainly for aircraft designed for use by commuter and regional airlines, using U.S.-made smaller planes with U.S.-made engines.

U.S. exports of computers and related equipment to the United Kingdom fell by \$192 million (10 percent) in 1996 to \$1.8 billion largely as a result of greater domestic assembly of computers in Scotland, thus resulting in fewer exports of assembled computers to

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<sup>97</sup>Industry contact, telephone interview by USITC staff, Apr. 10, 1997 and U.S. Department of Commerce contact, telephone interview by and written correspondence with USITC staff, Apr. 15-20, 1997. Unlike most other central banks, the Bank of England also holds gold for private parties, as well as the national treasury. The Federal Reserve Bank stores only monetary gold for other countries, so if ownership is transferred to a private party, the gold must be removed from Federal Reserve Bank custody. See "Precious Metals and Related Articles" in chapter 10 for more information.

the United Kingdom. U.S. exports of integrated circuits also decreased in 1996, falling by \$261 million (23 percent) to \$880 million because of slower growth in the global market for personal computers, an end use for integrated circuit and semiconductor manufacturers.<sup>98</sup>

U.S. exports of silver bullion to the United Kingdom fell by half in 1996 (\$219 million) to \$207 million. The decrease is believed to have occurred as a result of a lower delivery rate on commodity futures contracts. Silver is a precious metal with important industrial uses. Silver consuming industries, such as photographic paper and film, plating, and silverware fabricators, purchase large numbers of futures contracts on the commodity exchanges, taking delivery of silver bullion if prices move favorably to them.

**Table 3-14**  
**Leading changes in U.S. exports to the United Kingdom, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Gold .....	820	2,334	1,513	184
Aircraft .....	792	1,285	493	62
Turbine aircraft engines .....	792	972	180	23
<b>Decreases:</b>				
Integrated circuits .....	1,141	880	-261	-23
Silver .....	426	207	-219	-52
Computers and related equipment .....	1,950	1,758	-192	-10
Chemical woodpulp .....	272	153	-119	-44
<b>All Other</b> .....	<b>20,127</b>	<b>21,089</b>	<b>962</b>	<b>5</b>
<b>Total</b> .....	<b>26,320</b>	<b>28,678</b>	<b>2,359</b>	<b>9</b>

Note.—Calculations based on unrounded data.

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

Exports of chemical wood pulp dropped by \$119 million (44 percent) in 1996 to \$153 million. The value of exports was unusually high in 1995, due partly to high prices of this very cyclical commodity. A return to more normal tonnage and prices in 1996 accounted for the large percentage drop in the value of exports of chemical wood pulp.

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<sup>98</sup>See "Diodes, Transistors, Integrated Circuits, and Similar Semiconductor Solid-state Devices" in ch. 13 for more information.

## Germany

Total U.S. merchandise trade with Germany was \$61.4 billion in 1996 (4 percent of total U.S. trade). The U.S. merchandise trade deficit with Germany grew by \$1.1 billion (7 percent) in 1996 to \$17.0 billion, in part reflecting the effects of the appreciation of the U.S. dollar against the German deutschemark, as well as weak demand in the German market. The United States imported nearly twice as much from Germany as it exported to Germany in 1996. U.S. imports from Germany expanded by \$2.1 billion (6 percent) to \$39.2 billion, while exports to Germany grew by \$1.0 billion (5 percent) to \$22.2 billion.

The German economy is the third-largest in the world and the largest in Europe.<sup>99</sup> However, some segments of the German economy were still struggling after the economic downturn of 1990-93; the continuing costs of reunification and the tightening of the economy called for by the convergence criteria for a single European currency have affected GDP growth rates.<sup>100</sup> German GDP continued to be sluggish with growth of 1.4 percent and unemployment at 10.3 percent at the end of 1996.<sup>101</sup> There are lingering economic and industrial disparities between eastern and western Germany, with the former experiencing much harsher economic conditions.

### U.S. imports

The increase in U.S. imports from Germany in 1996 was led by motor vehicles, followed by steel mill products, aircraft engines, medicinal chemicals, measuring instruments, and construction and mining equipment (table 3-15). German auto makers continued to take advantage of strong U.S. demand by using reasonable prices to attract young U.S. consumers, in addition to their traditional appeal as luxury car producers.<sup>102</sup> U.S. imports of passenger vehicles (cars and buses) from Germany grew by \$686 million (9 percent) to \$8.3 billion in 1996, and accounted for 33 percent of the total increase in imports from Germany that year. New automotive plants established in the past few years in the southeastern part of the United States (BMW and Mercedes) have also boosted imports of automobile parts. Imports of such parts rose by \$86 million (11 percent) to \$873 million in 1996 and followed the trend of auto imports. The globalization of the auto parts industry and the need for replacement parts for imported vehicles ties together the growth in these two industries.

Substantial increases also occurred in imports of steel mill products which rose by \$269 million (30 percent) to \$1.2 billion, and aircraft engines and gas turbines which climbed by \$209 million (44 percent) to \$686 million. A strong U.S. market for steel contributed to the expansion of U.S. imports of steel mill products from Germany. These imports, concentrated in such semifinished products as blooms, billets, and slabs, were used by domestic steelmakers to augment their own production. U.S. imports of aircraft engines and gas turbines, which increased by 44 percent, consisted primarily of parts for civil aircraft engines, followed by

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<sup>99</sup>U.S. Department of State, *Country Reports on Economic Policy and Trade Practices*, (Washington, DC: GPO, Mar. 1997), p. 121.

<sup>100</sup>See the section on the EU in this report for more details on these criteria.

<sup>101</sup>"German Institute Sees Real German 1997 GDP Up 2.1% vs. 1996," *Knight Ridder/Tribune Business News*, received by NEWSEDGE/LAN, Mar. 18, 1997.

<sup>102</sup>"European Car-makers Gain in U.S. Market," Comtex Scientific Corporation, received by NEWSEDGE/LAN, Jan. 7, 1997.

certain civil turbojet aircraft engines (those over 25kN) to be used on a newly-introduced type of U.S. business jet.

Other imports of note from Germany included medicinal chemicals, which grew by \$152 million (12 percent) to \$1.4 billion. Trade in medical goods and pharmaceutical products was boosted by the conclusion of the GATT Uruguay Round Agreement in which most industrialized countries agreed to reduce tariffs on the majority of such products to zero. Imports of construction and mining equipment, which increased by \$128 million (42 percent) to \$432 million, reflected increased demand from the U.S. construction industry, increased machine replacement rates, and fleet expansion by contractors and rental companies.

The expansion of U.S. imports from Germany in 1996 was offset to a degree by reduced imports of computers, aircraft, and printing machines. The \$181 million (23 percent) decline in U.S. imports of computers and parts to \$606 million reflected the softer global market for computers, associated semiconductors, and integrated circuits, following banner sales in 1995.

**Table 3-15**  
**Leading changes in U.S. imports from Germany, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Motor vehicles .....	7,662	8,347	686	9
Steel mill products .....	901	1,169	269	30
Aircraft engines, gas turbines, and parts thereof .....	477	686	209	44
Medicinal chemicals .....	1,240	1,391	152	12
Measuring, testing, controlling, and analyzing instruments .....	812	949	137	17
Construction and mining equipment .....	304	432	128	42
Motor-vehicle parts .....	787	873	86	11
<b>Decreases:</b>				
Computers and parts .....	787	606	-181	-23
Aircraft .....	365	203	-162	-44
Printing, typesetting, and bookbinding machinery and printing plates .....	846	706	-140	-17
<b>All other</b> .....	<b>22,945</b>	<b>23,853</b>	<b>908</b>	<b>4</b>
<b>Total</b> .....	<b>37,126</b>	<b>39,215</b>	<b>2,089</b>	<b>6</b>

Note.--Calculations based on unrounded data.

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

### U.S. exports

The new German investments in motor-vehicle assembly plants in the United States contributed to a \$518 million (79 percent) expansion of U.S. exports of motor vehicles to Germany in 1996, to \$1.2 billion (table 3-16). German automakers, faced with high domestic employment costs, are turning to overseas joint ventures and foreign manufacturing operations,

in part to take advantage of lower labor costs abroad.<sup>103</sup> These manufacturers are then exporting back to the German market. For example, BMW assembles the Z3 in South Carolina, and exported nearly 60 percent of the 35,000 unit production in 1996.

The elimination of U.S. and German duties on most medical goods and pharmaceutical products in the Uruguay Round helped boost U.S. exports of medicinal chemicals by \$208 million (26 percent) to \$1.0 billion in 1996. Meanwhile, exports of medical goods to Germany increased by \$162 million (16 percent) to \$1.2 billion, while imports declined by \$24 million (2 percent) to \$1.0 billion. This led to a shift in the U.S. bilateral trade balance for these products, moving from a \$58 million deficit in 1995 to a \$128 million surplus in 1996. The strength of the German market for medical goods stems from a continued need to upgrade health care facilities in eastern Germany, and an aging population.<sup>104</sup> Germany is currently reforming its health care system, and in 1993 passed the Statutory Health Insurance Reform Law to limit expenditures and improve efficiencies. Additional reforms have been delayed in the German Parliament, where there are concerns about the impact of the reforms on health care benefits.<sup>105</sup> Future growth in U.S. exports of medical goods may slow as the German market absorbs these changes.

**Table 3-16**  
**Leading increases in U.S. exports to Germany, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	————— Million dollars —————			
Motor vehicles .....	658	1,176	518	79
Computers and parts .....	3,043	3,278	235	8
Medicinal chemicals .....	817	1,025	208	26
Aircraft and parts .....	1,007	1,187	181	18
Medical goods .....	1,004	1,166	162	16
Soybeans .....	259	389	130	50
All Other .....	14,387	13,970	-417	-3
Total .....	21,175	22,191	1,017	5

Note.—Calculations based on unrounded data.

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

Other sectors experiencing strong growth of U.S. exports to Germany in 1996 included computers and parts, aircraft, and soybeans. Despite a slowdown from very strong growth in 1995 in the global market, there was sustained expansion in U.S. exports of computer equipment to Germany in 1996; this principally reflected continuing efforts to upgrade the use of computers for industrial and commercial purposes in eastern Germany.

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<sup>103</sup>Richard Feast, "Why Germany is Hurting," *Automotive Industries*, Aug. 1996, p. 46.

<sup>104</sup>"The 1997 Global Medical Technology Update," Health Industry Manufacturers Association, 1997, p. 82.

<sup>105</sup>*Ibid.*, p. 86.

## Organization of Petroleum Exporting Countries

Total U.S. merchandise trade with the members of the Organization of Petroleum Exporting Countries (OPEC)<sup>106</sup> was \$62.3 billion in 1996 (5 percent of total U.S. trade). The United States has historically maintained a trade deficit OPEC countries because of the U.S. dependence on crude petroleum imported from the OPEC-member nations. The 1996 U.S. merchandise trade deficit with OPEC increased by \$5.0 billion (35 percent) from \$14.2 billion in 1995 to \$19.2 billion in 1996 (table 3-17); however, most of this increase can be attributed to a \$5 to \$6 per barrel increase in the world price of crude petroleum. Venezuela, Saudi Arabia, and Nigeria showed the largest increase in the U.S. trade deficit with OPEC. The largest changes occurred in U.S. imports of refined petroleum products from Saudi Arabia and Venezuela, and U.S. imports of crude petroleum from Nigeria. The United States is the major market for OPEC production of crude petroleum and refined petroleum products, accounting for about 60 percent of their exports; Saudi Arabia and Venezuela are the leading OPEC suppliers of these products to the U.S. market.

### U.S. imports

Total U.S. imports from OPEC increased by \$7.7 billion (23 percent) from \$33.1 billion in 1995 to \$40.8 billion in 1996 (table 3-18). More than 90 percent of U.S. imports from OPEC is crude petroleum and refined petroleum products.<sup>107</sup> U.S. imports of these products increased \$7.2 billion (23 percent) to \$38.4 billion in 1996; however, in terms of quantity, U.S. imports of these products increased by only 4.5 percent from 680 million barrels to 711 million barrels. In 1996, the global price of crude petroleum, which subsequently led to increased prices of refined petroleum products, rose by an average of \$5 to \$6 per barrel. The price increase was influenced by production difficulties in the Persian Gulf region and increased production by higher priced producers such as those operating in the North Sea, which caused concern about worldwide production levels.

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<sup>106</sup>The original members of OPEC, founded in 1960, are Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela. In 1975, OPEC grew to 13 member nations with the addition of Algeria, Ecuador, Gabon, Indonesia, Libya, Nigeria, Qatar, and the United Arab Emirates. On Dec. 31, 1992, Ecuador withdrew its membership from OPEC. On Dec. 31, 1994, Gabon withdrew its membership from OPEC.

<sup>107</sup>The United States does not import natural gas from OPEC, except for occasional small quantities of liquefied natural gas (LNG) from Algeria. See chapter 8 for more information.

Table 3-17

OPEC: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
U.S. exports of domestic merchandise:				
Algeria	750	627	-123	-16.4
Indonesia	3,317	3,898	581	17.5
Iran <sup>2</sup>	274	( <sup>3</sup> )	-274	-99.9
Iraq <sup>4</sup>	( <sup>3</sup> )	3	3	1,081.6
Kuwait	1,351	1,877	526	39.0
Libya <sup>5</sup>	0	0	0	0
Nigeria	590	796	207	35.0
Qatar	214	193	-22	-10.0
Saudi Arabia	5,982	7,098	1,116	18.7
United Arab Emirates	1,939	2,459	519	26.8
Venezuela	4,476	4,604	127	2.8
Total	18,894	21,555	2,660	14.1
U.S. imports for consumption:				
Algeria	1,682	2,127	446	26.5
Indonesia	7,340	8,079	739	10.1
Iran	( <sup>3</sup> )	0	( <sup>3</sup> )	-96.8
Iraq	0	0	0	0
Kuwait	1,296	1,629	333	25.7
Libya	0	0	0	0
Nigeria	4,878	5,877	998	20.5
Qatar	91	157	66	73.0
Saudi Arabia	8,159	10,001	1,843	22.6
United Arab Emirates	452	489	38	8.3
Venezuela	9,214	12,425	3,211	34.9
Total	33,110	40,784	7,674	23.2
U.S. merchandise trade balance:				
Algeria	-931	-1,500	-569	-61.1
Indonesia	-4,023	-4,180	-158	-3.9
Iran	274	( <sup>3</sup> )	-274	-99.9
Iraq	( <sup>3</sup> )	3	3	1,081.6
Kuwait	55	248	193	351.1
Libya	0	0	0	0
Nigeria	-4,289	-5,080	-792	-18.5
Qatar	124	36	-88	-71.1
Saudi Arabia	-2,177	-2,904	-727	-33.4
United Arab Emirates	1,488	1,969	482	32.4
Venezuela	-4,737	-7,821	-3,084	-65.1
Total	-14,216	-19,230	-5,013	-35.3

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>The current U.S. prohibitions on imports of Iranian origin were established in 1987 (President, Executive Order 12613 of Oct. 28, 1987, *Prohibiting Imports From Iran*). This embargo was further expanded in 1995 to include exports and investment in Iran (President, Executive Order 12957 of Mar. 15, 1995, *Prohibiting Certain Transactions With Respect to Development of Iranian Petroleum Resources*, and Executive Order 12959 of May 6, 1995, *Prohibiting Certain Transactions With Respect to Iran*).

<sup>3</sup>Less than \$500,000.

<sup>4</sup>In 1990, the United States imposed trade sanctions against Iraq (President, Executive Order 12722 of Aug. 2, 1990, *Blocking Iraqi Government Property and Prohibiting Transactions with Iraq*, and Executive Order 12724 of Aug. 9, 1990, *Blocking Iraqi Government Property and Prohibiting Transactions with Iraq*). Recently, these sanctions were extended (61 F.R. 38559).

<sup>5</sup>In 1986, the United States imposed trade sanctions against Libya (President, Executive Order 12543 of Jan. 7, 1986, *Prohibiting Trade and Certain Transactions Involving Libya*, and Executive Order 12544 of Jan. 8, 1986, *Blocking Libyan Government Property in the United States or Held by U.S. Persons*), which were extended in January 1997 (62 F.R. 587, Jan. 3, 1997). The sanctions against Iran and Libya were tightened by the Iran and Libya Sanctions Act of 1996, signed Aug. 5, 1996 (Public Law 104-172, 50 U.S.C. 1701 note).

Note.—Calculations based on unrounded data.

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



**Table 3-18**  
**Leading increases in U.S. imports from OPEC countries, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Refined petroleum products .....	10,917	17,512	6,595	60
Crude petroleum .....	20,289	20,852	563	3
Other .....	1,904	2,420	516	27
<b>Total .....</b>	<b>33,110</b>	<b>40,784</b>	<b>7,674</b>	<b>23</b>

Note.--Calculations based on unrounded data.

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

### U.S. exports

Total U.S. exports to the OPEC nations increased \$2.7 billion (14 percent) to \$21.6 billion in 1996 (table 3-19). The United States supplies the OPEC nations primarily with aircraft (both luxury and military), machinery parts, tanks, motor vehicles, and certain agricultural products. OPEC-member nations, with average per capita income levels of \$3,000 to \$6,900, are large consumers of luxury items because of the revenues generated by sales of petroleum. As a result of income from petroleum sales, many of these nations maintain annual budget surpluses. Saudi Arabia, the major U.S. market in OPEC, had a 1996 per capita income of \$6,900 and maintained a budget surplus in 1996 because of revenues generated by sales of petroleum. Also, Saudi Arabia and Kuwait increased their purchases of U.S. defense goods because of security concerns posed by neighbors, such as Iran and Iraq.

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**Table 3-19**  
**Leading increases in U.S. exports to OPEC countries, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Aircraft, spacecraft, and launch vehicles .....	263	1,900	1,637	622
Parts for machinery, balloons, aircraft, etc. ....	1,753	2,415	662	38
Motor vehicles and parts .....	1,379	1,996	617	45
Tanks and other armored vehicles and parts .....	813	1,312	499	61
Wheat, corn, soybeans, soybean oil cakes .....	1,019	1,311	292	29
Other .....	13,667	12,621	-1,046	-8
<b>Total .....</b>	<b>18,894</b>	<b>21,555</b>	<b>2,660</b>	<b>14</b>

Note.--Calculations based on unrounded data.

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

## Venezuela

Total U.S. merchandise trade with Venezuela was \$17.0 billion in 1996 (1 percent of total U.S. trade). The U.S. trade deficit with Venezuela increased by \$3.1 billion (65 percent) to \$7.8 billion in 1996. The majority of the expanding deficit was a result of higher prices for crude petroleum. The petroleum industry dominates Venezuela's economy, accounting for about 25 percent of the country's GDP. Venezuela, which accounts for about 5 percent of the world's total production of crude petroleum, accounts for 18 percent of total OPEC production of crude petroleum and 13 percent of crude exports. Venezuela's national petroleum company, Petroleos de Venezuela (PDVSA), is an international petroleum company with major refinery, pipeline, and service station networks throughout Europe and the United States. Venezuela, with crude reserves of 63 billion barrels, produced about 840 million barrels of crude petroleum in 1996; domestic consumption was approximately 175 million barrels and the remainder was exported.<sup>108</sup> Venezuela has refining capacity to process 1.2 million barrels of crude petroleum per day. Approximately 75 percent (\$11 billion) of Venezuela's total export revenues are derived from petroleum.<sup>109</sup>

### U.S. imports

U.S. imports of crude petroleum and refined petroleum products from Venezuela, which accounted for 85 percent of total imports in 1996, increased from \$7.7 billion in 1995 to \$10.5 billion in 1996, or by \$2.8 billion (37 percent) (table 3-20). However, in terms of quantity, U.S. imports of these products from Venezuela increased by 65 million barrels (12 percent) from 540 million barrels in 1995 to 605 million barrels in 1996. The increase is attributable to the increase in the per-barrel price of crude petroleum, coupled with increased U.S. demand for reformulated gasoline for which imports supplemented decreased U.S. production.

**Table 3-20**  
**Leading increases in U.S. imports from Venezuela, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Refined petroleum products .....	2,104	3,999	1,895	90
Crude petroleum .....	5,599	6,531	932	17
Other .....	1,511	1,895	384	25
<b>Total .....</b>	<b>9,214</b>	<b>12,425</b>	<b>3,211</b>	<b>35</b>

Note.—Calculations based on unrounded data.

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

<sup>108</sup>Official statistics of the U.S. Department of Energy.

<sup>109</sup>Ibid.

## U.S. exports

Total U.S. exports to Venezuela increased only slightly by \$128 million (3 percent) from \$4.5 billion in 1995 to \$4.6 billion in 1996 (table 3-21). The major products exported to Venezuela from the United States were parts for machinery and motor vehicles and certain agriculture products, such as wheat and corn, none of which experienced large changes in 1996.

Venezuela's potential as a market for U.S. exports improved significantly in 1996 as the government abandoned price controls and exchange rate controls that had been in effect since 1994. Under the name "Agenda Venezuela," President Caldera announced in April 1996 a series of reforms designed to make Venezuela a free market economy.<sup>110</sup> One of the government plans is to eliminate the subsidy on gasoline and other basic goods and services. By the end of 1996, plans were underway to bring retail gasoline prices up to 85 percent of export price levels. The extent to which domestic retail prices rise will depend on the world price and the bolivar-dollar exchange rate.<sup>111</sup>

**Table 3-21**  
**Leading changes in U.S. exports to Venezuela, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
————— Million dollars —————				
<b>Increases:</b>				
Parts for motor vehicles . . . . .	116	209	93	80
Lifting, handling, and loading machinery . . . . .	3	76	73	2,689
Wheat, corn, soybean oil cakes . . . . .	248	302	54	22
Parts for office machinery . . . . .	48	75	27	56
<b>Decreases:</b>				
Parts for internal combustion engines . . . . .	137	72	-65	-48
Parts for certain machinery . . . . .	700	679	-21	-3
Automatic data process machinery, etc. . . . .	95	90	-6	-6
<b>All other</b> . . . . .	<b>3,129</b>	<b>3,101</b>	<b>-28</b>	<b>-1</b>
<b>Total</b> . . . . .	<b>4,476</b>	<b>4,604</b>	<b>128</b>	<b>3</b>

Note.—Calculations based on unrounded data.

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

In 1995, Venezuela implemented the Andean Pact price band system for certain agricultural products, such as feed grains, oilseeds, oilseed products, sugar, rice, wheat, milk, pork, and poultry, which resulted in the ad valorem tariff rates for these products being adjusted according to the relationship between market prices and established floor and ceiling prices.<sup>112</sup> The floor and ceiling prices are set annually; however, in October 1996, the Ministry of Agriculture was given broad powers to intervene in food and feed markets to reduce

<sup>110</sup>U.S. Department of State, *1997 Country Reports on Economic Policy & Trade Practices* (Washington, DC: GPO, Mar. 1997), pp. 307-309.

<sup>111</sup>Ibid.

<sup>112</sup>Ibid., pp. 307-314.

Venezuela's dependence on imported food, which accounts for about two-thirds of total food consumption. As a result, U.S. exports of food products did not increase significantly from 1995 to 1996.<sup>113</sup>

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### Saudi Arabia

Total U.S. merchandise trade with Saudi Arabia was \$17.1 billion in 1996 (1 percent of total U.S. trade). The U.S. trade deficit with Saudi Arabia increased by \$727 million (33 percent) to \$2.9 billion in 1996. Saudi Arabia relies heavily on sales of petroleum and petroleum products to finance economic development. In 1995, the petroleum sector comprised 37 percent of the GDP and an estimated 72 percent of budget revenues. In addition, the manufacturing and services sectors are largely dependent on petroleum industries activities.<sup>114</sup>

In 1996, Saudi Arabia, with more than 259 billion barrels in crude petroleum reserves, is the leading OPEC producer of crude petroleum, and accounts for 15 percent of total world production, 50 percent of total OPEC production, and 47 percent of total crude exports. Most of Saudi Arabia's crude petroleum is produced on behalf of the Saudi Government by the Saudi Arabian Oil Company (Saudi Aramco). In 1996, Saudi production of crude petroleum reached 3.2 billion barrels; domestic consumption was approximately 370 million barrels (12 percent) and the remainder was exported.<sup>115</sup> Approximately 92 percent (\$39 billion) of total export revenues are derived from petroleum.<sup>116</sup> Saudi Arabia is the leading world exporter of crude petroleum, with markets in the United States, Europe, and Japan. To better serve its overseas markets, Saudi Arabia maintains stocks near consuming markets in the Caribbean, Northwest Europe, and the Mediterranean, where an estimated 25 million barrels of storage capacity is leased.<sup>117</sup> Saudi Arabia has refining capacity to process 1.6 million barrels of crude petroleum per day. There are currently six operating refineries in Saudi Arabia with three producing for domestic consumption and three for export.

### U.S. imports

The value of U.S. imports of crude petroleum and refined petroleum products from Saudi Arabia increased from \$7.6 billion in 1995 to \$9.1 billion in 1996, or by \$1.5 billion (20 percent), reflecting the higher world price for crude petroleum in 1996 (table 3-22). Such imports accounted for 90 percent of total value of U.S. imports from Saudi Arabia in 1996. This increase in U.S. imports from Saudi Arabia was from refined petroleum products, which

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<sup>113</sup>Ibid.

<sup>114</sup>U.S. Department of State, *1997 Country Reports on Economic Policy & Trade Practices* (Washington, DC: GPO, Mar. 1997), pp. 356-360.

<sup>115</sup>Official statistics of the U.S. Department of Energy.

<sup>116</sup>Ibid.

<sup>117</sup>Ibid.

rose by \$1.9 billion (311 percent) to \$2.6 billion, while imports of crude petroleum decreased by \$452 million (7 percent) to \$6.5 billion. However, in terms of quantity, U.S. imports of all petroleum products from Saudi Arabia increased by only about 1 percent from 491 million barrels in 1995 to 497 million barrels in 1996. This minor increase in the quantity of imports reflects efforts on the part of the U.S. petroleum industry to diversify import sources thus reducing dependence on any one supplier.

**Table 3-22**  
**Leading changes in U.S. imports from Saudi Arabia, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Refined petroleum products .....	623	2,559	1,936	311
Crude petroleum .....	6,943	6,491	-452	-7
Other .....	593	951	358	60
<b>Total</b> .....	<b>8,159</b>	<b>10,001</b>	<b>1,843</b>	<b>23</b>

Note.—Calculations based on unrounded data.

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

### U.S. exports

Total U.S. exports to Saudi Arabia increased \$1.1 billion (19 percent) to \$7.1 billion in 1996 (table 3-23). The primary U.S. products exported to Saudi Arabia include aircraft (military and luxury), tanks, motor vehicles, and parts for motor vehicles. Aircraft experienced by far the largest increase, rising \$1.1 billion to \$1.2 billion in 1996 and accounting for most of the change in total U.S. exports to Saudi Arabia.

**Table 3-23**  
**Leading changes in U.S. exports to Saudi Arabia, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
<b>Increases:</b>				
Aircraft, spacecraft, and launch vehicles .....	69	1,158	1,089	1,578
Motor vehicles and parts .....	615	942	327	53
Parts for balloons, aircraft, etc. ....	244	403	159	65
Tanks and other armored vehicles .....	523	582	59	11
<b>Decreases:</b>				
Bombs, grenades, cartridges, etc. ....	502	176	-325	-65
Cigars, cigarettes, etc. of tobacco .....	197	195	-2	-1
<b>All Other</b> .....	<b>3,832</b>	<b>3,642</b>	<b>-190</b>	<b>-5</b>
<b>Total</b> .....	<b>5,982</b>	<b>7,098</b>	<b>1,116</b>	<b>19</b>

Note.—Calculations based on unrounded data.

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

Security concerns posed by neighboring countries, in particular Iran and Iraq, and the fact that the two major Islamic holy cities, Mecca and Medina, are located within its borders, led Saudi Arabia to increase purchases of military and other security resources to protect its territory as well as those who visit the country.<sup>118</sup> These concerns have made Saudi Arabia a large purchaser of advanced military technology, which included aircraft, tanks, and other motor vehicles.

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### Singapore

Total U.S. merchandise trade with Singapore was \$34.9 billion in 1996 (3 percent of total U.S. trade). The U.S. trade deficit with Singapore reached a new high of \$5.6 billion in 1996, although the rise in the deficit of \$727 million (15 percent) was much smaller than the increases of \$1.3 billion in 1995 and \$1.5 billion in 1994. Total U.S. trade with Singapore grew more slowly in 1996 than in the previous 3 years, although the increase was slightly greater than overall U.S. trade growth. Two-way trade with Singapore in 1996 rose by 9 percent in 1996, well below annual gains of 15 percent to 19 percent during 1993-95, but somewhat above the 7-percent increase posted in overall U.S. trade. Both U.S. exports of \$14.7 billion and U.S. imports of \$20.2 billion also advanced to new highs in 1996, but they each rose about one-half as much as in 1995. The rate of export growth of 8 percent (\$1.0 billion) was the smallest in the 1990s and the rate of import growth of 9 percent (\$1.8 billion) was the smallest since 1991.

Singapore relies heavily on foreign trade and investment for economic development. The city-state imports nearly all of its production inputs and maintains few trade barriers. Most imports enter free of duty,<sup>119</sup> and incentives are offered to attract foreign investment, most of which is in export-oriented industries.<sup>120</sup> Singapore has emerged as a production hub for the expanding regional market in Southeast Asia, reflecting not only its favorable trade and investment policies, but also its moderate labor costs, skilled workforce, and supportive infrastructure. A number of U.S. firms (especially electronics producers) export materials and components to production-sharing affiliates in Singapore for further processing or assembly, and either market the output in the region or re-export it to the United States. This “intrafirm trade” plays a major role in U.S. trade with Singapore, accounting for one-third of U.S. exports and for two-thirds of U.S. imports in 1992, the most recent year for which geographic data on U.S.-affiliate intrafirm trade are available.<sup>121</sup>

The pattern of U.S. trade with Singapore largely mirrors changes in the electronic products sector, which accounts for the vast majority of total trade (70 percent in 1996). Two-

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<sup>118</sup> U.S. Department of State, *1997 Country Reports*, Mar. 1997, p. 356-360.

<sup>119</sup> U.S. Department of State, *Country Reports*, Mar. 1997, pp. 65-66.

<sup>120</sup> Singapore’s Economic Development Board reportedly will distribute \$357 million over the next 5 years to “strategically advantaged” firms. See Murray Hiebert, “Technology: Innovate, Please,” *Far Eastern Economic Review*, Feb. 6, 1996, p. 50.

<sup>121</sup> USDOC, BEA, “U.S. Intrafirm Trade in Goods,” *Survey of Current Business*, Feb. 1997, table 6, pp. 32-33. Such trade is often referred to as “related parties transactions.”

way trade in electronics grew by just 10 percent in 1996, to \$24.5 billion, compared with annual growth of 28 percent in 1995 and about 20 percent during 1992-94. The slowdown reflected a global reduction in the very high rate of growth in the electronic products sector, which is a major source of economic activity in Singapore (12 percent of GDP in recent years). The growth of production in Singapore's electronic products sector slowed sharply to 7 percent in 1996, from the 21-percent annual gain recorded in the previous 3 years. Largely as a result, Singapore's real GDP growth slowed to just under 7 percent in 1996, from almost 9 percent in 1995.<sup>122</sup>

### **U.S. imports**

The United States is the largest export destination for Singapore; U.S. imports have slightly more than doubled since 1990, reaching \$20.2 billion in 1996. Electronic products accounted for 86 percent of U.S. imports from Singapore, reaching a new high of \$17.4 billion in 1996. However, the increase of \$1.6 billion (10 percent) was considerably smaller than the \$3.3 billion (27 percent) posted in 1995. The 1996 growth resulted from larger shipments of computers and related equipment, which grew by \$1.9 billion (23 percent) and which accounted for over one-half of total U.S. imports from Singapore. Imports of semiconductor devices from Singapore rose by \$139 million (5 percent), and accounted for 14 percent of the total imports. U.S. imports of sulfonamides rose from zero in 1995 to \$124 million in 1996; as a world-class producer of bulk pharmaceutical chemicals, Singapore scored its first major breakthrough in the U.S. market.

Declines in U.S. imports from Singapore were recorded in several product groups. Imports of parts of computers and other office machines fell by \$107 million (4 percent) to \$2.8 billion (14 percent of U.S. imports from Singapore) in 1996, reflecting a policy of the Government of Singapore to encourage the production and export of higher value-added products rather than components or sub-assemblies.<sup>123</sup> Imports of telephone equipment, including parts, fell by \$92 million (61 percent) to \$59 million; imports of parts for televisions fell by \$78 million (46 percent) to \$93 million. A decline in imports of records, tapes, and compact discs by \$66 million (59 percent) to \$46 million reflected an effort to crack down on traffic in counterfeit recorded media, while the decline in imports of tape players, turntables, and CD players of \$62 million (24 percent) to \$192 million, reflected the movement of production of many mature technology electronic products from Singapore to countries with lower labor costs, such as China, Malaysia, and Mexico.

### **U.S. exports**

U.S. exports to Singapore more than doubled during the 1990s, rising to \$14.7 billion in 1996, making the United States the second-largest supplier of imports to Singapore after Japan. Electronic products also accounted for the majority of U.S. exports to Singapore, rising by \$570 million (9 percent) over the 1995 level to \$7.1 billion. Integrated circuits, disk drives,

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<sup>122</sup>Statistics from Singapore Ministry of Trade and Industry, "Press Release: 1996 Annual Economic Survey of Singapore," found at Internet <http://www.gov.sg/mti/aes96.html>, Mar. 25, 1997.

<sup>123</sup>See, for example, Hiebert, "Technology: Innovate, Please."

and computer parts and accessories together accounted for 30 percent of total U.S. exports to Singapore in 1996. However, most of the export growth occurred in parts and accessories for computers and other office machines and unrecorded media, shipments of which increased by \$329 million (35 percent) to \$1.3 billion, and by \$291 million (52 percent) to \$854 million, respectively. U.S. exports of finished computers and related equipment fell by \$150 million (18 percent) to \$678 million in 1996.

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### **Korea**

In 1996, total merchandise trade between the United States and Korea declined \$543 million (1 percent) to \$47.9 billion (3 percent of total U.S. trade), with the United States registering a \$2.9 billion trade surplus. This represented a \$2.4 billion (535 percent) increase over the 1995 trade surplus of \$457 million. Exports of U.S. goods to Korea reached \$25.4 billion, an increase of \$950 million (4 percent) from the previous year level, while U.S. imports from Korea declined \$1.5 billion (6 percent) to \$22.5 billion. The United States was Korea's leading trading partner in 1996, while Korea was the seventh-largest trading partner for the United States; Korea was the fifth-largest market for U.S. exports and the fourth-largest for U.S. exports of agricultural products. The United States also replaced Japan as Korea's leading source of imports for the first time in over a decade.<sup>124</sup>

Trends in U.S.-Korea trade during 1995-96 reflected significant unit price changes for key traded products such as semiconductors and corn, as their respective prices collapsed and rose significantly during the year. In addition, the more rapid depreciation of the yen with respect to the won,<sup>125</sup> as compared with the U.S. dollar in 1996, is also reflected in the United States-Korea bilateral trade figures. In addition to its trade deficit with the United States, Korea has also incurred deficits with the EU and Japan. During the period, however, Korea's trade surplus with developing countries increased slightly.<sup>126</sup> These trade balances suggest that Korean exports of low-technology products are losing out in competition with exports from China and other developing economies. Korean products have also lost price and quality competitiveness in export markets.

The deteriorating position in Korea's terms of trade can be attributed to a sharp decline in export prices for semiconductors (microchips), chemicals, and steel, and considerably higher prices for imported grains and fuels.<sup>127</sup> Prices of microchips, which account for an estimated

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<sup>124</sup>Joseph A. B. Winder, "U.S.-Korea Relations in 1996: A Year of Testing and Reaffirmation," *Korea's Economy 1997*, Korea Economic Institute of America (KEIA), vol. 13, p. 4.

<sup>125</sup>Because Korea produces many items such as semiconductors, steel, and automobiles that are close substitutes to some Japanese items, a relatively weaker yen makes Korean products less appealing. See Appendix D for a discussion of changes in real exchange rates.

<sup>126</sup>U.S. Department of State, Daily Seoul Press Translations. Ref. 005722, prepared by U.S. Embassy, Seoul, Oct. 1996.

<sup>127</sup>U.S. Department of State, *Country Reports on Economic Policy and Trade Practices*, Mar.

(continued...)



16 percent of all Korean exports, fell approximately 80 percent from the previous year's levels due to world oversupply.<sup>128</sup> In addition, Korean goods had to contend with a weakening Japanese yen, which reduced Korea's price competitiveness. Korea's unfavorable trade balance is also associated with the slowdown in Korea's economy as annual GDP growth fell below 7 percent in 1996, down from 9 percent in 1995.<sup>129</sup>

### U.S. imports

As in 1995, the main Korean exports to the United States were semiconductor devices and integrated circuits,<sup>130</sup> computers, and automobiles, which collectively accounted for 44 percent of the total in 1996 (table 3-24). A \$453 million increase (31-percent) to \$1.9 billion in U.S. imports of computers from Korea is mostly attributable to increases in Korean production capacity and to the decline of export prices for microchips, which made exportation of fully assembled products more profitable. The \$195 million (12-percent) increase in U.S. auto imports from Korea stems from the development of a wider product range made possible by increases in production capacity of recent years, as well as the improved U.S. dollar/won exchange rate in 1996.<sup>131</sup> Semiconductor devices and integrated circuits, despite declining by \$817 million (12 percent) to \$6.1 billion, remained at the top of U.S. imports from Korea, accounting for 28 percent of the total.

**Table 3-24**  
**Leading changes in U.S. imports from Korea, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	————— Million dollars —————			
<b>Increases:</b>				
Computers and related equipment .....	1,447	1,900	453	31
Passenger vehicles (cars and buses) .....	1,656	1,852	195	12
<b>Decreases:</b>				
Integrated circuits and other semiconductors .....	6,929	6,112	-817	-12
Parts for computers and other office machines .....	2,392	1,947	-445	-19
Tape players, cd players, turntables, and vcr's .....	640	337	-304	-47
Textiles and apparel .....	2,579	2,311	-269	-10
Telephone equipment .....	461	229	-233	-50
Footwear .....	515	340	-175	-34
<b>All Other</b> .....	<b>7,406</b>	<b>7,503</b>	<b>97</b>	<b>1</b>
<b>Total</b> .....	<b>24,025</b>	<b>22,531</b>	<b>-1,494</b>	<b>-6</b>

Note.—Calculations based on unrounded data.

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

<sup>127</sup>(...continued)  
1997, pp. 47-52.

<sup>128</sup>Andrew Pollack, "South Korea's Growing Pains," *New York Times*, Feb. 4, 1997, p. D1.

<sup>129</sup>Bank of Korea.

<sup>130</sup>For the purpose of this country write up, the semiconductor devices and integrated circuits category includes *HTS* headings 8541 and 8542.

<sup>131</sup>"Korean Automakers Have the Cars; Now Need Buyers," *Ward's Automotive*, vol.12, No.1, Jan. 1997, p. 1, 6.

U.S. imports from Korea declined in traditional sectors such as textiles and apparel, and footwear. This reflected rising operating costs, labor shortages, and the relocation of Korean production facilities to, and increased competition from, lower cost producing countries. Textile and apparel imports fell by \$269 million (10 percent) to \$2.3 billion in 1996, while footwear imports declined \$175 million (34 percent) to \$340 million.

### U.S. exports

Infrastructure development, high labor costs, and the drive for improvements in productivity and quality by the Korean industrial sector contributed to increases in U.S. exports of measuring and controlling instruments used in manufacturing processes, computers and related equipment, and power-generating equipment (table 3-25). At the same time, continued investment in manufacturing technology led to growth in U.S. exports of semiconductors and machine tools used in the production of semiconductors. Other notable increases in U.S. exports in 1996 included gold, an input material used in the manufacturing of electronic articles and jewelry, and crude petroleum.

U.S. exports of certain agricultural products to Korea also have risen sharply due to price increases. For the year, corn prices rose 55 percent to \$4.30 per bushel.<sup>132</sup> Similarly, higher prices for soybeans and wheat are reflected in their higher export values in 1996. Exports of certain other agricultural products declined because of the stronger dollar as compared with the won. Exports of raw material inputs for Korean industries, such as steel, wood pulp, inorganic chemicals, cotton, and animal hides also declined in 1996.

Despite the United States' trade surplus with Korea, there are still trade frictions in the areas of communications equipment, automobiles, intellectual property rights, and the inspection and quarantine procedures of imported perishable goods.<sup>133</sup> The United States and Korea signed a memorandum of understanding (MOU) in 1995 that U.S. auto companies expected would lead to higher U.S. exports to Korea of automobiles. In 1996, sales of U.S. automobiles rose \$62 million (92 percent) to \$129 million; however, U.S. exports of automobiles accounted for only 1.6 percent of the Korean market. Further review of the MOU by the U.S. Government in 1996 found Korea in compliance with its stipulations.<sup>134</sup>

The Korean Government is moving to reduce such nontariff barriers as the Government's restriction on credit to finance imports, which is expected to be completely liberalized by 1998. Currently, application of limited deferred payment terms is restricted to items with tariffs of 10 percent or less, which are generally raw materials; such controls are to be reduced through 2001. Deferred payment terms for other goods require licensing from foreign exchange banks.

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<sup>132</sup>Price for corn No.2, gulf, yellow. Source: USDA, *Feed Outlook*, Feb. 13, 1997, table 4.

<sup>133</sup>U.S. Department of State telegram No. 006636, Daily Seoul press translations, prepared by U.S. Embassy, Seoul, Nov. 1996.

<sup>134</sup>Winder, "U.S.-Korea Relations in 1996," p. 4.

**Table 3-25**  
**Leading changes in U.S. exports to Korea, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
————— Million dollars —————				
<b>Increases:</b>				
Electronic products:				
Measuring and controlling instruments . . . . .	667	907	239	36
Integrated circuits and other semiconductors . . . . .	1,541	1,759	218	14
Computers and related equipment . . . . .	675	801	126	19
Radio transmission and reception apparatus . . . . .	129	229	101	78
Other:				
Gold . . . . .	107	346	239	224
Crude petroleum . . . . .	0	173	173	( <sup>1</sup> )
Corn . . . . .	1,114	1,262	148	13
Boilers, turbines, and related machinery . . . . .	242	382	140	56
Soybeans . . . . .	336	439	103	31
<b>Decreases:</b>				
Wood pulp and wastepaper . . . . .	658	410	-248	-38
Miscellaneous organic chemicals . . . . .	734	514	-220	-30
Aircraft engines and gas turbines . . . . .	434	248	-186	-43
Steel mill products . . . . .	249	97	-152	-61
Non-metalworking machine tools . . . . .	301	163	-138	-46
Iron and steel waste and scrap . . . . .	524	392	-132	-25
Cotton, not carded or combed . . . . .	361	257	-105	-29
Hides, skins, and leather . . . . .	729	629	-101	-14
<b>All Other</b> . . . . .	<b>16,349</b>	<b>16,425</b>	<b>76</b>	<b>(<sup>2</sup>)</b>
<b>Total</b> . . . . .	<b>24,483</b>	<b>25,433</b>	<b>950</b>	<b>4</b>

<sup>1</sup>Not meaningful.

<sup>2</sup>Less than 0.5 percent.

Note.—Calculations based on unrounded data.

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

The increasing Korean trade deficit elicited a “frugality” campaign aimed at imported goods. Foreign governments, through the EU and the OECD, have claimed the campaign is a disguised nontariff barrier against foreign consumer goods, and have threatened to take the case to the WTO. The scrutiny and complaints by the EU and the OECD have prompted the Korean Government to disassociate itself from the campaign, asserting that the campaign is not directed by the Government.<sup>135</sup>

Analysts have noted that the combination of a large trade deficit, the continuous increase in imports, and the sharp decline in the value of semiconductor exports in 1996 has exposed structural flaws in the Korean economy--the lack of a complimentary industry to

<sup>135</sup>John Burton, “EU Warns Seoul on Campaign Against Imports,” *Financial Times*, Apr. 4, 1997, p. 17.

compensate when semiconductors are not able to generate the revenues necessary for the export-based economy to grow further.<sup>136</sup>

The Korean Government intends to counter the unfavorable trade balance with the United States and other industrialized nations by enhancing industrial competitiveness. The measures allow foreign loans to large companies for acquisition of domestically produced capital goods and to medium-and-small sized companies for the importation of capital goods; provide incentives to private companies to obtain foreign commercial loans for social capital projects; raise the ceiling for foreign investment in the Korea Stock Exchange; and permit local independent institutions to provide incentives to attract foreign capital.<sup>137</sup>

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## OTHER TRADE DEVELOPMENTS

### Chile

Chile is viewed as the next country to join NAFTA when and if NAFTA membership is expanded. Chile has an open economy with a strong growth record<sup>138</sup> and has reduced tariffs unilaterally and multilaterally through regional free-trade agreements (FTAs). Chile's NAFTA entry has been constrained by the lack of U.S. fast-track negotiating authority. Mexico and Canada already have free-trade agreements with Chile.

U.S. merchandise trade with Chile grew by \$2.6 billion (70 percent) during 1992-96 to \$6.2 billion; nevertheless, U.S.-Chile trade represented less than 1 percent of total U.S. merchandise trade in 1996.<sup>139</sup> During 1992-96, the U.S. merchandise trade surplus with Chile expanded by \$680 million (67 percent) to \$1.7 billion; U.S. imports from Chile rose by \$943 million (72 percent) to \$2.3 billion; and U.S. exports to Chile increased by \$1.6 billion (70 percent) to \$4.0 billion, virtually the same rate of growth as for imports. The United States was Chile's leading trading partner in 1996, representing 22 percent of Chilean merchandise trade.<sup>140</sup> Chile's leading markets and suppliers in 1996 were as follows:

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<sup>136</sup>Eon-Oh Lee, "Prospects for Korea's Semiconductor Industry," *Korea's Economy 1997*, KEIA, vol. 13, pp. 44-45.

<sup>137</sup>U.S. Department of State telegram No. 006636, Daily Seoul press translations,, prepared by U.S. Embassy, Seoul, Nov. 1996.

<sup>138</sup>"Chile's economy has expanded for the last thirteen years, averaging over 6 percent growth per year." USDOC, ITA, *Country Commercial Guides*, "Chile: Economic Trends and Outlook," reprinted in National Trade Data Bank, ID: IT CCG CHILE01, Aug. 21, 1996.

<sup>139</sup>Chile was the 34th-largest U.S. trade partner in 1996.

<sup>140</sup>Compiled from statistics of the Chilean Government Trade Bureau, facsimile of selected Chilean trade data for 1996, Chilean Embassy, Washington, DC, Apr. 15, 1997, p. 2.

<u>Leading markets</u>	<u>Percent of total exports</u>	<u>Leading suppliers</u>	<u>Percent of total imports</u>
United States . . . . .	17	United States . . . . .	27
Japan . . . . .	16	Argentina . . . . .	11
Brazil . . . . .	6	Brazil . . . . .	7
United Kingdom . . . . .	6	Japan . . . . .	6
Korea(s) . . . . .	6	Mexico . . . . .	6
Germany . . . . .	5	Germany . . . . .	5
Argentina . . . . .	5	France . . . . .	4
All other . . . . .	40	All other . . . . .	35

Note.--Because of rounding, figures may not add to 100 percent.

Source: Compiled from statistics of the Chilean Government Trade Bureau, facsimile of selected Chilean trade data for 1996, Chilean Embassy, Washington, D.C., Apr. 15, 1997, p. 2.

Analysts report that Chile is a promising market because it has a dynamic economy fueled by the energy and professionalism of its entrepreneurs, the transparency of its regulations, and the predictability of its decision-makers.<sup>141</sup> Chile's economic growth has been led by increased domestic savings,<sup>142</sup> foreign investment,<sup>143</sup> and exports concentrated in copper, fresh fruit, forestry, and fishery products,<sup>144</sup> as shown in the following tabulation of selected Chilean exports in 1996:

<u>Leading exports</u>	<u>Percent of total export value</u>
Copper . . . . .	40
Fresh fruit . . . . .	7
Wood pulp . . . . .	4
Fish meal . . . . .	4
All other . . . . .	45

Source: USDOS telegram No. 000524, "1996 A Good Year For Chile's Economy," prepared by U.S. Embassy, Santiago, received by NEWSEDGE/LAN, Feb. 13, 1997.

Copper dominates Chile's exports, and Chile has the world's largest known reserves of copper.<sup>145</sup> The capacity of its copper industry was expanded during 1992-96, and copper

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<sup>141</sup>USDOC, ITA, *Country Commercial Guides*, "Chile: Executive Summary," reprinted in National Trade Data Bank, ID: IT CCG CHILE01, Aug. 21, 1996.

<sup>142</sup>U.S. Department of State (USDOS), *Country Reports on Economic Policy and Trade Practices* (Washington, DC: GPO, Mar. 1997), p. 225.

<sup>143</sup>Ibid.

<sup>144</sup>USDOC, ITA, "Chile: Economic Trends and Outlook."

<sup>145</sup>U.S. Department of the Interior, Geological Survey and Bureau of Mines, *Mineral Commodity* (continued...)

production is expected to continue to grow at a rate averaging more than 10 percent per year during 1997-2000.<sup>146</sup>

The value of Chile's merchandise imports increased annually during 1992-96. However, the country's trade balances during the period fluctuated in tandem with copper prices; Chile's imports increased by \$7.3 billion (79 percent) to \$16.5 billion in 1996, and exports recorded an overall gain of \$5.3 billion (53 percent) to \$15.2 billion. Chile realized trade surpluses of \$749 million in 1992, \$725 million in 1994, and \$1.4 billion in 1995, as the value of Chilean exports increased when copper prices were relatively high in those years. The value of Chilean exports decreased when copper prices declined in 1993 and 1996,<sup>147</sup> and Chile experienced trade deficits of \$1.0 and \$1.3 billion, respectively. Chile's trade balance in 1996 was further weakened by unfavorable price trends in other Chilean export products, specifically wood pulp<sup>148</sup> and salmon.<sup>149</sup> A key issue for Chile is the need to diversify its export profile away from copper and lessen its dependence on copper export earnings.

### U.S. imports

U.S. imports from Chile are concentrated in mineral resources, fish, and agricultural and forest products. Specifically, the products accounting for most of the growth in imports from Chile during 1992-96 were copper, grapes and wine made from grapes, lumber, and fish. U.S. imports of these products, valued at \$1.2 billion in 1996, accounted for 53 percent of total U.S. imports from Chile that year and 69 percent (\$655 million) of the total growth of \$943 million (a 72-percent increase) in U.S. imports from Chile (table 3-26).

The largest gain in U.S. imports from Chile during 1992-96 was recorded in copper products, imports of which rose by \$258 million (163 percent) to \$416 million. The expansion of Chile's copper industry during the period likely contributed to the growth of gold and silver shipments to the United States as well as copper products,<sup>150</sup> inasmuch as gold and silver may be produced as byproducts of copper production.<sup>151</sup> Successful farming of grapes<sup>152</sup> for both

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<sup>145</sup>(...continued)

*Summaries 1996*, Jan. 1996, p. 51.

<sup>146</sup>EIU, *Country Reports*, "Chile: Copper Output Will Rise by 15 Percent in 1996," May 9, 1996, CD ROM.

<sup>147</sup>The average price of copper declined by 22 percent between 1995 and 1996. USDOS telegram, "1996 A Good Year For Chile's Economy." The decline in copper prices in 1996 came after disclosures about the losses accumulated by the world's largest copper trader, Sumitomo. EIU, *Country Reports*, "Chile: Merchandise Exports Will Be Hit By Lower Prices," Aug. 16, 1996, CD ROM.

<sup>148</sup>USDOS telegram, "1996 A Good Year For Chile's Economy."

<sup>149</sup>EIU, *Country Reports*, "Chile: Curr-acc Deficit of \$1.9bn Likely in 1996," Nov. 8, 1996, CD ROM.

<sup>150</sup>U.S. imports of gold from Chile rose by \$34 million (46 percent) during 1992-96 to \$107 million, while imports of silver grew by \$26 million (43 percent) to \$88 million.

<sup>151</sup>Government policy has placed considerable emphasis on copper mining being carried out in tandem with the production of valuable byproducts, such as molybdenum, cobalt, silver and gold." EIU, *Country Profile*, "Chile 1995-96," 1995, p. 26.

<sup>152</sup>Grapes are the main kind of fruit exported from Chile, and Chile has substantial additional land that could be allocated to fruit production. *Ibid.*, pp. 20-21.

fruit and wine, salmon,<sup>153</sup> and radiata pine<sup>154</sup> provide the potential for increased exports of these products as well.

**Table 3-26**  
**Leading increases in U.S. imports from Chile, 1992 and 1996**

Industry/commodity	1992	1996	Change, 1996 from 1992	
			Absolute	Percent
	<i>Million dollars</i>			
Copper and articles thereof:				
Refined copper and copper alloys, unwrought . . . . .	92	257	165	179
Other . . . . .	66	159	93	141
Total . . . . .	158	416	258	163
Grapes and wine of fresh grapes:				
Grapes . . . . .	196	296	101	52
Wine of fresh grapes . . . . .	34	92	58	171
Total . . . . .	230	389	159	69
Wood and articles of wood:				
Wood, continuously shaped . . . . .	8	71	64	819
Other . . . . .	44	102	58	131
Total . . . . .	52	173	122	234
Fish and fish meat, fresh, chilled, or frozen . . . . .	116	232	116	100
All other . . . . .	763	1,052	288	38
Grand total . . . . .	1,319	2,262	943	72

Note.—Calculations based on unrounded data.

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

### U.S. exports

Product sectors accounting for much of the growth in U.S. exports to Chile during 1992-96 included motor vehicles (especially vehicles suitable for use in the mining, agriculture, and forest products industries), construction and mining equipment and mineral processing machinery, computers and parts and accessories, and refined petroleum. U.S. exports to Chile were more diversified than imports from Chile, with the nine product categories specified in table 3-27 accounting for 30 percent (\$1.2 billion) of total U.S. exports to Chile in 1996, and 44 percent (\$719 million) of the growth of \$1.6 billion (a 70-percent increase) in U.S. exports during 1992-96.

<sup>153</sup>The growth of fish imports from Chile was largely focused on salmon. Fish farming of salmon is being successfully developed in Chile. Ibid., p. 22.

<sup>154</sup>Wood imports from Chile have tended to be pine, and the supply of sawn radiata pine, a species which allegedly grows faster in Chile than elsewhere, is expected to increase nearly threefold by the year 2000. The government has promoted forest plantations since 1974, mainly of radiata pine. Ibid., 21-22.

**Table 3-27**  
**Leading increases in U.S. exports to Chile, 1992 and 1996**

Industry/product	1992	1996	Change, 1996 from 1992	
			Absolute	Percent
	<i>Million dollars</i>			
Motor vehicles:				
Trucks .....	85	197	112	131
Cars and buses .....	46	133	86	186
Certain parts and accessories for motor vehicles ...	37	78	41	111
Tractors .....	20	57	37	184
Total .....	188	464	276	146
Construction and mining equipment and mineral processing machinery:				
Construction and mining equipment .....	140	325	184	131
Mineral processing machinery .....	17	73	56	330
Total .....	157	397	240	153
Computers and parts and accessories:				
Computers .....	72	145	73	101
Computer parts and accessories .....	41	85	44	106
Total .....	113	229	116	103
Refined oils from petroleum and bituminous minerals .....	25	113	87	347
All other .....	1,851	2,755	904	49
Grand total .....	2,335	3,958	1,623	70

Note.—Calculations based on unrounded data.

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

Much of the growth of U.S. exports to Chile reflects continued growth in Chile's copper industry. Examples of U.S. exports destined for use in the copper industry include: rear-dump trucks designed for off-highway use; buckets, shovels, grabs, and grips; excavators; and mineral grinding machines. The growth in Chile's imports from the United States of cars and buses appears related to an expanding Chilean car market, one that is expected to continue growing faster than the Chilean economy because of the low number of cars per capita and increased personal income.<sup>155</sup> The United States is Chile's leading supplier of computers and peripherals, and Chile's growing economy is expected to keep Chilean demand for computer equipment growing at a rate of 15 percent per year.<sup>156</sup> Chile is a promising market for high technology and infrastructure products<sup>157</sup> because there is limited local production of such items and Chilean infrastructure will have to be modernized to enable further economic development.<sup>158</sup>

<sup>155</sup>EIU, *Journal: Business Latin America*, "Chile: Competitive Gear," Mar. 11, 1996, CD ROM.

<sup>156</sup>Ibid.

<sup>157</sup>"These include electricity generation and related products, pollution control equipment, telecommunications equipment, computers and peripherals, mining and construction industry equipment, buildings materials, medical equipment, railroad equipment, port equipment, food processing equipment, air conditioning and refrigeration equipment, and security equipment." USDOC, ITA, "Chile: Executive Summary."

<sup>158</sup>USDOC, ITA, "Chile: Leading Sectors for U.S. Exports and Investments," reprinted in National Trade Data Bank, ID: IT CCG CHILE05, Aug. 21, 1996.



## Outlook

Chile's active pursuit of bilateral and multilateral free-trade agreements could affect its bilateral trade with the United States, as barriers to trade between Chile and its agreement partners are eliminated.<sup>159</sup> With the conclusion of a bilateral FTA with Canada in 1996, Chile's FTA partners also include Bolivia, Colombia, Ecuador, Mexico, and Venezuela. Chile is pursuing bilateral agreements with Peru and various Central American countries.<sup>160</sup> Chile also joined the Mercosur,<sup>161</sup> a customs union of Argentina, Brazil, Paraguay, and Uruguay, as an associate member in 1996.<sup>162</sup> As an associate member, Chile joined the Mercosur FTA, but will not participate in the common external tariff as a full member of the customs union.

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## Sub-Saharan African Countries

Total U.S. merchandise trade with sub-Saharan Africa<sup>163</sup> was \$6.1 billion in 1996 (less than 1 percent of total U.S. trade). While many countries of sub-Saharan Africa continue to undergo positive change, including domestic policy reforms, democratization, trade reform, and privatization,<sup>164</sup> some countries remain in civil turmoil.<sup>165</sup> Many countries depend on imports from the United States and in turn, the United States looks to countries of sub-Saharan Africa for many primary products, including agricultural and mineral wealth available in the region.

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<sup>159</sup>A number of U.S. exporters reported that U.S. tariff disadvantages in the Chilean market relative to certain of Chile's free-trade agreement partners are sufficient to displace exports from the United States with exports from those trading partners. USDOS telegram No. 001123, "Making the Case for Fast Track," prepared by U.S. Embassy, Santiago, received by NEWSEDGE/LAN, Mar. 27, 1997.

<sup>160</sup>USITC, *International Economic Review Oct./Nov. 1996*, USITC publication 3006, 1996, pp. 22 and 26.

<sup>161</sup>Created in Mar. 1991, the MERCOSUR customs union liberalizes trade in goods by reducing or eliminating tariffs and some quantitative restrictions on trade among Argentina, Brazil, Paraguay, and Uruguay. *Ibid.*, pp. 22-23.

<sup>162</sup>*Ibid.*, p. 24.

<sup>163</sup>Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo-Brazzaville, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan Swaziland, Togo, Tanzania, Uganda, the Democratic Republic of the Congo (formerly Zaire), Zambia, and Zimbabwe.

<sup>164</sup>For a more detailed explanation see U.S. International Trade Commission, *U.S.-Africa Trade Flows and Effects of the Uruguay Round Agreements and U.S. Trade and Development Policy*, USITC publication 2938, Jan. 1996 and *U.S.-Africa Trade Flows and Effects of the Uruguay Round Agreements and U.S. Trade and Development Policy* USITC publication 3000, Oct. 1996.

<sup>165</sup>Civil war or guerilla warfare is having a significant impact on the economies of Burundi, Rwanda, Liberia, Sierra Leone, Sudan, and Congo-Kinshasa; however, Ethiopia and Mozambique undertook significant economic strides in 1996 to sustain recent recovery from civil strife. Angola struggled in 1996 to overcome the effects of its prolonged civil war.

Concerns about the effects of the Uruguay Round Agreements on developing countries have initiated a greater interest in the region of sub-Saharan Africa. Legislation pending in Congress seeks to increase market access and help expand trade opportunities for the countries of sub-Saharan Africa.<sup>166</sup>

The aggregate growth rate in the region rose from 3.4 percent in 1995 to 5.6 percent in 1996,<sup>167</sup> according to the World Bank. Although capturing all of the investment accurately is difficult, U.S. direct investment continues to grow in sub-Saharan Africa. Twenty-nine U.S. based parent companies were identified as having direct investment or employees in Angola, Botswana, Lesotho, Mozambique, Namibia, Swaziland, Zambia, and Zimbabwe. The companies, which employed nearly 10,000 people, showed assets of more than \$482 million and sales of more than \$771 million.<sup>168</sup> Although several major shippers launched new services to the continent during 1996, and container facilities and handling improved in a number of countries,<sup>169</sup> transportation of goods remains problematic in sub-Saharan Africa.

Regional trade groups continue to help promote development, investment, and trade. The most active regional groups are the Common Market for Southern and Eastern Africa (COMESA),<sup>170</sup> and the Southern African Development Community (SADC)<sup>171</sup> in the southern and central areas of sub-Saharan Africa. In West Africa, the Economic Community of West African States (ECOWAS), continues to look at ways of expanding trade for its member countries. In 1996, SADC enacted a trade protocol designed to establish a free trade area within 8 years during which time tariff and nontariff barriers will be reduced. Since the signing of the protocol, little action has occurred. However, the protocol holds promise for both intra-SADC trade, and for creating stable markets for trade with the United States.

### U.S. imports and exports

Trade flows between 1995 and 1996 generally followed the pattern of the last 5 years (table 3-28). U.S. imports from the region increased by 25 percent compared with 7 percent worldwide in 1996. The balance of trade remained stable, in favor of the aggregated countries of sub-Saharan Africa, amounting to a U.S. trade deficit of \$9.1 billion in 1996.

Imports from sub-Saharan Africa were dominated by oil and minerals. Imports of crude and refined petroleum from Nigeria, Angola, and Gabon accounted for more than 90 percent of U.S. imports from Sub-Saharan Africa in the energy-related product sector in 1996. Nearly one-half (\$4.6 billion) consisted of crude petroleum from Nigeria. Most of the growth in

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<sup>166</sup> On September 26, 1996, Congressmen Crane, Rangel, and McDermott introduced H.R. 4198, entitled African Growth and Opportunity: the End of Dependency Act of 1996. The bill, which would authorize a new trade and investment policy in sub-Saharan Africa, will be reintroduced and considered in the 105<sup>th</sup> Congress.

<sup>167</sup> World Bank, *International Trade Finance*, Feb. 14, 1997.

<sup>168</sup> Investor Research Responsibility Center, Washington, DC, 1996.

<sup>169</sup> Michael Fabey, "Moving the Goods to Africa: A Vexing Issue At Best," *World Trade*, Mar. 1997, pp. 2-3.

<sup>170</sup> Members include Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, South Africa, Tanzania, Zambia, and Zimbabwe.

<sup>171</sup> Members include Angola, Burundi, Comoros, Congo-Kinshasa, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

imports of energy-related products from sub-Saharan Africa in 1996 was accounted for by a \$1.1 billion rise in imports of refined petroleum products from Nigeria and Angola. U.S. imports of petroleum products from countries of Sub-Saharan Africa accounted for approximately two-thirds of all imports from the region in 1996.<sup>172</sup> Cocoa, copra, and coffee were also important U.S. agricultural imports from this region. Other sectors in which the United States has consistently run a trade deficit included textiles and apparel, and metals. Sugar and textile imports are controlled by tariff rate quotas but remain important U.S. imports from various African countries.

**Table 3-28**  
**Sub-Saharan Africa: U.S. import and export trends, by sector, 1992 and 1996**

Sector	1992	1996	Change, 1996 from 1992	
			Absolute	Percent
<i>Million dollars</i>				
<b>Imports:</b>				
Agricultural products .....	584	858	274	47
Forest products .....	68	114	46	68
Chemicals and products .....	110	418	308	280
Energy-related products .....	8,981	10,801	1,820	20
Textiles and apparel .....	234	396	162	69
Footwear .....	2	1	-1	-50
Minerals and metals .....	1,929	2,178	249	13
Machinery .....	34	79	45	132
Transportation equipment .....	22	71	49	223
Electronic products .....	20	52	32	160
Miscellaneous manufactures .....	21	58	37	176
Special provisions .....	68	101	33	49
<b>Total .....</b>	<b>12,073</b>	<b>15,128</b>	<b>3,055</b>	<b>25</b>
<b>Exports:</b>				
Agricultural products .....	1,079	892	-187	-17
Forest products .....	165	205	40	24
Chemicals and products .....	518	687	169	33
Energy-related products .....	119	244	125	105
Textiles and apparel .....	162	201	39	24
Footwear .....	5	14	9	180
Minerals and metals .....	175	281	106	61
Machinery .....	608	766	158	26
Transportation equipment .....	1,361	1,703	342	25
Electronic products .....	589	729	140	24
Miscellaneous manufactures .....	44	64	20	45
Special Provisions .....	226	260	34	15
<b>Total .....</b>	<b>5,051</b>	<b>6,046</b>	<b>995</b>	<b>20</b>

Note.—Calculations based on unrounded data.

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

<sup>172</sup>Imports of crude and refined petroleum from Nigeria, Angola, and Gabon accounted for over 90 percent of U.S. imports from Sub-Saharan Africa in the energy-related product sector in 1996. Nearly one-half (\$4.6 billion) consisted of crude petroleum from Nigeria. Most of the growth in imports of energy-related products from Sub-Saharan Africa in 1996 was accounted for by a \$1.1 billion rise in imports of refined petroleum products from Nigeria and Angola.

Historically, the United States has supplied this region with machinery, electronics, and other value-added products generally not produced in most countries of sub-Saharan Africa. U.S. exports to all countries in sub-Saharan Africa account for 1 percent of total U.S. exports. Exports of agricultural products are dominated by grains, of which food aid is a component. Food aid (grain) varies annually, according to harvests, droughts, and emergencies; aid declined in 1996 due to good harvests over most of the region and the decline in food aid needed by Mozambique and Angola following the end of their civil wars.

The leading U.S. trading partners in sub-Saharan Africa in 1996 were Nigeria, Angola, South Africa, and Gabon. Leading markets and suppliers are illustrated below as a percentage of U.S. exports or U.S. imports from the region in 1996:

<u>Leading market</u>	Percent of total <u>exports</u>	<u>Leading suppliers</u>	Percent of total <u>imports</u>
South Africa . . . .	51	Nigeria . . . . .	39
Nigeria . . . . .	13	Angola . . . . .	18
Angola . . . . .	4	South Africa . . . .	15
Gabon . . . . .	5	Gabon . . . . .	12
Côte d'Ivoire . . . .	2	Mauritius . . . . .	1
All other . . . . .	25	All other . . . . .	15

Note.--Because of rounding, figures may not add to 100 percent.

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

A number of the countries of sub-Saharan Africa, in particular the Francophone group,<sup>173</sup> are closely tied with France in both trade and development programs, or with other European countries through historical ties, thereby presenting a greater challenge for U.S. access to the markets of these countries.

## Outlook

Opportunities for trade between the United States and countries of sub-Saharan African will likely continue to increase with domestic and trade reforms being put in place in many countries. As debt loads are reduced and economies develop, the composition of trade will likely change and amount of trade will continue to increase.<sup>174</sup>

Additional emphasis is being placed on trade-related programs by the U.S. Government and multilateral agencies. The Multilateral Investment Guarantee Agency (MIGA), a World Bank Group agency, is increasing commitments to investors in 38 sub-Saharan African

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<sup>173</sup>Communauté Française includes Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, and Togo. Other former French colonies include Gabon, Cameroon, Central African Republic, and Guinea, Mauritania, Chad, Congo-Brazzaville, and Madagascar.

<sup>174</sup>For a sector-by-sector explanation, see USITC, *U.S.-Africa Trade Flows*, USITC publication 2938, and USITC, *U.S.-Africa Trade Flows*, USITC publication 3000.

countries.<sup>175</sup> Efforts by MIGA focus on encouraging the flow of foreign direct investment into the region. MIGA was created to supplement other World Bank activities in efforts to provide investment risk insurance programs.

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<sup>175</sup>Angola, Benin, Botswana, Burkina Faso, Cameroon, Cape Verde, Congo-Brazzaville, Congo-Kinshasa, Côte d'Ivoire, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. The countries of Burundi, Chad, Gabon, Guinea-Bissau, Niger, Rwanda, and Sierra Leone are in the process of fulfilling membership requirements.



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## CHAPTER 4

# Factors Affecting Trends in Selected Commodities

Important trade developments or trends have had a particular impact on certain commodities. The selected commodities addressed in this chapter have been subject to special bilateral agreements between the United States and a trading partner (tomatoes with Mexico, automobile and automobile parts with Japan);<sup>1</sup> subject to changes because of multilateral agreements (textiles and apparel); subject to industry restructuring because of foreign competition (commercial chinaware); or subject to antidumping/countervailing duty orders in the U.S. market (stainless steel bar and oil country tubular goods).<sup>2</sup> The purpose of these analyses is to highlight trade shifts or other developments that have occurred for these products.

### FRESH-MARKET TOMATOES

Tomatoes, the most important fresh-market vegetable sold in the United States in terms of consumption by value, accounted for about one-eighth of the \$6.9 billion of fresh-market vegetables sold in the United States in 1996.<sup>3</sup> Florida and Mexico have long been the two leading suppliers to the U.S. market of most of these fresh vegetables during the winter months, with Florida marketing these products during mainly November to June, and Mexico mainly during January to April. California, the second leading U.S. supplier of fresh tomatoes, supplies the market during July through November.

As required in section 316 of the NAFTA Implementation Act (19 U.S.C. 3381), the Commission began monitoring U.S. imports of fresh or chilled tomatoes and fresh or chilled peppers, other than chili peppers, on December 30, 1993.<sup>4</sup> In recent years, two global safeguard investigations and one antidumping investigation have been conducted with regard to imports of fresh tomatoes (one of the safeguard investigations also covered fresh bell

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<sup>1</sup>For a discussion of a bilateral agreement between the United States and Japan regarding semiconductors, see USITC, "Evolution of the U.S.-Japanese Semiconductor Trade Regime," *Industry Trade and Technology Review*, publication No. 3017, Jan. 1997, p. 45.

<sup>2</sup>For additional information on tomatoes, automobile and automobile parts, textiles and apparel, and antidumping/countervailing duty orders, see USITC, *The Year in Trade 1996*, USITC publication 3024, Apr. 1997.

<sup>3</sup>The other leading fresh vegetables are cucumbers, bell peppers, eggplant, snap beans, squash, celery, broccoli, carrots, melons, and lettuce. USDA, *Vegetables and Specialties--Situation and Outlook Report*, Economic Research Service, U.S. Department of Agriculture, Washington, DC, SEO/VGS-271, Apr. 1997 p. 4. These vegetables include all winter and summer fresh-market vegetables, except potatoes, pulses, and mushrooms. Processed vegetables are excluded.

<sup>4</sup>USITC, *Monitoring of U.S. Imports of Tomatoes*, investigation No. 332-350, USITC publication 2771, June 1994; and *Monitoring of U.S. Imports of Peppers*, investigation No. 332-351, USITC publication 2782, June 1994.

peppers).<sup>5</sup> The Commission made negative determinations in the two safeguard investigations (see table 4-1) and no relief was provided. The antidumping investigation involved imports of fresh tomatoes from Mexico. In May 1996, the Commission made an affirmative injury determination in the preliminary phase of its antidumping investigation. In October 1996, the U.S. Department of Commerce made a preliminary affirmative finding of dumping. Subsequently, Commerce and Mexican exporters signed an agreement setting an import reference price and Commerce suspended the investigation effective Nov. 1, 1996. A chronology of actions in these cases is presented in table 4-1.

**Table 4-1**  
**Chronology of actions in fresh-market tomatoes<sup>1</sup> trade relief cases**

Date	Action
Mar. 29, 1995	Commission institutes global safeguard investigation on fresh winter tomatoes (inv. No. TA-201-64) under section 202 of the Trade Act of 1974 following receipt of petition that same day; petition requests, <i>inter alia</i> , provisional relief pending completion of investigation.
Apr. 19, 1995	Commission makes negative determination in the provisional relief phase of inv. No. TA-201-64.
May 4, 1995	The petition in inv. No. TA-201-64 is withdrawn and the ITC terminates the investigation.
Mar. 11, 1996	Commission institutes second global safeguard investigation on fresh tomatoes following receipt of petition that same day (inv. No. TA-201-66). The scope of investigation includes bell peppers.
Apr. 1, 1996	Commission initiates an antidumping investigation of fresh tomatoes from Mexico (inv. No. 731-TA-747).
May 1996	Commission makes an affirmative determination in the preliminary phase of inv. No. 731-TA-747.
July 2, 1996	Commission makes a negative determination in the second safeguard investigation (inv. No. TA-201-66).
Oct. 28, 1996	An agreement between Commerce and the Mexican exporters of tomatoes is reached and the antidumping investigation is suspended effective Nov. 1, 1996.

<sup>1</sup>Fresh-market tomatoes include fresh or chilled tomatoes, except those grown for processing, and are classified in subheadings 0702.00.20, 0702.00.40, 0702.00.60, and 9906.07.01 through 9906.07.09 of the *Harmonized Tariff Schedule of the United States*. The trade monitoring reports also included fresh or chilled tomatoes for processing as well as for fresh-market use. Fresh peppers were included in the 201 investigation in Mar. 1996, and are included in the monitoring reports, but are not discussed or considered here.

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

### Industry Trends

Fresh-market tomatoes are grown mainly in Florida (42 percent of 1995 U.S. fresh-market production), California (31 percent), and Georgia (6 percent). Florida growers generally market tomatoes during November through June, while California's grown production is available July through November. Apparent U.S. consumption of fresh-market tomatoes rose steadily from 1.8 million metric tons in 1992 to 2.1 million metric tons in 1995, before falling to 2.0 million metric tons in 1996 (table 4-2). Domestic per capita consumption of fresh-market tomatoes rose through the 1970s and 1980s, and amounted to 16.8 pounds in 1996.<sup>6</sup> U.S. production of fresh-market tomatoes declined by 13 percent from 1992 levels to 1.4 million metric tons (valued at \$879 million) in 1996 (table 4-2).

<sup>5</sup>Investigations Nos. TA-201-64, TA-201-66, and 731-TA-747.

<sup>6</sup>*Vegetables and Specialties--Situation and Outlook Yearbook*, Economic Research Service, U.S. Department of Agriculture, Washington, DC, VGS-269, July 1996, p. 11.



Table 4-2

Fresh-market tomatoes: U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1992-96

Year	Production <sup>1</sup>	Exports <sup>2</sup>	Imports <sup>3</sup>	Apparent U.S. consumption	Ratio of imports to consumption
					Percentage
Quantity (1,000 metric tons)					
1992	1,774	167	196	1,803	11
1993	1,618	157	418	1,879	22
1994	1,708	155	396	1,949	20
1995	1,570	131	621	2,060	30
1996	1,402	134	737	2,005	37
Value (1,000 dollars)					
1992	1,396,950	140,179	145,608	1,402,379	10
1993	1,130,092	122,255	325,559	1,333,396	24
1994	1,029,282	119,772	343,933	1,253,443	27
1995	891,343	101,984	450,517	1,239,876	36
1996	879,318	99,714	672,468	1,452,072	46
Unit value (dollars per kilogram)					
1992	0.79	0.84	0.74	0.78	( <sup>4</sup> )
1993	.70	.78	.78	.71	( <sup>4</sup> )
1994	.60	.77	.87	.64	( <sup>4</sup> )
1995	.57	.78	.73	.60	( <sup>4</sup> )
1996	.63	.74	.91	.72	( <sup>4</sup> )

<sup>1</sup>Includes raw product intended for fresh-market use.

<sup>2</sup>Includes fresh or chilled tomatoes (*Schedule B* No. 0702.00.0000).

<sup>3</sup>Includes fresh or chilled tomatoes (*Harmonized Tariff Schedule* subheadings 0702.00.20-0702.00.60).

<sup>4</sup>Not meaningful.

Source: Production data compiled from *Vegetables and Specialties--Situation and Outlook Report*, Economic Research Service, U.S. Department of Agriculture, Washington, DC, SEONGS-271, Apr. 1997, p. 30; exports and imports compiled from official statistics of the U.S. Department of Commerce.

U.S. fresh-market tomato harvested area averaged about 53,000 hectares annually during 1992-95, before declining to about 48,000 hectares in 1996. Yields dropped by about 4 percent from 29 metric tons per hectare to 28 tons per hectare during 1992-96. The average unit value of production of fresh-market tomatoes declined from 79 cents per kilogram in 1992 to 57 cents per kilogram in 1995, and in 1996 unit values rose to 63 cents per kilogram (table 4-3). Average prices received by U.S. growers for fresh-market tomatoes fell steadily during 1992-95, before rising to 81 cents per kilogram in 1996. Average retail prices for fresh-market tomatoes remained relatively stable at about \$2.40 per kilogram during 1992-94, before rising steadily to \$3.07 in 1996.<sup>7</sup>

<sup>7</sup>Ibid., p. 35.

**Table 4-3**  
**Prices of fresh-market tomatoes: U.S. grower, retail, and imported, 1992-96**  
*(Cents per kilogram)*

Item	1992	1993	1994	1995	1996
U.S. average unit value of production . . . . .	79	70	60	57	63
U.S. average grower price <sup>1</sup> . . . . .	89	74	61	57	81
U.S. average retail price . . . . .	241	238	239	254	307
Average unit value of imports . . . . .	74	78	87	73	91

<sup>1</sup>Prices are shipper prices which include growing, packing, and handling costs.

Source: *Vegetables and Specialties*, Economic Research Service, U.S. Department of Agriculture, Washington, DC, VGS-269, July 1996, p. 51; official data of the U.S. Department of Labor; and data from table 4-2 of this report.

U.S. imports of fresh-market tomatoes rose from 196,000 metric tons in 1992 to 737,000 tons (276 percent) in 1996, with the largest increase occurring from 1994 to 1995, when U.S. imports from all sources (but primarily Mexico) jumped 57 percent (table 4-2). U.S. imports of fresh-market tomatoes rose from \$146 million to \$672 million (362 percent) during 1992-96. Mexico remained the leading foreign supplier during the 1992-96 period, accounting for 86 percent of the value and 93 percent of the volume of imports in 1996. Other suppliers of note were Canada and the Netherlands with a 6-percent share each of the total value of U.S. imports. Imports as a share of domestic consumption rose from 11 percent in 1992 to 37 percent in 1996 (table 4-2). The increased imports from Mexico since 1992 reflect in part the use of improved seed varieties, better storage facilities, improved physical access to the U.S. market, less adverse weather during the recent growing seasons, the peso devaluation, and the slight drop in tariffs (table 4-4).<sup>8</sup>

**Table 4-4**  
**Mexican fresh-market tomatoes: Acreage harvested, production, imports for consumption, exports of domestic merchandise, and apparent consumption, 1992-96**

Year	Acreage harvested	Production	Exports (to U.S.)	Imports (from U.S.)	Apparent consumption
	1,000 hectares				
1992 . . . . .	69	1,370	183	16	1,203
1993 . . . . .	64	1,220	400	18	838
1994 . . . . .	71	1,693	376	22	1,339
1995 . . . . .	68	1,730	593	2	1,139
1996 . . . . .	66	1,670	686	3	987

Source: USDA, FAS, "Tomatoes and Products," American Embassy, Mexico City, Oct. 25, 1996, and Jan. 13, 1995; and official data of the U.S. Department of Commerce. The 1996 Mexican production and consumption data are forecast estimates. Consumption is derived from the data shown.

<sup>8</sup>USITC, *Fresh Tomatoes from Mexico*, investigation No. 731-TA-747 (preliminary), USITC publication 2967, May 1996, p. VII-1.

## New Developments

In recent years, imports from Mexico have risen in part as a result of Mexican growers implementing the following: changes in production technology to produce extended shelf life (ESL) tomatoes; lengthening their marketing season; and by full-scale introduction of the same technology already used by Florida growers, including drip irrigation, fertigation (the addition of fertilizer through irrigation lines), and plastic mulch.<sup>9</sup>

### Imports After the Commerce Agreement

The October 1996 agreement between the U.S. Department of Commerce and Mexican exporters of fresh-market tomatoes set a minimum reference price for Mexican fresh tomatoes entering the U.S. market; as a result of the agreement, Commerce suspended the antidumping investigation. The initial reference price, an F.O.B. wholesale price at the U.S. port of entry, was set at \$5.17 per 25-pound carton or 20.68 cents per pound. U.S. imports of fresh-market tomatoes from Mexico since the agreement was put in place have surpassed levels in certain months of the previous marketing year (table 4-5). Unit values of monthly tomato imports from Mexico were well above \$5.17 per carton during November 1996 through May 1997 (as compared with imports during the corresponding months in the prior marketing year). Domestic farm groups have expressed concern that the suspension agreement is not being properly enforced, and that U.S. imports of Mexican tomatoes are continuing to disrupt the domestic market.<sup>10</sup>

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**Table 4-5**  
**Fresh-market tomatoes: U.S. imports from Mexico, November 1995-May 1996, and November 1996-May 1997**

Month	1995/96 marketing year		1996/97 marketing year	
	Volume (1,000 cartons)	Unit Value (Dollars per carton)	Volume (1,000 cartons)	Unit value (Dollars per carton)
November . . . . .	2,824	6.61	3,055	6.53
December . . . . .	4,699	11.22	4,712	6.95
January . . . . .	7,539	7.58	8,043	6.92
February . . . . .	9,126	6.66	9,873	7.16
March . . . . .	9,403	6.64	10,830	12.66
April . . . . .	8,527	17.76	5,283	8.46
May . . . . .	3,775	20.71	4,315	8.10

Note.—A carton contains 25 pounds (11.34 kilograms). Imports include all products reported under *HTS* subheading 0702.00.

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

<sup>9</sup>Daniel Plunkett, USDA, "Mexican Tomatoes--Fruit of New Technology," *Vegetables and Specialities*, Apr. 1996, p. 26.

<sup>10</sup>See for example, Dean Kleckner, President, American Farm Bureau, "A Statement Regarding Review of NAFTA with Canada and Mexico," to the House Agriculture Committee, U.S. House of Representatives, Apr. 17, 1997, p. 3.

## AUTOMOBILES AND AUTOMOBILE PARTS<sup>11</sup>

The automobile and automobile parts industry was designated a priority sector in the 1993 U.S.-Japan Framework Agreement, leading to extensive discussions between the two countries on liberalized access to the Japanese auto market for U.S. auto and auto parts manufacturers. The United States and Japan concluded nearly 2 years of negotiations on June 28, 1995, with the signing of the U.S.-Japan Agreement on Autos and Auto Parts (the Agreement). As part of the Agreement, the Government of Japan made commitments in three important areas: improving market access for foreign motor vehicles; eliminating regulations that limit U.S. auto parts sales in Japan; and enhancing sales opportunities for U.S. original equipment parts producers with Japanese automakers in the United States and Japan. The Agreement includes 15 quantitative and qualitative criteria specific to motor vehicles, original equipment (OE) parts, and aftermarket parts, as well as two general qualitative criteria, all of which are designed to measure progress in reaching joint objectives in these sectors. A 10-member interagency enforcement team (the Compliance Group), established on September 6, 1995, by the Office of the United States Trade Representative and the U.S. Department of Commerce, analyzes these criteria to evaluate achievements under the Agreement. The Compliance Group findings are published every 6 months in a report to the President.<sup>12</sup>

The October 1996 status report to the President highlighted areas of significant progress that had been made in bilateral automotive trade since the Agreement's implementation. In particular, the report noted a 40-percent increase in sales of North American-produced Big Three motor vehicles in Japan during January-June 1996 compared with the same period in 1995;<sup>13</sup> an 11-percent increase in U.S. exports of auto parts to Japan during the same period; and the establishment of 114 new sales outlets in Japan for U.S. motor vehicles during the year.<sup>14</sup> These improvements were tempered by the U.S. Government's concerns regarding progress in meeting the goal of 200 sales outlets by yearend 1996, the slow pace with which auto parts were being removed from Japan's "critical parts list," and the appearance of continued discrimination against U.S. parts suppliers in the OE and OE service parts markets.<sup>15</sup>

Since the midyear reporting period, new Japanese import vehicle registrations of U.S. passenger cars and trucks recorded an overall increase of 3 percent from the 1995 level of 143,232 units, amounting to 147,683 units in 1996.<sup>16</sup> A 23-percent increase by U.S. trucks spurred the growth in registrations of U.S. motor vehicles, as registrations of U.S. passenger cars remained relatively stable compared to the previous year. A greater increase occurred in the value of U.S. auto parts exported to Japan, which reached nearly \$2.0 billion in 1996, up

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<sup>11</sup>Much of the background information provided in this review was gathered from two publications entitled *Report to President William Jefferson Clinton of the Interagency Enforcement Team Regarding the U.S.-Japan Agreement on Autos and Auto Parts*, U.S. Department of Commerce and Office of the United States Trade Representative, Apr. 12, 1996 and Oct. 21, 1996.

<sup>12</sup>The most recent analysis was submitted on Apr. 18, 1997.

<sup>13</sup>Measured by the number of import vehicle registrations in Japan, by make and model, as reported by the Japan Automobile Importers' Association.

<sup>14</sup>*Report to President William Jefferson Clinton*, Oct. 21, 1996, p. 1.

<sup>15</sup>*Ibid.*, p. 2.

<sup>16</sup>Table entitled "New Import-Vehicle Registrations in December & January to December, 1996," *Japan Automotive News*, Feb. 1, 1997, p. 7.

approximately 17 percent from the 1996 level of \$1.6 billion.<sup>17</sup> The number of new Japanese sales outlets for the Big Three auto manufacturers, however, remained unchanged at 114 dealerships through February 1997, according to the American Automobile Manufacturers Association.<sup>18</sup>

Access to the lucrative Japanese parts aftermarket moved a step forward with the announcement that two new types of automotive repair facilities -- Specialized Certified Garages and Special Designated Garages -- have been established. Although these garages offer fewer repair services than comparable U.S. facilities, they hold the promise of improved access for foreign aftermarket parts suppliers because of their greater independence from Japanese motor vehicle manufacturers.<sup>19</sup> Deregulation of Japan's "critical parts list,"<sup>20</sup> however, appeared to stall in February 1997 with the rejection by Japan's Ministry of Transport (MOT) of a petition by U.S. auto parts manufacturers to remove brake parts from this list. Brake parts represent a substantial aftermarket in Japan, totaling approximately \$500 million (20 percent) of Japanese auto repair earnings, that is effectively closed to foreign suppliers. U.S. automotive interests<sup>21</sup> have indicated that they will continue to pursue liberalization of Japan's automotive service business despite the setback.<sup>22</sup>

Although motor vehicle sales respond to a variety of factors, U.S. auto manufacturers have particularly expressed concern about the recent effects of the weakened Japanese yen on the share of U.S. motor vehicle sales accounted for by Japanese automakers and the level of U.S. exports of motor vehicles to Japan. Purchases of U.S. auto parts by Japanese automakers located in Japan also represent a focus of industry interest.<sup>23</sup> During the first four months of 1997, for example, the share of U.S. passenger car and light truck sales represented by Japanese models rose to nearly 24 percent (1,164,266 units) compared to 22 percent (1,083,296 units) in the previous year.<sup>24</sup> In contrast, registrations of U.S.-made passenger cars and trucks in Japan fell

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<sup>17</sup>Although not a measurement criteria specified in the Agreement, U.S. imports of auto parts from Japan fell by 8 percent to \$8.3 billion in 1996.

<sup>18</sup>World Wide Web, retrieved June 6, 1997, American Automobile Manufacturers Association, <http://www.aama.com>, *AAMA Japan Report, March 1997*.

<sup>19</sup>"Clinton Administration Cites Progress with Recent Japanese Deregulation Announcements," press release, United States Trade Representative, Mar. 3, 1997.

<sup>20</sup>Those automotive parts subject to disassembly repair that must be completed by a certified mechanic at a certified or designated garage, or be inspected at a MOT Land Office. *Report to President William Jefferson Clinton*, Oct. 21, 1996, p. 42.

<sup>21</sup>American Automobile Manufacturers Association, retrieved Mar. 26, 1997, <http://www.aama.com>, *AAMA Japan Report: February 1997*.

<sup>22</sup>An industry publication recently reported that the MOT is considering the elimination of government disassembly inspection requirements for the seven "critical" assemblies to which they apply, such as brakes, steering gear, and transmissions. Such a move would likely open the parts replacement market to greater competition and improve prospects for U.S. and other foreign suppliers. "Transport Ministry Suddenly Considers Ending Disassembly Inspections of Brakes, Engines," *Japan Automotive Digest*, Mar. 24, 1997, p. 7.

<sup>23</sup>"Weaker Yen Worries Parts-makers; AAMA Warns Trade Tensions May Mount," *Ward's Automotive Reports*, Mar. 3, 1997, p. 1.

<sup>24</sup>Table entitled "U.S. Car and Light-Truck Sales -- 4 Months 1997," *Automotive News*, May 12, 1997, p. 42.

by 30 percent to 14,150 units<sup>25</sup> in March 1997 compared to 20,184 units in March 1996,<sup>26</sup> despite a surge in Japanese new vehicle sales driven, in part, by an impending sales tax increase effective April 1, 1997.<sup>27</sup> Greater appreciation of the value of the dollar against the yen could further complicate bilateral industry relations and the full achievement of market access goals identified in the Agreement.

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## **TEXTILES AND APPAREL**

### **U.S.-China Textile Trade Agreement**

On February 1, 1997, the United States and China concluded a 4-year bilateral textile trade agreement, which generally extends the quotas currently in place under the 1994 bilateral textile trade agreement.<sup>28</sup> The new agreement also continues to emphasize U.S. efforts to combat illegal transshipments of textile products by reducing quota levels in the 14 apparel and fabric product categories where there were repeated violations of the 1994 agreement through transshipments or overshipments. The new agreement strengthens enforcement terms against illegal transshipments and, like the 1994 agreement, allows the United States to triple charge quotas for repeated violations of the agreement.<sup>29</sup> The agreement also includes procedural measures to improve the bilateral consultation process, including an "electronic visa" information system to more effectively track textile and apparel shipments. The United States and China also agreed to treat textile quotas for Hong Kong and Macau separately after reversion of the territories to China.

For the first time, the U.S.-China textile agreement includes a market access provision. China agreed to open its market to U.S. exports of certain textile and apparel products. The agreement calls for China to reduce textile and apparel tariff rates over 2-to-4 years and to phase out existing nontariff barriers, including import licenses.<sup>30</sup> In addition, China agreed not to establish any new nontariff barriers that would be inconsistent with WTO rules. According to a USTR press release, U.S. producers believe that they can export to China such textile and apparel products as high-quality cotton and manmade fiber yarns and fabrics; knit fabrics;

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<sup>25</sup>Chrysler, Ford, and General Motors (including Saturn) accounted for 41 percent (5,751 units) of these registrations.

<sup>26</sup>Table entitled "New Import Vehicle Registrations in March 1997," *Japan Automotive News*, May 1, 1997, p. 5.

<sup>27</sup>Japan's Carmakers Suffer Whiplash," *Ward's Automotive International*, Mar. 1997, p. 5.

<sup>28</sup>USTR, "U.S. and China Reach Four-Year Textile Trade Agreement--U.S. Gains Market Access in China and Targets Areas of Transshipment Violations for Cutbacks," press release 97-07, Feb. 2, 1997.

<sup>29</sup>Agreement Between The United States of America and The People's Republic of China Concerning Trade in Textile and Apparel Products.

<sup>30</sup>U.S. Department of State telegram No. 040894, cable, "Textiles/China: Exchange of Notes," prepared by U.S. Department of State, Washington, DC, Mar. 5, 1997.

printed fabrics; such high-volume knit apparel as T-shirts, sweatshirts, and underwear; and advanced specialty textiles used in the construction of buildings, highways, and filtration products.<sup>31</sup>

The United States and China also agreed to extend existing quotas on silk apparel from China through 1997. The two countries agreed to review the silk limits after 1 year to determine if they will be extended in 1998. U.S. quotas on Chinese silk apparel are barely filled. Further, the United States and China agreed that should China become a member of the WTO, it would immediately receive the same benefits on the same schedule accorded other WTO textile-exporting countries under the ATC, such as the phase out of quotas.<sup>32</sup> However, the two countries determined that the United States will retain the right to impose quotas on Chinese goods for 4 years beyond January 1, 2005, the date that all quotas are scheduled to be eliminated for other WTO members under the ATC.

### NAFTA Parity for CBERA Countries

Part of the growth in U.S. apparel imports from Mexico since NAFTA's inception may have come at the expense of imports from CBERA countries,<sup>33</sup> which mainly compete with Mexico for apparel assembly work from U.S. firms. Under NAFTA, imports of apparel assembled in Mexico from U.S.-made and -cut fabric enter free of duty. Such garments accounted for 73 percent, or \$2.8 billion, of U.S. apparel imports from Mexico in 1996. By contrast, similar CBERA goods are still subject to duty on the value added offshore.<sup>34</sup>

Even before NAFTA was adopted, CBERA countries contended that the trade pact potentially threatened their economic stability by diverting U.S. apparel production-sharing trade to Mexico. U.S. firms with production-sharing arrangements in CBERA countries also expressed concern about their ability to remain financially viable in the region without NAFTA parity. In response to these concerns, legislation was introduced in the 104th Congress to make available NAFTA-like treatment to qualifying apparel and all other goods now exempted from duty-free entry under the CBERA (Caribbean Basin Trade Security Act, H.R. 553 and S. 529). Legislation is being drafted that would grant similar NAFTA-like treatment to CBERA textiles and apparel.<sup>35</sup>

U.S. apparel firms seeking a low-cost production base in the Western Hemisphere are expected to be drawn increasingly to Mexico if NAFTA parity is not soon granted to CBERA countries. Mexico benefits from unrestricted access to the U.S. market, competitive labor costs,

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<sup>31</sup>USTR, "U.S. and China Reach Four-Year Textile Trade Agreement."

<sup>32</sup>USDOS cable, "Textiles/China: Exchange of Notes," Mar. 5, 1997.

<sup>33</sup>Although most textiles and apparel are ineligible for duty-free treatment under the CBERA program, the term "CBERA" as used in this section, refers to countries that are designated beneficiaries of that program.

<sup>34</sup>For every \$10 in f.o.b. value, a typical CBI garment entered under the 9802 provision contains \$6.40 in duty-free U.S. components and \$3.60 in dutiable, foreign value-added. Applying the 1996 trade-weighted tariff for apparel of 16.7 percent to the foreign value-added yields an average duty of \$0.60, or an ad valorem equivalent of 6.0 percent.

<sup>35</sup>For more information on NAFTA parity for CBERA countries and NAFTA's effect on the competitiveness of the CBERA countries, see USITC, *Production Sharing: Use of U.S. Components and Materials In Foreign Assembly Operations, 1991-94*, USITC publication 2966, May 1996, ch. 5.

and favorable land-transportation linkages with the United States. Although many CBERA countries have lower labor costs than Mexico, the possibility exists that CBERA countries will no longer be economically competitive in apparel assembly without preferential access to the U.S. market. The 10-year phaseout of U.S. quotas under the WTO Agreement on Textiles and Clothing (ATC) will gradually erode the competitive advantage that CBERA countries now have with preferential quotas (known as guaranteed access levels), and cause the region to face unrestricted competition in the U.S. market from low-cost exporting countries in the Far East whose shipments are now under quota. CBERA assembly operations may gradually move to Mexico, or the apparel will be sourced from the Far East where there is little use of U.S. materials in apparel production. Such a shift in output to the Far East will likely hurt the U.S. textile industry because the CBERA region is its largest market for U.S. exports of textiles, either as cut garment parts, yarns, or fabrics.

### **New Rules of Origin for Textiles and Apparel**

On July 1, 1996, the United States implemented new rules of origin for imports of textiles and apparel as provided for by section 334 of the Uruguay Round Agreements Act. The change in origin rules affects country-of-origin determinations for U.S. imports of products subject to manufacturing and processing operations in, or containing components from, more than one country. For example, under the old rules, garments assembled in one country from parts cut from fabrics in another country were generally considered the product of the country in which the cutting occurred. The new rules assign origin to the country of assembly. For home textiles like sheets and pillowcases, the old rules generally conferred origin in the country in which the goods were cut to size from fabric rolls, hemmed, and otherwise sewn. The new rules confer origin in the country in which the fabric is made (i.e., woven or knitted). For fabrics made in one country and dyed, printed, or otherwise finished in another, the old rules generally conferred origin in the country where the finishing took place, whereas the new rules confer origin in the country in which the weaving or knitting takes place.

Hong Kong, Taiwan, and Singapore export many garments of fabric cut domestically but assembled in China. As a result, these countries may experience some negative impact from the new U.S. rules of origin. Such imports that were previously charged to the quotas of Hong Kong, Taiwan, and Singapore must be charged to China's quotas under the new rules. Given that China's quotas are highly used, the rule changes could reduce the amount of goods eligible for entry into the United States. Similarly, bed linens, kitchen and bathroom textiles, curtains, and quilted and embroidered goods from the Philippines (which has very little domestic fabric production) will now be subject to the quotas of countries where the fabric was made rather than the Philippine quotas. Also affected are European producers that import fabrics from such countries as China, Indonesia, Thailand, and India, and process the fabric by bleaching, dyeing, or printing, or cutting and sewing such products as silk scarves, draperies, and bed linens in Europe. Under the new rules, they can no longer benefit from an EU country-of-origin label as they must label their products according to the country where the fabric was made. If the fabric-producing country is covered by U.S. quotas, the EU producers may also have to obtain quotas and visas from that exporting country before they can export the products to the United States. On May 22, 1997, the EU filed a request with the WTO on May 22, 1997, for formal consultations with the United States.



## **Increased Market Access for U.S. Imports of Textiles and Apparel From Sub-Saharan Africa**

On April 24, 1997, the African Growth and Opportunity Act (H.R. 1432) was introduced in the 105th Congress. This legislation proposes to increase U.S. market access for textiles and apparel from sub-Saharan Africa by authorizing a new trade and investment policy for the region. The bill calls for the elimination of existing U.S. quotas on textile and apparel imports from sub-Saharan Africa, which supplied less than 1 percent, or \$383 million, of U.S. imports of MFA products in 1996. The sub-Saharan African countries currently covered by such U.S. quotas are Kenya and Mauritius. The bill also provides that, until imports of textiles and apparel from sub-Saharan Africa reach a much higher level, the transitional safeguards provided in Article 6 of the ATC should not apply. Under article 6, a WTO member may establish a new quota to control surges in imports that cause or threaten to cause serious damage to a domestic industry.

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## **COMMERCIAL CHINAWARE**

International trade in commercial chinaware<sup>36</sup> has shifted during the past decade, affecting the composition of the global industry and contributing to a restructuring of the domestic industry. Prior to the early 1990s, the United States, Japan, and European nations dominated global markets for these products. However, during the past decade, there have been significant increases in exports from certain Asian nations,<sup>37</sup> particularly China, Thailand, and Sri Lanka. Commercial chinaware imported from these nations generally has a relatively low unit value and has gained increasing market share at the expense of more costly articles produced in many industrialized countries. Most commercial chinaware sales are to large institutional buyers, such as large hotel and restaurant chains, where price is the principal competitive factor.

### **Industry Trends**

In recent years, manufacturers of commercial chinaware in the United States, Japan, and other developed countries have moved production of some commercial chinaware to less-developed nations with abundant supplies of low-cost labor and raw materials (including energy).<sup>38</sup> These shifts in production location have also been facilitated by the relatively low

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<sup>36</sup>Commercial chinaware consists of plates, cups, and other tableware classifiable under *HTS* subheadings 6911.10.10 (porcelain) and 6912.00.20 (non-porcelain). Commercial chinaware differs from household chinaware largely in application, rather than the method of production, with the former primarily for use by hotels, restaurants and other institutions and the latter mainly for use in the home.

<sup>37</sup>Raymond Weightman, "Challenging Times for International Tableware," *Tableware International*, Feb. 1997, pp. 80-84.

<sup>38</sup>According to industry sources, labor accounts for as much as 50 percent of total U.S. production costs and energy accounts for between 10 percent and 20 percent of these costs (industry (continued...))

state of manufacturing technology and limited capital requirements to manufacture these items. Japan, a major chinaware producer and exporter until the early 1990s, recently has invested in production facilities in Bangladesh, Sri Lanka, and the Philippines where manufacturing costs are lower. At the same time, German producers have invested in chinaware facilities in Thailand and have reportedly committed to building a new commercial chinaware facility in Mexico.<sup>39</sup> In China, state-of-the-art European technology and equipment have been installed during the last few years and orders with Chinese manufacturers have been placed by major U.S. hotel chains.<sup>40</sup>

The emergence of China, Thailand, and Sri Lanka as leading producers in the world chinaware market has likewise contributed to the movement of U.S. capital and production facilities offshore, resulting in declining production and plant closings in the United States.<sup>41</sup> The number of firms in the U.S. industry has declined by nearly one-half since the mid-1980s to 11 known producers today. Three firms presently account for 80 percent to 85 percent of U.S. industry shipments; shipments of commercial chinaware peaked at 6.7 million dozen pieces in 1989 and declined steadily to 5.3 million dozen pieces by 1995 (the most current year available).<sup>42</sup>

Although the quantity of U.S. imports of commercial chinaware declined 2 percent during 1989-96, from 4.4 million dozen pieces (\$36.6 million) to 4.3 million dozen pieces (\$40 million) (figure 4-1), imports as a share of the domestic U.S. market rose from 45 percent in 1989 to 51 percent in 1995. At the same time, a dramatic shift in import sources occurred as imports from China, Thailand, and Sri Lanka rose from 33 percent in 1989 to 61 percent of total U.S. imports in 1996 (see table 4-6).

Imports from China, the largest foreign supplier during 1989-96, increased 57 percent during this period to 2.2 million dozen pieces (\$10.5 million) in 1996, and accounted for 51 percent of import volume. U.S. imports from Thailand more than tripled during this period to total 280,000 dozen pieces (\$3.5 million) in 1996 while imports from Sri Lanka, which first entered the U.S. market in 1992, reached 131,000 dozen pieces (\$1.7 million) in 1996. With the emergence of new foreign producers, imports from other sources declined. U.S. imports from Japan, once a leading U.S. supplier of these products, fell 58 percent from 1989 levels to 401,000 dozen pieces (\$5.1 million) in 1996, largely reflecting the overseas movement by Japanese producers seeking to reduce manufacturing costs and the weakening of Japan's export position related to the strengthening of the Japanese yen during much of 1990s.<sup>43</sup>

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<sup>38</sup>(...continued)

officials, telephone discussion with USITC staff, Washington, DC, Mar. 1997).

<sup>39</sup>Industry officials and officials at American Restaurant China Council, telephone conversations with USITC staff, Mar. 1997.

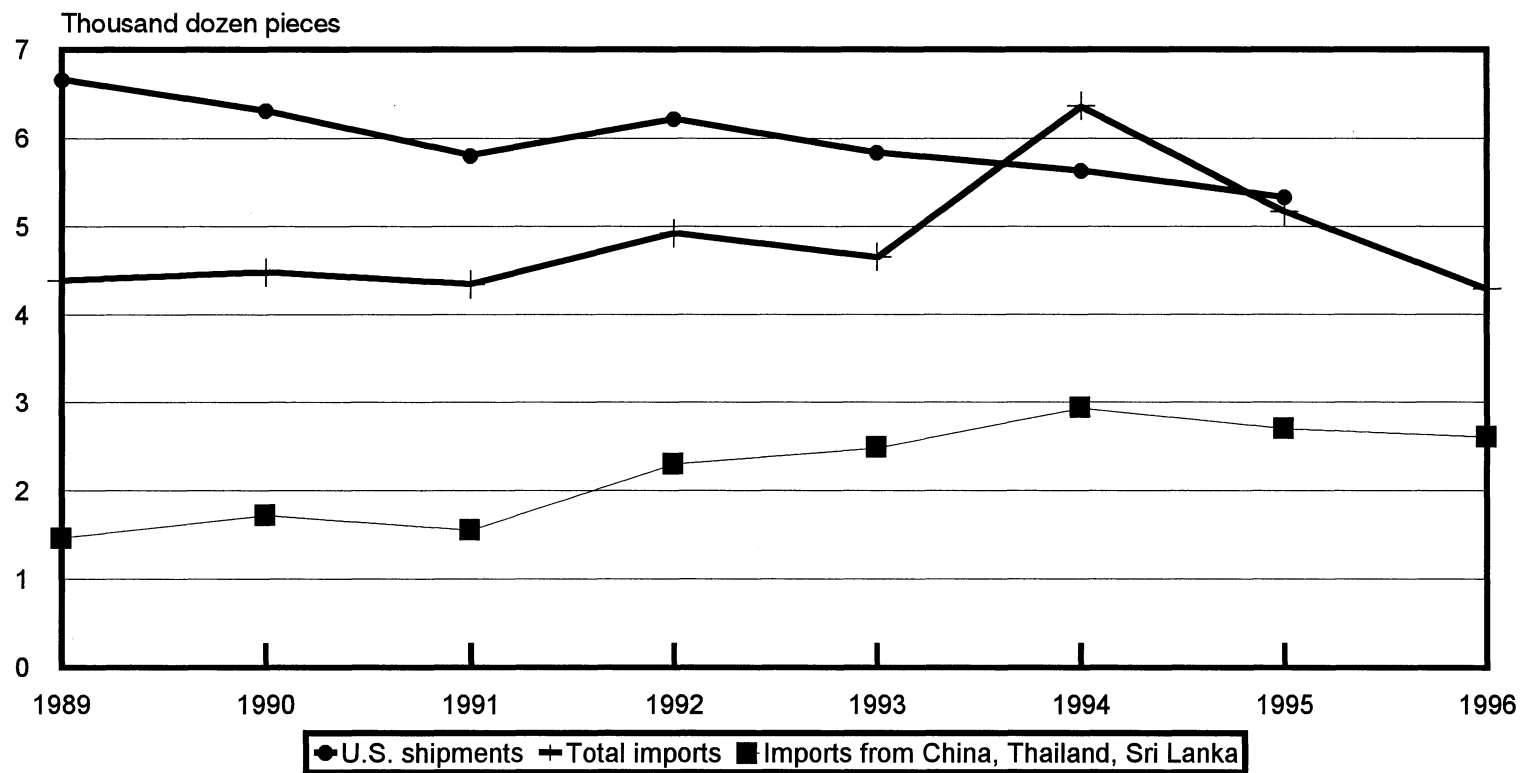
<sup>40</sup>"Asia: Far East Demand For Tableware Expands," *Tableware International*, Aug. 1996, p. 68.

<sup>41</sup>Industry officials and officials at American Restaurant China Council, telephone conversations with USITC staff, Mar. 1997.

<sup>42</sup>Information on producers and production was provided by American Restaurant China Council, McLean, VA.

<sup>43</sup>U.S. imports from Japan, which accounted for 24 percent of U.S. commercial chinaware imports in 1989 and reached a peak of 38 percent of imports in 1992, accounted for only 13 percent of such imports in 1996.

**Figure 4-1**  
**Commercial chinaware: U.S. shipments and imports, by quantity, 1989-1996**



Note.--U.S. shipments for 1996 not available.

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

**Table 4-6**  
**Commercial chinaware: U.S. imports, 1989-96**

Year	Imports from China, Thailand, and Sri Lanka			Total U.S. imports	
	Quantity (1,000 dozen)	Percent of total	Value (\$1,000)	Quantity (1,000 dozen)	Value (\$1,000)
1989 .....	1,462	33	6,539	4,384	36,587
1990 .....	1,717	38	8,487	4,479	39,949
1991 .....	1,550	36	7,250	4,341	41,701
1992 .....	2,229	45	11,144	4,922	44,662
1993 .....	2,483	53	14,826	4,650	42,107
1994 .....	2,932	46	17,776	6,361	56,882
1995 .....	2,696	52	14,348	5,167	47,378
1996 .....	2,605	61	15,733	4,289	39,860

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

U.S. exports of commercial chinaware, which accounted for only a small fraction of U.S. shipments and U.S. imports during this period, declined a modest 1 percent from 449,000 dozen pieces (\$8.8 million) in 1989 to 443,000 dozen pieces (\$8.8 million) in 1996. U.S. exports to Mexico, the leading export destination during this period, rose by 14 percent from 14,000 dozen pieces (\$344,000) in 1989 to 16,000 dozen pieces (\$344,000) in 1996; however, exports to Mexico declined dramatically from the peak level of 161,000 dozen pieces (\$3.8 million) in 1993 largely due to the economic problems in Mexico following the December 1994 devaluation of the Mexican peso relative to the U.S. dollar and the emergence of Mexico as a significant producer and supplier of these products.

### Outlook

The international market for commercial chinaware is likely to witness further penetration by low-cost producers due to favorable economic factors. Low-cost nations such as China, Thailand, and Sri Lanka are likely to become increasingly important in this market due to the large amount of foreign investment that is being committed to chinaware production in these nations. Industry observers suggest that many nations currently lacking the capacity to export large volumes, such as Bangladesh,<sup>44</sup> Mexico, and the Philippines, may soon begin to do so following the pattern established by China, Thailand, and Sri Lanka. Some of these nations already produce significant volumes of household chinaware and may soon expand production of commercial chinaware.

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<sup>44</sup>Exports of commercial chinaware into the United States by Bangladesh may also be aided by the possible GSP-eligibility of Bangladesh. A decision on Bangladesh's eligibility is expected later this year by the USTR.

## STAINLESS STEEL BAR<sup>45</sup>

On December 30, 1993, five domestic producers<sup>46</sup> filed a petition with the U.S. Department of Commerce (DOC) and the USITC alleging that a U.S. industry was materially injured and threatened with material injury by reason of less than fair value (LTFV) imports of stainless steel bar.<sup>47</sup> The countries named in the petition were Brazil, India, Italy, Japan, and Spain. In December 1994, Commerce made final affirmative antidumping duty determinations on all of the foregoing countries except Italy, which was found in the final investigation not to be selling stainless steel bar imports at LTFV in the U.S. market. In February 1995, the USITC made final affirmative determinations of material injury by reason of the dumping in all remaining cases. The final margins were as follows:

<u>Country</u>	<u>Producer</u>	<u>DOC final margins (Percent)</u>
Brazil	Aços Villares, S.A.	19.43
	All Others	19.43
India	Grand Foundry	3.87
	Mukand	21.02
	All Others	12.45
Japan	Aichi Steel Works, Ltd.	61.47
	Daido Steel Co., Ltd.	61.47
	Sanyo Special Steel Co., Ltd.	61.47
	All Others	61.47
Spain	Acerinox, S.A., and successor companies	62.85
	Roldan, S.A.	7.74
	All others	25.80

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<sup>45</sup>Stainless steel bar is defined as articles of stainless steel in straight lengths that have been either hot-rolled, forged, turned, cold-drawn, cold-rolled, or otherwise cold-finished or ground, all having a uniform solid cross section along their whole length in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles, hexagons, octagons, or other convex polygons. Except as specified above, the term does not include stainless steel semifinished products; cut-to-length flat-rolled products; wire; and angles, shapes, or sections. Stainless steel bar includes cold-finished stainless steel bars that are turned or ground in straight lengths, whether produced from hot-rolled bar or from straightened and cut rod or wire, and reinforcing bar that have indentations, ribs, grooves, or other deformations produced during the rolling process. The product is provided for in subheadings 7222.10, 7222.20, and 7222.30 of the *Harmonized Tariff Schedule of the United States (HTS)*.

<sup>46</sup>The five producers are Al Tech Specialty Steel Corp., Dunkirk, NY; Carpenter Technology Corp., Reading, PA; Republic Engineered Steels, Inc., Massillon, OH; Slater Steels Corp., Fort Wayne, IN; and Talley Metals Technology, Inc., Hartsville, SC. Electralloy Corp., Oil City, PA, joined the petition on Jan. 4, 1994, and Crucible Specialty Metals Division, Syracuse, NY, joined on Jan. 7, 1994. The United Steelworkers of America, AFL-CIO/CLC, was also a petitioner.

<sup>47</sup>See U.S. International Trade Commission, *Stainless Steel Bar from Brazil, India, Japan, and Spain*, (investigation Nos. 731-TA-678, 679, 681, and 682 (final)), USITC publication 2856 (public version) 1995, for complete information.

## Industry Trends

Stainless steel bar represents only a small portion of total domestic stainless steel shipments tonnage (10 percent).<sup>48</sup> Most stainless steel long products, including bar,<sup>49</sup> are used in capital investment projects where corrosion resistance is of primary concern. The construction industry, as well as manufacturers of fabricated metal products, including forgings, fasteners, turbines, and electrical and industrial equipment, are also significant consumers of stainless steel bar. Other industries that maintain such requirements include beverages, food, oil and gas, and chemical processing. The fabricated metal products industry is the largest end user of stainless steel bar, representing 26 percent of total consumption. This is followed by the food industry with 24 percent, and the construction, machinery, and oil and gas industries, each of which represents about 9.5 percent of the market.<sup>50</sup> The wide range of end-use applications for stainless steel bar is sufficiently varied so as to make demand for this product sensitive to fluctuations in overall economic activity. The steadily increasing consumption of this product since 1992 has generally followed the sustained growth of the capital goods market.

During the period covered by the investigations, there were eight producers of stainless steel bar, seven of which were petitioners in the antidumping proceeding.<sup>51</sup> The 7 firms maintained 10 plants in total, 2 in Pennsylvania, 2 in New York, 2 in South Carolina, 2 in Ohio, and 1 each in Illinois and Indiana.<sup>52</sup> U.S. producers' domestic shipments, total imports, and consumption are shown in table 4-7. Each category increased from 1993 to 1996, except for shipments, which decreased slightly from 1995 to 1996. Weak prices in the U.S. market due to international supply excesses during 1996 may partially account for this decline.<sup>53</sup>

While imports from countries found to be dumping decreased significantly during 1993-96, imports from countries not covered by dumping orders increased significantly. Imports from Italy increased by 9,045 tons (163 percent) to 14,584 tons in 1996. Imports from other European countries, including France, the United Kingdom, Austria, and Germany, also increased during the period. The shifts in import volumes were reflected in each group's share of the market: the covered countries' share fell significantly, from 15 percent in 1993 to less than 2 percent in 1996, while uncovered countries' share of consumption rose, from 14 percent to 30 percent during the same period.

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<sup>48</sup>According to data prepared by the American Iron and Steel Institute, the long products segment of domestic stainless steel shipments, made up of bar, rod, and wire, constitute 12 percent of the total, whereas flat products (plate, sheet, and strip) account for most stainless steel shipments.

<sup>49</sup>Stainless steel bar represents about three-quarters of total long product shipments.

<sup>50</sup>Brian R. Leslie, Specialty Steel Industry of North America, remarks before "Stainless Steel '97," a conference sponsored by the *American Metal Market*, Pittsburgh, PA, Apr. 15, 1997.

<sup>51</sup>The remaining firm, Armco Stainless and Alloys Products (Baltimore, MD), ceased production of stainless steel bar in 1993. In January 1995, Republic Engineered Steels announced it had purchased Armco's mill and hired 50 of its workers.

<sup>52</sup>Carpenter Technology has two plants, and Republic Engineered Steels maintains three.

<sup>53</sup>Yvonne M. Varano, "Price Pressure, Not Volume, Hurting Domestic Producers," *American Metal Market*, Stainless Steel Supplement, Apr. 15, 1997, p. 6A.

**Table 4-7**  
**U.S. market statistics: Stainless steel bar, 1992-96**

Item	1992	1993	1994	1995	1996
Domestic shipments . . . . .	135,293	137,715	162,006	174,167	168,647
Imports:					
Brazil . . . . .	4,208	4,593	1,952	51	51
India . . . . .	2,185	4,242	2,942	4,141	1,951
Japan . . . . .	14,507	15,511	7,276	348	254
Spain . . . . .	5,643	7,333	5,932	1,275	1,554
Total subject countries . . . . .	26,544	31,679	18,102	5,815	3,810
All Other . . . . .	20,163	27,361	47,565	66,286	74,176
Total . . . . .	46,706	59,040	65,667	72,101	77,986
Consumption . . . . .	181,999	196,755	227,673	246,268	246,633
	<i>Percent of consumption</i>				
Domestic shipments . . . . .	74.3	70.0	71.2	70.7	68.4
Imports:					
Brazil . . . . .	2.3	2.3	0.9	( <sup>1</sup> )	( <sup>1</sup> )
India . . . . .	1.2	2.2	1.3	1.7	0.8
Japan . . . . .	8.0	7.9	3.2	0.1	0.1
Spain . . . . .	3.1	3.7	2.6	0.5	0.6
All subject countries . . . . .	14.6	16.1	8.0	2.4	1.5
All other . . . . .	11.1	13.9	20.9	26.9	30.1
Total . . . . .	25.7	30.0	28.8	29.3	31.6
Number of production and related workers . . . . .	2,066	2,159	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup>Less than 0.05 percent.

<sup>2</sup>Not available.

Source: U.S. International Trade Commission, *Stainless Steel Bar from Brazil, India, Japan, and Spain*, (investigation Nos. 731-TA-678,679,681, and 682 (final)), USITC publication 2856 (public version), 1995; U.S. Department of Commerce; and American Iron and Steel Institute.

### Other Developments

There have been several new developments affecting the domestic stainless steel bar industry since the investigations. Carpenter Technology (CarTech) of Reading, PA, the largest U.S. stainless steel bar producer, has planned capital expenditures exceeding \$140 million over the next 2 years in a new plant and equipment; a significant portion will be dedicated to stainless steel bar production.<sup>54</sup> Slater Steels is investing \$17 million to modernize and add equipment for bar, angles, and continuous drawing equipment. Republic Engineered Steels is continuing with installation of a \$165 million cast-roll facility, despite its January 1997 announcement that it

<sup>54</sup>Matthew S. Enoch, "Worldwide Stainless Demand Driving Cold-Finished Bar Expansion," *American Metal Market*, Oct. 15, 1996, p. 7-A.

would eliminate 500 jobs in the face of financial problems.<sup>55</sup> The parent company of Al Tech, Sammi Steel of Korea, declared bankruptcy in 1996. Sammi has offered to sell its North American plants to POSCO (also of Korea), although POSCO reportedly has not expressed an interest in purchasing these plants. Avesta Sheffield (Avesta), a new entrant into the stainless steel bar market, maintains a cooperative arrangement with Teledyne Allvac in which Allvac rolls imported billets for Avesta. Avesta-Sheffield is now reportedly moving some equipment from the United Kingdom to Baltimore, MD, which may allow for producing its own billets.<sup>56</sup> Most recently, in April 1997, Talley Industries announced that it sold the assets of its Canadian steel distributor Diversified Stainless Steel, Ltd. to Ulbrich of Canada, Inc., which is a subsidiary of Ulbrich Stainless Steel and Special Metals of North Haven, CT.<sup>57</sup>

The increasingly global stainless steel market has U.S. and foreign producers alike looking abroad for new markets. Significant growth in Asian and South American construction, food, and chemical processing industries is contributing to increased global demand for stainless steel bar.<sup>58</sup> CarTech maintains a strong presence in Mexico and Taiwan to facilitate the company's access to these markets.<sup>59</sup> U.S. producers are increasingly competing with foreign producers in these markets as well. Indeed, many foreign companies are investing in their operations to boost global competitiveness. For example, Brazil's Aços Villares is currently undergoing corporate restructuring and has plans to invest \$160 million in its various specialty steel works, including equipment upgrades at two plants that will specialize in bar production.<sup>60</sup> Japanese steelmakers<sup>61</sup> are vying to increase their stake in Thainox, the stainless steel joint venture in Thailand with Ugine of France.<sup>62</sup> Meanwhile, in Italy, privatization efforts undertaken by the steel industry have involved Acciaierie Valbruna, a large producer of stainless steel bar.<sup>63</sup> Valbruna maintains a subsidiary in Stamford, CT.

Although the United States remains the primary market for its stainless and other specialty steels, CarTech is seeking to expand its international business and make domestic acquisitions that broaden its product line. For example, in January 1997, the company announced plans to acquire Dynamet Inc., a privately held manufacturer of titanium bar, wire, and powder products,<sup>64</sup> and Global Technology, Inc., a major supplier of equipment and services

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<sup>55</sup>John Russell, "Republic Engineered Steels Inc. Lags Behind Industry, Cuts Workforce," *Akron Beacon Journal*, Feb. 5, 1997.

<sup>56</sup>Information provided by industry representative, Apr. 29, 1997.

<sup>57</sup>World Wide Web, retrieved Apr. 10, 1997, "Talley Sells Its Canadian Steel Operation," Apr. 2, 1997, *Business Wire*, <http://www.businesswire.com>.

<sup>58</sup>Presentation by Firoze E. Katarak, George D. Rainville, Michael J. Loreth, and James T. Morton, Charles River Associates, "Long Run Outlook for Stainless Steels: Storm Clouds on the Horizon?" presented at *Ryan's Notes Ferroalloys Meeting*, New York, NY, Apr. 3, 1997.

<sup>59</sup>William J. Keaveney, "Specialty Steelmakers Find Strong Export Markets," *American Metal Market*, Sept. 23, 1996, p. 21-A.

<sup>60</sup>Diana Kinch, "Restructured Villares Emerges More Dynamic," *Metal Bulletin Monthly*, Nov. 1996, p. 47.

<sup>61</sup>NSC, Kawasaki, SMI, Nisshin, Nippon Metal, and Nippon Yakin all maintain shares in Thainox.

<sup>62</sup>Japanese Vie For More Thainox," *Steel Times International*, Sept. 1996, p. 4.

<sup>63</sup>Tom Gill, "A Strictly Private Business," *Metal Bulletin Monthly*, Dec. 1996, p. 31.

<sup>64</sup>World Wide Web, retrieved Apr. 10, 1997, "Carpenter Announces Major Acquisition, Short-Term Business Outlook, Jan. 7, 1997, *Business Wire*, <http://www.businesswire.com>.



for processing metal bar and wire products.<sup>65</sup> These acquisitions followed a May 1996 acquisition of Crafts Precision Industries, Inc., a privately held manufacturer of ultrahard wear parts and specialized cutting tools. Crafts is the company's fourth acquisition in the previous 2 years in an effort to develop a specialty engineered products capability.<sup>66</sup>

New domestic competition may also emerge for bar producers. In light of overcapacity for flat-rolled carbon sheet, some producers are considering a shift to stainless production; Nucor has already made the transition to dual-production. While Nucor has not announced any plans to enter the bar market, other carbon producers, including Birmingham Steel, are reportedly considering buying stainless steel billets for rolling into bars.<sup>67</sup>

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## OIL COUNTRY TUBULAR GOODS

On June 30, 1994, seven U.S. producers<sup>68</sup> filed petitions with the DOC and the USITC alleging that a U.S. industry was materially injured and/or threatened with material injury by reason of subsidized imports of oil country tubular goods (OCTG)<sup>69</sup> from Austria and Italy and imports of OCTG sold in the United States at less than fair value (LTFV) from Argentina, Austria, Italy, Japan, Korea, Mexico, and Spain.<sup>70</sup> In June 1995, DOC made final affirmative countervailing and antidumping duty determinations on all the foregoing countries,<sup>71</sup> and on July 24, 1995, the USITC made final affirmative determinations of material injury or the threat of material injury by reason of unfairly traded imports in all cases except Austria, Spain, and drill pipe from Italy and Korea.<sup>72</sup> The final margins determined by DOC were as follows:

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<sup>65</sup>World Wide Web, retrieved Apr. 10, 1997, "Carpenter to Acquire Specialty Metals Company, Continue Growth Strategy," *Business Wire*, Jan. 23, 1997, <http://www.businesswire.com>.

<sup>66</sup>World Wide Web, retrieved Apr. 10, 1997, "Carpenter Acquires Fourth Engineered Products Company in Two Years," May 30, 1996, *Business Wire*, <http://www.businesswire.com>.

<sup>67</sup>Corinna C. Petry, "Is Stainless Next Target for Mini-Mills?" *American Metal Market*, Stainless Steel Supplement, Apr. 15, 1997, p. 16-A.

<sup>68</sup>Belville, IPSCO, Koppel, Maverick, North Star, U.S. Steel, and USS/KOBE. Lone Star and Newport joined after filing date.

<sup>69</sup>OCTG are hollow, circular cross-section steel products that include drill pipe, casing, and tubing. OCTG are used in the oil and gas industry to drill and line well holes, and in the transmission of oil to the surface.

<sup>70</sup>U.S. International Trade Commission, *Oil Country Tubular Goods from Argentina, Austria, Italy, Japan, Korea, Mexico, and Spain* (investigations Nos. 701-TA-363 and 364 (final) and 731-TA-711-717 (final)), USITC publication 291, 1995.

<sup>71</sup>Margins were in effect beginning in Dec. 1994 and Jan. 1995 on imports from Argentina, Austria, Italy, Japan, Mexico, and Korea based on Commerce's preliminary affirmative determinations.

<sup>72</sup>The USITC determined that there were two like products: drill pipe and OCTG other than drill pipe.

<u>Country</u>	<u>Type</u>	<u>DOC final margins</u> (Percent)	<u>USITC injury determination</u>
Argentina ..	LTFV	1.36	Affirmative
Austria ....	Subsidies	11.44	Negative
	LTFV	25.90	Negative
Italy .....	Subsidies	1.47	Affirmative*
	LTFV	49.78	Affirmative*
Japan .....	LTFV	44.20	Affirmative
Korea .....	LTFV	12.17	Affirmative*
Mexico ....	LTFV	23.79	Affirmative
Spain .....	LTFV	11.95	Negative

\*Negative for drill pipe

### Industry Trends

Demand for OCTG is dependent on the level of oil and gas drilling activity, which is affected by the price for oil and gas, and such other factors as depth and drilling conditions of wells and level of inventories. The total number of feet drilled in 1993 was 140 million feet,<sup>73</sup> the highest during the period of investigation (POI). For the 1994-96 period, the number of feet drilled reached 140 million, 109 million, and 133 million, respectively, reflecting strong U.S. demand for oil and gas products.<sup>74</sup> Most of the drilling activity in the United States occurs in the Southern and Southwestern States.

During the investigations, there were 18 U.S. plants producing OCTG, 8 were located in Texas, 3 each in Pennsylvania and Ohio, and 1 each in Alabama, Arkansas, Colorado, Iowa, Kentucky, Missouri, and Tennessee. All had the capability to manufacture pipe and tube products other than OCTG. Since the investigation, two U.S. companies merged and a new OCTG plant was built in Arkansas.

U.S. producers' domestic shipments, imports, consumption, and employment are shown in table 4-8. Consumption increased 57 percent from 1992 to 1993, dropped by 5 percent in 1994, and moderately rose in 1995 and 1996. During 1993-96, imports as a percent of consumption declined 51 percent for subject countries and increased by 114 percent for nonsubject countries.

### Other Developments

Since the conclusion of the investigation, several changes related to the OCTG sector have occurred: oil prices have risen, demand for OCTG has strengthened, and the OCTG industry (in the United States and abroad) has undergone moderate restructuring. In 1996, oil prices rose significantly worldwide, with the world crude oil export average rising 20 percent to \$20 per barrel, and with the U.S. benchmark, West Texas Intermediate (WTI), rising 21 percent to \$21 per barrel. Futures prices also rose for crude oil on the New York Mercantile Exchange

<sup>73</sup>Revised from 138 million feet at the time of the investigation.

<sup>74</sup>U.S. Energy Information Administration, *Monthly Energy Review*, May 1997, Table 5.1.

**Table 4-8**  
**U.S. market statistics: Oil country tubular goods, 1992-96**

Item	1992	1993	1994	1995	1996
Domestic shipments .....	1,052,656	1,492,623	1,394,121	1,486,867	1,799,719
Imports:					
Argentina .....	26,168	51,737	40,571	15,331	833
Austria .....	55	7,323	7,110	1,932	22,592
Italy .....	745	23,003	8,270	10	542
Japan .....	53,193	127,170	133,864	22,487	23,388
Korea .....	2,496	24,816	30,313	11,861	24,842
Mexico .....	1,414	39,084	39,975	32,368	13,342
Spain .....	3,270	14,694	10,961	6,547	8,511
Total subject countries .....	87,341	287,827	271,064	90,536	94,049
All Other .....	13,278	65,377	70,710	89,809	137,348
Total .....	100,619	353,204	341,773	180,346	231,397
Consumption .....	1,153,275	1,845,827	1,735,894	1,667,213	2,031,116
	<i>Percent of consumption</i>				
Domestic shipments .....	91.3	80.9	80.3	89.2	88.6
Imports:					
Argentina .....	2.3	2.8	2.3	0.9	0.0
Austria .....	( <sup>1</sup> )	0.4	0.4	0.1	1.1
Italy .....	0.1	1.2	0.5	( <sup>1</sup> )	( <sup>1</sup> )
Japan .....	4.6	6.9	7.7	1.3	1.2
Korea .....	0.2	1.3	1.7	0.7	1.2
Mexico .....	0.1	2.1	2.3	1.9	0.7
Spain .....	0.3	0.8	0.6	0.4	0.4
All subject countries .....	7.6	15.6	15.6	5.4	4.6
All other .....	1.2	3.5	4.1	5.4	6.8
Total .....	8.7	19.1	19.7	10.8	11.4
Number of production and related workers .....	2,286	3,143	2,991	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup>Less than 0.05 percent.

<sup>2</sup>Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce and USITC, *Oil Country Tubular Goods from Argentina, Austria, Italy, Japan, Korea, Mexico, and Spain*, Invs. Nos 701-TA-363 and 364 (Final) and 731-TA-711-717 (Final), USITC publication 2911, August 1995; U.S. Department of Commerce; and American Iron and Steel Institute.

(Nymex), rising 20 percent to \$22 per barrel in 1996.<sup>75</sup> The higher prices led to a surge in exploration and development activity as indicated by the international and U.S. rig count increases from 783 and 745 to 810 and 851, respectively, in 1996.<sup>76</sup> This increase in drilling activity, however, did not result in significant new OCTG capacity additions, but generally in higher capacity utilization, modernization, and relocation of existing facilities to those regions

<sup>75</sup>Bob Beck and Laura Bell, "Higher Prices Spark 1996 Profit Rise," *Oil & Gas Journal*, Apr. 14, 1997, p. 34.

<sup>76</sup>World Wide Web, retrieved June 1, 1997, Baker Hughes Rig Count BH, <http://198.64.51.10/BH-net/rigshome.htm>.

with greater demand potential, and in further consolidation. In the U.S., the combination of rising oil prices and increased exploration and development activity along with deeper wells resulted in stronger OCTG consumption. Total shipments (domestic plus imports) for the year rose 18 percent to 2 million metric tons, matching the post-1985 high of 2 million metric tons in 1988.

Significant events in the OCTG industry in the 1995-96 period include: In June 1995, Energy Ventures, Inc., the parent company of Grant TFW,<sup>77</sup> acquired Prideco, Inc., a producer of casing, drill pipe, drill collars and heavyweight drill pipe, to complement its existing tubular products line, which included casing and drill pipe. Prior to the acquisition, Prideco, Inc. was the second-largest producer of drill pipe in the Western Hemisphere and one of the two largest producers of drill collars and heavy weight drill pipe in the world.<sup>78</sup>

In December 1995, Bohai NKK Drillpipe Co., Ltd., a joint venture between NKK-led Japanese investors and two state-operated Chinese companies was established in China. Bohai's line of business includes the manufacture and sale of seamless drill pipes used in oil drilling, processing and friction welding tool joints, and the export of such products. Equipment for Bohai's manufacturing facilities was transferred from NKK's shut-down Keihin Works in Japan. Commercial operations at Bohai began in February 1997.<sup>79</sup>

In early 1996, Argentina's Techint-Siderca and Italy's Dalmine merged, created a company that accounted for an estimated 9 percent of world production and 25 percent of international trade of seamless steel pipes. Siderca already had controlling interest of Mexico's TAMSA,<sup>80</sup> another seamless steel pipe producer. The merger brought together Dalmine's strength in the line pipe market and Siderca's in OCTG. The three companies combined have an estimated production capacity of 2 million tons per year.<sup>81</sup>

In the United States, the mills producing OCTG operated at capacity in 1996.<sup>82</sup> Despite the strength in demand, there was no reported shortage of OCTG because of expanded distributor inventories. Worldwide, however, drill pipe was reportedly in short supply as tool joint processors were operating at capacity.<sup>83</sup>

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<sup>77</sup>At the time of the acquisition, Grant TFW was one of three drill pipe producer in the United States.

<sup>78</sup>Energy Ventures, Inc., 10-Q Report, Nov. 14, 1995, p. 15.

<sup>79</sup>World Wide Web, retrieved June 1, 1997, NKK Corporation, <http://www.nkk.co.jp>.

<sup>80</sup>TAMSA is an OCTG specialist.

<sup>81</sup>Milton Nurse, "Seamless Changes Transform the European Scene," *Metal Bulletin Monthly*, Apr. 1996, pp. 12-13.

<sup>82</sup>*Preston Pipe & Tube Report*, vol. 15, No. 4, Apr. 1997.

<sup>83</sup>*Ibid.*

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## CHAPTER 5

# Agricultural Products

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The United States continued to post a sizeable surplus in the agricultural products sector in 1996, although it declined by \$105 million (less than 1 percent) to \$27.5 billion in 1996 (table 5-1). Agricultural products routinely register the largest trade surplus among major industrial/commodity sectors. Agricultural product trade (imports and exports) increased by \$7.3 billion (8 percent) to \$110.6 billion in 1996 as both U.S. exports and U.S. imports increased. Higher prices for food and feed grains, and oilseeds contributed to the increase in the trade value. Traditionally, as was the case in 1996, the United States runs large trade surpluses in grains and oilseeds,<sup>1</sup> tobacco, livestock products, and other agriculture products;<sup>2</sup> and large deficits in sugar and tropical products, fish, and alcoholic beverages.

U.S. exports increased by \$3.6 billion (6 percent) to \$69.0 billion in 1996 (table 5-2). Grains and oilseeds accounted for most of the change in exports, increasing by \$3.8 billion because of a good U.S. crop, a booming world grain market, and higher prices. Exports of livestock products also increased because of higher shipments of pork to Japan and chicken to Russia.

U.S. imports of agricultural products increased by \$3.7 billion (10 percent) to \$41.5 billion in 1996 (table 5-3). Except for fish and livestock, all major agricultural categories posted a growth in imports in 1996. U.S. imports of alcoholic beverages, grains and oilseeds, fruits, and sugar and tropical products increased by over \$1.4 billion in 1996.

Trade statistics for all commodity/industry groups in the agricultural products sector are presented in table 5-5 at the end of this chapter.

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<sup>1</sup>Grains and oilseeds consist of five industry/commodity groupings--animal feeds, cereals, milled grains, oilseeds, and animal or vegetable fats and oils.

<sup>2</sup>Largely contributing to the surplus in "other agriculture" are U.S. exports of cotton, edible preparations, and edible nuts.

Table 5-1

**Agricultural products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>**

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Japan	14,619	14,830	211	1.4
Canada	6,228	6,565	337	5.4
Mexico	3,622	5,559	1,936	53.4
Korea	4,077	4,186	109	2.7
Taiwan	2,746	3,132	385	14.0
Netherlands	2,276	2,155	-121	-5.3
China	2,716	2,181	-535	-19.7
Italy	780	865	85	10.9
Thailand	666	645	-20	-3.1
Germany	1,346	1,557	211	15.7
All Other	26,355	27,371	1,017	3.9
Total	65,431	69,046	3,615	5.5
EU-15	10,797	10,953	157	1.5
OPEC	3,081	2,822	-259	-8.4
Latin America	8,576	10,848	2,272	26.5
CBERA	2,284	2,519	235	10.3
Asian Pacific Rim	29,790	30,116	327	1.1
ASEAN	3,301	3,491	190	5.7
Central and Eastern Europe	316	458	142	44.9
U.S. imports for consumption:				
Japan	390	376	-15	-3.7
Canada	7,212	8,466	1,254	17.4
Mexico	4,436	4,392	-43	-1.0
Korea	181	184	3	1.4
Taiwan	358	347	-11	-3.1
Netherlands	1,115	1,174	59	5.3
China	782	877	95	12.1
Italy	1,298	1,555	257	19.8
Thailand	1,794	1,739	-55	-3.1
Germany	727	787	60	8.3
All Other	19,513	21,629	2,117	10.8
Total	37,807	41,526	3,720	9.8
EU-15	7,410	8,128	719	9.7
OPEC	799	1,106	306	38.3
Latin America	12,841	13,748	906	7.1
CBERA	2,841	3,216	375	13.2
Asian Pacific Rim	7,284	7,519	235	3.2
ASEAN	3,559	3,760	201	5.6
Central and Eastern Europe	230	249	19	8.1
U.S. merchandise trade balance:				
Japan	14,229	14,454	225	1.6
Canada	-984	-1,901	-916	-93.1
Mexico	-813	1,166	1,980	(?)
Korea	3,896	4,002	106	2.7
Taiwan	2,388	2,785	396	16.6
Netherlands	1,161	982	-180	-15.5
China	1,934	1,304	-630	-32.6
Italy	-518	-690	-172	-33.2
Thailand	-1,129	-1,094	35	3.1
Germany	619	770	151	24.4
All Other	6,842	5,742	-1,100	-16.1
Total	27,625	27,520	-105	-0.4
EU-15	3,387	2,825	-562	-16.6
OPEC	2,282	1,716	-566	-24.8
Latin America	-4,265	-2,899	1,366	32.0
CBERA	-557	-697	-140	-25.2
Asian Pacific Rim	22,506	22,598	92	0.4
ASEAN	-258	-270	-11	-4.4
Central and Eastern Europe	86	209	123	143.7

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Table 5-2**  
**Changes in U.S. exports of agricultural products, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Grains and oilseeds .....	27,177	31,015	3,838	14
Livestock products .....	10,658	11,044	386	4
Alcoholic beverages .....	1,039	1,074	35	3
Tobacco products .....	6,622	6,629	7	( <sup>1</sup> )
Other agricultural products <sup>2</sup> .....	9,510	9,166	-344	-4
Fish .....	3,215	2,985	-230	-7
Vegetables, fresh and processed .....	2,441	2,402	-39	-2
Sugar and tropical products .....	1,534	1,513	-21	-1
Fruits, fresh and processed .....	3,236	3,219	-17	-1
<b>Total .....</b>	<b>65,431</b>	<b>69,046</b>	<b>3,615</b>	<b>6</b>

<sup>1</sup>Less than 0.5 percent.

<sup>2</sup>Recorded imports consisted primarily of cotton, edible preparations, and edible nuts.

Note.--Calculations based on unrounded data.

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

**Table 5-3**  
**Changes in U.S. imports of agricultural products, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Other agricultural products <sup>1</sup> .....	3,899	4,628	729	19
Alcoholic beverages .....	3,939	4,579	640	16
Grains and oilseeds .....	2,901	3,504	603	21
Fruits, fresh and processed .....	2,093	2,671	578	28
Sugar and tropical products .....	8,093	8,644	551	7
Tobacco products .....	718	1,168	450	63
Vegetables, fresh and processed .....	2,568	2,821	253	10
Fish .....	6,747	6,664	-83	-1
Livestock products .....	6,848	6,846	-2	( <sup>2</sup> )
<b>Total .....</b>	<b>37,807</b>	<b>41,526</b>	<b>3,720</b>	<b>10</b>

<sup>1</sup>Recorded imports consisted primarily of edible preparations.

<sup>2</sup>Less than 0.5 percent.

Note.--Calculations based on unrounded data.

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

## U.S. BILATERAL TRADE

Increased exports of corn and soybeans to Mexico contributed to the largest trade shift of any single country in the agricultural products sector. A drought in Mexico led to the increase. An \$813 million deficit with this country in 1995 became a \$1.2 billion surplus in 1996, primarily because exports increased by \$1.9 billion (53 percent) to \$5.6 billion in 1996 (the change in imports was insignificant). Other major U.S. exports to Mexico included wheat, sorghum, and meat. The United States primarily imports tomatoes, coffee, shrimp, other vegetables, and beer from Mexico.

An increase in imports of grains and oilseeds from Canada because of competitive pricing accounted for most of the \$916 million (93 percent) increase in the trade deficit with this country. There was also a modest increase in exports that partially offset the effect of the increase in imports. Canada is the United States' second-largest agricultural trading partner, just behind Japan. The United States primarily imports livestock, meat, fish, spirits, and grains from Canada. Canada primarily imports grains, oilseeds, edible preparations, fruits, and vegetables from the United States.

Substantial export and import shifts with Latin American countries occurred in 1996. Exports increased by \$2.3 billion (27 percent) to \$10.8 billion, and were primarily corn and wheat. Imports increased by a smaller amount, \$906 million (7 percent) to \$13.7 billion. The United States posted a trade deficit with Latin American countries amounting to \$2.9 billion in 1996. U.S. imports from these countries are primarily coffee, bananas, shrimp, cane sugar, orange juice, and cut flowers. Significant U.S. exports to Latin American countries include wheat, corn, and soybeans.

Nearly one-half of all U.S. agricultural product exports in 1996 was to Asia. Exports to China changed significantly, falling by \$535 million (20 percent) to \$2.1 billion, because favorable Chinese harvests caused U.S. exports of yellow dent corn to decline \$615 million (98 percent) to \$14 million. In addition, U.S. exports of crude soybean oil to China declined by \$200 million (67 percent) to \$99 million because high U.S. prices made this product uncompetitive in world markets. Japan, the largest trading partner and export market, purchased \$14.8 billion in exports in 1996, an increase of \$211 million (1 percent). Traditionally, the United States exports corn, meat, cigarettes, soybeans, wheat, cotton, citrus, and fish to Japan. The leading U.S. imports from Japan consisted of frozen fish and mollusks. Thailand was the third largest supplier of agricultural products to the United States, behind Canada and Mexico. Imports from Thailand consisted primarily of frozen shrimp. The U.S. trade deficit with Thailand remained at \$1.1 billion during both 1995 and 1996.

Korea and Taiwan were also significant Asian trading partners for agricultural products. Major U.S. exports to Korea were corn, hides and skins, soybeans, wheat, cotton, and frozen meat. Leading U.S. exports to Taiwan were corn, soybeans, wheat, and hides and skins. The United States posted agricultural trade surpluses with Korea (\$4.0 billion) and Taiwan (\$2.8 billion) in 1996, slight increases as compared with 1995.

Imports from the EU increased by \$719 million (10 percent) to \$8.1 billion chiefly as a result of price increases. The leading U.S. imports were spirits, wine, and beer from the EU. Exports to the EU did not change appreciably. The United States mainly exported soybeans, tobacco, animal feeds, and edible nuts.



The leading U.S. imports and exports of agricultural products for major trading partner countries are presented in table 5-4.

**Table 5-4**  
**Agricultural products: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Japan . . . . . <sup>(1)</sup>		Corn Cigars, cigarettes, etc. Soybeans Frozen fish
Canada . . . . .	Live bovine animals Fresh or chilled bovine meat Fresh, chilled or frozen swine meat Ethyl alcohol, spirit beverages	Preparations used in animal feeding Fresh or chilled bovine meat Bread, pastry, cakes, etc. Miscellaneous food preparations
Mexico . . . . .	Fresh or chilled tomatoes Coffee Fresh, chilled, salted, or cooked crustaceans Miscellaneous fresh or chilled vegetables	Corn Soybeans Wheat and meslin Grain sorghum
Korea . . . . .	Prepared or preserved crustaceans, molluscs, or other aquatic invertebrates Pasta, prepared or not Fresh, chilled, or salted molluscs or other aquatic invertebrates and flours, meals, etc. of the foregoing Frozen fish	Corn Fresh or chilled bovine meat Soybeans Wheat and meslin
Taiwan . . . . .	Frozen fish Bird skins and other feathered parts and down Fresh, chilled, or salted molluscs or other aquatic invertebrates and flours, meals, etc. of the foregoing	Corn Soybeans Wheat and meslin Fresh or chilled bovine meat
Netherlands . . . . .	Beer made from malt Bulbs, tubers, etc., chicory plants and roots Prepared cut flowers and buds for bouquets Unsweetened cocoa powder	Soybeans Starch manufacturing residues, waste/residues from sugar manufacturing, and brewing/distilling dregs Unmanufactured tobacco and refuse Miscellaneous nuts

<sup>1</sup>Not a significant import supplier.

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

## COMMODITY ANALYSIS

### Cereals (Food and Feed Grains)<sup>3</sup>

Higher prices for food and feed grains increased the U.S. trade surplus by \$2.0 billion (14 percent) to \$16.0 billion in 1996.<sup>4</sup> Prices increased largely because world production declined by 3 percent from crop year 1994/95 to crop year 1995/96, while consumption dropped only 1 percent, causing carry-over stocks to decline. However, in 1996/97, world production increased to 1.8 billion metric tons, from 1.7 billion metric tons the previous year. During the same period, U.S. production rose from 275 million metric tons (MMT) to 329 MMT, although this level was well below the 1994/95 U.S. level of 355 MMT.

Carry-over stocks are an important part of the world food and feed grain market.<sup>5</sup> They affect not only prices and price stability, but also the ability of regions to overcome the effects of poor crop years. Domestic and international carry-over stocks are part of total supply and thus directly affect price expectations, and in turn planting intentions and therefore future supplies. Traditionally, the United States has maintained an important share of the world grain carry-over stocks. However, U.S. food and feed grain stocks, as a percentage of world stocks, have declined from 20 percent in 1994/95 to an estimated 13 percent in 1996/97.<sup>6</sup> In addition, total stocks have declined, nationally and internationally, due to certain poor regional crop yields and increasing demand.

The United States is the most important global producer of food and feed grains, accounting for about 18 percent of world output in 1996. However, like its share of total world stocks, the U.S. share of world output fell slightly, from about 20 percent in 1994/95 to 18 percent in 1996/97 because of good harvests by the major world producers. The United States produces about one-fifth of the combined world supply of food and feed grains, including close to one-third of world coarse grains alone. The United States has several competitive advantages in the production of food and feed grains, including the widespread availability of arable land with the right climate and moisture during the growing season; and a well developed financial system (particularly banks and futures markets), seed development industry, distribution infrastructure, and demand sector (especially the milling, baking, and pasta industries). The United States also accounts for a substantial part of the world food and feed grains trade; approximately 40 percent of total world food grains trade, about 30 percent of the world wheat trade, and about 60 percent of the world feed grains trade.

The 1996/97 grain market has been called “unusual” by the industry, because of heavy export sales, low carryover stocks, and prices that were extremely volatile and historically high.

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<sup>3</sup>Food grains include rice and wheat; feed grains (also called coarse grains) include barley, corn, grain sorghum, oats, and rye.

<sup>4</sup>Food and feed grains are the largest component of U.S. agricultural trade. In 1996, it had the second-largest trade surplus of any commodity/industry group and the third-largest trade position improvement.

<sup>5</sup>Carry-over stocks are the amount of inventory between the end of one crop year and the beginning of the next crop year. Consumers rely on these stocks in between crop years.

<sup>6</sup>Estimates and projections were made by the U.S. Department of Agriculture.

Further, wet spring weather caused delays in planting throughout much of the Midwest.<sup>7</sup> However, slow crop development was the primary impetus to higher feed grain crop prices (especially corn, the most important feed grain), because large parts of the Eastern Corn Belt continued to experience poor crop-growing conditions. Some Canadian crops also experienced difficulties,<sup>8</sup> thus further exacerbating the tight supply situation in the North American grain market.

The only nation with which the United States maintains a food and feed grains trade deficit is Canada. In 1996, the deficit rose \$46 million (13 percent) to \$398 million; Canada is a major exporter of food and feed grains. The United States imports mostly hard wheats from Canada.

### **U.S. imports**

During 1995-96, U.S. imports of food and feed grains continued to be small relative to production and exports. Nevertheless, imports increased \$106 million (16 percent) to \$791 million in 1996. Canada accounted for almost 79 percent of all U.S. food and feed grain imports (primarily durum and hard spring wheat), with the rest originating primarily in Asia (Asian Pacific Rim nations). Asian countries supply mainly basmati and jasmine rice.

### **U.S. exports**

Primarily because of higher unit prices, the total value of U.S. exports of food and feed grains in 1996 rose \$2.1 billion (14 percent) to a new record of \$16.8 billion. In 1996, the top U.S. food and feed grains export markets, accounting for 55 percent of all U.S. food and feed grain exports, were Japan, Mexico, Korea, Taiwan, and Egypt. Exports to all these countries increased. Exports to Mexico grew by \$940 million (108 percent) to \$1.8 billion; Japan, by \$771 million (28 percent) to \$3.5 billion; Taiwan, by \$265 million (28 percent) to \$1.2 billion; Korea, by \$237 million (17 percent) to \$1.6 billion; and Egypt, by \$54 million (5 percent) to \$1.1 billion.

Exports to NAFTA partners, especially Mexico, accounted for a significant portion of export growth, increasing \$975 million (92 percent) to \$2.0 billion. The leading cause of increased exports to Mexico was a drought that resulted in lower domestic production and higher import demand. U.S. exports to Mexico were aided by an export credit guarantee program; worldwide sales under this program were \$3.0 billion, up 26 percent from the previous year. Importers in Mexico accounted for 46 percent of program sales in both years. Exports rose to the following regions: Latin America, especially the nations of MERCOSUR, by \$101 million (112 percent) to \$192 million; ATPA countries by \$132 million (28 percent) to \$602 million; and the Asian Pacific Rim nations, especially Korea and Taiwan, by \$470 million (7 percent) to \$7.6 billion.

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<sup>7</sup>*Feedstuffs*, "The Andersons Reports Effects of Grain Situation," The Miller Publishing Company (Sept. 23, 1996; <http://www.feedstuffs.com/subscrip/b10r6838.htm>).

<sup>8</sup>*Feedstuffs*, "Lagging Crops, Poor Weather Push Corn, Soybean Prices Higher Again," by Charles House, The Miller Publishing Company (Aug. 12, 1996; <http://www.feedstuffs.com/subscrip/g01c6834.htm>).

Four key wheat exporters, Argentina, Australia, the EU, and Canada had record wheat crops in 1996/97. Thus, sharp competition and modest growth in import demand may dampen U.S. food and feed grains exports in the coming year.<sup>9</sup>

China is likely to be a key market for future U.S. food and feed grain exports. Since 1993, China has shifted from net exports of 7.5 MMT of grains to net imports of 15.5 MMT and, according to the U.S. Department of Agriculture (USDA), Chinese self-sufficiency in grains is likely to decline from 95 percent to 91 percent in the next decade. China's Academy of Science has estimated that grain imports could reach 45 MMT per year. According to USDA estimates, China will likely be a net importer of 32 MMT of grains annually, by 2005, as demand outpaces domestic supplies.<sup>10</sup>

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## **Oilseeds**

Oilseeds, which include principally soybeans, sunflowerseed, cottonseed, canola, and flaxseed, are among the largest of the agricultural export products. In 1996, the U.S. trade surplus in oilseeds gained \$1.9 billion (35 percent), to \$7.4 billion, the largest trade surplus ever recorded in this commodity group.<sup>11</sup> Higher world prices supported by the booming world grain market and robust demand for animal feed abroad contributed to increases in both the quantity and value of U.S. oilseed exports. Oilseeds are used to complement feed grain in animal feed rations; oilseed prices tend to move in tandem with grain prices.

### **U.S. imports**

U.S. imports of oilseeds have been low compared with U.S. production, exports, and consumption; imports supplied less than 3 percent of apparent U.S. consumption of oilseeds in 1996. U.S. imports (most of which consisted of canola and flaxseed) rose \$58 million (26 percent) to \$279 million in 1996. Canada supplied about two-thirds of U.S. oilseed imports in that year, and has benefited from declining U.S. production of flaxseed, and a strong U.S. demand for canola (rapeseed).

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<sup>9</sup>Peter A. Riley, U.S. Department of Agriculture, Economic Research Service, "Grains and Oilseeds Outlook for 1997," presented at the USDA 1997 Agricultural Outlook Forum (Feb, 25, 1997).

<sup>10</sup>*Feedstuffs*, "Chinese Demand for Grain Imports to Grow in Years Ahead, USDA says," The Miller Publishing Company (Dec. 31, 1996; <http://www.feedstuffs.com/subscribe/g02c6854.htm>). The USDA report is entitled: "The Future of China's Grain Market."

<sup>11</sup>This group had the fourth-largest trade position improvement among all industry/commodity groups in 1996.

## **U.S. exports**

In crop year 1995/96,<sup>12</sup> U.S. farmers harvested a sizable 2.2 billion-bushel soybean crop which, although below last year's record crop, still boosted U.S. oilseed exports in 1996. U.S. exports of oilseeds rose by \$2.0 billion (35 percent) to a record \$7.6 billion, as compared with exports in 1995. The higher volume of U.S. oilseed exports in 1996 benefited from higher world prices, supported by the booming world grain market. The volume of U.S. exports of soybeans rose by 3 million metric tons (MMT) (14 percent) to 26 MMT in 1996, and the export price (unit value) of soybeans rose by \$55 per metric ton (23 percent) to \$286 per metric ton (\$7.84 per bushel) during the year. Soybeans accounted for 97 percent of total exports of oilseeds in 1996. Other factors supporting soybean prices included robust demand for hog and poultry feed as well as tight world grain supplies.

About three-quarters of the \$7.6 billion of total of U.S. exports of oilseeds in 1996 were shipped to five markets: the EU, Japan, Mexico, Taiwan, and Korea, all of which increased their purchases of U.S. oilseeds in that year. The leading U.S. market, the EU, purchased about 32 percent of all U.S. oilseed exports in 1996, although the volume of U.S. soybean exports to the EU countries remained flat in 1996 at about 8.3 MMT (as compared to 8.6 MMT in 1995). However, the higher price for soybeans boosted the value of these exports to the EU by \$298 million (14 percent) to \$2.3 billion. U.S. exports of oilseeds to Mexico rose by \$375 million (74 percent) as Mexican demand for animal feed and vegetable oil recovered in 1996. Mexico also experienced crop failures that reduced domestic supplies of oilseeds in that year.

China became the sixth-leading market for U.S. soybeans in 1996, accounting for \$416 million in exports. The higher sales of U.S. soybeans to China in 1996 were offset by a \$281 million drop in U.S. exports of soybean oil and other fats and oils to China (see section on animal or vegetable fats and oils).

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## **Animal or Vegetable Fats and Oils**

A sharp decline in U.S. exports in 1996 contributed to a reduction of \$918 million (73 percent) in the U.S. trade surplus in animal and vegetable oils, fats, and greases ("fats and oils") to \$346 million, resulting in the lowest trade surplus in more than two decades. Record high export levels in 1995 shrank in 1996 by \$702 million (28 percent) to \$1.8 billion, as U.S. production of vegetable oil declined. U.S. prices became noncompetitive in world markets as U.S. output dropped and foreign output rose in 1996. The volume of U.S. fats and oils sold abroad fell by 27 percent to 3 MMT in 1996.

## **U.S. imports**

U.S. imports of fats and oils (about 70 percent of which are olive, coconut, and canola oils) increased by \$215 million (17 percent) to \$1.5 billion in 1996, as import unit values rose

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<sup>12</sup>The crop year begins September 1.

by 9 percent; the volume of imports rose by 7 percent to 1.5 MMT. Increased U.S. imports of olive oil accounted for about half the increase in value in 1996. Imports supply virtually all U.S. demand for olive oil which tends to be rather price inelastic. Olive oil prices have been rising sharply in world markets over the past several years, associated with lower output (brought on by a severe drought) in the leading EU producing countries. The unit value of U.S. imported olive oil rose in 1996 by 46 percent to \$4.16 per kilogram.

Canola oil (and other types of rapeseed oil) imports, mainly from Canada, rose by 13 percent in value and 19 percent in volume. The U.S. demand for canola oil for use as a salad and cooking oil, and for inedible rapeseed oil for industrial use, has been rising for a number of years.

More than three-quarters of the \$1.5 billion of U.S. imports of fats and oils in 1996 came from four suppliers: Canada (\$399 million or 27 percent), Italy (\$345 million or 23 percent), the Philippines (\$279 million or 19 percent), and Malaysia (\$115 million or 8 percent). Imports of canola and rapeseed oil from Canada have increased over the past 5 years, with the value of 1996 U.S. imports rising by \$30 million (12 percent) over 1995. Italy, the leading exporter of olive oil to the United States, benefitted from higher olive oil prices as U.S. imports from Italy of fats and oils rose by \$94 million (37 percent) in 1996. U.S. imports of fats and oils from the Philippines, the world's leading exporter of coconut oil, declined \$19 million (6 percent) in value in 1996.

### U.S. exports

U.S. exports of fats and oils declined by \$702 million (28 percent) to \$1.8 billion, as domestic output fell in 1996 and domestic prices exceeded those of competitive exporters. There was a 4-percent drop in U.S. production of vegetable oil in 1995/96 to 8.2 million metric tons, reducing domestic supplies available for export. Meanwhile, domestic vegetable oil prices, which had been below prices of competitive foreign vegetable oil during 1995, were mostly higher than foreign vegetable oil prices in 1996 for the reasons explained below.<sup>13</sup>

World markets for fats and oils were unfavorable to U.S. exporters in 1996 as world production of vegetable oil rose by 4 percent, reducing foreign import needs. This was reflected in a 6-percent drop in world imports of leading vegetable oils in crop year 1995/96. Most of this drop occurred at the expense of U.S. exports of vegetable oil. U.S. exports of fats and oils were principally composed in 1996 of tallow (27 percent), soybean oil (18 percent), corn oil (15 percent), and sunflowerseed oil (12 percent). U.S. soybean oil exports fell by half in 1996 to \$323 million.

U.S. exports of fats and oils dropped to most of the leading markets in 1996, with the largest decline occurring in exports to China. Reversing its 1995 role as a leading market for U.S. fats and oils, Chinese purchases of U.S. fats and oils fell by \$281 million (71 percent) to \$114 million in 1996. Chinese importers turned to third-country exporters, such as Malaysia,

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<sup>13</sup>For example, U.S. soybean oil (crude, f.o.b. Decatur) sold in crop year 1995/96 about \$23 per metric ton above the price of Malaysian palm oil (\$523 per ton), whereas in the prior crop year 1994/95 U.S. soybean oil had sold about \$43 per ton below the price of the Malaysian product.

with lower priced vegetable oil supplies. U.S. exports to Canada, the third-leading U.S. market, did register a \$51 million (42-percent) gain, most of which consisted of soybean oil.

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### **Raw Cotton**

Lower U.S. production, combined with low initial stocks contributed to decreased U.S. exports in 1996, causing the trade surplus in cotton to contract by \$1.2 billion (34 percent) to \$2.4 billion in 1996.<sup>14</sup> In addition, as a result of the converting of section 22 import quotas to tariff-rate quotas on Jan. 1, 1995, cotton was permitted to enter the United States in significant quantities for the first time in many years. Notwithstanding these changes and a significant decrease in U.S. exports, the United States maintained its longstanding trade surplus in this product. The United States is the largest cotton producer in the world, accounting for approximately 22 percent of world cotton production,<sup>15</sup> and holds about 11 percent of world cotton stocks. The other major world producers of cotton are China, India, and Pakistan.

The size of carry-over stocks and expected production are key variables that drove cotton prices higher in 1995/96 and then to lower levels in 1996/97. Although initial stocks for crop year 1995/96 were low (2.6 million bales),<sup>16</sup> initial stocks for the next year were over 61 percent larger (4.2 million bales). During crop years 1995/96 and 1996/97, U.S. production was lower than anticipated, although total supply (production, stocks, and imports) was unchanged. Foreign cotton crop production in 1995/96 reached a 4-year high, increasing world exportable supplies and moving world cotton prices lower. In 1995/96, higher domestic prices and lower supplies led to a decline in U.S. exports, and encouraged cotton imports.

The higher U.S. prices were caused in part by low yields; poor weather and severe insect pressure in 1995/96<sup>17</sup> caused a 3.2 million drop in cotton acreage harvested.<sup>18</sup> Total U.S. supply rose from 437,000 bales in 1995/96 to 623,000 bales in 1996/97. Essentially unchanged mill demand combined with lower domestic production caused prices to increase, which discouraged exports and encouraged imports in 1995/96. Despite the increased 1996/97 supply, unchanged mill demand, and lower U.S. prices more in line with world prices, U.S. exports remained low and imports high in 1996/97. This was a result of continued high foreign supplies, slackened world demand in China and other countries, and heightened world price competition with U.S. cotton.

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<sup>14</sup>This discussion deals solely with raw cotton, which is not combed or carded.

<sup>15</sup>U.S. cotton is primarily U.S. Upland and U.S. Pima cotton. Pima is an extra long staple (ELS) type of cotton. Staple refers to fiber length.

<sup>16</sup>A standard bale weighs 480 pounds, or about 218 kilograms.

<sup>17</sup>Dr. M. Lange, National Cotton Council, Director of Economic Services, as quoted in "National Cotton Council Forecasts Increased U.S. Cotton Production, Mill Use, and Exports," press release, Feb. 12, 1996.

<sup>18</sup>Average upland cotton yields were 533 pounds per acre in 1995/96 and a noticeably higher 679 pounds per acre in 1996/97. USDA-ERS, Cotton and Wool Outlook, CWS-0796, Aug. 13, 1996. The 1996/97 value is the August estimate.

## **U.S. imports**

Imports of cotton increased \$273 million (more than 2,000 percent) to \$283 million. Low beginning stocks, and lower than expected production during the 1995/96 crop year, resulted in low supplies of U.S. cotton in the latter part of the crop year. As a result, increasing amounts of imported cotton were used by domestic mills to keep operations running during the transition between crops. Total raw cotton imports during 1996 were approximately 800,000 bales. About 83 percent (667,608 bales) entered during June-September. Of total imports, about 80 percent came from Uzbekistan and Argentina.

The increase in U.S. cotton imports is mainly the result of two 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 the Uruguay Round; and (2) legislation enacted in 1996 that allowed for the importation of additional cotton at in-quota lower tariff rates under the tariff-rate quota system. The Uruguay Round 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 (TRQ) 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 is to provide U.S. textile mills with access to raw cotton at prices equivalent to those paid by their foreign competitors. Under the 1996 Act (as well as under prior legislation), USDA is authorized to expand the in-quota TRQ level when the adjusted U.S. cotton price exceeds the adjusted world price of cotton by more than 1.25 cents per pound for 10 consecutive weeks. USDA expanded the in-quota TRQ level throughout 1996 and through the first 4 months of 1997. However, on May 8, 1997, USDA announced that U.S. price quotations had declined to the point that they have become competitive in world cotton trade and reduced the in-quota levels to their normal levels.<sup>19</sup>

## **U.S. exports**

During 1995/96, U.S. exports of cotton declined by \$966 million (26 percent) to \$2.7 billion because U.S. prices were higher than world prices. Although U.S. exports have risen from \$1 billion in 1992, this was the first decline in 4 years. High domestic cotton prices, and lower supplies coupled with increased foreign production, contributed to the decline in exports.

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<sup>19</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.



Table 5-5

Agricultural products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
AG001	Certain miscellaneous live animals, meat, offals, and animal products:				
	Exports .....	1,783	1,895	111	6.2
	Imports .....	1,071	1,146	76	7.1
	Trade balance .....	713	748	36	5.0
AG002	Cattle and beef:				
	Exports .....	2,648	2,447	-200	-7.6
	Imports .....	2,627	2,248	-378	-14.4
	Trade balance .....	21	199	178	839.6
AG003	Swine and pork:				
	Exports .....	748	918	171	22.9
	Imports .....	566	742	176	31.0
	Trade balance .....	181	176	-5	-2.9
AG004	Sheep and meat of sheep:				
	Exports .....	19	21	2	8.0
	Imports .....	85	119	34	39.6
	Trade balance .....	-66	-98	-32	-48.9
AG005	Poultry:				
	Exports .....	2,149	2,589	440	20.5
	Imports .....	31	35	4	13.0
	Trade balance .....	2,118	2,554	436	20.6
AG006	Fresh or chilled fish:				
	Exports .....	244	263	19	7.6
	Imports .....	808	885	77	9.5
	Trade balance .....	-564	-623	-58	-10.3
AG007	Frozen fish:				
	Exports .....	1,754	1,557	-197	-11.2
	Imports .....	1,384	1,344	-41	-2.9
	Trade balance .....	370	213	-157	-42.4
AG008	Canned fish and other fish:				
	Exports .....	429	426	-3	-0.7
	Imports .....	671	694	24	3.5
	Trade balance .....	-242	-268	-26	-10.9
AG009	Shellfish:				
	Exports .....	788	739	-49	-6.3
	Imports .....	3,884	3,741	-142	-3.7
	Trade balance .....	-3,096	-3,003	93	3.0
AG010	Dairy produce:				
	Exports .....	636	506	-130	-20.5
	Imports .....	1,052	1,198	147	14.0
	Trade balance .....	-416	-693	-277	-66.6
AG011	Eggs:				
	Exports .....	164	207	43	26.1
	Imports .....	20	24	3	16.5
	Trade balance .....	144	183	39	27.4
AG012	Sugar and other sweeteners:				
	Exports .....	354	381	27	7.6
	Imports .....	885	1,407	523	59.1
	Trade balance .....	-531	-1,027	-496	-93.4
AG013	Animal feeds:				
	Exports .....	3,822	4,375	553	14.5
	Imports .....	580	779	199	34.4
	Trade balance .....	3,242	3,595	354	10.9
AG014	Live plants:				
	Exports .....	96	92	-4	-3.9
	Imports .....	283	312	29	10.3
	Trade balance .....	-187	-220	-33	-17.6
AG015	Seeds:				
	Exports .....	610	648	38	6.3
	Imports .....	236	298	62	26.3
	Trade balance .....	374	350	-24	-6.3

See footnotes at end of table.

Table 5-5--Continued

Agricultural products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
AG016	Cut flowers:				
	Exports .....	40	48	7	17.8
	Imports .....	512	573	61	11.9
	Trade balance .....	-471	-525	-54	-11.4
AG017	Miscellaneous vegetable substances:				
	Exports .....	458	449	-9	-2.0
	Imports .....	762	792	30	3.9
	Trade balance .....	-305	-344	-39	-12.9
AG018	Fresh, chilled, or frozen vegetables:				
	Exports .....	1,148	1,070	-78	-6.8
	Imports .....	1,586	1,840	254	16.0
	Trade balance .....	-438	-770	-331	-75.7
AG019	Prepared or preserved vegetables, mushrooms, and olives:				
	Exports .....	1,293	1,332	39	3.0
	Imports .....	982	981	-1	-0.1
	Trade balance .....	311	351	40	12.8
AG020	Edible nuts:				
	Exports .....	1,462	1,666	204	13.9
	Imports .....	509	570	61	12.6
	Trade balance .....	953	1,096	142	14.9
AG021	Tropical fruit:				
	Exports .....	76	79	3	4.2
	Imports .....	1,337	1,391	54	4.0
	Trade balance .....	-1,262	-1,312	-51	-4.0
AG022	Citrus fruit:				
	Exports .....	740	700	-39	-5.3
	Imports .....	132	177	45	34.0
	Trade balance .....	608	524	-84	-13.9
AG023	Deciduous fruit:				
	Exports .....	718	731	12	1.7
	Imports .....	181	197	16	9.0
	Trade balance .....	538	534	-4	-0.7
AG024	Other fresh fruit:				
	Exports .....	488	507	19	3.9
	Imports .....	615	744	129	20.9
	Trade balance .....	-127	-237	-110	-86.2
AG025	Dried fruit other than tropical:				
	Exports .....	382	388	7	1.7
	Imports .....	47	58	11	23.7
	Trade balance .....	334	330	-5	-1.4
AG026	Frozen fruit:				
	Exports .....	77	79	2	2.8
	Imports .....	68	82	14	20.0
	Trade balance .....	9	-3	-12	( <sup>3</sup> )
AG027	Prepared or preserved fruit:				
	Exports .....	179	173	-7	-3.7
	Imports .....	415	484	69	16.6
	Trade balance .....	-236	-311	-76	-32.1
AG028	Coffee and tea:				
	Exports .....	229	237	8	3.3
	Imports .....	3,427	2,958	-469	-13.7
	Trade balance .....	-3,198	-2,721	476	14.9
AG029	Spices:				
	Exports .....	46	55	9	18.9
	Imports .....	290	349	59	20.4
	Trade balance .....	-243	-294	-50	-20.7
AG030	Cereals:				
	Exports .....	14,674	16,751	2,077	14.2
	Imports .....	684	791	106	15.5
	Trade balance .....	13,990	15,961	1,971	14.1

See footnotes at end of table.

Table 5-5--Continued

Agricultural products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
AG031	Milled grains, malts, and starches:				
	Exports .....	491	425	-66	-13.5
	Imports .....	151	175	23	15.4
	Trade balance .....	340	250	-90	-26.4
AG032	Oilseeds:				
	Exports .....	5,661	7,638	1,977	34.9
	Imports .....	221	279	58	26.3
	Trade balance .....	5,439	7,358	1,919	35.3
AG033	Animal or vegetable fats and oils:				
	Exports .....	2,529	1,826	-702	-27.8
	Imports .....	1,265	1,480	215	17.0
	Trade balance .....	1,264	346	-918	-72.6
AG034	Edible preparations:				
	Exports .....	2,871	3,353	481	16.8
	Imports .....	1,746	1,943	197	11.3
	Trade balance .....	1,126	1,410	284	25.3
AG035	Cocoa, chocolate, and confectionery:				
	Exports .....	524	586	62	11.9
	Imports .....	1,478	1,806	328	22.2
	Trade balance .....	-954	-1,220	-266	-27.9
AG036	Fruit and vegetable juices:				
	Exports .....	652	642	-11	-1.6
	Imports .....	635	929	294	46.3
	Trade balance .....	18	-287	-305	( <sup>3</sup> )
AG037	Nonalcoholic beverages, excluding fruit and vegetable juices:				
	Exports .....	332	244	-88	-26.5
	Imports .....	353	430	76	21.6
	Trade balance .....	-22	-186	-164	-755.7
AG038	Malt beverages:				
	Exports .....	413	362	-50	-12.2
	Imports .....	1,151	1,301	150	13.1
	Trade balance .....	-738	-939	-201	-27.2
AG039	Wine and certain other fermented beverages:				
	Exports .....	236	320	84	35.6
	Imports .....	1,159	1,435	276	23.9
	Trade balance .....	-923	-1,115	-192	-20.9
AG040	Distilled spirits:				
	Exports .....	390	392	2	0.4
	Imports .....	1,629	1,843	214	13.1
	Trade balance .....	-1,239	-1,451	-212	-17.1
AG041	Unmanufactured tobacco:				
	Exports .....	1,400	1,390	-10	-0.7
	Imports .....	550	923	373	67.8
	Trade balance .....	850	468	-382	-45.0
AG042	Cigars and certain other manufactured tobacco:				
	Exports .....	452	503	51	11.3
	Imports .....	117	207	90	77.0
	Trade balance .....	334	295	-39	-11.7
AG043	Cigarettes:				
	Exports .....	4,770	4,736	-34	-0.7
	Imports .....	51	38	-14	-26.4
	Trade balance .....	4,719	4,698	-21	-0.4
AG044	Hides, skins, and leather:				
	Exports .....	2,319	2,216	-103	-4.4
	Imports .....	1,095	1,054	-41	-3.8
	Trade balance .....	1,224	1,162	-62	-5.0
AG045	Furskins:				
	Exports .....	157	224	67	42.3
	Imports .....	87	107	20	22.6
	Trade balance .....	70	117	47	66.8

See footnotes at end of table.

Table 5-5--Continued

Agricultural products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
AG062	Ethyl alcohol for nonbeverage purposes:				
	Exports .....	265	128	-137	-51.7
	Imports .....	164	160	-3	-2.0
	Trade balance .....	102	-32	-134	( <sup>3</sup> )
AG063	Wool and other animal hair:				
	Exports .....	35	20	-15	-43.6
	Imports .....	214	173	-41	-19.0
	Trade balance .....	-179	-154	26	14.2
AG064	Cotton, not carded or combed:				
	Exports .....	3,681	2,715	-966	-26.2
	Imports .....	10	283	273	2,618.0
	Trade balance .....	3,671	2,432	-1,238	-33.7

<sup>1</sup> Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.<sup>2</sup> This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.<sup>3</sup> Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data.

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

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## CHAPTER 6

### Forest Products

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The U.S. trade deficit in forest products expanded substantially in 1996, doubling from \$1.7 billion to \$3.4 billion (table 6-1). However, total forest product trade fell \$2.1 billion (4 percent) to \$54.5 billion in 1996, as both imports and exports declined. U.S. exports of forest products declined by \$2.0 billion (7 percent) to \$25.5 billion in 1996, largely due to a decrease in wood pulp and wastepaper exports. The \$2.2 billion (35 percent) drop in wood pulp and wastepaper exports to \$4.1 billion was mainly due to weaker prices for these products in 1996. Other decreases in forest product exports occurred in kraft linerboard, which fell \$132 million (8 percent) to \$1.5 billion; and logs, which declined \$153 million (5 percent) to \$2.9 billion. U.S. exports of lumber also decreased slightly, by \$17 million (less than 1 percent) to \$2.4 billion in 1996 (table 6-2). Other papers, which includes industrial, specialty, and other converted papers, was the largest export category, constituting 26 percent of the total in 1996, a decrease of 2 percent from 1995. Exports of other papers experienced the largest growth in 1996, increasing by \$386 million (6 percent) to \$6.5 billion. Pulp and wastepaper share of the total also decreased, to 16 percent of the total, from 23 percent in 1995.

The value of U.S. imports fell by \$197 million (or less than 1 percent) to \$29.0 billion. Imports of wood pulp and wastepaper<sup>1</sup> posted the sharpest decline, \$1.2 billion (31 percent) to \$2.7 billion, largely due to declining commodity prices from the high level recorded in 1995 (table 6-3). Imports of printing/writing papers and newsprint also fell in 1996, by 15 percent and 8 percent, respectively. Lumber imports, however, increased by \$1.3 billion (24 percent) to \$6.8 billion due to growth in the new home construction market, spurred by the stronger economy. Relatively stable domestic supplies of lumber and forest products, as well as increased demand and higher prices, also contributed to the increase in imports. Lumber imports constituted an even larger share of total forest products imports in 1996, with 24 percent, up from 19 percent in 1995.

Trade statistics for all commodity/industry groups in the forest products sector are presented in table 6-5 at the end of this chapter.

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<sup>1</sup>The wastepaper portion of this import category is very small.

Table 6-1

Forest products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	6,318	6,086	-233	-3.7
Japan	5,319	4,975	-344	-6.5
Mexico	2,337	2,267	-70	-3.0
United Kingdom	1,300	1,191	-109	-8.4
Germany	987	880	-107	-10.8
China	372	489	117	31.4
Korea	1,276	1,014	-263	-20.6
Brazil	330	384	54	16.3
Italy	853	653	-199	-23.4
Hong Kong	547	608	61	11.2
All Other	7,821	6,963	-859	-11.0
Total	27,461	25,509	-1,952	-7.1
EU-15	5,440	4,621	-819	-15.1
OPEC	664	583	-81	-12.2
Latin America	4,584	4,356	-227	-5.0
CBERA	1,000	911	-89	-8.9
Asian Pacific Rim	9,843	9,254	-589	-6.0
ASEAN	991	1,005	15	1.5
Central and Eastern Europe	54	51	-3	-5.9
U.S. imports for consumption:				
Canada	19,860	19,944	84	0.4
Japan	465	420	-44	-9.5
Mexico	786	847	60	7.7
United Kingdom	690	702	12	1.7
Germany	614	560	-54	-8.8
China	746	816	71	9.5
Korea	155	133	-22	-14.5
Brazil	921	679	-242	-26.3
Italy	300	305	5	1.7
Hong Kong	337	350	12	3.7
All Other	4,280	4,202	-78	-1.8
Total	29,155	28,957	-197	-0.7
EU-15	3,444	3,304	-139	-4.0
OPEC	551	533	-17	-3.1
Latin America	2,168	1,997	-171	-7.9
CBERA	97	101	4	3.8
Asian Pacific Rim	3,217	3,228	10	0.3
ASEAN	1,134	1,161	26	2.3
Central and Eastern Europe	17	16	-1	-5.3
U.S. merchandise trade balance:				
Canada	-13,542	-13,858	-316	-2.3
Japan	4,854	4,555	-300	-6.2
Mexico	1,551	1,420	-131	-8.4
United Kingdom	609	489	-120	-19.7
Germany	373	320	-53	-14.2
China	-373	-327	46	12.4
Korea	1,121	881	-240	-21.4
Brazil	-591	-295	296	50.1
Italy	552	348	-204	-37.0
Hong Kong	210	258	49	23.3
All Other	3,542	2,761	-781	-22.0
Total	-1,694	-3,448	-1,754	-103.6
EU-15	1,996	1,316	-680	-34.1
OPEC	113	50	-64	-56.1
Latin America	2,416	2,360	-56	-2.3
CBERA	903	810	-93	-10.2
Asian Pacific Rim	6,625	6,026	-599	-9.0
ASEAN	-144	-156	-12	-8.3
Central and Eastern Europe	37	35	-2	-6.2

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Table 6-2**  
**Changes in U.S. exports of forest products, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Other papers	6,143	6,529	386	6
Other wood	1,812	1,927	115	6
Printing/writing paper <sup>1</sup>	2,012	2,046	34	2
Pulp and wastepaper	6,241	4,059	-2,182	-35
Logs	3,063	2,909	-153	-5
Kraft linerboard	1,631	1,499	-132	-8
Lumber	2,447	2,430	-17	-1
Printed matter	4,113	4,109	-4	( <sup>2</sup> )
<b>Total</b>	<b>27,461</b>	<b>25,509</b>	<b>-1,952</b>	<b>-7</b>

<sup>1</sup>Newsprint exports, which are relatively small compared to printing/writing paper exports, are included in this category.

<sup>2</sup>Less than 0.5 percent.

Note.—Calculations based on unrounded data.

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

**Table 6-3**  
**Changes in U.S. imports of forest products, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Lumber	5,515	6,829	1,314	24
Other wood	2,750	2,981	231	8
Structural panels	1,986	2,152	166	8
Other papers	3,980	4,137	157	4
Printed matter	2,468	2,564	97	4
Pulp and wastepaper <sup>1</sup>	3,845	2,665	-1,180	-31
Printing/writing papers	4,192	3,565	-627	-15
Newsprint	4,418	4,063	-355	-8
<b>Total</b>	<b>29,155</b>	<b>28,957</b>	<b>-197</b>	<b>-1</b>

<sup>1</sup>Recorded imports consisted primarily of wood pulp.

Note.—Calculations based on unrounded data.

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

## U.S. BILATERAL TRADE

The United States posted a positive trade balance in forest products with all leading trade partners except Canada, China, and Brazil. In 1996, about 70 percent of all forest product imports came from Canada as the U.S. trade deficit with Canada increased more than with any other country, by \$316 million (2 percent) to \$13.9 billion. U.S. imports from Canada amounted to \$19.9 billion in 1996, up slightly (\$84 million) from 1995. Canada traditionally supplies the United States with softwood lumber (\$6.3 billion in 1996), newsprint (\$4.0 billion), pulp (\$2.2 billion), and printing/writing papers (\$2.2 billion). U.S. exports to Canada declined by \$233 million (4 percent) to \$6.1 billion in 1996. The major U.S. exports to Canada are printed matter, printing/writing papers, sanitary papers, lumber, and paperboard boxes. The leading U.S. imports and exports of forest products for major trading partner countries are presented in table 6-4.

The U.S. and Canadian forest product industries are among the world's most competitive as the two countries are endowed with accessible forest resources, well-developed industries, and efficient management. The Canadian industry has traditionally been more geared to exports. The U.S. industry, on the other hand, primarily serves the large domestic market. In recent years, however, the U.S. industry has also been seeking to expand export opportunities.

The trade deficit with Brazil narrowed by \$296 million (50 percent) in 1996, and is largely due to U.S. imports of Brazilian bleached eucalyptus pulp and lumber. The U.S. trade deficit with China, which improved slightly by \$46 million (12 percent) in 1996, is primarily the result of U.S. imports of Chinese wickerwork, certain converted paper products, and manufactured wood.

After Canada, the largest U.S. trading partners are Japan, Mexico, and the United Kingdom. In 1996, U.S. exports of forest products to Japan decreased by \$344 million (7 percent) to \$5.0 billion; primary exports were logs, softwood lumber, wood chips, and kraft wood pulp. This was the largest bilateral U.S. export decrease among major trading partners. Mexico imported \$2.3 billion in forest products from the United States in both 1995 and 1996. About one-quarter of Mexico's imports consisted of corrugated containers. The United Kingdom purchased \$1.2 billion in forest products from the United States, down from \$1.3 billion in 1995. A decline in kraft wood pulp prices was a primary reason for the decline in the value of U.S. forest product exports to both Japan and the United Kingdom.



**Table 6-4**  
**Forest products: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Canada . . . . .	Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed over 6mm thick Newsprint, in rolls or sheets Chemical woodpulp, soda or sulphate Uncoated paper and paperboard for writing, printing, etc. and punch card stock and tape paper	Books, brochures, and similar printed matter Newspapers, journals, and periodicals Paper and paperboard, coated with kaolin or other inorganic substance Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed over 6mm thick
Japan . . . . . (1)		Wood in the rough, whether or not stripped of bark or sapwood Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed over 6mm thick Fuel wood in logs, etc. wood in chips, etc. Chemical woodpulp, soda or sulphate
Mexico . . . . .	Wood continuously shaped (tongued, grooved, etc.) along any face Paper and paperboard registers, account books, stationary, and similar articles Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed over 6mm thick Wooden frames for paintings, photographs, and similar objects	Cartons, boxes and other containers of paper, paperboard, etc. and office paper products Chemical woodpulp, soda or sulphate Books, brochures, and similar printed matter Paper and paperboard, coated with kaolin or other inorganic substance
United Kingdom . . . . .	Wallpaper and similar wallcoverings Paper and paperboard, coated with kaolin or other inorganic substance Paper, paperboard, wadding and webs of cellulose fibers, surface-prepared Newspapers, journals, and periodicals	Books, brochures, and similar printed matter Chemical woodpulp, soda or sulphate Kraft paper and paperboard, uncoated Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed over 6mm thick
Germany . . . . .	Paper and paperboard, coated with kaolin or other inorganic substance Paper, paperboard, wadding and webs of cellulose fibers, surface-prepared Uncoated paper and paperboard for writing, printing, etc. and punch card stock and tape paper Other paper, paperboard, cellulose wadding and webs of cellulose fibers and other articles of paper pulp, etc.	Chemical woodpulp, soda or sulphate Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed over 6mm thick Chemical woodpulp, dissolving grades Veneer sheets etc., not over 6mm thick
China . . . . .	Basketwood, wickerwood of plaits, etc. Paper and paperboard registers, account books, stationary, and similar articles Cartons, boxes and other containers of paper, paperboard, etc. and office paper products Wood marquetry and inlaid wood; wood cases for jewelry, cutlery, etc., and wood ornaments.	Kraft paper and paperboard, uncoated Chemical woodpulp, soda or sulphate Newsprint, in rolls or sheets Waste and scrap of paper or paperboard

<sup>1</sup>Not a significant supplier.

Note.--Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

## COMMODITY ANALYSIS

### Lumber

The U.S. trade deficit in lumber expanded by \$1.3 billion (43 percent) to \$4.4 billion in 1996. U.S. exports declined slightly (1 percent) for the third straight year, while lumber imports increased by \$1.3 billion (24 percent) to \$6.8 billion. A strong market for new home construction fueled the demand for softwood lumber (the principal imported product in this group). Continued low mortgage interest rates and other generally favorable economic conditions reinforced the demand for new homes. Housing starts in 1996 totaled 1,474 thousand units, the highest since 1988.<sup>2</sup> Relatively stable supplies in the United States coupled with the increased demand also contributed to increased imports and higher prices.

#### U.S. imports

Imports from Canada, the principal supplier, increased from \$5.1 billion in 1995 to \$6.4 billion (26 percent) in 1996. Imports of lumber from all other countries decreased \$1 million from 1995 to 1996, and accounted for 7 percent of the total lumber imports.

During the last three quarters of 1996, certain softwood lumber imports were subject to a quota agreed to by the Governments of the United States and Canada. Under the agreement, softwood lumber imports from British Columbia, Alberta, Quebec, and Ontario, exceeding 14.7 billion board feet, during the period beginning April 1, 1996, and ending March 31, 1997, were subject to a fee collectable by the Government of Canada.<sup>3</sup> For 1996, imports from Canada totaled 17.6 billion board feet and total imports were 18.0 billion board feet, both records.

Prices for softwood lumber, the principal imported lumber product, moved upward in 1996, with the average monthly composite price peaking at \$459 per thousand board feet in November.<sup>4</sup>

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<sup>2</sup>U.S. Department of Commerce, Current Construction Reports, *Housing Starts*, Report C20/96-12, Jan. 1997.

<sup>3</sup>Imports from those Provinces exceeding 14.7 billion board feet but less than 15.35 billion board feet were assessed a duty of \$50 per thousand board feet, and imports exceeding 15.35 feet were assessed a duty of \$100 per thousand board feet. Annual quotas were allocated by company, and, in any quarter that exports to the United States exceeded 28.75 percent of the base, a company was charged the fee on its exports exceeding 28.75 percent of its allocation. The level of imports in each quarter exceeded 28.75 percent of the base, and the fees were collected. 35 *International Legal Materials*, 1195 (1996).

<sup>4</sup>The monthly average composite framing lumber price peaked at \$490 per thousand board feet in December of 1993 and averaged \$394 for the year. In 1994, the composite fluctuated downward but recorded an all-time high yearly average of \$410 per thousand board feet. The composite price continued to decline in 1995, hitting a low of \$317 in May, and averaging \$337 for the year. *Random Lengths Yearbook, 1996*, (Eugene, OR: Random Lengths Publications, Inc., 1997), p. 208.

## U.S. exports

U.S. exports of lumber declined by \$17 million (1 percent) to \$2.4 billion in 1996, following previous yearly declines of \$12 million and \$11 million in 1994 and 1995, respectively. However, exports to Japan, the leading market for U.S. lumber exports, increased by \$17 million (2 percent) to \$788 million. Higher prices accounted for this increase. In 1996, the Japanese Government agreed to accept lumber for construction that carried U.S. grading stamps of the Western Wood Products Association. Before that agreement, lumber was regraded according to Japanese standards upon importation, and fees for the regrading were charged to the exporter.<sup>5</sup> The agreement is expected to lower the cost of importing U.S. softwood lumber into Japan, and likely increase U.S. exports in the future.

Exports to Mexico, affected principally by the devaluation of the peso, fell by \$11 million in 1996, this after a decline of \$72 million in 1995. Exports to the European Union (EU) declined by \$29 million and \$6 million in 1996 and 1995, respectively, as slow economic recovery in the principal importing countries continued.

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## Wood Pulp and Wastepaper

The trade surplus in the wood pulp<sup>6</sup> and wastepaper sector contracted by \$1 billion (42 percent) to \$1.4 billion in 1996. Both exports and imports declined in 1996. The 1996 drop in commodity prices, from the high levels posted in 1995, was the biggest variable contributing to the overall decline in the value of pulp and wastepaper. Excess capacity and lower demand are frequently cited as the reason for price declines.<sup>7</sup> This drop in global prices reversed a trend that began in 1994 which reflected slight imbalances between global supply and demand. Traditionally, the United States exports and imports large amounts of wood pulp, but only exports significant quantities of wastepaper.<sup>8</sup>

## U.S. imports

The overall value of U.S. pulp and wastepaper imports declined by \$1.2 billion (31 percent) to \$2.7 billion in 1996. About two-thirds of all U.S. pulp imports are northern bleached softwood kraft pulps (NBSK). Nearly all NBSK pulp imports and about 85 percent

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<sup>5</sup>Rebecca Royce, "Japan Gives Nod to WWPA Wood Grading," *Woodshop News*, Aug. 1996, p. T32.

<sup>6</sup>Trade data on wood pulp can be organized into six major grades: kraft, sulfite, dissolving grades, mechanical, semichemical, and other grades. Within the major pulp grades, differences include pulps that are either bleached or unbleached, and pulps made from either softwood or hardwood tree species.

<sup>7</sup>From the annual reports of major pulp and paper manufacturers.

<sup>8</sup>Wastepaper for export can be divided into four major grades: (1) old corrugated container (OCC); (2) chemically-pulped papers (the highest quality); (3) mechanically-pulped papers; and (4) other and unsorted wastepapers.

of all pulp imports come from Canada, which is the largest supplier of paper products to the U.S. market. Bleached kraft pulps are used in the production of many grades of high-quality printing/writing papers, whereas unbleached pulps are used in the production of packaging-grade papers. The average unit value of U.S. imports of NBSK pulp from Canada declined by 28 percent, from \$710 per ton in 1995 to \$512 per ton in 1996.

### **U.S. exports**

Overall, U.S. pulp and wastepaper exports declined by \$2.2 billion (35 percent) to \$4.1 billion in 1996. Traditionally, the United States exports proportionally larger amounts of bleached kraft pulps (from both softwood and hardwood trees) and high-quality dissolving pulps. Between 1995 and 1996, export prices for bleached hardwood kraft pulp declined by 33 percent, and export prices for bleached softwood kraft pulp declined by 21 percent. The price for U.S. wastepaper exports declined by 31 percent--from \$166 per ton in 1995 to \$115 per ton in 1996. Exports to all major market countries declined from 1995 levels. Exports to Japan, the largest market for U.S. exports, declined \$351 million (38 percent) to \$579 million in 1996, while exports to the EU declined \$669 million (34 percent) to \$1.3 billion. Excess world pulp capacity, increased inventories, and lower demand all contributed to lower prices, which was the primary reason for the decline in the value of U.S. exports.

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**Table 6-5**  
**Forest products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
AG046	Logs and rough wood products:				
	Exports .....	3,063	2,909	-153	-5.0
	Imports .....	404	419	15	3.8
	Trade balance .....	2,659	2,490	-169	-6.3
AG047	Lumber:				
	Exports .....	2,447	2,430	-17	-0.7
	Imports .....	5,515	6,829	1,314	23.8
	Trade balance .....	-3,067	-4,399	-1,332	-43.4
AG048	Moldings, millwork, and joinery:				
	Exports .....	456	563	107	23.5
	Imports .....	969	1,171	202	20.8
	Trade balance .....	-513	-607	-94	-18.4
AG049	Structural panel products:				
	Exports .....	1,108	994	-23	-2.3
	Imports .....	1,986	2,152	166	8.5
	Trade balance .....	-968	-1,158	-190	-19.6
AG050	Wooden containers:				
	Exports .....	77	85	8	10.6
	Imports .....	224	253	29	12.9
	Trade balance .....	-147	-168	-21	-14.1
AG051	Tools and handles of wood:				
	Exports .....	18	24	5	29.8
	Imports .....	130	114	-16	-12.3
	Trade balance .....	-112	-90	21	19.2
AG052	Miscellaneous articles of wood:				
	Exports .....	178	179	2	0.9
	Imports .....	615	617	1	0.2
	Trade balance .....	-438	-438	0	-0.1
AG053	Cork and rattan:				
	Exports .....	65	82	17	26.3
	Imports .....	408	407	-1	-0.3
	Trade balance .....	-343	-325	18	5.3
AG054	Wood pulp and wastepaper:				
	Exports .....	6,241	4,059	-2,182	-35.0
	Imports .....	3,845	2,665	-1,180	-30.7
	Trade balance .....	2,396	1,394	-1,002	-41.8
AG055	Paper boxes and bags:				
	Exports .....	1,083	1,204	121	11.2
	Imports .....	596	658	62	10.4
	Trade balance .....	487	546	59	12.2
AG056	Industrial papers and paperboards:				
	Exports .....	5,085	5,064	-21	-0.4
	Imports .....	1,884	1,830	-54	-2.9
	Trade balance .....	3,201	3,234	33	1.0
AG057	Newsprint:				
	Exports .....	591	652	61	10.3
	Imports .....	4,418	4,063	-355	-8.0
	Trade balance .....	-3,827	-3,411	416	10.9
AG058	Printing and writing papers:				
	Exports .....	1,421	1,394	-27	-1.9
	Imports .....	4,192	3,565	-627	-15.0
	Trade balance .....	-2,772	-2,171	600	21.7
AG059	Certain specialty papers:				
	Exports .....	718	773	55	7.7
	Imports .....	742	774	32	4.4
	Trade balance .....	-24	-1	23	93.9
AG060	Miscellaneous paper products:				
	Exports .....	888	987	99	11.2
	Imports .....	758	875	117	15.4
	Trade balance .....	130	112	-18	-13.7

See footnotes at end of table.

Table 6-5--Continued

Forest products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
----- Million Dollars -----					
AG061	Printed matter:				
	Exports .....	4,113	4,109	-4	-0.1
	Imports .....	2,468	2,564	97	3.9
	Trade balance .....	1,645	1,545	-100	-6.1

<sup>1</sup> Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup> This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

Note.--Calculations based on unrounded data.

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

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## CHAPTER 7

# Chemicals and Related Products

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During 1995-96, the U.S. trade surplus for chemicals and related products decreased by \$2.9 billion (19 percent) to \$12.1 billion (table 7-1).<sup>1</sup> Both U.S. exports and U.S. imports of chemicals and related products increased in 1996, by \$2.1 billion (3 percent) to \$69.6 billion and by \$5.0 billion (10 percent) to \$57.5 billion, respectively, buoyed by economic growth in the United States and among its major trading partners. Chemicals and related products are principally used as producers' goods in manufacturing other products, for example, synthetic fibers, dyes, pipes, and detergents. Contributing to the increased value of U.S. exports of chemicals and related products, as shown in table 7-2, were higher exports of certain inorganic chemicals; plastics and rubber (including raw materials and finished articles); medicinal chemicals; dyes, pigments, paints, and inks; and consumer and industrial products. Every type of product listed in table 7-2 contributed to the increased value of U.S. imports of chemicals and related products with the largest growth by far coming from medicinal chemicals, followed by certain organic and inorganic chemicals, and plastics and rubber (including raw materials and finished articles).

The U.S. trade surplus for plastics and rubber (including raw materials and finished articles) rose significantly in 1996, by \$1.1 billion (28 percent). In contrast, the U.S. trade balance for organic chemicals and medicinal chemicals declined significantly, by \$2.1 billion (33 percent) to \$4.3 billion and by \$2.1 billion (369 percent) to \$2.6 billion, respectively. Although traditionally a net exporter of medicinal chemicals, the United States became a net importer of medicinal chemicals in 1995 and the trend continued in 1996 as a result of a steep rise in pharmaceutical purchases primarily from the United Kingdom, Germany, and Ireland.

Trade statistics for all commodity/industry groups in the chemicals and related products sector are presented in table 7-4 at the end of this chapter.

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<sup>1</sup>Among major industry/commodity sectors, this was the smaller trade surplus of only two recorded in 1996.

Table 7-1

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	13,338	14,514	1,176	8.8
Japan	5,888	5,782	-106	-1.8
Mexico	5,828	7,096	1,268	21.8
Germany	2,332	2,446	114	4.9
United Kingdom	2,648	2,780	132	5.0
China	2,038	1,769	-269	-13.2
Belgium	3,419	3,222	-197	-5.8
France	1,631	1,695	64	3.9
Netherlands	3,135	3,037	-98	-3.1
Taiwan	2,942	2,359	-583	-19.8
All Other	24,264	24,899	635	2.6
Total	67,463	69,598	2,135	3.2
EU-15	15,963	16,186	222	1.4
OPEC	1,980	1,860	-120	-6.1
Latin America	13,460	15,014	1,554	11.5
CBERA	1,604	1,621	17	1.1
Asian Pacific Rim	20,509	19,746	-763	-3.7
ASEAN	3,477	3,661	184	5.3
Central and Eastern Europe	191	205	13	7.0
U.S. imports for consumption:				
Canada	10,496	10,966	471	4.5
Japan	7,374	7,736	361	4.9
Mexico	1,881	2,128	247	13.1
Germany	5,039	5,498	460	9.1
United Kingdom	3,616	4,130	514	14.2
China	2,562	2,927	365	14.3
Belgium	989	1,182	192	19.4
France	2,453	2,619	166	6.8
Netherlands	999	1,167	169	16.9
Taiwan	1,219	1,184	-35	-2.8
All Other	15,824	17,943	2,119	13.4
Total	52,452	57,481	5,029	9.6
EU-15	17,347	20,066	2,720	15.7
OPEC	1,907	2,341	433	22.7
Latin America	3,949	4,564	615	15.6
CBERA	769	858	90	11.7
Asian Pacific Rim	15,777	16,422	645	4.1
ASEAN	2,895	2,780	-115	-4.0
Central and Eastern Europe	368	250	-117	-31.9
U.S. merchandise trade balance:				
Canada	2,842	3,547	705	24.8
Japan	-1,487	-1,954	-467	-31.4
Mexico	3,947	4,968	1,022	25.9
Germany	-2,707	-3,053	-346	-12.8
United Kingdom	-968	-1,351	-382	-39.5
China	-524	-1,158	-635	-121.2
Belgium	2,430	2,041	-389	-16.0
France	-822	-924	-102	-12.4
Netherlands	2,137	1,869	-267	-12.5
Taiwan	1,723	1,174	-548	-31.8
All Other	8,441	6,956	-1,484	-17.6
Total	15,011	12,116	-2,894	-19.3
EU-15	-1,383	-3,881	-2,498	-180.6
OPEC	73	-480	-553	( <sup>2</sup> )
Latin America	9,512	10,450	938	9.9
CBERA	835	762	-73	-8.7
Asian Pacific Rim	4,732	3,324	-1,408	-29.8
ASEAN	582	880	298	51.2
Central and Eastern Europe	-177	-46	131	74.1

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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



Table 7-2

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by major types, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Plastics, rubber, and products thereof	23,450	24,924	1,475	6.3
General organic chemicals	16,245	15,082	-1,163	-7.2
General inorganic chemicals	5,295	5,454	159	3.0
Medicinal chemicals	8,090	8,546	455	5.6
Consumer and industrial products	6,174	7,251	1,077	17.5
Fertilizers and pesticides	5,288	5,163	-124	-2.3
Dyes, pigments, paints, and inks	2,921	3,177	256	8.8
Total	67,463	69,598	2,135	3.2
U.S. imports for consumption:				
Plastics, rubber, and products thereof	19,405	19,751	346	1.8
General organic chemicals	9,848	10,767	919	9.3
General inorganic chemicals	4,660	5,299	639	13.7
Medicinal chemicals	8,654	11,189	2,535	29.3
Consumer and industrial products	4,118	4,337	218	5.3
Fertilizers and pesticides	3,374	3,642	268	7.9
Dyes, pigments, paints, and inks	2,392	2,497	105	4.4
Total	52,452	57,481	5,029	9.6
U.S. merchandise trade balance:				
Plastics, rubber, and products thereof	4,045	5,174	1,129	27.9
General organic chemicals	6,397	4,314	-2,082	-32.6
General inorganic chemicals	635	155	-480	-75.6
Medicinal chemicals	-564	-2,643	-2,079	-368.8
Consumer and industrial products	2,056	2,915	859	41.8
Fertilizers and pesticides	1,913	1,522	-392	-20.5
Dyes, pigments, paints, and inks	529	680	151	28.6
Total	15,011	12,116	-2,894	-19.3

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data.

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

## U.S. BILATERAL TRADE

Canada remained the largest trading partner with the United States for both U.S. exports and U.S. imports of chemicals and related products in 1996 (table 7-3). The U.S. bilateral trade surplus with Canada for these products increased by \$705 million (25 percent) to \$3.5 billion in 1996, largely because less expensive U.S. products displaced Canadian products and other Canadian imports. The United States experienced its biggest improvement in bilateral trade position when the U.S. trade surplus with Mexico for chemicals and related products increased by \$1.0 billion (26 percent) to \$5.0 billion in 1996, primarily as a result of a \$1.3 billion (22 percent) rise in U.S. exports, compared with an increase in U.S. imports of only \$247 million (13 percent). U.S. imports of chemicals and related products from Mexico in 1996 were probably affected by the relative stabilization in the value of the peso compared with 1995. This resulted in an improved Mexican economy making the market more attractive to U.S. producers, as well as allowing Mexican chemical producers to expand export markets.

The U.S. trade deficit with the EU grew sharply, up by \$2.5 billion (181 percent) in 1996 to \$3.9 billion, as U.S. imports from the EU rose by \$2.7 billion (16 percent), while U.S. exports to the EU rose by only \$222 million (1 percent) to \$16.2 billion. Contributing to the

decline of the U.S. trade balance with the EU were increases in U.S. imports of chemicals and related products from Germany, the United Kingdom, Belgium, France, and Netherlands.

The U.S. trade deficit with China in chemicals and related products increased significantly, up by \$635 million (121 percent) to \$1.2 billion in 1996. U.S. exports to China fell by \$269 million (13 percent) to \$1.8 billion, whereas U.S. imports of these products from China increased by \$365 million (14 percent) to \$2.9 billion.

The U.S. trade deficit in chemicals and related products with Japan also increased notably, up by \$467 million (31 percent) to \$2.0 billion in 1996. U.S. exports to Japan fell by \$106 million (2 percent) to \$5.8 billion, whereas U.S. imports of these products from Japan increased by \$361 million (5 percent) to \$7.7 billion.

**Table 7-3**  
**Chemicals and related products: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Canada . . . . .	Polymers of ethylene in primary forms New rubber pneumatic tires Mineral or chemical fertilizers Plastic boxes, bags, closures, etc.	New rubber pneumatic tires Certain retail medicaments, mixed or not Certain plastic plates, sheets, film, and strip Polyethers, epoxides, and polyesters in primary forms
Japan . . . . .	New rubber pneumatic tires Photographic chemicals Doped chemical elements and compounds used in electronics Certain heterocyclic compounds	Human and animal blood and related products New rubber pneumatic tires Composite diagnostic/lab reagents Miscellaneous articles of plastic
Mexico . . . . .	Miscellaneous articles of plastic Acyclic hydrocarbons New rubber pneumatic tires Polyethers, epoxides, and polyesters in primary forms	Miscellaneous articles of plastic Plastic boxes, bags, closures, etc. Polymers of ethylene in primary forms Certain plastic plates, sheets, film, and strip
Germany . . . . .	Certain heterocyclic compounds Certain retail medicaments, mixed or not Synthetic organic coloring matter Provitamins and vitamins	Human and animal blood and related products Certain retail medicaments, mixed or not Certain glands and other organs and related products New rubber pneumatic tires
United Kingdom . . . . .	Certain retail medicaments, mixed or not Nucleic acids and salts Oxygen-function amino-compounds Certain medicaments, mixed or not, not for retail sale	Certain retail medicaments, mixed or not Certain plastic plates, sheets, film, and strip Composite diagnostic/lab reagents Human and animal blood and related products
China . . . . .	Miscellaneous articles of plastic Certain plastic household articles Plastic boxes, bags, closures, etc. Certain plastic builders' ware	Fertilizers Polymers of ethylene in primary forms Certain cellulose and its chemical derivatives Polyethers, epoxides, and polyesters in primary forms

Note.--Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

Reflecting increased competition from other countries in trade with Taiwan, the U.S. trade surplus with Taiwan declined by \$548 million (32 percent) to \$1.2 billion, based on a decline in U.S. exports of \$583 million (20 percent) to \$2.4 billion, and a smaller decline in U.S. imports of \$35 million (3 percent) to \$1.2 billion.

## COMMODITY ANALYSIS

### Benzenoid Commodity Chemicals

The U.S. trade surplus for benzenoid commodity chemicals decreased from \$1.4 billion in 1995 to \$679 million in 1996, or by \$766 million (53 percent), principally because of a decline in U.S. exports. In general, the strength of the dollar as compared with other world currencies and a slowdown in numerous world economies during 1995-96 was the cause for the lower export trade figures.<sup>2</sup> The largest decline in the trade surplus, by \$557 million (48 percent), occurred with partners in the Asian Pacific Rim. The trade balance with this group of nations decreased from \$1.2 billion in 1995 to \$616 million in 1996. U.S. exports to the region decreased not only because of the strengthening dollar but also because of the installation of new production capacity for certain benzenoid commodity chemicals by multinational chemical companies through joint ventures with national companies in Korea, Taiwan, and Singapore.<sup>3</sup>

#### U.S. imports

U.S. imports of benzenoid commodity chemicals decreased slightly from \$813 million in 1995 to \$808 million in 1996, or by \$5 million (less than 1 percent). According to trade journal sources, a decrease in demand in the major end-use markets for these intermediate chemicals in 1996 was responsible for the overall decline.<sup>4</sup> Imports of these products from Canada accounted for the largest portion of this decrease, falling from \$410 million in 1995 to \$337 million in 1996, or by \$73 million (18 percent). However, even with this decrease, Canada remained the principal source of imports for this group of chemicals in 1996. Other significant sources of imports of these products were Japan (\$55 million), Venezuela (\$55 million), Mexico (\$52 million), and the Netherlands (\$50 million).

#### U.S. exports

U.S. exports of benzenoid commodity chemicals decreased from \$2.3 billion in 1995, to \$1.5 billion in 1996, or by \$771 million (34 percent). A buildup of production capacity for these intermediate chemicals in certain Asia Pacific Rim countries, slow growth in the Asian Pacific economies, and a strong U.S. dollar as compared with currencies in these Asian nations

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<sup>2</sup>"World Chemical Outlook," *Chemical and Engineering News*, Dec. 16, 1996, pp. 42-58.

<sup>3</sup>"U.S. Chemical Exports Hit Record, but Trade Surplus Shows Slippage," *Chemical Marketing Reporter*, Jan. 20, 1996, p. 1.

<sup>4</sup>"North America: U.S. Chemical Industry Faces Likelihood of Slow Growth Next Year," *Chemical and Engineering News*, Dec. 16, 1996, pp. 42-48.

were primarily responsible for the decrease.<sup>5</sup> The principal markets for U.S. exports during this period were Taiwan (\$371 million), Canada (\$203 million), Mexico (\$165 million), the Netherlands (\$127 million), Korea (\$86 million), and Malaysia (\$75 million). Canada was the only market for these products which increased over 1995-96. Exports of these chemicals to Canada increased from \$190 million in 1995, to \$203 million in 1996, or by \$13 million (7 percent). The greatest decline in U.S. exports was to the Asian Pacific Rim nations, which decreased from \$1.2 billion in 1995 to \$680 million in 1996, or by \$590 million (47 percent). Taiwan accounted for the largest absolute decline in U.S. exports to the Pacific Rim countries, as exports fell by \$358 million (49 percent) to \$371 million in 1996, followed by a decline in U.S. exports to Japan of \$57 million (61 percent) to \$91 million.

The benzenoid intermediate chemicals styrene and terephthalic acid accounted for \$685 million (89 percent) of the \$771million-decrease in total U.S. exports of these products during the period. Styrene and terephthalic acid are commodity chemicals used in the production of polystyrene and PET plastics resins, respectively. Asian consumption for these resins and their respective intermediate chemicals, are expected to grow at a rate of 9 percent annually until 2010, when new Asian production capacity for these intermediate chemicals is expected to supply the majority of the region's demand.<sup>6</sup>

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### **Medicinal Chemicals**

The trade deficit in medicinal chemicals increased by \$2.1 billion (369 percent) to \$2.6 billion in 1996. Although the trade balance in medicinal chemicals has traditionally been positive, the last surplus was registered in 1994 (\$644 million). The trade balance in medicinal chemicals has been worsened by marked increases in imports from developed countries, notably Ireland.

#### **U.S. imports**

Total imports increased by \$2.5 billion (29 percent) to \$11.2 billion in 1996. The top three suppliers of medicinal chemicals to the United States were the United Kingdom (19 percent of total imports or \$2.2 billion), Germany (12 percent or \$1.3 billion), and Ireland (12 percent or \$1.3 billion). The United Kingdom and Germany were the two largest suppliers of medicinal chemicals by value, although percentage increases from 1995 to 1996 were not significantly above the overall rate of change. U.S. imports of these products from the United

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<sup>5</sup>Asia-Pacific: Slowing Economies Mean Less Growth for Chemicals," *Chemical and Engineering News*, Dec. 16, 1996, pp. 55-58.

<sup>6</sup>"New Capacity to Muffle Market," *Chemical Week*, Oct. 30, 1996, p. 34; "Asian Oversupply a Threat to U.S. Domestic Market," *European Chemical News*, Aug. 12-18, 1996, p. 10; "Styrene Market Shows Effect of Weak Demand, Oversupply," *Chemical Marketing Reporter*, Oct. 28, 1996, pp. 6 and 10; and, "Styrene-A Trader Gives His View on 1996," *European Chemical News, Chemscope*, Sept. 1996, p. 6.

Kingdom increased by \$488 million (29 percent) to \$2.2 billion, whereas those from Germany increased by \$152 million (12 percent) to \$1.4 billion. The value of Irish imports, however, more than doubled, increasing by \$739 million (117 percent) to \$1.4 billion in 1996.

As U.S. costs to produce these products have risen in recent years, pharmaceutical companies have attempted to lower overall costs and improve profitability by investing in areas with lower costs, such as Puerto Rico. Companies originally invested in Puerto Rico because a number of incentives, including low-cost labor and tax advantages, existed. In addition, Puerto Rico is recognized as an insular possession by U.S. Customs Service (i.e., there is no duty on the products produced in Puerto Rico and shipped to the United States). Tax advantages are being gradually phased out for Puerto Rico, however, so that production costs are increasing for companies located there. Pharmaceutical companies have constructed plants in Ireland for similar reasons (i.e., labor costs and tax advantages). As a result, the surge in U.S. imports from Ireland has helped to establish a significant bilateral deficit with that country. Ireland effectively now occupies the same attractive position as Puerto Rico did several years ago.

The elimination of duties on medicinal chemicals pursuant to the Uruguay Round Agreement is also responsible to some extent for the rise in imports. Effective January 1, 1995, the United States and other large producers eliminated duties on over 8,000 pharmaceutical products and chemical intermediates destined for pharmaceutical use. Companies are thus able to import bulk pharmaceutical intermediates or finished product duty-free from nearly any country.

### **U.S. exports**

U.S. exports increased by \$455 million (6 percent) to \$8.5 billion in 1996. Exports were highest in value terms to Canada, Germany, and the United Kingdom. U.S. exports to these countries have traditionally been the highest due to location of finishing and distribution points for U.S. medicinal chemicals and intermediates. Exports to Germany changed the most from 1995 to 1996, increasing by \$208 million (26 percent) to \$1 billion.

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**Table 7-4**  
**Chemical and related products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH008	Other olefins:				
	Exports .....	242	192	-50	-20.7
	Imports .....	53	48	-5	-8.7
	Trade balance .....	189	144	-45	-24.0
CH009	Primary aromatics:				
	Exports .....	208	214	6	2.9
	Imports .....	246	588	341	138.5
	Trade balance .....	-38	-373	-335	-882.7
CH010	Benzenoid commodity chemicals:				
	Exports .....	2,258	1,487	-771	-34.2
	Imports .....	813	808	-5	-0.7
	Trade balance .....	1,445	679	-766	-53.0
CH011	Benzenoid specialty chemicals:				
	Exports .....	4,625	4,827	201	4.4
	Imports .....	3,201	3,664	463	14.5
	Trade balance .....	1,424	1,163	-263	-18.4
CH012	Miscellaneous organic chemicals:				
	Exports .....	7,697	7,031	-666	-8.7
	Imports .....	4,903	4,970	67	1.4
	Trade balance .....	2,794	2,061	-733	-26.2
CH013	Miscellaneous inorganic chemicals:				
	Exports .....	4,116	4,230	114	2.8
	Imports .....	4,194	4,823	629	15.0
	Trade balance .....	-78	-593	-515	-660.8
CH014	Inorganic acids:				
	Exports .....	166	142	-25	-14.8
	Imports .....	209	234	25	11.7
	Trade balance .....	-43	-92	-49	-113.9
CH015	Chlor-alkali chemicals:				
	Exports .....	899	967	69	7.7
	Imports .....	210	188	-22	-10.4
	Trade balance .....	689	779	91	13.2
CH016	Industrial gases:				
	Exports .....	114	115	1	0.7
	Imports .....	47	53	7	15.0
	Trade balance .....	67	61	-6	-9.1
CH017	Fertilizers:				
	Exports .....	3,319	3,151	-168	-5.1
	Imports .....	2,357	2,489	132	5.6
	Trade balance .....	962	662	-300	-31.2
CH018	Paints, inks, and related items, and certain components thereof:				
	Exports .....	2,340	2,461	120	5.1
	Imports .....	1,425	1,504	80	5.6
	Trade balance .....	916	956	41	4.4
CH019	Synthetic organic pigments:				
	Exports .....	283	295	12	4.4
	Imports .....	341	356	15	4.4
	Trade balance .....	-58	-61	-3	-4.7
CH020	Synthetic dyes and azoic couplers:				
	Exports .....	267	385	117	43.9
	Imports .....	569	572	4	0.7
	Trade balance .....	-301	-187	114	37.8
CH021	Synthetic tanning agents:				
	Exports .....	14	17	3	23.0
	Imports .....	6	7	2	26.1
	Trade balance .....	8	9	2	20.6
CH022	Natural tanning and dyeing materials:				
	Exports .....	17	19	3	15.5
	Imports .....	52	57	5	9.1
	Trade balance .....	-35	-38	-2	-6.1

See footnotes at end of table.

Table 7-4--Continued

Chemical and related products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH023	Photographic chemicals and preparations:				
	Exports .....	506	496	-10	-1.9
	Imports .....	749	701	-48	-6.4
	Trade balance .....	-244	-206	38	15.7
CH024	Pesticide products and formulations:				
	Exports .....	1,968	2,013	44	2.2
	Imports .....	1,017	1,153	136	13.3
	Trade balance .....	951	860	-92	-9.7
CH025	Adhesives and glues:				
	Exports .....	348	394	46	13.2
	Imports .....	138	141	4	2.5
	Trade balance .....	211	253	42	20.1
CH026	Medicinal chemicals:				
	Exports .....	8,090	8,546	455	5.6
	Imports .....	8,654	11,189	2,535	29.3
	Trade balance .....	-564	-2,643	-2,079	-368.8
CH027	Essential oils and other flavoring materials:				
	Exports .....	910	981	71	7.8
	Imports .....	810	780	-30	-3.8
	Trade balance .....	100	201	101	101.2
CH028	Perfumes, cosmetics, and toiletries:				
	Exports .....	1,875	2,537	662	35.3
	Imports .....	1,168	1,276	109	9.3
	Trade balance .....	707	1,261	554	78.3
CH029	Soaps, detergents, and surface-active agents:				
	Exports .....	1,644	1,814	169	10.3
	Imports .....	653	760	108	16.5
	Trade balance .....	992	1,053	62	6.2
CH030	Miscellaneous chemicals and specialties:				
	Exports .....	1,814	1,987	174	9.6
	Imports .....	944	1,030	86	9.1
	Trade balance .....	869	957	88	10.1
CH031	Explosives, propellant powders, and related items:				
	Exports .....	250	328	78	31.1
	Imports .....	187	208	21	11.0
	Trade balance .....	63	120	57	91.3
CH032	Polyethylene resins in primary forms:				
	Exports .....	1,988	2,134	146	7.3
	Imports .....	1,192	1,086	-106	-8.9
	Trade balance .....	796	1,047	251	31.6
CH033	Polypropylene resins in primary forms:				
	Exports .....	660	742	81	12.3
	Imports .....	190	210	19	10.2
	Trade balance .....	470	532	62	13.2
CH034	Polyvinyl chloride resins in primary forms:				
	Exports .....	856	680	-176	-20.5
	Imports .....	192	203	12	6.1
	Trade balance .....	664	476	-187	-28.2
CH035	Styrene polymers in primary forms:				
	Exports .....	790	799	9	1.2
	Imports .....	351	335	-16	-4.6
	Trade balance .....	439	464	25	5.8
CH036	Saturated polyester resins:				
	Exports .....	640	623	-18	-2.7
	Imports .....	242	230	-12	-4.9
	Trade balance .....	398	392	-6	-1.4
CH037	Other plastics in primary forms:				
	Exports .....	5,398	5,598	200	3.7
	Imports .....	1,937	2,127	190	9.8
	Trade balance .....	3,462	3,472	10	0.3

See footnotes at end of table.

Table 7-4--Continued

Chemical and related products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH038	Styrene-butadiene rubber in primary forms:				
	Exports .....	353	361	8	2.3
	Imports .....	159	143	-15	-9.5
	Trade balance .....	195	218	23	11.9
CH039	Other synthetic rubber:				
	Exports .....	1,011	1,090	78	7.8
	Imports .....	557	565	7	1.3
	Trade balance .....	454	525	71	15.7
CH040	Pneumatic tires and tubes (new):				
	Exports .....	1,869	1,960	91	4.9
	Imports .....	3,073	3,011	-62	-2.0
	Trade balance .....	-1,204	-1,051	153	12.7
CH041	Other tires:				
	Exports .....	73	84	11	14.4
	Imports .....	121	116	-5	-3.8
	Trade balance .....	-47	-32	15	31.8
CH042	Plastic or rubber semifabricated forms:				
	Exports .....	4,116	4,244	128	3.1
	Imports .....	2,647	2,800	153	5.8
	Trade balance .....	1,469	1,444	-25	-1.7
CH043	Plastic containers and closures:				
	Exports .....	1,264	1,434	170	13.5
	Imports .....	1,210	1,279	69	5.7
	Trade balance .....	54	155	102	189.2
CH044	Hose, belting, and plastic pipe:				
	Exports .....	1,137	1,377	240	21.1
	Imports .....	991	1,063	72	7.3
	Trade balance .....	146	314	168	115.2
CH045	Miscellaneous rubber or plastic products:				
	Exports .....	3,253	3,757	504	15.5
	Imports .....	4,914	5,115	200	4.1
	Trade balance .....	-1,661	-1,358	303	-18.3
CH046	Gelatin:				
	Exports .....	42	46	4	9.5
	Imports .....	102	130	28	27.9
	Trade balance .....	-59	-84	-24	-41.1
CH047	Natural rubber:				
	Exports .....	42	44	2	4.4
	Imports .....	1,629	1,468	-162	-9.9
	Trade balance .....	-1,587	-1,424	163	-10.3

<sup>1</sup> Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.<sup>2</sup> This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

Note.--Calculations based on unrounded data.

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



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## **CHAPTER 8**

# **Energy-Related Products**

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The overall U.S. trade deficit in energy-related products increased by \$14.3 billion (30 percent), from \$47.5 billion in 1995 to \$61.8 billion in 1996 (table 8-1), and accounted for 93 percent of the total expansion of the U.S. trade deficit in all product sectors in 1996. The price of crude petroleum increased by \$5 to \$6 per barrel in late 1996 (40 to 50 percent), primarily because of increased tensions in the Persian Gulf region, thus worsening the trade deficit in these products. In recent decades, the United States has maintained a trade deficit in the energy-related products sector primarily because the United States has been dependent on imported crude petroleum for a significant portion of its petroleum needs.

The nations showing the largest changes in trade in 1996, which are also the leading sources of U.S. imports of energy-related products, are Canada, Venezuela, Saudi Arabia, and Mexico. U.S. imports of energy-related products increased by \$16.1 billion (27 percent), from \$60.3 billion in 1995 to \$76.4 billion in 1996. In terms of quantity, crude petroleum accounted for 71 percent of these imports in 1996, natural gas accounted for 15 percent, and petroleum products accounted for 10 percent. U.S. exports of energy-related products increased by \$1.8 billion (14 percent) from \$12.8 billion in 1995 to \$14.6 billion in 1996. Petroleum products accounted for 52 percent of U.S. exports of energy-related products, while coal, coke, and related products accounted for 30 percent in 1996. The primary markets for U.S. exports of energy-related products were Canada and Mexico, which experienced the largest bilateral trade changes in 1996.

Trade statistics for all commodity/industry groups in the energy-related products sector are presented in table 8-3 at the end of this chapter.

Table 8-1

Energy-related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	1,663	2,085	422	25.4
Venezuela	160	165	5	3.3
Mexico	1,357	1,629	271	20.0
Saudi Arabia	37	38	1	2.5
Nigeria	19	23	4	18.9
United Kingdom	370	435	65	17.5
Angola	1	1	1	63.4
Norway	38	44	6	17.1
Colombia	95	146	52	54.8
Algeria	11	9	-2	-17.1
All Other	9,091	10,023	933	10.3
Total	12,842	14,600	1,758	13.7
EU-15	3,140	3,237	97	3.1
OPEC	328	366	39	11.7
Latin America	3,283	3,815	532	16.2
CBERA	819	890	71	8.7
Asian Pacific Rim	3,706	4,218	512	13.8
ASEAN	663	681	19	2.8
Central and Eastern Europe	160	150	-11	-6.6
U.S. imports for consumption:				
Canada	14,213	17,565	3,352	23.6
Venezuela	7,804	10,683	2,879	36.9
Mexico	6,083	8,182	2,098	34.5
Saudi Arabia	7,596	9,261	1,665	21.9
Nigeria	4,784	5,682	898	18.8
United Kingdom	2,784	2,892	108	3.9
Angola	2,287	2,657	370	16.2
Norway	1,699	2,292	593	34.9
Colombia	1,547	2,126	579	37.4
Algeria	1,676	2,105	430	25.6
All Other	9,864	12,952	3,088	31.3
Total	60,336	76,396	16,059	26.6
EU-15	4,206	4,822	616	14.6
OPEC	23,765	29,857	6,092	25.6
Latin America	17,835	24,734	6,898	38.7
CBERA	974	1,663	689	70.7
Asian Pacific Rim	1,796	1,903	107	6.0
ASEAN	809	809	1	0.1
Central and Eastern Europe	5	41	37	791.1
U.S. merchandise trade balance:				
Canada	-12,550	-15,480	-2,930	-23.3
Venezuela	-7,644	-10,518	-2,874	-37.6
Mexico	-4,726	-6,553	-1,827	-38.7
Saudi Arabia	-7,559	-9,223	-1,664	-22.0
Nigeria	-4,764	-5,659	-894	-18.8
United Kingdom	-2,414	-2,456	-43	-1.8
Angola	-2,286	-2,655	-369	-16.1
Norway	-1,661	-2,247	-586	-35.3
Colombia	-1,453	-1,980	-527	-36.3
Algeria	-1,665	-2,096	-432	-25.9
All Other	-773	-2,929	-2,156	-278.9
Total	-47,494	-61,796	-14,302	-30.1
EU-15	-1,066	-1,584	-518	-48.6
OPEC	-23,437	-29,490	-6,054	-25.8
Latin America	-14,552	-20,918	-6,366	-43.7
CBERA	-155	-773	-618	-397.6
Asian Pacific Rim	1,910	2,315	405	21.2
ASEAN	-146	-128	18	12.3
Central and Eastern Europe	156	108	-47	-30.4

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

## U.S. BILATERAL TRADE

The United States and Canada are connected by a sophisticated and intricate system of pipelines that carry natural gas, crude petroleum, and refined petroleum products between the two countries. Also, an intricate system of interconnection grids transmit electricity across the border. The U.S. trade deficit with Canada rose by \$2.9 billion (23 percent) to \$15.5 billion in 1996, primarily as a result of increased imports of electricity, which fluctuate regularly depending upon usage, and a \$5-to-\$6-per-barrel increase in the price of crude petroleum imports in late 1996. The U.S. trade deficit with Saudi Arabia and Venezuela, both of which are members of OPEC, as well as with all of the OPEC nations combined, showed large changes in overall trade in 1996. Overall, the U.S. trade deficit with OPEC increased by \$6.1 billion. Venezuela, historically a major supplier of petroleum products to U.S. markets, accounted for 34 percent of the OPEC deficit.

The U.S. energy-related products trade deficit with Latin America increased by \$6.4 billion (44 percent) to \$20.9 billion in 1996, mainly as a result of increased prices for crude petroleum; in terms of quantity, energy-related imports from the region decreased by less than 1 percent. The U.S. trade deficit with the EU in energy-related products increased by \$518 million in 1996 to \$1.6 billion because of the increase in the value of crude petroleum imports and an increase in U.S. imports of refined petroleum products, primarily distillate and residual fuel oils used for heating, in response to increased U.S. demand caused by an unusually cold winter. U.S. exports of coal to the EU increased in 1996, offsetting some of the trade deficit, because production in the coal-producing countries of the EU was unable to keep pace with demand. U.S. exports of coal coupled with the startup of crude petroleum exports resulted in a \$1.9 billion increase in total U.S. exports in 1996.

The leading U.S. import and export energy-related products for major trading partner countries are presented in table 8-2.

**Table 8-2**  
**Energy-related products: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Canada . . . . .	Crude petroleum Petroleum gases and other gaseous hydrocarbons Petroleum oils, other than crude Electrical energy	Petroleum oils, other than crude Petroleum gases and other gaseous hydrocarbons Crude petroleum Petroleum coke
Venezuela . . . . .	Crude petroleum Petroleum oils, other than crude Petroleum coke Petroleum gases and other gaseous hydrocarbons	Petroleum coke Petroleum oils, other than crude Acyclic hydrocarbons ( <sup>1</sup> )
Mexico . . . . .	Crude petroleum Petroleum oils, other than crude Petroleum gases and other gaseous hydrocarbons Petroleum coke	Petroleum oils, other than crude Petroleum gases and other gaseous hydrocarbons Coal, briquettes, ovoids, etc. ( <sup>1</sup> )
Saudi Arabia . . . . .	Crude petroleum Petroleum oils, other than crude Petroleum gases and other gaseous hydrocarbons Petroleum coke	( <sup>1</sup> )
Nigeria . . . . .	Crude petroleum Petroleum oils, other than crude Petroleum gases and other gaseous hydrocarbons Petroleum coke	Petroleum oils, other than crude ( <sup>1</sup> )
United Kingdom . . . . .	Crude petroleum Petroleum oils, other than crude Radioactive chemical elements, isotopes and related products Petroleum gases and other gaseous hydrocarbons	Coal, briquettes, ovoids, etc. Radioactive chemical elements, isotopes and related products Petroleum coke ( <sup>1</sup> )

<sup>1</sup>Not a significant U.S. export market or no significant exported products other than those indicated.

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

## COMMODITY ANALYSIS<sup>1</sup>

### Crude Petroleum

The trade deficit in crude petroleum increased by \$2.3 billion (5 percent) to \$44.4 billion in 1996 because the world price of crude petroleum increased. Crude petroleum accounted for 21 percent of the total U.S. trade deficit in 1996. U.S. imports, in quantity terms, began to increase in late 1985 when crude petroleum prices declined because of an oversupply on the world market, which resulted in the reduced profitability of certain high cost U.S. stripper wells, many of which were then shut down. Consequently, U.S. production has declined steadily each year, reaching a low of 2.4 billion barrels in 1996.

#### U.S. imports

The quantity of U.S. imports of crude petroleum actually decreased by 92 million barrels (3 percent), from 2.7 billion barrels in 1995 to 2.6 billion barrels in 1996; however, the price per barrel of crude increased by an average of \$5 to \$6 per barrel in late 1996, resulting in the value of imports increasing from \$42.1 billion in 1995 to \$44.8 billion in 1996, or by \$2.8 billion (7 percent). World crude prices rose in 1996 in response to tensions in the Persian Gulf region, which caused concern about worldwide production levels, coupled with increased production by higher price producers such as those operating in the North Sea. OPEC nations together accounted for more than 46 percent of total U.S. imports of crude.<sup>2</sup>

The principal sources of U.S. imports of crude petroleum remained the same as in 1995; however, the change in the quantity of crude imported varied slightly. U.S. imports from Canada increased by 2 percent; from Mexico, 4 percent; and Venezuela, 3 percent. U.S. imports from Saudi Arabia decreased by 1 percent and from Nigeria by 4 percent. U.S. imports of crude petroleum accounted for 55 percent of domestic consumption in 1996. Industry sources forecast that U.S. imports of crude petroleum could account for more than 60 percent of domestic consumption by the year 2000, as demand increases and domestic production continues to decrease.

#### U.S. exports

U.S. exports of crude petroleum are small, and have been prohibited since 1973, except as approved by the U.S. Government. Canada has been the only consistent market for these exports, which are part of a commercial exchange agreement between U.S. and Canadian refiners, and approved by the Secretary of Energy. In May 1996, President Clinton determined that allowing exports of Alaskan North Slope (ANS) crude was in the national interest, thus ending the 23-year ban on ANS crude exports. The President can in the future, however, impose

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<sup>1</sup>There was also a shift in natural gas imports. Using Department of Energy (DOE) data (which is considered more reliable than Commerce data), natural gas imports in value terms increased significantly in 1996. The DOE gathered only quantity data, and converting DOE quantity data to value data is problematic because comparable price data are not available. However, a composite price indicated that the price increased substantially in 1996, caused by an unusually cold winter in the northeastern United States. (Only Commerce data are used elsewhere in this report.)

<sup>2</sup> See OPEC, Saudi Arabia, and Venezuela in chapter 3 for more information.

new export restrictions in the event of severe crude petroleum supply shortages. U.S. exports of crude petroleum increased from 73,000 barrels (valued at \$1 million) in 1995, to 19.1 million barrels (valued at \$460 million) in 1996. Korea, the nation showing the largest change in exports in 1996, was the principal market for U.S. exports of crude petroleum, accounting for 40 percent of these exports in 1996, increasing from no exports in 1995 to 7.7 million barrels in 1996. Canada, which showed the second-largest change in exports in 1996, increased from 242,000 barrels in 1995 to 5.9 million barrels in 1996. For the first time, small shipments of crude were exported to Taiwan, Japan, and China.

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### **Petroleum Products**

The U.S. trade deficit in petroleum products increased by \$8.1 billion (254 percent) from \$3.2 billion in 1995 to \$11.3 billion in 1996. In late 1996, the price of crude petroleum increased by \$5 to \$6 per barrel, thus increasing the prices for refined petroleum products. The United States is a major world consumer of petroleum products and relies primarily upon Canada and Venezuela to supplement domestic U.S. production.

#### **U.S. imports**

The value of U.S. imports of petroleum products increased from \$9.8 billion in 1995 to \$18.9 billion in 1996, or by 93 percent, primarily because of the rise in crude petroleum prices. The quantity of U.S. imports of petroleum products increased by 115 million barrels (19 percent) from 585 million barrels in 1995 to 700 million barrels in 1996 because of increased imports of residual and distillate fuel oils used for heating, which resulted from higher than usual demand during the harsh 1996 winter.

Canada, Venezuela, Algeria, Saudi Arabia, and the United Kingdom were the leading import sources of petroleum products, primarily fuel oils and gasoline, in 1996. These five countries represented \$4.8 billion (53 percent) of the increase in import value during 1995-96.

#### **U.S. exports**

The United States is not a major world exporter of petroleum products, exporting less than 5 percent of total production and accounting for less than 6 percent of total world exports of petroleum products. The value of U.S. exports of petroleum products increased by \$1.0 billion (16 percent) to \$7.6 billion in 1996. Mexico, and Canada, which represented \$361 million (35 percent) of the increase in export value in these products during 1995-96, were the major U.S. markets for these exports in 1996 because of their close proximity.

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Table 8-3

Energy-related products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH001	Electrical energy:				
	Exports .....	47	69	23	48.9
	Imports .....	856	902	46	5.4
	Trade balance .....	-809	-832	23	-2.9
CH002	Nuclear materials:				
	Exports .....	965	1,047	82	8.5
	Imports .....	1,127	1,326	200	17.7
	Trade balance .....	-162	-279	-117	-72.4
CH003	Coal, coke, and related chemicals:				
	Exports .....	4,328	4,452	124	2.9
	Imports .....	847	1,253	407	48.0
	Trade balance .....	3,481	3,198	-282	-8.1
CH004	Crude petroleum:				
	Exports .....	1	460	458	31,732.6
	Imports .....	42,077	44,849	2,772	6.6
	Trade balance .....	-42,076	-44,389	-2,314	-5.0
CH005	Petroleum products:				
	Exports .....	6,583	7,604	1,021	15.5
	Imports .....	9,777	18,915	9,138	93.5
	Trade balance .....	-3,194	-11,312	-8,117	-254.1
CH006	Natural gas and components:				
	Exports .....	775	770	-5	-0.6
	Imports .....	5,157	8,253	3,097	60.1
	Trade balance .....	-4,382	-7,484	-3,101	-70.8
CH007	Major primary olefins:				
	Exports .....	145	199	54	37.4
	Imports .....	496	897	400	80.7
	Trade balance .....	-352	-698	-346	-99.0

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

Note.--Calculations based on unrounded data.

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





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## CHAPTER 9

# Textiles, Apparel, and Footwear

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The U.S. trade deficit in textiles and apparel continued to widen in 1996, but at a much slower rate than in past years. The deficit rose by \$774 million (2 percent) in 1996, to \$35.8 billion, compared with an increase of \$1.5 billion (5 percent) in 1995 (table 9-1). U.S. sector exports grew at a higher rate than sector imports, increasing by \$1.4 billion (9 percent) to a high of \$16.5 billion in 1996, while U.S. sector imports grew by \$2.2 billion (4 percent) to \$52.3 billion in 1996. Almost 80 percent of the total value of imports and 48 percent of the total value of exports consisted of apparel. The increase in U.S. sector exports reflected expanded shipments of garment parts to Mexico and the Caribbean Basin countries to be assembled and returned to the United States. Mexico and the Caribbean Basin countries accounted for 40 percent of the total value of U.S. sector exports in 1996.

The U.S. trade deficit in footwear and footwear parts increased by \$523 million (5 percent) to \$11.9 billion in 1996 (table 9-2). U.S. sector imports rose by \$613 million (5 percent) to \$12.7 billion and U.S. sector exports grew by \$90 million (13 percent) to \$761 million. The import growth was especially significant in view of the sluggish domestic demand for footwear, which declined by 1 percent by value in 1996 from the 1995 level. Imports supplied 80 percent of the U.S. footwear market by value in 1996, compared with 76 percent in 1995. By quantity, the domestic market share supplied by imports remained stable at 88 percent.

U.S. international trade agreements and preferential programs have had a significant impact on trends in textile and apparel trade and, together with the World Trade Organization Agreement on Textiles and Clothing (ATC), will continue to do so in the future. Stimulated by NAFTA<sup>1</sup> and production-sharing trade preferences, U.S. apparel imports have increased from Mexico especially, as well as from beneficiary countries under the Caribbean Basin Economic Recovery Act (CBERA),<sup>2</sup> whereas combined imports from the traditional major Asian suppliers have declined slightly. U.S. companies maintain production-sharing operations in Mexico and CBERA countries to cut production costs and lead times in order to improve their competitive position in the U.S. retail market, which is demanding quality products at competitive prices and with short turnaround time. By moving production to these low-labor cost countries, U.S. producers are better able to compete as they save in direct labor costs, transportation costs, and can obtain much quicker turnaround than those companies that import from Asia. Significant

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<sup>1</sup>See discussion of trade with Mexico under U.S. bilateral trade in this chapter for more information on certain NAFTA-created benefits.

<sup>2</sup>The leading CBERA suppliers of apparel sewn from U.S.-cut fabric are the countries in Central America and the Caribbean island nations of the Dominican Republic and Jamaica.

Table 9-1

Textiles and apparel: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Mexico	2,382	3,019	636	26.7
China	260	213	-47	-18.1
Canada	2,673	2,863	190	7.1
Hong Kong	415	416	1	0.3
Taiwan	117	132	15	12.8
Dominican Rep	987	1,068	82	8.3
Korea	232	233	1	0.4
Italy	150	148	-2	-1.5
India	44	42	-2	-4.7
Honduras	502	755	253	50.4
All Other	7,277	7,570	293	4.0
Total	15,039	16,459	1,420	9.4
EU-15	2,049	2,154	104	5.1
OPEC	431	426	-5	-1.2
Latin America	6,416	7,456	1,040	16.2
CBERA	3,140	3,604	464	14.8
Asian Pacific Rim	2,909	2,919	10	0.3
ASEAN	359	374	15	4.1
Central and Eastern Europe	54	69	15	27.1
U.S. imports for consumption:				
Mexico	3,703	4,801	1,098	29.7
China	7,039	7,378	339	4.8
Canada	2,010	2,418	408	20.3
Hong Kong	4,542	4,171	-370	-8.2
Taiwan	2,784	2,770	-14	-0.5
Dominican Rep	1,781	1,807	26	1.5
Korea	2,579	2,311	-269	-10.4
Italy	1,801	2,048	247	13.7
India	1,860	1,974	114	6.1
Honduras	936	1,244	307	32.8
All Other	21,038	21,345	307	1.5
Total	50,074	52,268	2,194	4.4
EU-15	4,276	4,451	175	4.1
OPEC	1,802	1,977	175	9.7
Latin America	10,285	11,853	1,568	15.2
CBERA	5,585	6,176	591	10.6
Asian Pacific Rim	24,821	24,592	-229	-0.9
ASEAN	6,310	6,432	122	1.9
Central and Eastern Europe	382	405	24	6.2
U.S. merchandise trade balance:				
Mexico	-1,321	-1,783	-462	-35.0
China	-6,779	-7,165	-386	-5.7
Canada	663	445	-218	-32.9
Hong Kong	-4,126	-3,755	372	9.0
Taiwan	-2,667	-2,638	29	1.1
Dominican Rep	-794	-739	56	7.0
Korea	-2,348	-2,078	270	11.5
Italy	-1,651	-1,901	-249	-15.1
India	-1,817	-1,932	-116	-6.4
Honduras	-435	-489	-55	-12.5
All Other	-13,761	-13,775	-14	-0.1
Total	-35,035	-35,809	-774	-2.2
EU-15	-2,227	-2,298	-70	-3.2
OPEC	-1,371	-1,551	-180	-13.1
Latin America	-3,869	-4,396	-528	-13.6
CBERA	-2,445	-2,572	-127	-5.2
Asian Pacific Rim	-21,912	-21,673	239	1.1
ASEAN	-5,951	-6,057	-107	-1.8
Central and Eastern Europe	-328	-337	-9	-2.8

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

Table 9-2

Footwear: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
China	9	8	-1	-5.7
Italy	15	7	-8	-51.7
Brazil	8	5	-2	-29.9
Indonesia	14	22	8	59.4
Spain	5	7	2	33.8
Mexico	71	75	4	5.8
Korea	29	38	9	31.3
Thailand	4	6	2	49.7
Dominican Rep	44	66	22	49.8
Taiwan	11	10	-1	-9.9
All Other	462	516	55	11.8
Total	671	761	90	13.4
EU-15	130	116	-14	-11.0
OPEC	28	34	6	22.8
Latin America	194	224	30	15.7
CBERA	81	108	27	33.4
Asian Pacific Rim	210	293	83	39.4
ASEAN	27	51	23	86.1
Central and Eastern Europe	4	5	1	14.7
U.S. imports for consumption:				
China	5,817	6,367	550	9.5
Italy	1,017	1,200	183	18.0
Brazil	1,127	1,201	74	6.6
Indonesia	956	1,055	99	10.4
Spain	372	394	22	5.9
Mexico	237	306	70	29.5
Korea	515	340	-175	-34.0
Thailand	406	343	-63	-15.4
Dominican Rep	247	254	7	2.7
Taiwan	350	256	-94	-27.0
All Other	1,051	992	-59	-5.6
Total	12,095	12,708	613	5.1
EU-15	1,751	1,958	207	11.8
OPEC	957	1,056	98	10.3
Latin America	1,696	1,840	145	8.5
CBERA	283	300	17	6.0
Asian Pacific Rim	8,279	8,579	300	3.6
ASEAN	1,460	1,525	66	4.5
Central and Eastern Europe	125	87	-37	-30.0
U.S. merchandise trade balance:				
China	-5,808	-6,359	-551	-9.5
Italy	-1,002	-1,193	-191	-19.1
Brazil	-1,119	-1,195	-76	-6.8
Indonesia	-942	-1,033	-91	-9.6
Spain	-367	-387	-20	-5.5
Mexico	-165	-231	-66	-39.7
Korea	-487	-302	184	37.9
Thailand	-402	-338	65	16.0
Dominican Rep	-203	-188	15	7.5
Taiwan	-339	-246	93	27.5
All Other	-589	-475	114	19.3
Total	-11,424	-11,948	-523	-4.6
EU-15	-1,621	-1,842	-221	-13.6
OPEC	-929	-1,021	-92	-9.9
Latin America	-1,502	-1,616	-114	-7.6
CBERA	-202	-192	10	5.0
Asian Pacific Rim	-8,069	-8,286	-217	-2.7
ASEAN	-1,432	-1,475	-42	-2.9
Central and Eastern Europe	-121	-83	38	31.6

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

shifts in the supply of U.S. sector imports and the markets for U.S. sector exports will occur as a result of the ATC, which became effective January 1, 1995, as part of the WTO agreements. The ATC replaced the international Multifiber Arrangement (MFA) system of quotas, which had governed world textile and apparel trade since 1974. Under the ATC, textiles and apparel will be gradually “integrated” into the GATT regime; that is, brought under GATT discipline and subject to the same rules as goods of other sectors. As WTO countries integrate their textile and apparel trade into the GATT regime, they are obligated to eliminate quotas on imports of textiles and apparel from WTO countries and cannot establish new quotas on the integrated items, except as provided under normal GATT rules.<sup>3</sup>

Under the ATC, the integration process will occur over a 10-year transition period in three stages ending on January 1, 2005. The first stage began on January 1, 1995, when WTO countries were obligated to integrate at least 16 percent (based on 1990 import volume) of their sector trade into the GATT regime and to increase the annual growth rates for quotas still in place with major suppliers by 16 percent.<sup>4</sup> The second stage begins in 1998, when at least another 17 percent of the trade is to be integrated, followed by at least an additional 18 percent in 2002. The rest of the trade is to be integrated at the end of the 10-year period. All WTO countries are subject to the disciplines of the ATC and are the only countries eligible for the ATC benefits.

The ATC recognizes that some importing countries may need a special mechanism for avoiding serious damage to their domestic textile and apparel industries during the transition period. During the 10 years that the ATC is in force, WTO countries may limit imports of textiles or apparel from other WTO countries by applying a “transitional safeguard,” or quota. The safeguard may be applied only to products that are not subject to quotas in the importing country and not yet integrated into the GATT regime. The quota may remain in place for up to 3 years, or until the product is integrated into the GATT. In 1996, the only safeguard action taken by the United States under the ATC was to establish a quota on cotton and manmade-fiber skirts from El Salvador--a WTO member. The only other quota imposed by the United States in 1996 involved men’s and boys’ cotton and manmade-fiber woven shirts from the Ukraine--a non-WTO member. This action was taken under section 204 of the Agricultural Act of 1956. These 2 calls, or requests for consultations, were down considerably from the 28 calls initiated by the United States during 1995, the first year the ATC was in force.<sup>5</sup>

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<sup>3</sup>The United States has textile and apparel quotas with 46 countries, 37 of which are WTO members. Non-WTO members, such as China and Taiwan, are not entitled to the benefits of quota liberalization under the ATC. U.S. imports of textiles and apparel that had been covered by the MFA (i.e., goods of cotton, other vegetable fibers, wool, manmade fibers, and silk blends) totaled \$46 billion in 1996, or 88 percent of the total value of textile and apparel imports that year.

<sup>4</sup>The acceleration of quota growth rates is based on the rates specified in the bilateral MFA agreements in place on Dec. 31, 1994. At that time, the annual quota growth rates with major WTO suppliers such as Hong Kong and Korea were less than 3 percent, and those with most other, smaller WTO suppliers were less than 7 percent. In the second and third stages of GATT integration, quota growth for major suppliers is to be increased by another 25 and 27 percent, respectively. For small suppliers (those accounting for 1.2 percent or less of an importing country’s total quotas as of December 31, 1991), quota growth is to be advanced by one stage, that is, growth rates are to be increased by 25 percent in the first stage.

<sup>5</sup>Citing changing market conditions, the United States rescinded 15 of the 28 calls made in 1995. All of the calls rescinded were made with WTO members. Two of the 1995 calls were challenged by the exporting countries during 1996. Costa Rica challenged the U.S. call on cotton and manmade-

(continued...)

Trade statistics for all commodity/industry groups in the textiles, apparel, and footwear sector are presented in table 9-4 at the end of this chapter.

## U.S. BILATERAL TRADE

### Textiles and apparel

Mexico emerged as the leading market for U.S. sector exports, surpassing Canada, and the second-largest supplier of sector imports, following China, in 1996. Consequently, Mexico supplanted China as the country with the largest total U.S. trade--\$7.8 billion in textiles and apparel in 1996. Production sharing accounted for a large part of U.S. sector trade with Mexico, with much of the U.S. exports shipped to Mexico consisting of cut apparel parts and a large part of the U.S. imports consisting of assembled garments. Apparel accounted for 81 percent of the total value of sector imports from Mexico in 1996 and for 61 percent of the total value of such exports shipped there. Apparel and made-up textile products assembled in production-sharing operations in Mexico accounted for 70 percent of the total value of textile and apparel imports in 1996. The trade deficit with Mexico expanded by \$462 million (35 percent) to \$1.8 billion during 1996, as sector imports grew by \$1.1 billion (30 percent) to \$4.8 billion and exports grew by \$636 million (27 percent) to \$3.0 billion. This was considerably less than the expansion of the U.S. trade deficit with Mexico in 1995, when the sector deficit worsened by \$1.1 billion (573 percent), as sector imports from Mexico increased by 52 percent and sector exports grew by 7 percent. The leading U.S. imports and exports of textile and apparel products for major trading partner countries are presented in table 9-3.

The U.S. trade deficit with CBERA countries widened by \$127 million (5 percent) to \$2.6 billion in 1996, as U.S. sector imports from CBERA countries grew by \$591 million (11 percent) and exports by \$464 million (15 percent) over the 1995 levels. The growth in sector trade with CBERA countries in 1996 was much less than that in 1995, when imports rose by 20 percent and sector exports grew by 22 percent. U.S. sector trade with CBERA countries, like that with Mexico, consisted mostly of apparel production-sharing activity. About 81 percent of the total value of sector imports from CBERA countries in 1996 consisted of apparel made in production-sharing operations. Overall, apparel accounted for 98 percent of total sector imports from CBERA countries that year.

The pattern of apparel competition between CBERA countries and Mexico has changed since the implementation of NAFTA on January 1, 1994. In the 4 years before NAFTA, U.S. imports of apparel rose, in value terms, at an annual average rate of 25 percent for the CBERA countries and 28 percent for Mexico. The growth in CBERA apparel shipments since then has lagged behind that of Mexico. In 1994, the growth rate slowed to 13 percent for CBERA countries but accelerated to 33 percent for Mexico. In 1995, the value of CBERA apparel imports rose by 21 percent, but Mexico's shipments rose by 52 percent. In 1996, the value of Mexico's apparel shipments to the U.S. market grew by 39 percent, while those from CBERA

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<sup>5</sup>(...continued)

fiber underwear and India challenged the U.S. call on woven wool shirts and blouses. Both cases were ultimately reviewed by the WTO dispute settlement panel, which in Oct. 1996, ruled that the United States should remove the import quotas it placed on the underwear from Costa Rica and on the shirts and blouses from India because it did not demonstrate that the U.S. industry had suffered or was threatened with serious injury caused by those imports.

**Table 9-3**  
**Textiles and apparel: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Mexico . . . . .	Men's or boy's suits, ensembles, etc., not knitted or crocheted Women's or girl's suits, ensembles, etc., not knitted or crocheted T-shirts, singlets, tank tops, etc., knitted or crocheted Sweaters, pullovers, vests, etc. knitted or crocheted	Men's or boy's suits, ensembles, etc., not knitted or crocheted Women's or girl's suits, ensembles, etc., not knitted or crocheted T-shirts, singlets, tank tops, etc., knitted or crocheted Woven fabric of synthetic filament yarn
China . . . . .	Women's or girl's suits, ensembles, etc., not knitted or crocheted Sweaters, pullovers, vests, etc. knitted or crocheted Leather articles of apparel and clothing accessories Women's or girl's blouses, shirts, etc., not knitted or crocheted	Artificial filament tow Synthetic staple fibers, not carded, combed, etc. Wool and fine or coarse animal hair, carded and combed ( <sup>1</sup> )
Canada . . . . .	Men's or boy's suits, ensembles, etc., not knitted or crocheted Synthetic filament yarn Women's or girl's suits, ensembles, etc., not knitted or crocheted Sweaters, pullovers, vests, etc. knitted or crocheted	Carpets and other textile floor coverings, tufted Synthetic filament yarn Nonwovens, whether or not impregnated, coated, etc. Woven cotton fabrics containing 85 percent or more cotton
Hong Kong . . . . .	Sweaters, pullovers, vests, etc. knitted or crocheted Women's or girl's suits, ensembles, etc., not knitted or crocheted Men's or boy's shirts, not knitted or crocheted Women's or girl's blouses, shirts, etc., not knitted or crocheted	Textile fabrics (not tire cord) coated etc. with plastic Nonwovens, whether or not impregnated, coated, etc. Carpets and other textile floor coverings, tufted Woven fabric of synthetic filament yarn
Taiwan . . . . .	Sweaters, pullovers, vests, etc. knitted or crocheted Women's or girl's suits, ensembles, etc., knitted or crocheted Women's or girl's suits, ensembles, etc., not knitted or crocheted Hats and headgear	Synthetic filament yarn ( <sup>1</sup> )
Dominican Republic . . . . .	Men's or boy's suits, ensembles, etc., not knitted or crocheted Women's or girl's suits, ensembles, etc., not knitted or crocheted Bras, girdles, garters, etc. Men's or boy's underpants, pajamas, etc., knitted or crocheted	Men's or boy's suits, ensembles, etc., not knitted or crocheted Other made up clothing accessories and certain parts of garments or clothing accessories Women's or girl's suits, ensembles, etc., not knitted or crocheted Bras, girdles, garters, etc.

<sup>1</sup>No other significant export products.

Note.--Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

countries grew by only 11 percent. The 21-percent growth in CBERA imports in 1995 was attributable principally to optimism by the U.S. apparel industry that CBERA countries would be granted NAFTA parity. The slowdown in growth in 1996 CBERA imports reflected the U.S. industry's concerns and uncertainty over the passage of legislation that would grant NAFTA parity to CBERA countries. Industry sources reported in 1996 that although U.S. producers continue to use existing production-sharing operations in the CBERA (in order to diversify their sources of supply), new investment or expansion of production-sharing facilities has been in Mexico. U.S. industry officials claimed that NAFTA has led to a measurable diversion of trade and investment from CBERA countries to Mexico.<sup>6</sup> Imported garments from Mexico meeting certain criteria enter free of quota and duty under NAFTA provision 9802.00.90. Comparable 9802 apparel imports from CBERA countries are still subject to duty on the value-added offshore. The devaluation of the Mexican peso during December 1994-January 1995 further affected the competitive balance between Mexico and CBERA countries, as well as with Asian suppliers, by effectively reducing dollar prices of Mexican goods in the U.S. market.

The U.S. trade deficit with China worsened by \$386 million (6 percent) to \$7.2 billion in 1996. This was in contrast to 1995 when the sector deficit with China improved by 6 percent. China continued to be the largest supplier of textile and apparel imports to the United States, accounting for 14 percent of the total value of imports in 1996. U.S. sector imports from China rose by \$339 million (5 percent) over the 1995 level to \$7.4 billion in 1996, while U.S. sector exports declined by \$47 million (18 percent) to \$213 million. Apparel accounted for 86 percent of the total value of imports from China in 1996 and for only 7 percent of the total value of exports. Nearly all of U.S. textile exports to China consisted of raw materials such as manmade fibers and yarns.

The traditional Big Three Asian suppliers--Hong Kong, Taiwan, and Korea--continued to decline in importance in 1996. Production of textiles and apparel in these countries continued to be affected by rising operating costs, labor shortages, competition from lower cost countries and, to a lesser extent, tight quotas. These countries' combined share of the total value of sector imports fell to 17 percent (\$9.2 billion) in 1996 from 20 percent (\$9.9 billion) in 1995 and from 24 percent (\$10.4 billion) in 1993. U.S. trade deficits with the Big Three in 1996 narrowed by 9 percent, 1 percent, and 12 percent, respectively. U.S. sector imports from Hong Kong declined by \$370 million (8 percent) to \$4.2 billion in 1996; from Taiwan by \$14 million (1 percent) to \$2.8 billion; and from Korea by \$269 million (10 percent) to \$2.3 billion. Apparel accounted for the majority of imports from the Big Three in 1996. U.S. sector exports to these countries remained at approximately the 1995 level, being \$416 million for Hong Kong and \$233 million for Korea, and rising by \$15 million (13 percent) to \$132 million for Taiwan.

The largest U.S. bilateral trade surplus in textiles and apparel was with Canada, the second-largest market for U.S. exports. U.S.-sector trade with Canada has grown rapidly since the adoption of the United States-Canada Free-Trade Agreement (CFTA) in 1989,<sup>7</sup> and, among the top 10 trading partners, Canada had the second-largest increase in total trade after Mexico in 1996. The trade surplus with Canada declined by \$218 million (33 percent) from the 1995

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<sup>6</sup>Letter to William V. Roth, Jr., Chairman, Senate Finance Committee, in support of NAFTA parity for CBERA countries, jointly signed by the American Apparel Manufacturers Association, American Textile Manufacturers Institute, United States Apparel Industry Council, American Yarn Spinners Association, and American Fiber Manufacturers Association, Oct. 3, 1995.

<sup>7</sup>The duty phaseout schedule for the CFTA was incorporated and continued under NAFTA.

level of \$663 million to \$445 million in 1996, as U.S. imports from Canada rose by \$408 million (20 percent) to \$2.4 billion, and exports increased by \$190 million (7 percent) to \$2.9 billion. Much of the sector trade with Canada is in textiles such as yarn and fabric.

### **Footwear**

China supplied 60 percent of the U.S. footwear market in 1996 by volume, and the increase in the value of the trade deficit with China more than accounted for the increase in the total U.S. footwear trade deficit. The deficit with China widened by \$551 million (10 percent) to \$6.4 billion as U.S. bilateral trade with China consisted almost entirely of imports. The footwear trade deficit with the EU widened by \$221 million (14 percent) to \$1.8 billion, as the deficit with Italy rose by \$191 million (19 percent) to \$1.2 billion. The deficit with Brazil, the second-leading U.S. supplier, rose by \$76 million (7 percent) to \$1.2 billion in 1996, following a \$141 million drop in 1995. This trend reflected the increased competitiveness of Brazil in the U.S. market following a 9-percent depreciation of the Brazilian real against the U.S. dollar in 1996. The trade deficit with Mexico widened by \$66 million (40 percent) to \$231 million. This was attributed largely to preferential U.S. tariffs under NAFTA for Mexican goods and to the devaluation of the Mexican peso against the U.S. dollar.

## **COMMODITY ANALYSIS**

For further information, see the textiles and apparel section in chapter 4 for an analysis of factors affecting trends in these commodities.



**Table 9-4**  
**Textiles, apparel, and footwear sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH048	Manmade fibers and filament yarns:				
	Exports .....	2,064	2,109	45	2.2
	Imports .....	1,381	1,402	20	1.5
	Trade balance .....	683	708	25	3.7
CH049	Spun yarns and miscellaneous yarns:				
	Exports .....	574	654	80	13.9
	Imports .....	613	645	32	5.3
	Trade balance .....	-39	9	48	( <sup>3</sup> )
CH050	Broadwoven fabrics:				
	Exports .....	1,888	2,089	202	10.7
	Imports .....	3,462	3,384	-78	-2.2
	Trade balance .....	-1,574	-1,294	279	17.8
CH051	Knit fabrics:				
	Exports .....	437	497	60	13.8
	Imports .....	334	520	186	55.5
	Trade balance .....	102	-23	-126	( <sup>3</sup> )
CH052	Miscellaneous fabrics:				
	Exports .....	268	260	-8	-3.1
	Imports .....	151	153	2	1.2
	Trade balance .....	117	107	-10	-8.7
CH053	Coated, covered, impregnated, or laminated textile fabrics:				
	Exports .....	492	542	49	10.0
	Imports .....	243	255	12	4.9
	Trade balance .....	249	287	38	15.1
CH054	Cordage, nets, and netting:				
	Exports .....	48	55	6	13.3
	Imports .....	162	140	-22	-13.6
	Trade balance .....	-114	-85	28	25.1
CH055	Certain textile articles and fabrics suitable for industrial use:				
	Exports .....	277	262	-15	-5.4
	Imports .....	235	262	28	11.8
	Trade balance .....	42	( <sup>4</sup> )	-43	-101.2
CH056	Miscellaneous textiles and articles:				
	Exports .....	976	1,045	69	7.1
	Imports .....	1,417	1,492	74	5.3
	Trade balance .....	-441	-446	-5	-1.2
CH057	Sacks and bags of textile materials:				
	Exports .....	26	19	-7	-25.8
	Imports .....	76	17	-60	-78.3
	Trade balance .....	-50	3	53	( <sup>3</sup> )
CH058	Carpets and rugs:				
	Exports .....	686	757	71	10.4
	Imports .....	858	845	-13	-1.5
	Trade balance .....	-171	-87	84	49.1
CH059	Home furnishings:				
	Exports .....	266	280	14	5.3
	Imports .....	1,258	1,255	-3	-0.3
	Trade balance .....	-992	-974	18	1.8
CH060	Men's and boys' suits and sports coats:				
	Exports .....	149	133	-17	-11.1
	Imports .....	850	924	74	8.7
	Trade balance .....	-701	-792	-90	-12.9
CH061	Men's and boys' coats and jackets:				
	Exports .....	125	144	19	15.4
	Imports .....	1,692	1,783	91	5.4
	Trade balance .....	-1,567	-1,639	-72	-4.6
CH062	Men's and boys' trousers:				
	Exports .....	1,082	1,232	150	13.9
	Imports .....	3,755	4,083	327	8.7
	Trade balance .....	-2,673	-2,850	-177	-6.6

See footnotes at end of table.

Table 9-4--Continued

Textiles, apparel, and footwear sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH063	Women's and girls' trousers:				
	Exports .....	486	570	84	17.3
	Imports .....	3,670	3,948	278	7.6
	Trade balance .....	-3,184	-3,378	-194	-6.1
CH064	Shirts and blouses:				
	Exports .....	1,285	1,402	116	9.1
	Imports .....	11,986	12,377	391	3.3
	Trade balance .....	-10,701	-10,975	-274	-2.6
CH065	Sweaters:				
	Exports .....	32	46	14	43.1
	Imports .....	1,750	1,765	14	0.8
	Trade balance .....	-1,718	-1,719	( <sup>4</sup> )	( <sup>5</sup> )
CH066	Women's and girls' suits, skirts, and coats:				
	Exports .....	274	287	13	4.8
	Imports .....	3,548	3,857	309	8.7
	Trade balance .....	-3,274	-3,570	-296	-9.0
CH067	Women's and girls' dresses:				
	Exports .....	112	115	2	2.0
	Imports .....	1,443	1,574	131	9.1
	Trade balance .....	-1,330	-1,459	-129	-9.7
CH068	Robes, nightwear, and underwear:				
	Exports .....	712	813	102	14.3
	Imports .....	2,673	2,947	274	10.3
	Trade balance .....	-1,961	-2,134	-173	-8.8
CH069	Hosiery:				
	Exports .....	257	273	16	6.4
	Imports .....	363	404	41	11.4
	Trade balance .....	-106	-131	-25	-23.6
CH070	Body-supporting garments:				
	Exports .....	431	405	-26	-5.9
	Imports .....	927	864	-62	-6.7
	Trade balance .....	-496	-459	37	7.4
CH071	Neckwear, handkerchiefs, and scarves:				
	Exports .....	29	39	10	34.3
	Imports .....	339	351	12	3.7
	Trade balance .....	-310	-312	-2	-0.8
CH072	Gloves, including gloves for sports:				
	Exports .....	175	186	11	6.0
	Imports .....	1,733	1,893	160	9.2
	Trade balance .....	-1,558	-1,708	-150	-9.6
CH073	Headwear:				
	Exports .....	115	118	3	3.0
	Imports .....	842	883	41	4.9
	Trade balance .....	-728	-765	-37	5.2
CH074	Leather apparel and accessories:				
	Exports .....	122	103	-19	-15.5
	Imports .....	1,199	1,149	-50	-4.2
	Trade balance .....	-1,078	-1,046	32	2.9
CH075	Fur apparel and other fur articles:				
	Exports .....	72	74	2	2.8
	Imports .....	146	187	41	27.7
	Trade balance .....	-74	-113	-38	-51.7
CH076	Rubber, plastic, and coated-fabric apparel:				
	Exports .....	91	97	6	7.0
	Imports .....	192	178	-14	-7.3
	Trade balance .....	-101	-81	20	20.2
CH077	Nonwoven and related products:				
	Exports .....	577	621	44	7.6
	Imports .....	476	456	-19	-4.1
	Trade balance .....	102	165	63	62.3

See footnotes at end of table.

**Table 9-4--Continued**

**Textiles, apparel, and footwear sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
CH078	Other wearing apparel:				
	Exports .....	910	1,230	320	35.2
	Imports .....	2,297	2,276	-21	-0.9
	Trade balance .....	-1,388	-1,046	342	24.6
CH079	Footwear and footwear parts:				
	Exports .....	671	761	90	13.4
	Imports .....	12,095	12,708	613	5.1
	Trade balance .....	-11,424	-11,948	-523	-4.6

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

<sup>3</sup>Not meaningful for purposes of comparison.

<sup>4</sup>Less than \$500,000.

<sup>5</sup>Less than 0.05 percent.

Note.--Calculations based on unrounded data.

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



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## CHAPTER 10

# Minerals and Metals

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The U.S. trade deficit in the minerals and metals sector widened by \$2.1 billion (9 percent) to \$25.7 billion in 1996, as U.S. exports of minerals and metals increased by \$1.1 billion (3 percent) to \$40.5 billion and imports increased by \$3.2 billion (5 percent) to \$66.2 billion. The growing trade deficit is a reversal of the narrowing of the trade deficit for the sector in 1995, by \$618 million (3 percent) to \$23.7 billion (table 10-1).

The 1996 deficit expansion was due primarily to imbalances in domestic supply and demand for steel mill products, and strong consumer demand for natural and synthetic gemstones. Total imports for both product categories grew by \$1.6 billion (9 percent) to \$20.1 billion, or 30 percent of total U.S. imports of minerals and metals products in 1996. The U.S. trade deficit in steel mill products rose by \$1.5 billion (21 percent) to \$8.6 billion in 1996, as imports grew by \$894 million (8 percent) to \$12.7 billion. This increase reflected strong U.S. demand in steel-consuming industries such as construction, machinery, automotive, and oil and gas, combined with temporary supply disruptions related to planned and unplanned maintenance-related shutdowns at a number of U.S. steel mills. U.S. exports of steel mill products declined by \$600 million (13 percent) to \$4.1 billion in 1996, partially reversing a huge rise of \$1.6 billion (54 percent) to \$4.7 billion in 1995. U.S. imports of natural and synthetic gemstones rose by \$747 million (11 percent) to \$7.4 billion in 1996, reflecting a rise in the price of imported diamonds, coupled with strong demand, related to improved U.S. economic conditions and rising personal income.

The rise in the 1996 U.S. trade deficit for the minerals and metals sector was partially offset by increased exports of precious metals and related articles and decreased imports of unwrought aluminum. U.S. exports of precious metals and related articles increased by \$1.4 billion (22 percent) to \$7.9 billion, largely as a result of increased nonmonetary gold exports, primarily to Switzerland and the United Kingdom. Such exports totaled \$5.8 billion in 1996 and involved transfers in foreign holdings of nonmonetary unwrought gold bullion between central banks. These bullion transfers often result in large annual variations in U.S. trade. The value of U.S. imports of unwrought aluminum fell by \$757 million (17 percent) to \$3.8 billion in 1996. This decline reflected the combined effects of a 17-percent decline in the average annual price of aluminum ingots, from 86 cents to 71 cents per pound, and weak demand by aluminum fabricators, who were burdened with excess inventories in 1996.

Trade statistics for all commodity/industry groups in the minerals and metals sector are presented in table 10-9 at the end of this chapter.

Table 10-1

Minerals and metals: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	11,012	11,245	233	2.1
Mexico	3,989	4,964	975	24.4
Japan	3,191	2,825	-366	-11.5
United Kingdom	2,699	3,994	1,296	48.0
Germany	1,216	1,083	-133	-10.9
China	708	675	-33	-4.7
Taiwan	1,285	941	-343	-26.7
Switzerland	2,107	2,699	592	28.1
Belgium	723	781	58	8.0
Korea	1,937	1,773	-164	-8.5
All Other	10,482	9,478	-1,004	-9.6
Total	39,350	40,459	1,109	2.8
EU-15	7,438	8,364	926	12.5
OPEC	1,056	1,159	103	9.8
Latin America	6,323	7,174	851	13.4
CBERA	646	631	-15	-2.3
Asian Pacific Rim	10,555	9,092	-1,463	-13.9
ASEAN	1,819	1,656	-162	-8.9
Central and Eastern Europe	51	59	8	15.4
U.S. imports for consumption:				
Canada	15,028	15,818	790	5.3
Mexico	4,157	4,669	512	12.3
Japan	4,968	4,909	-59	-1.2
United Kingdom	2,002	2,089	87	4.3
Germany	3,008	3,298	290	9.6
China	2,705	3,047	342	12.6
Taiwan	2,769	2,694	-75	-2.7
Switzerland	772	736	-35	-4.6
Belgium	1,873	2,216	342	18.3
Korea	1,246	1,218	-28	-2.2
All Other	24,494	25,497	1,003	4.1
Total	63,024	66,192	3,169	5.0
EU-15	13,499	14,657	1,158	8.6
OPEC	1,062	1,142	80	7.6
Latin America	8,963	9,821	858	9.6
CBERA	497	526	29	5.9
Asian Pacific Rim	13,762	14,180	418	3.0
ASEAN	1,130	1,221	90	8.0
Central and Eastern Europe	516	500	-15	-3.0
U.S. merchandise trade balance:				
Canada	-4,016	-4,573	-557	-13.9
Mexico	-168	295	463	( <sup>2</sup> )
Japan	-1,778	-2,084	-306	-17.2
United Kingdom	697	1,905	1,209	173.5
Germany	-1,792	-2,215	-423	-23.6
China	-1,997	-2,371	-375	-18.8
Taiwan	-1,485	-1,753	-268	-18.1
Switzerland	1,336	1,963	627	46.9
Belgium	-1,150	-1,435	-285	-24.8
Korea	691	555	-136	-19.7
All Other	-14,012	-16,019	-2,007	-14.3
Total	-23,674	-25,734	-2,060	-8.7
EU-15	-6,061	-6,293	-232	-3.8
OPEC	-7	16	23	( <sup>2</sup> )
Latin America	-2,640	-2,647	-8	-0.3
CBERA	150	105	-45	-29.8
Asian Pacific Rim	-3,207	-5,088	-1,881	-58.6
ASEAN	689	436	-253	-36.7
Central and Eastern Europe	-465	-441	23	5.0

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

## U.S. BILATERAL TRADE

The principal product categories comprising U.S. bilateral trade in mineral and metals products in 1996 were steel mill products, accounting for 19 percent of U.S. imports and 10 percent of U.S. exports; natural and synthetic gemstones, accounting for 11 percent of U.S. imports and less than 1 percent of U.S. exports; and precious metals and related articles, accounting for 8 percent of U.S. imports and 20 percent of U.S. exports. Both the rankings and shares of these categories remained essentially unchanged from 1995 levels. The leading U.S. imports and exports of minerals and metals products for major trading partner countries are presented in table 10-2.

The largest U.S. trading partners in the minerals and metals products sector in 1996 were Canada, Mexico, and Japan. U.S. minerals and metals trade with Mexico was influenced most strongly by Mexico's continuing economic recovery from its recent economic downturn associated with the peso devaluation of 1994-95 and by increasing integration of industries under the NAFTA. Mexico maintained its position as the second-leading market for U.S. exports of minerals and metals in 1996 as exports registered a \$975 million (24-percent) increase to \$5.0 billion, the second-largest increase to any Top 10 market, and accounted for 12 percent of total U.S. exports. This increase was dominated by growth in exports of iron and steel, which rose by \$167 million (24 percent) to \$865 million, and by exports of copper and articles of copper, which rose by \$107 million (43 percent) to \$356 million. These industries also have benefited from the NAFTA-related integration of economic activity that is occurring within the automotive, machinery, and appliance industries of the United States and Mexico. Mexico was the third-leading supplier of U.S. imports of minerals and metals in 1996 as imports rose by \$512 million (12 percent) to \$4.7 billion, the second-largest increase from any Top 10 supplier, and accounted for 7 percent of total U.S. imports. Most of the increase was attributable to imports of certain articles of iron or steel, up a combined \$317 million (20 percent) to \$1.9 billion.

Canada was the leading destination for U.S. exports in 1996, accounting for 28 percent (\$11.2 billion) of total exports; U.S. exports to Canada rose by \$233 million (2 percent) to \$11.2 billion. Principal sectors contributing to the growth in exports to Canada in 1996 were certain articles of iron and steel, which grew by \$199 million (8 percent) to \$2.5 billion, reflecting improved economic growth and strong end-user demand by both Canadian and U.S. firms in Canada, and miscellaneous articles of base metal, which grew by \$122 million (15 percent) to \$925 million, reflecting both moderate growth in demand for many base metals and rising prices for these metals during the first half of 1996.<sup>1</sup> Canada was also the leading source of U.S. imports of minerals and metals, accounting for 24 percent (\$15.8 billion) of total imports. U.S. imports from Canada rose by \$790 million (5 percent), the greatest increase from any Top 10 supplier, and included miscellaneous articles of base metal, which increased by \$172 million (41 percent) to \$590 million and certain articles of iron and steel, which together rose by \$256 million (6 percent) to \$4.7 billion. These increases were also tied to the combined effects of strong U.S. demand and higher prices for base metals. Nearly 66 percent of U.S. imports of minerals and metals from Mexico and Canada entered duty free in 1996.

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<sup>1</sup>Principal product categories in this sector include cobalt, chromium, and titanium metal, each of which increased in price by between 4 percent and 35 percent during 1995-96.

**Table 10-2**  
**Minerals and metals: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Canada . . . . .	Unwrought aluminum Gold: unwrought, semifinished, or powder Unwrought refined copper and alloys Aluminum plates, sheets, and strip over 2 mm thick	Aluminum plates, sheets, and strip over 2 mm thick Miscellaneous articles or iron or steel Fasteners of iron or steel Safety glass, tempered or laminated
Mexico . . . . .	Semifinished products of iron or nonalloy steel Stoves, ranges, and other cooking devices of iron or steel Safety glass, tempered or laminated Flat-rolled products of iron or nonalloy steel, of a width of 600 mm or more, clad, plated, or coated	Miscellaneous articles or iron or steel Fasteners of iron or steel Hardware and fixtures of base metal Aluminum plates, sheets, and strip over 2 mm thick
Japan . . . . .	Fasteners of iron or steel Interchange tools for handtools or machine-tools Seamless pipes and tubes of iron or steel Glass envelopes and glass parts for electric lamps, cathode-ray tubes, and the like	Unwrought aluminum Kaolin and other kaolinic clays Aluminum plates, sheets, and strip over 2 mm thick Copper waste and scrap
United Kingdom . . . . .	Diamonds Platinum: unwrought, semifinished, or powder Semifinished products of iron or nonalloy steel Aluminum plates, sheets, and strip over 2 mm thick	Gold: unwrought, semifinished, or powder Waste and scrap of precious metal Silver: unwrought, semifinished, or powder Interchange tools for handtools or machine-tools
Germany . . . . .	Semifinished products of iron or nonalloy steel Flat-rolled products of alloy steel, of a width of 600 mm or more Seamless pipes and tubes of iron and steel Flat-rolled products of iron or nonalloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated, or coated	Waste and scrap of precious metal Razors, razor blades, and parts Miscellaneous articles of aluminum Gold: unwrought, semifinished, or powder
China . . . . .	Ceramic tableware, kitchenware, household, and toilet articles, of earthenware Statuettes and other ornamental ceramic articles Table, kitchen or other household articles and parts of iron or steel Articles of cement, concrete or artificial stone	Aluminum plates, sheets, and strip over 2 mm thick Ferrous waste and scrap Aluminum foil of a thickness not exceeding 0.2 mm Miscellaneous articles of copper

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. Products are ranked in decreasing order based on 1996 trade.

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

The United Kingdom received the largest increase in U.S. exports to any Top 10 market in both absolute and percentage terms in 1996. U.S. exports to this market grew by \$1.3 billion (48 percent) to \$4 billion, primarily because of increases in U.S. exports of gold, which rose \$1.5 billion (184 percent) to \$2.3 billion, and largely consisted of nonmonetary unwrought bullion transfers between central banks.



U.S. exports to the EU and to Asian Pacific Rim nations were almost equal as a proportion of total U.S. exports of minerals and metals (21 percent and 22 percent, respectively) in 1996. However, the trade deficit with the EU rose by a modest 4 percent (\$232 million) to \$6.3 billion in 1996 while the deficit with Asian Pacific nations grew by \$1.9 billion (59 percent) to \$5.1 billion. U.S. exports to the Asian Pacific region declined by \$1.5 billion (14 percent) to \$9.1 billion in 1996, largely reflecting relatively sluggish growth and lingering uncertainty in the Japanese economy. U.S. imports from Asian Pacific nations increased by \$418 million (3 percent) to \$14.2 billion. U.S. sector exports to EU nations increased by \$926 million (13 percent) to \$8.4 billion, principally due to exports of gold (largely to the United Kingdom and Switzerland), which nearly doubled to \$2.4 billion, and certain articles of iron and steel, which increased by \$546 million (19 percent) to \$647 million. U.S. sector imports from EU nations increased by \$1.2 billion (9 percent) in 1996 to \$14.7 billion, again due largely to increased imports of certain articles of iron and steel, up \$735 million (16 percent) to \$5.8 billion and diamonds, up by \$222 million (13 percent) to \$1.9 billion.

## COMMODITY ANALYSIS

### Steel Mill Products<sup>2</sup>

Relatively strong domestic demand contributed to an increase in the trade deficit in steel mill products of \$1.5 billion (21 percent) to \$8.6 billion in 1996 as the level of import penetration increased from 16.0 percent to 16.7 percent in value terms. U.S. imports of steel mill products reached their highest level of this decade in 1996, totaling \$12.7 billion, an increase of \$894 million (8 percent) from 1995. U.S. exports of steel mill products fell by \$600 million (13 percent) to \$4.1 billion in 1996. U.S. exports of steel mill products in 1995 had reached their highest level since 1940.

Apparent consumption of steel mill products rose by \$3.5 billion (3 percent) between 1995 and 1996, reflecting increased imports as well as increased domestic shipments<sup>3</sup> to the container, construction, machinery, shipbuilding, oil and gas, and automotive sectors (consumption by automakers was relatively lower early in 1996 because of a strike at GM, but recovered during the remainder of 1996). An increase in domestic supply was furnished by continued high capacity utilization of existing facilities,<sup>4</sup> additions to production capacity, changes in inventory,<sup>5</sup> and increased imports (including imports of semifinished inputs by domestic steelmakers). Although prices of steel products in the United States were lower overall

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<sup>2</sup>Includes semifinished, flat-rolled (plate and sheet), bars, rods, angles and sections, wire, rails, pipes, and tubes.

<sup>3</sup>Shipments by domestic producers increased by 3 percent by volume, although the value of such shipments declined overall because prices of steel mill products declined by 2 percent between 1995 and 1996.

<sup>4</sup>According to WEFA, Inc., although average capacity utilization fell from 93.4 percent to 89.4 percent during 1995-96, this level is still considered high.

<sup>5</sup>Inventories held by distributors generally declined between May 1995 and March 1996 in response to consumers' uncertainty about future economic conditions, as well as in response to planned and unplanned steel production outages. Distributor inventories increased from March 1996 onwards, reportedly reflecting increased optimism and increases in orders, although yearend inventories did not reach the average 1995 level. Information provided by the Steel Service Center Institute and National Association of Purchasing Managers.

in 1996 compared with 1995, prices and demand levels in major foreign markets were even lower, providing impetus to ship to the U.S. market.<sup>6</sup>

### **U.S. imports**

Import tonnage rose by 19 percent, compared with an 8-percent increase in value, as imports of low-value semifinished products increased significantly. Imports from the EU, which represented about one-third of total imports by value, increased by \$645 million (16 percent) to \$4.3 billion. Imports of steel products from Mexico also increased by \$164 million (19 percent) to \$1.0 billion and Canada by \$89 million (4 percent) to \$2.5 billion). In contrast, U.S. imports from Japan, the second-leading foreign supplier, declined \$160 million (10 percent) to \$1.4 billion, perhaps because of lower prices for flat-rolled steels and only a small increase in steel shipments to U.S.-based Japanese automotive production facilities (for which some Japanese flat-rolled steels are destined).

Four product groups accounted for most of the increase in U.S. imports in 1996: semifinished steel products (chiefly slabs and billets), plate, hot-rolled sheets, and wire rods. Several planned and unplanned domestic supply outages raised demand by U.S. steelmakers for imports of low value-added semifinished products (ingots, slab, blooms, and billets); U.S. imports of such products increased by 2.3 million tons (44 percent) and \$380 million (24 percent) from 1995 to 1996.<sup>7</sup> Steel producers purchase semifinished products such as slab and billets either to supplement existing production (e.g., an excess of rolling capacity over steel melting capacity, or to acquire hard-to-make grades), or to rectify a temporary outage of a mill's melting capability. Slabs are rolled into sheet for autos, appliances, containers, and other durables, while billets are rolled into bars and rods to make a diverse range of parts, wire, and wire products (imported rods also are drawn into wire and used to fabricate a wide range of wire products).<sup>8</sup> Plate is used to fabricate equipment, including barges and railroad rolling stock, and storage tanks; industrial demand rose in these areas.<sup>9</sup> While imports of semifinished products are purchased by domestic steelmakers for use on their rolling mills, rod, hot-rolled sheet, and plate usually are bought by downstream converters and fabricators.

### **U.S. exports**

On the whole, U.S. exports declined by \$600 million (13 percent) to \$4.1 billion in 1996. The value of U.S. exports of oil country tubular goods (pipe), and tin plate (used for cans for food preservation) ran counter to the overall downward trend of exports and together increased by \$97 million (17 percent) to \$657 million. Korea, Taiwan, and Spain represented \$381 million (64 percent) of the decline in U.S. exports. Exports to Korea declined by \$152

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<sup>6</sup>An increase in imports and decrease in exports may have been influenced by the rise in the exchange rate of the U.S. dollar relative to currencies of major steel trading partners.

<sup>7</sup>Because these products are consumed by steelmakers, import penetration in terms of finished steel products may be nearly 2 percentage points less than that for all steel mill products, in value terms.

<sup>8</sup>Imports of steel wire rod from Canada, Germany, Trinidad and Tobago, and Venezuela currently are subject to antidumping and countervailing-duty investigations.

<sup>9</sup>Imports of plate from China, Russia, South Africa, and Ukraine currently are subject to antidumping investigations.

million (61 percent) to \$97 million in 1996, Taiwan by \$113 million (62 percent) to \$68 million, and Spain by \$117 million (85 percent) to \$20 million.

Canada and Mexico remained the primary destinations for U.S. exports of steel mill products in 1996, together accounting for \$2.6 billion (62 percent) of the annual total. Exports of these products to Mexico increased by \$180 million (28 percent) to \$827 million, while U.S. exports to Canada declined slightly, by \$1 million (less than 1 percent) to \$1.7 billion. The automotive, machinery, and appliance industries in the NAFTA countries are increasingly integrated, and U.S. exports benefited from relatively strong demand conditions in these industries.

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### **Precious Metals and Related Articles**

The U.S. trade surplus in precious metals and related articles increased by \$758 million (42 percent) in 1996 to \$2.6 billion.<sup>10</sup> The total value of both imports and exports of products in this category rose; however, the increase in imports was less than half the increase in exports. The United States produces significant quantities of gold and silver, is a major global center for precious-metals trade and fabrication, and is one of the world's largest markets for precious-metals and related articles. However, trade in this category is highly sensitive to nonmonetary gold shipments,<sup>11</sup> which accounted for almost 64 percent of the total trade by value. During 1996, nonmonetary gold imports grew \$606 million, whereas exports grew nearly \$1.5 billion over the previous year's levels.<sup>12</sup> Much of this change is due to increased activity in certain bullion transfers between central banks.

#### **U.S. imports**

Imports of precious metals and related articles increased in value in 1996 by \$654 million (14 percent) to \$5.3 billion, largely as a result of increased imports of nonmonetary gold, nonnumismatic coins, and platinum-group metals<sup>13</sup> (PGMs) in response to jewelry, investment, and industrial demand (table 10-3). Nonmonetary gold and PGMs dominated U.S. imports in

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<sup>10</sup>Precious metals and related articles include refined bullion and other unwrought forms, semi-manufactures, waste and scrap, and non-numismatic coins of gold, silver, and platinum-group metals. Monetary gold transferred between central banks is excluded. Monetary gold is refined gold bullion held specifically by central banks as a monetary reserve asset. Gold in this form, major foreign currencies, and International Monetary Fund Special Drawing Rights comprise a nation's foreign-exchange reserves. Identified monetary gold is under a separate subheading (*HTS* 7108.20.0000) and is excluded from merchandise trade statistics.

<sup>11</sup>Nonmonetary gold is primarily refined bullion not held as monetary reserves by central banks, but also includes other unwrought forms such as dore and semi-manufactures such as leaf.

<sup>12</sup>Overall, price shifts had lesser effect upon the value of trade in gold during 1995-96, for the 1996 average London Final fix was \$387.70 per troy ounce; the 1995 average was \$384.16 per troy ounce. *Platt's Metals Week*, various issues, 1995-97.

<sup>13</sup>Platinum, palladium, rhodium, iridium, osmium, and ruthenium.

this category, accounting for \$2.6 billion (49 percent) and \$1.7 billion (32 percent) of total 1996 imports, respectively. The leading sources for precious metals and related articles continued to be Canada, South Africa, and Russia, which together accounted for \$3.3 billion (62 percent) of the total value of U.S. imports. As a significant global producer, refiner, and fabricator of precious metals, Canada again was the largest source of all products in this category except PGMs, and provided nearly \$2.0 billion (37 percent) of all U.S. precious-metals imports. U.S. imports from Canada grew for a second year, by \$428 million (27 percent) in 1996, reflecting extensive linkages among firms and cross-border investments in the mining sector.

**Table 10-3**  
**Changes in U.S. imports of precious metals and related articles, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percentage
	<i>Million dollars</i>			
Gold .....	2,028	2,634	606	30
Non-numismatic coins .....	128	205	78	61
Platinum-group metals .....	1,694	1,716	22	1
Silver .....	580	571	-9	-1
Waste and scrap .....	247	203	-44	-18
<b>Total .....</b>	<b>4,676</b>	<b>5,330</b>	<b>654</b>	<b>14</b>

Note.--Calculations based on unrounded data.

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

U.S. imports of PGMs have risen every year since 1993 because of the lack of significant domestic supplies and continued demand for catalytic materials by the automotive, chemicals, and petroleum industries. A dominant share of U.S. PGM imports was from South Africa, under marketing agreements between South African mines and several major U.S.- and Canadian-based precious-metals refiners and fabricators. In 1996,<sup>14</sup> the value of U.S. imports from South Africa declined nearly \$68 million (8 percent) to \$744 million, mainly because of lower PGM prices.<sup>15</sup> In contrast, the value of imports of PGMs from Russia increased by \$108 million (nearly 26 percent) to \$530 million, reflecting more the rise in import volume by 29.9 million grams (45 percent) to 96.5 million grams in 1996 than the drop in PGM prices. Although still second to South Africa as a U.S. source of PGMs, Russia has supplied an increasing share of U.S. imports since 1992. These exports are an important source of foreign-exchange for Russia. In 1996, U.S. imports of PGMs from Russia were 31 percent of total imports.

<sup>14</sup>South Africa supplied 43 percent of total PGM imports in 1996, this compared with 48 percent (\$812 million) in 1995.

<sup>15</sup>The 1996 average Engelhard Industries price (one of the most readily available worldwide pricing benchmarks for PGMs) for platinum was \$397.97 per troy ounce; the 1995 average was \$425.36 per troy ounce. The corresponding prices for palladium were \$130.39 and \$153.34, respectively. *Platt's Metals Week*.

## U.S. exports

The value of U.S. exports of precious-metals increased by \$1.4 billion (22 percent) to nearly \$7.9 billion, mainly because of increased nonmonetary gold exports (table 10-4), primarily to Switzerland and the United Kingdom. Both countries are global banking and precious-metals trading centers. Of the \$5.8 billion in total U.S. nonmonetary gold exports in 1996, \$2.4 billion was exported to Switzerland, an increase of \$526 million (29 percent) over 1995. An additional \$2.3 billion was exported to the United Kingdom, \$1.5 billion (184 percent) more than in 1995. Most of this (\$2.0 billion to Switzerland and \$2.2 billion to the United Kingdom) was nonmonetary unwrought gold bullion.<sup>16</sup>

**Table 10-4**  
**Changes in U.S. exports of precious metals and related articles, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	————— Million dollars —————			
Gold (nonmonetary) .....	4,313	5,788	1,475	34
Waste and scrap .....	1,151	1,180	29	3
Non-numismatic coins .....	27	32	5	18
Silver .....	666	638	-28	-4
Platinum-group metals .....	318	248	-70	-22
<b>Total .....</b>	<b>6,475</b>	<b>7,886</b>	<b>1,412</b>	<b>22</b>

Note.—Calculations based on unrounded data.

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

Although exports can be outright sales to downstream consumers or transfers between commodity-exchange warehouses, some types of transfers between central banks<sup>17</sup> may cause especially large annual variations in U.S. trade in nonmonetary gold.<sup>18</sup> The amount of gold bullion held for foreign accounts by the Federal Reserve Bank of New York dropped by 372 metric tons (4 percent) in 1996 to 8,249 metric tons.<sup>19</sup> During this period, U.S. trade statistics showed that 339 metric tons were exported to Switzerland and the United Kingdom. In contrast to the sharp rise in exports to Switzerland and the United Kingdom, U.S. exports to the other

<sup>16</sup>Schedule B item number 7108.12.1010.

<sup>17</sup>For example, transfers of earmarked gold (held for foreign accounts) by the Federal Reserve Bank to the Bank of England (which allows for private accounts), may not be recorded strictly as monetary transactions. USITC staff interview with industry official, Apr. 10, 1997.

<sup>18</sup>According to U.S. trade statistics, transfers of nonmonetary unwrought gold bullion from the United States to the United Kingdom during 1992-96 ranged from a low of \$559 million in 1995 to a high of \$3.8 billion in 1993. Transfers to Switzerland during the same period ranged from \$425 million in 1992 to \$2.5 billion in 1993. Imports from these countries were minimal by comparison.

<sup>19</sup>U.S. Department of the Treasury, Federal Reserve Bank, *Federal Reserve Bulletin*, Washington, DC, Mar. 1997, p. A51.

major trading partners, Canada, France, Korea, Belgium, Japan, Germany, Hong Kong, and Taiwan, declined by \$2.3 billion (28 percent) in 1996.

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### **Natural and Synthetic Gemstones**

The trade deficit for natural and synthetic gemstones expanded by \$767 million (12 percent) to \$7.2 billion in 1996. Strong U.S. demand for gemstones, especially diamonds, caused imports of natural and synthetic gemstones to increase. At the same time, exports decreased. Although the United States accounts for less than 1 percent of global gemstone production,<sup>20</sup> it is the world's largest consumer of gemstones, particularly diamonds. Imports supplied virtually all domestic requirements in 1996.

#### **U.S. imports**

A strengthening U.S. economy during 1995-96 is credited with the growth in imports of natural and synthetic gemstones, which are luxury items (table 10-5). Improvements in real disposable personal income, consumer confidence in the economy, lower interest rates, and an increase in real gross domestic product were the key factors.<sup>21</sup>

Growth in U.S. imports was led by imports of higher priced diamonds; the trade weighted average unit price increased by \$41 (10 percent) to \$478 per carat in 1996.<sup>22</sup> The combined value of U.S. diamond imports from Israel, Belgium, and India--major diamond cutting and trading centers--increased by \$506 million (10 percent) to \$5.5 billion. These countries continued to account for the bulk of U.S. diamond imports, representing 75 percent of the import value of both natural and synthetic gemstones. Also contributing to increased U.S. imports was a \$150 million (nearly 170 percent) rise in the import value of natural and cultured pearls, to \$237 million;<sup>23</sup> Japan was the global leader in pearl production and continued to supply most of these products. The growth in U.S. imports was tempered, however, by a \$21 million (4-percent) decrease in imported natural colored gemstones, which fell to \$532 million. Thailand and Colombia continued to be the major suppliers for these products.

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<sup>20</sup>Estimated by staff of the U.S. International Trade Commission.

<sup>21</sup>The following improvements to economic factors were reported during 1995-96: (1) real disposable personal income increased by nearly 3 percent; (2) the consumer confidence index increased from 100 to 104.6, as measured by the Conference Board, Inc., Consumer Research Center in New York, NY; (3) the average prime interest rate charged by banks decreased from 8.83 percent to 8.27, as measured by the Board of Governors of the Federal Reserve System; and (4) real gross domestic product increased by 2.4 percent.

<sup>22</sup>The carat weight of imported diamonds remained relatively constant during the two-year period, increasing 106,484 carats (nearly 1 percent) to 13.8 million carats in 1996.

<sup>23</sup>Consumer choice of gemstone products is generally driven by fashion preferences; pearls were a popular product in 1996.

**Table 10-5**  
**Changes in U.S. imports of natural and synthetic gemstones, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Diamonds .....	5,971	6,588	618	10
Pearls .....	88	238	149	170
Natural colored gemstones .....	553	532	-21	-4
Synthetic and reconstructed gemstones .....	54	54	( <sup>1</sup> )	( <sup>2</sup> )
<b>Total .....</b>	<b>6,666</b>	<b>7,412</b>	<b>747</b>	<b>11</b>

<sup>1</sup>Less than \$500,000.

<sup>2</sup>Less than 0.5 percent.

Note.--Calculations based on unrounded data.

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

### U.S. exports

Decreased demand for large (2-plus carats), better quality diamonds such as those generally cut in the United States contributed to a decline in domestic exports of \$21 million (8 percent) to \$247 million in 1996 (table 10-6).<sup>24</sup> Large-cut diamonds over 0.5 carat continued to account for the bulk of U.S. exports, representing 81 percent of the export value of natural and synthetic gemstones. Exports to most of the principal markets declined. Shipments to Switzerland and Canada, which together accounted for 38 percent of total U.S. exports of natural and synthetic gemstones in 1996, decreased by \$6 million (6 percent) to \$95 million. An exception to the decrease in U.S. exports was the Hong Kong market; exports increased by \$4 million (8 percent) to \$49 million. Switzerland and Hong Kong are internationally established jewelry-manufacturing and diamond markets.<sup>25</sup>

Exports of colored gemstones also declined in 1996, by \$12 million (18 percent) to \$51 million; principal markets included India and Hong Kong. India is a major cutting center of colored gemstones and received mostly uncut products, whereas Hong Kong is a major trading center and received mostly cut products.<sup>26</sup> In contrast, domestic exports of both synthetic gemstones and pearl products improved during the report period, somewhat tempering the overall downturn.

<sup>24</sup>Although the average unit price of U.S. cut diamonds over 0.5 carats increased by \$685 (15 percent) to \$5,347 per carat in 1996, the quantity and value of diamonds exported decreased by 5,062 carats (18 percent) to 22,875 carats and by \$8 million (6 percent) to \$122 million respectively.

<sup>25</sup>Although a much smaller market than the three listed countries, exports to the Netherlands Antilles continued to improve, increasing by \$1 million (72 percent) to \$3 million in 1996, with cut and unworked diamond products accounting for most of the trade.

<sup>26</sup>Although the value of uncut natural colored gemstone exports to India decreased by \$1 million (10 percent) to \$11 million, the quantity almost doubled, causing a decrease in the trade-weighted average unit price from 52 cents per carat to 28 cents. A similar analysis cannot be made for exports to Hong Kong because quantity data are not reported for cut natural colored gemstones.

**Table 10-6**  
**Changes in U.S. exports of natural and synthetic gemstones, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	----- Million dollars -----			
Diamonds .....	171	151	-20	-12
Natural colored gemstones .....	63	51	-12	-18
Synthetic and reconstructed gemstones .....	32	41	9	29
Pearls .....	3	4	1	52
Total .....	268	247	-21	-8

Note.--Calculations based on unrounded data.

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

U.S. exports of synthetic gemstones increased by \$9 million (29 percent) to \$41 million, with Taiwan representing the largest market. U.S. exports to Taiwan continued to improve in 1996, increasing by \$4 million (47 percent) to \$13 million, and consisted of a variety of gemstone products but primarily synthetic piezo-electric quartz used in electronics. Exports of pearls increased by more than \$1 million (51 percent) to \$4 million; Japan was the largest market. A contributing factor may have been increasing water pollution problems in Japan's major pearl cultivation areas.<sup>27</sup>

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### Unwrought Aluminum

The trade deficit in unwrought aluminum improved for a second straight year, contracting by \$520 million (16 percent) to \$2.8 billion in 1996, as a decline in imports of \$757 million (17 percent) outpaced a decline in exports of \$237 million (18 percent).<sup>28</sup> Changes in the value of trade reflected lower prices for aluminum ingot as the global market relapsed towards oversupply conditions.

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<sup>27</sup>U.S. International Trade Commission, *Industry and Trade Summary, Gemstones*, USITC publication 3018, Mar. 1997, p. 31; *World Gem Wire*, "Japanese Buy Oysters From China," *National Jeweler*, Apr. 1, 1997, p. 20.

<sup>28</sup>Unwrought aluminum metal (including alloys of aluminum with other metals) is in forms (e.g., ingots, slabs, and extrusion billets) that have not been further worked by such mechanical means as rolling, extruding, drawing, or forging. This sector also includes aluminum-containing ores (bauxite and alumina), ash and residues, and waste and scrap.



## U.S. imports

Although the United States is the world's largest producer of aluminum and the largest market for aluminum and its raw materials, it is a net importer of unwrought aluminum.<sup>29</sup> The value of imported aluminum decreased slightly during 1996 because of lower prices in response to increased domestic output and weaker demand by downstream industries. Imports of unwrought aluminum declined \$757 million (17 percent) to \$3.8 billion in 1996; a \$683 million drop (18 percent) in nonalloyed and alloyed aluminum imports was largely responsible (table 10-7). Most of the decline in aluminum metal imports reflects the combined effects of a 17-

**Table 10-7**  
**Changes in U.S. imports of unwrought aluminum, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	Million dollars			
Non-alloyed aluminum .....	2,184	1,634	-550	-25
Aluminum alloys .....	1,595	1,462	-133	-8
Waste and scrap .....	529	430	-99	-19
Bauxite and alumina .....	271	296	25	9
Ash and residues .....	6	6	( <sup>1</sup> )	2
<b>Total .....</b>	<b>4,585</b>	<b>3,828</b>	<b>-757</b>	<b>-17</b>

<sup>1</sup>Less than \$500,000.

Note.--Calculations based on unrounded data.

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

percent drop in the annual average price of aluminum ingots to 71.4 cents per pound,<sup>30</sup> and a decline of 34,000 metric tons (2 percent) to 2.0 million metric tons in 1996. Domestic output of aluminum rose by 200,000 metric tons, (6 percent) to 3.4 million metric tons<sup>31</sup> during 1996 as U.S. aluminum smelters restarted idled capacity in anticipation of the expiration of the 1994 Memorandum of Understanding (MOU).<sup>32</sup> However, demand by fabricators remained weak

<sup>29</sup>The United States aluminum industry produced 6.8 million metric tons of primary and secondary aluminum in 1996, or 25 percent of total global production. World Bureau of Metal Statistics, *World Metal Statistics*, vol. 50, No. 3, Mar. 19, 1997, pp. 8 and 30. Domestic production met 80 percent of U.S. apparent consumption of 8.3 million metric tons in 1996, and an additional 1.5 million metric tons of net imports were required. Ibid.

<sup>30</sup>*Metals Week* composite price of primary aluminum ingot. *Platt's Metals Week*, various issues, 1995-97.

<sup>31</sup>U.S. Department of the Interior, U.S. Geological Survey, *Mineral Industry Surveys, Aluminum*, various months, 1995-96.

<sup>32</sup>This 2-year production-adjustment agreement was signed in Mar. 1994 by the major primary-aluminum producers, Australia, Canada, the EU, Norway, Russia, and the United States, in an attempt to restore normal global market conditions, to forestall trade friction over Russian exports to the EU, and to integrate the Russian industry into the global market. By late 1993, the extent of global oversupply was estimated at 1.5 million to 2.0 million metric tons; since then, these countries announced temporary cuts in primary aluminum capacity totaling about 1 million metric tons. For more details and text of the MOU, see: App. E, U.S. International Trade Commission, *Industry &*

(continued...)

through the first the year, as they continued to draw down backlogged inventories, resulting in the subsequent downward pressure on prices.

The leading sources of unwrought aluminum imports in 1996 continued to be Canada and Russia, the largest producers after the United States, accounting for nearly \$3.1 billion (80 percent) of total U.S. imports. Despite a \$350 million (12-percent) drop in imports during 1996, Canada remained the top U.S. source of nearly all products in this category. Canada provided \$2.5 billion (65 percent) of total U.S. aluminum imports due to its proximity and interrelated markets with the United States. This decline in import value reflects a decline in unit value due to weaker aluminum ingot prices; in contrast, the import volume increased by 47,000 metric tons (4 percent) to 1.3 million metric tons. U.S. imports from Russia dropped for a second straight year, falling by \$195 million (25 percent) to \$588 million, as closer markets were sought in the Far East and Europe. Imports from Venezuela remained at a relatively steady level of \$207 million during 1995-96, while declines totaling \$177 million (52 percent) occurred in imports from Brazil and Mexico.

Conversely, bauxite and alumina imports were up \$25 million (9 percent) to \$296 million in 1996. With few domestic resources of these raw materials for primary aluminum smelting, import levels increased as U.S. aluminum smelters restarted idled capacity. Leading U.S. sources of bauxite and alumina imports continued to be Jamaica and Guinea, which together accounted for \$185 million (63 percent) of the total in 1996.

### U.S. exports

U.S. exports of unwrought aluminum during 1996 decreased by \$237 million (18 percent) to \$1.1 billion. Most of this decline (table 10-8) was because of a drop in the value of waste and scrap, which decreased \$152 million (32 percent) to \$322 million; and of aluminum alloys, down \$106 million (23 percent) to \$345 million. Both commodities had lower unit values for the year, although trends in the quantity of exports differed. Waste and scrap exports dropped 110,000 metric tons (25 percent) to 324,000 metric tons, reflecting increased secondary aluminum production and declining scrap imports. In contrast, exports of aluminum alloys rose nearly 70,000 metric tons (7 percent) to 892,000 metric tons in 1996, in part due to weaker demand as domestic downstream customers drew down backlogged inventories.

The leading export markets in 1996 for all products in this category continued to be Japan, Canada, and Mexico, which together accounted for \$747 million (71 percent) of total U.S. exports. Japan was the leading market for U.S. products in this category, receiving \$383 million (36 percent) of total U.S. exports in 1996. With only one primary aluminum smelter still in operation, Japan is almost exclusively dependent upon imports to meet the needs of its downstream sectors.<sup>33</sup> U.S. exports of all products in this category to Japan declined in value

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<sup>32</sup>(...continued)

*Trade Summary, Aluminum*, USITC publication 2706, Apr. 1994.

<sup>33</sup>Japan produced 17,000 metric tons of primary aluminum in 1996. Primary and secondary production, together totaling 1.2 million metric tons, met less than a third of Japan's domestic consumption, estimated at 4.0 million metric tons. Major sources for Japanese imports of aluminum were the former Soviet Union, Australia, Brazil, the United States, New Zealand, and Canada. *World Metal Statistics*, p. 21.

**Table 10-8**  
**Changes in U.S. exports of unwrought aluminum, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Waste and scrap .....	474	322	-152	-32
Aluminum alloys .....	450	345	-106	-23
Non-alloyed aluminum .....	355	370	15	4
Bauxite and alumina .....	12	19	6	50
Ash and residues .....	3	2	-1	-46
<b>Total .....</b>	<b>1,294</b>	<b>1,057</b>	<b>-237</b>	<b>-18</b>

Note.--Calculations based on unrounded data.

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

by \$61 million (14 percent) to \$383 million, reflecting the combined effect of declining prices for products and a shift in the export mix away from higher priced products. The value of U.S. exports to Canada decreased \$16 million (6 percent) to \$262 million despite increased export volumes. In contrast, exports to Mexico increased nearly \$13 million (14 percent) to \$102 million. Because Korea, Hong Kong, and Taiwan also lack primary smelting capacity, they sought closer sources, primarily Australia, which consequently reduced the value of U.S. exports of unwrought aluminum to these countries by \$139 million (42 percent).

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**Table 10-9**  
**Minerals and metals sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MM001	Clays and nonmetallic minerals and products, not elsewhere specified or included:				
	Exports .....	1,023	1,033	10	1.0
	Imports .....	183	211	28	15.4
	Trade balance .....	840	822	-18	-2.2
MM002	Certain miscellaneous mineral substances:				
	Exports .....	7	11	4	54.1
	Imports .....	47	49	2	3.8
	Trade balance .....	-40	-37	2	5.5
MM003	Iron ores and concentrates:				
	Exports .....	184	232	47	25.6
	Imports .....	486	556	70	14.4
	Trade balance .....	-301	-324	-23	-7.6
MM004	Copper ores and concentrates:				
	Exports .....	486	287	-199	-41.0
	Imports .....	127	70	-56	-44.4
	Trade balance .....	360	217	-143	-39.8
MM005	Lead ores and residues:				
	Exports .....	25	28	4	14.6
	Imports .....	2	2	0	3.8
	Trade balance .....	22	26	3	15.7
MM006	Zinc ores and residues:				
	Exports .....	242	227	-15	-6.1
	Imports .....	13	18	5	40.7
	Trade balance .....	229	209	-20	-8.7
MM007	Certain ores, concentrates, ash and residues:				
	Exports .....	704	362	-342	-48.6
	Imports .....	622	604	-18	-2.9
	Trade balance .....	82	-242	-324	( <sup>3</sup> )
MM008	Precious metal ores and concentrates:				
	Exports .....	8	9	1	7.1
	Imports .....	87	74	-13	-14.7
	Trade balance .....	-79	-65	13	16.9
MM009	Certain nonmetallic minerals and articles:				
	Exports .....	995	1,063	68	6.8
	Imports .....	2,144	2,361	216	10.1
	Trade balance .....	-1,149	-1,297	-148	-12.9
MM010	Industrial ceramics:				
	Exports .....	635	620	-15	-2.3
	Imports .....	425	448	23	5.4
	Trade balance .....	210	172	-38	-18.0
MM011	Ceramic bricks and miscellaneous ceramic construction articles:				
	Exports .....	20	22	3	14.3
	Imports .....	16	18	2	12.0
	Trade balance .....	3	4	1	25.1
MM012	Ceramic floor and wall tiles:				
	Exports .....	26	25	-2	-6.0
	Imports .....	562	628	66	11.8
	Trade balance .....	-536	-604	-68	-12.7
MM013	Ceramic household articles:				
	Exports .....	99	95	-4	-3.6
	Imports .....	1,658	1,556	-102	-6.1
	Trade balance .....	-1,558	-1,461	98	6.3
MM014	Flat glass and certain flat-glass products				
	Exports .....	1,135	1,278	143	12.6
	Imports .....	917	1,050	133	14.5
	Trade balance .....	218	228	10	4.7
MM015	Glass containers:				
	Exports .....	129	148	19	14.4
	Imports .....	377	407	30	7.9
	Trade balance .....	-248	-259	-11	-4.6

See footnotes at end of table.

Table 10-9--Continued

Minerals and metals sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MM016	Household glassware:				
	Exports .....	198	205	8	4.0
	Imports .....	729	746	17	2.4
	Trade balance .....	-531	-540	-9	-1.7
MM017	Certain glass and glass products:				
	Exports .....	576	604	28	5.0
	Imports .....	583	679	97	16.6
	Trade balance .....	-7	-75	-68	-969.7
MM018	Fiberglass products:				
	Exports .....	490	538	48	9.7
	Imports .....	294	342	48	16.2
	Trade balance .....	197	196	( <sup>4</sup> )	( <sup>5</sup> )
MM019	Natural and synthetic gemstones:				
	Exports .....	268	247	-21	-7.9
	Imports .....	6,666	7,412	747	11.2
	Trade balance .....	-6,398	-7,165	-768	-12.0
MM020	Precious metals and related articles:				
	Exports .....	6,475	7,886	1,412	21.8
	Imports .....	4,676	5,330	654	14.0
	Trade balance .....	1,798	2,556	758	42.2
MM021	Primary iron products:				
	Exports .....	13	13	( <sup>4</sup> )	-1.1
	Imports .....	541	552	11	2.1
	Trade balance .....	-528	-539	-11	-2.2
MM022	Ferroalloys:				
	Exports .....	114	137	23	20.0
	Imports .....	1,245	1,217	-28	-2.3
	Trade balance .....	-1,131	-1,081	51	4.5
MM023	Iron and steel waste and scrap:				
	Exports .....	1,703	1,425	-277	-16.3
	Imports .....	300	433	133	44.2
	Trade balance .....	1,402	993	-410	-29.2
MM024	Abrasive and ferrous products:				
	Exports .....	410	449	39	9.5
	Imports .....	633	662	29	4.6
	Trade balance .....	-223	-213	10	4.5
MM025	Steel mill products, all grades:				
	Exports .....	4,665	4,065	-600	-12.9
	Imports .....	11,786	12,680	894	7.6
	Trade balance .....	-7,121	-8,615	-1,494	-21.0
MM026	Steel pipe and tube fittings and certain cast products:				
	Exports .....	630	633	33	5.2
	Imports .....	427	515	88	20.6
	Trade balance .....	204	149	55	27.1
MM027	Fabricated structurals:				
	Exports .....	143	178	35	24.4
	Imports .....	143	177	34	23.5
	Trade balance .....	( <sup>4</sup> )	1	1	( <sup>3</sup> )
MM028	Metal construction components:				
	Exports .....	483	552	69	14.3
	Imports .....	258	374	115	44.7
	Trade balance .....	225	179	-46	-20.6
MM029	Metallic containers:				
	Exports .....	787	796	9	1.2
	Imports .....	380	449	70	18.4
	Trade balance .....	407	347	-61	-14.9
MM030	Wire products of iron, steel, aluminum, copper, and nickel:				
	Exports .....	599	685	86	14.3
	Imports .....	1,119	1,162	43	3.8
	Trade balance .....	-520	-477	43	8.3

See footnotes at end of table.

Table 10-9--Continued

Minerals and metals sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MM031	Chain and miscellaneous products of base metal:				
	Exports .....	3,555	4,183	628	17.7
	Imports .....	4,553	5,053	500	11.0
	Trade balance .....	-999	-870	129	12.9
MM032	Industrial fasteners of base metal:				
	Exports .....	1,027	1,332	305	29.7
	Imports .....	1,871	1,826	-45	-2.4
	Trade balance .....	-844	-494	351	41.5
MM033	Cooking and kitchen ware:				
	Exports .....	245	296	51	20.8
	Imports .....	1,158	1,179	21	1.8
	Trade balance .....	-913	-883	30	3.3
MM034	Metal and ceramic sanitary ware:				
	Exports .....	159	142	-17	-10.8
	Imports .....	271	300	29	10.6
	Trade balance .....	-112	-158	-46	-41.3
MM035	Iron construction castings and other nonmalleable cast-iron articles:				
	Exports .....	26	44	18	69.2
	Imports .....	87	91	3	4.0
	Trade balance .....	-61	-47	14	23.6
MM036	Copper and related articles:				
	Exports .....	2,708	2,370	-338	-12.5
	Imports .....	3,401	3,472	71	2.1
	Trade balance .....	-694	-1,102	-408	-58.8
MM037	Unwrought aluminum:				
	Exports .....	1,294	1,057	-237	-18.3
	Imports .....	4,585	3,828	-757	-16.5
	Trade balance .....	-3,291	-2,772	520	15.8
MM038	Aluminum mill products:				
	Exports .....	2,974	2,771	-204	-6.9
	Imports .....	2,048	1,737	-311	-15.2
	Trade balance .....	926	1,033	107	11.5
MM039	Lead and related articles:				
	Exports .....	86	163	77	89.5
	Imports .....	195	240	44	22.6
	Trade balance .....	-109	-77	33	30.0
MM040	Zinc and related articles:				
	Exports .....	81	79	-2	-3.0
	Imports .....	952	939	-13	-1.4
	Trade balance .....	-870	-860	11	1.2
MM041	Certain base metals and chemical elements:				
	Exports .....	1,190	1,263	72	6.1
	Imports .....	2,536	2,640	104	4.1
	Trade balance .....	-1,346	-1,378	-32	-2.3
MM042	Nonpowered handtools:				
	Exports .....	1,639	1,732	92	5.6
	Imports .....	2,230	2,280	50	2.2
	Trade balance .....	-591	-548	43	7.2
MM043	Cutlery other than tableware, certain sewing implements, and related products:				
	Exports .....	420	480	59	14.1
	Imports .....	656	673	17	2.6
	Trade balance .....	-236	-193	42	17.8
MM044	Table flatware and related products:				
	Exports .....	35	30	-6	-15.8
	Imports .....	272	287	16	5.9
	Trade balance .....	-236	-258	-21	-9.1

See footnotes at end of table.

Table 10-9--*Continued*

Minerals and metals sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
————— <i>Million Dollars</i> —————					
MM045	Certain builders' hardware:				
	Exports .....	637	634	-2	-0.4
	Imports .....	763	866	103	13.6
	Trade balance .....	-126	-232	-106	-84.1

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

<sup>3</sup>Not meaningful for purposes of comparison.

<sup>4</sup>Less than \$500.

<sup>5</sup>Less than 0.05 percent.

Note.--Calculations based on unrounded data.

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





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# CHAPTER 11

## Machinery

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A \$4.1 billion (7-percent) rise in U.S. exports of machinery during 1996 to \$61.0 billion outpaced the \$3.0 billion (5-percent) increase in U.S. imports to \$63.2 billion and led to a \$1.1 billion (33-percent) reduction in the U.S. trade deficit in this equipment (table 11-1). This development marked the first reversal in the persistent growth of the trade deficit in these products since a trade surplus of \$1.2 billion was recorded in 1993. The trade deficit in machinery shrank from \$3.3 billion in 1995 to \$2.2 billion in 1996, or by 33 percent.

The 7-percent growth in U.S. exports of machinery was sparked by the strong market for metalworking machine tools, farm and garden machinery, semiconductor-manufacturing equipment, air-conditioning equipment and parts, insulated wire and cable, and miscellaneous equipment (table 11-2). The 5-percent rise in imports of machinery was attributable to growth in metalworking machine tools, ignition wiring harnesses, and air-conditioning equipment, but moderated by significant declines in imports of molds and molding machinery; textile machinery; printing, typesetting, and bookbinding equipment; and farm and garden equipment (table 11-3). A significant portion of the export and import increases between similar products was attributable to the ongoing rationalization of highly labor intensive production operations by U.S. suppliers, particularly in Mexico, as well as to the more rapid growth of the U.S. economy relative to those of certain other industrialized nations. Also the U.S. trade position with Japan improved as U.S. exports increased and imports decreased. Growth in imports of machinery was moderated to an extent by the continued strength of the dollar as compared with numerous other foreign currencies.

During 1996, demand for U.S.-made metalworking machine tools was particularly strong in Europe and the Pacific Rim. Growth in exports to Europe was led by increases to Germany, up by \$33 million (32 percent) to \$135 million; Switzerland, up \$27 million (144 percent) to \$46 million; Italy, up \$17 million (39 percent) to \$62 million; and France, up \$13 million (32 percent) to \$52 million. Strong orders placed in the fourth quarter of 1995 by European motor vehicle and aerospace manufacturers seeking to expand and upgrade their operations contributed significantly to this trend. The major growth markets in the Pacific Rim for metalworking machine tools were Korea, up by \$102 million (116 percent) to \$190 million; Japan, up by \$80 million (78 percent) to \$183 million; Taiwan, up \$45 million (70 percent) to \$109 million; and Singapore, up \$34 million (54 percent) to \$97 million. Increased industrial activity, which stimulated demand for various categories of production equipment throughout the region, was the principal factor driving these export sales.

Table 11-1

Machinery: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	12,984	13,446	462	3.6
Mexico	6,107	6,979	872	14.3
Japan	3,513	3,781	268	7.6
Germany	2,287	2,180	-108	-4.7
United Kingdom	2,425	2,627	202	8.3
Korea	3,751	4,102	351	9.4
China	1,789	1,809	20	1.1
Taiwan	1,880	2,067	187	9.9
Italy	789	769	-20	-2.5
France	1,614	1,610	-4	-0.2
All Other	19,795	21,662	1,867	9.4
Total	56,936	61,034	4,098	7.2
EU-15	10,618	10,727	109	1.0
OPEC	2,352	2,714	363	15.4
Latin America	11,622	12,673	1,052	9.0
CBERA	1,438	1,258	-180	-12.5
Asian Pacific Rim	17,074	18,996	1,922	11.3
ASEAN	3,735	4,436	702	18.8
Central and Eastern Europe	317	362	46	14.5
U.S. imports for consumption:				
Canada	7,584	7,996	412	5.4
Mexico	8,081	9,292	1,211	15.0
Japan	12,324	11,963	-361	-2.9
Germany	8,369	8,467	98	1.2
United Kingdom	2,788	2,970	181	6.5
Korea	1,194	1,321	127	10.6
China	3,040	3,584	545	17.9
Taiwan	2,474	2,598	124	5.0
Italy	2,703	3,057	354	13.1
France	1,544	1,538	-6	-0.4
All Other	10,106	10,453	347	3.4
Total	60,208	63,241	3,033	5.0
EU-15	19,362	20,292	930	4.8
OPEC	136	167	31	22.4
Latin America	9,054	10,215	1,160	12.8
CBERA	115	133	18	15.5
Asian Pacific Rim	21,425	21,895	470	2.2
ASEAN	1,870	1,899	29	1.5
Central and Eastern Europe	411	466	55	13.3
U.S. merchandise trade balance:				
Canada	5,400	5,450	49	0.9
Mexico	-1,974	-2,313	-339	-17.2
Japan	-8,811	-8,182	629	7.1
Germany	-6,081	-6,287	-206	-3.4
United Kingdom	-363	-342	21	5.7
Korea	2,557	2,781	224	8.8
China	-1,250	-1,775	-525	-42.0
Taiwan	-594	-531	63	10.6
Italy	-1,914	-2,288	-374	-19.5
France	70	72	2	2.6
All Other	9,688	11,209	1,520	15.7
Total	-3,272	-2,207	1,065	32.6
EU-15	-8,744	-9,565	-821	-9.4
OPEC	2,215	2,547	332	15.0
Latin America	2,567	2,459	-109	-4.2
CBERA	1,323	1,125	-198	-15.0
Asian Pacific Rim	-4,351	-2,899	1,452	33.4
ASEAN	1,864	2,537	673	36.1
Central and Eastern Europe	-94	-103	-9	-9.5

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Table 11-2**  
**Increases in U.S. exports of machinery, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Machine tools . . . . .	4,040	4,629	589	15
Farm and garden machinery . . . . .	4,309	4,836	527	12
Miscellaneous machinery . . . . .	4,957	5,474	517	11
Semiconductor manufacturing equipment and robots . . . . .	5,141	5,595	454	9
Air-conditioning equipment and parts . . . . .	4,538	4,988	450	10
Wiring harnesses and other insulated wire & cable . . . . .	3,566	3,936	369	11
Catalytic convertors and other centrifuges, filtering, and purifying equipment . . . . .	2,268	2,535	267	12
Taps, cocks, valves, and similar devices . . . . .	2,180	2,423	243	11
Electrical household appliances . . . . .	2,433	2,585	152	6
Molds and molding machinery . . . . .	1,301	1,442	141	11
Pumps for liquids . . . . .	2,368	2,504	135	6
All other . . . . .	19,855	20,107	252	1
<b>Total</b> . . . . .	<b>56,936</b>	<b>61,034</b>	<b>4,098</b>	<b>7</b>

Note.—Calculations based on unrounded data.

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

**Table 11-3**  
**Changes in U.S. imports of machinery, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Machine tools . . . . .	5,630	6,313	683	12
Wiring harnesses and other insulated wire & cable . . . . .	5,398	5,935	536	10
Air-conditioning equipment and parts . . . . .	4,129	4,576	447	11
Miscellaneous machinery . . . . .	4,117	4,377	260	6
Metal rolling mills and parts . . . . .	278	533	255	92
Certain industrial thermal-processing equipment and certain furnaces . . . . .	1,089	1,338	250	23
Pulp, paper, and paperboard machinery . . . . .	978	1,178	200	21
Taps, cocks, valves, and similar devices . . . . .	2,931	3,128	197	7
Electrical household appliances . . . . .	4,074	4,261	187	5
Catalytic convertors and other centrifuges, filtering, and purifying equipment . . . . .	1,330	1,483	153	12
Boilers, turbines, and related equipment . . . . .	363	499	136	37
Semiconductor manufacturing equipment, and robots . . . . .	2,053	2,186	133	6
Portable electric handtools . . . . .	481	607	126	26
<b>Decreases:</b>				
Molds and molding machinery . . . . .	3,528	3,030	-498	-14
Textile machinery and parts . . . . .	1,752	1,528	-224	-13
Printing, typesetting, and bookbind machinery . . . . .	2,009	1,796	-213	-11
Farm and garden equipment . . . . .	3,474	3,379	-95	-3
<b>All other</b> . . . . .	<b>16,594</b>	<b>17,274</b>	<b>680</b>	<b>4</b>
<b>Total</b> . . . . .	<b>60,208</b>	<b>63,241</b>	<b>3,033</b>	<b>5</b>

Note.—Calculations based on unrounded data.

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

The U.S. industry producing semiconductor manufacturing equipment (SME) has grown increasingly competitive during the 1990s, accounting for 50 percent of worldwide shipments in 1996 versus 45 percent in 1990. This trend contributed to a \$322 million (10-percent) improvement in the trade surplus in SME to \$3.4 billion in 1996. U.S. SME producers are particularly competitive in chemical vapor deposition, sputtering, and etch and clean equipment, with approximately 60 percent of world production. This strength is attributable to advanced U.S. technology, exceptional quality, and high equipment dependability. While recent U.S. shipments have been predominately to Europe and Japan, increasing production of semiconductors in Korea, Taiwan, and other Asian locations, has made these markets the most rapidly expanding for U.S. producers. Japan, the principal U.S. rival in SME equipment production, currently dominates world markets (and U.S. imports) for photolithography and assembly equipment. High R&D expenditures required in the photolithography segment have been a significant impediment to U.S. competitiveness. U.S. imports of SME from Japan rose by just \$39 million (3 percent) to \$1.2 billion, while U.S. exports to Japan were up by \$137 million (15 percent) to \$1.1 billion in 1996. At the same time, U.S. SME exports to Taiwan were up sharply by \$132 million (30 percent) to \$567 million, while those to Korea rose by \$93 million (9 percent) to \$1.2 billion in 1996.

Worldwide demand for U.S.-made farm and garden equipment, much of which is designed specifically for large farms that produce grain, rose significantly in 1996. Australia, as well as Canada, Argentina, the Ukraine, and South Africa all have many large farms engaged in grain production. Australia experienced a severe drought in 1995, which curtailed demand for this equipment. More favorable weather conditions in 1996, however, stimulated increased agricultural activity. In addition, the improvement in worldwide dietary trends and rapid income growth in Asia and Latin America spurred world growth in demand for farm commodities, and indirectly for U.S.-made farm equipment in each of these markets. U.S. exports of farm machinery to Germany and Spain also rose significantly in 1996, despite the fact that farms in these two countries tend to be smaller in total acreage.

Trade statistics for all industry/commodity groups in the machinery sector are presented in table 11-5 at the end of this chapter.

## U.S. BILATERAL TRADE

During 1996, Canada, Mexico, Japan, and the EU (predominately Germany and the United Kingdom) continued to account for the vast majority of U.S. trade in machinery (table 11-1). These U.S. trading partners were responsible for 57 percent of U.S. exports and 78 percent of U.S. imports. The significant decrease in the U.S. trade deficit in machinery reflected growth in exports to the Asian Pacific Rim, notably Korea, Australia, and Japan; and a reduction in imports from Japan. Table 11-4 lists the leading import and export machinery products for the top trading partners.

A \$2.1 billion (15-percent) increase in U.S. trade with Mexico accounted for 29 percent of the total sectoral trade expansion of \$7.1 billion in 1996. Although the U.S. trade deficit with Mexico in machinery continued to grow in 1996 by \$339 million (17 percent) to \$2.3 billion, a significant portion of this cross-border activity is associated with the maquiladora assembly operations of U.S. producers. U.S. manufacturers of ignition wiring harnesses, lamp ballasts, low-voltage transformers and inductors, electric motors, air-conditioning equipment, and other

**Table 11-4**  
**Machinery: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Canada . . . . .	Tractors Molding boxes for metal foundries and related products Centrifuges, filters, etc.; machines for liquids or gases Insulated wire and cable	Tractors Insulated wire and cable Air conditioning machines Taps, cocks, valves, etc. for pipes, tanks, etc.
Mexico . . . . .	Insulated wire and cable Electrical transformers, static converters, and inductors Electric motors and conductors Air conditioning machines	Insulated wire and cable Electrical transformers, static converters, and inductors Parts of electric motors, generator sets, and related products Taps, cocks, valves, etc. for pipes, tanks, etc.
Japan . . . . .	Machining centers, unit construction machines, and other machines for working metal Air or vacuum pumps, compressors, fans, hoods, and parts Electrical transformers, static converters, and inductors Tractors	Centrifuges, filters, etc.; machines for liquids or gases Machine tools for removal of material by laser, ultrasonic, plasma, or related methods Insulated wire and cable Electrical transformers, static converters, and inductors
Germany . . . . .	Printing machinery and related products Pumps for liquids and liquid elevators Machinery for working rubber or plastic Machines for dishwashing, cleaning and drying containers, packing and wrapping, and aerating beverages	Pumps for liquids and liquid elevators Taps, cocks, valves, etc. for pipes, tanks, etc. Machine tool parts Harvesting or threshing machinery; machines for cleaning, sorting, and grading eggs and other agriculture products
United Kingdom . . . . .	Tractors Air or vacuum pumps, compressors, fans, hoods, and parts Taps, cocks, valves, etc. for pipes, tanks, etc. Printing machinery and related products Pumps for liquids and liquid elevators	Insulated wire and cable Pumps for liquids and liquid elevators Taps, cocks, valves, etc. for pipes, tanks, etc. Electrical transformers, static converters, and inductors
Korea . . . . .	Electric water, space, and soil heaters and related products Electrical transformers, static converters, and inductors Lathes for removing metal, including turning centers Air conditioning machines	Air or vacuum pumps, compressors, fans, hoods, and parts Steam turbines and other vapor turbines Refrigerators, freezers, and heat pumps Centrifuges, filters, etc.; machines for liquids or gases

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in 1996.

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

high labor-content apparatus have established a considerable base of operations in Mexico to lower their overall costs of production and maintain a competitive advantage as compared with other low cost producers, particularly those located in Pacific Rim countries. U.S. exports of machinery to Mexico in 1996 rose by \$872 million (14 percent) to \$7.0 billion, while the corresponding increase in imports was \$1.2 billion (15 percent) to \$9.3 billion. The continued strength of the U.S. automotive, consumer electrical and electronic products, and industrial electrical equipment markets was largely responsible for the continued rise in U.S.-Mexico trade in 1996.

Total machinery trade with Canada grew by \$874 million (4 percent) in 1996 to \$21.4 billion. Canada continued to be the single most important market for U.S. exports, accounting for 22 percent (\$13.4 billion) of the value of exports in 1996. U.S. exports to Canada were nearly double those to Mexico, the next leading foreign market. The close integration of the U.S. and Canadian motor vehicle and electrical equipment markets has been largely responsible for the continued importance of Canada to U.S. equipment suppliers. This cross-border reliance was also responsible for a significant share of the imports of machinery that returned from Canada in 1996, making Canada the fourth-leading foreign supplier with \$8.0 billion (13 percent) of the annual total. The continued strength of the U.S. motor-vehicle market in particular and the U.S. economy in general were the major contributors to the U.S.-Canadian trade flows.

A \$361 million (3-percent) decline to \$12.0 billion in U.S. imports of machinery from Japan in 1996, in combination with a \$268 million (8-percent) expansion of U.S. exports to \$3.8 billion, resulted in the first decline (\$629 million, or 7 percent, to \$8.2 billion) in the U.S. trade deficit with Japan in these products during 1992-96. The depressed state of Japanese capital equipment market in 1996 and the continued diversion of Japanese machinery production to the Pacific Rim and Mexico were the major factors influencing these trends. Despite the modest decline in U.S. imports from Japan, this trading partner continued to be, by far, the largest single foreign source of machinery, accounting for 19 percent of import value in 1996. The largest share of U.S. imports from Japan consisted of injection molding machinery, farm and garden equipment, automotive air-conditioners, refrigeration compressors, metal-cutting machine tools, and SME. Modest import increases of \$115 million (7 percent) to \$1.8 billion in metal-cutting machine tools and \$39 million (3 percent) to \$1.2 billion in SME, somewhat offset the significant declines in imports in the other major categories during 1996.

The U.S. trade deficit in machinery with the EU continued to expand in 1996, despite a \$109 million (1-percent) increase in U.S. exports to \$10.7 billion. The \$821 million (9-percent) increase to \$9.6 billion in the U.S. trade deficit was driven by a \$930 million (5-percent) rise in U.S. imports to \$20.3 billion, nearly twice the magnitude of U.S. exports to the EU. Imports from Italy grew by \$354 million (13 percent) to \$3.1 billion and those from the United Kingdom rose by \$181 million (7 percent) to \$3.0 billion. Italy alone accounted for nearly one-half (\$374 million) of the rise in the U.S. trade deficit with the EU. The most notable product categories in which Italy registered gains in exports to the United States were air-conditioning equipment and parts, farm and garden machinery, and SME.

The other significant bilateral trade shift that occurred in machinery during 1996 was with China, which was responsible for the second largest absolute import gain (\$545 million) during 1996, and the largest percentage import increase (18 percent) of any of the top-10 trading partners. In addition, as a result of the correspondingly small increase in U.S. exports to China during 1996, up by only \$20 million (1 percent) to \$1.8 billion, China registered the

single largest bilateral trade deficit increase of \$525 million (up by 42 percent), which was nearly two-thirds as large as that for the entire EU. The products contributing most significantly to China's continued strength in U.S. markets in 1996 were electrical household appliances, which rose by \$125 million (14 percent) to \$1.0 billion; air-conditioning equipment and parts, up by \$66 million (17 percent) to \$456 million; and electrical transformers, static converters, and inductors, up \$44 million (12 percent) to \$419 million. China continues to be the low-price leader in many of these product lines.

**Table 11-5**  
**Machinery sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MT003	Pumps for liquids:				
	Exports .....	2,368	2,504	135	5.7
	Imports .....	1,967	2,061	95	4.8
	Trade balance .....	402	443	41	10.2
MT004	Air-conditioning equipment and parts:				
	Exports .....	4,538	4,988	450	9.9
	Imports .....	4,129	4,576	447	10.8
	Trade balance .....	409	412	3	0.9
MT005	Certain industrial thermal-processing equipment and certain furnaces:				
	Exports .....	2,098	2,195	98	4.7
	Imports .....	1,089	1,338	250	23.0
	Trade balance .....	1,009	857	-152	-15.1
MT006	Commercial machinery:				
	Exports .....	2,390	2,463	74	3.1
	Imports .....	1,191	1,223	32	2.7
	Trade balance .....	1,199	1,240	42	3.5
MT007	Electrical household appliances and certain heating equipment:				
	Exports .....	2,433	2,585	152	6.3
	Imports .....	4,074	4,261	187	4.6
	Trade balance .....	-1,641	-1,676	-35	-2.1
MT008	Centrifuges and filtering and purifying equipment:				
	Exports .....	2,268	2,535	267	11.8
	Imports .....	1,330	1,483	153	11.5
	Trade balance .....	938	1,052	114	12.2
MT009	Wrapping, packaging, and can-sealing machinery:				
	Exports .....	839	841	2	0.2
	Imports .....	932	1,042	110	11.8
	Trade balance .....	-93	-201	-108	-116.3
MT010	Scales and weighing machinery:				
	Exports .....	127	136	9	6.8
	Imports .....	201	197	-4	-2.0
	Trade balance .....	-73	-61	13	-17.2
MT013	Mineral processing machinery:				
	Exports .....	673	674	1	0.1
	Imports .....	371	432	61	16.4
	Trade balance .....	302	242	-60	-19.9
MT014	Farm and garden machinery and equipment:				
	Exports .....	4,309	4,836	527	12.2
	Imports .....	3,474	3,379	-95	-2.8
	Trade balance .....	834	1,457	622	74.6
MT015	Industrial food-processing and related machinery:				
	Exports .....	694	708	13	1.9
	Imports .....	522	505	-47	-8.6
	Trade balance .....	142	203	60	42.6
MT016	Pulp, paper, and paperboard machinery:				
	Exports .....	857	851	-6	-0.7
	Imports .....	978	1,178	200	20.5
	Trade balance .....	-121	-327	-206	-171.0
MT017	Printing, typesetting, and bookbinding and printing plates:				
	Exports .....	1,297	1,421	124	9.6
	Imports .....	2,009	1,796	-213	-10.6
	Trade balance .....	-712	-375	337	47.3
MT018	Textile machinery and parts:				
	Exports .....	752	728	-24	-3.2
	Imports .....	1,752	1,528	-224	-12.8
	Trade balance .....	-1,000	-800	200	20.0

See footnotes at end of table.



Table 11-5--Continued

Machinery sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MT019	Metal rolling mills and parts thereof:				
	Exports .....	235	205	-30	-12.8
	Imports .....	278	533	255	91.7
	Trade balance .....	-43	-328	-285	-665.3
MT020	Machine tools for cutting metal and parts; tool holders; dividing heads and other special attachments for machine tools:				
	Exports .....	1,722	2,228	506	20.4
	Imports .....	3,512	3,880	368	10.5
	Trade balance .....	-1,790	-1,652	139	7.7
MT021	Machine tools for metal forming and parts thereof:				
	Exports .....	862	1,033	171	19.9
	Imports .....	1,125	1,226	101	9.0
	Trade balance .....	-263	-193	71	26.8
MT022	Non-metalworking machine tools and parts thereof:				
	Exports .....	1,456	1,368	-88	-6.1
	Imports .....	993	1,207	213	22.0
	Trade balance .....	463	161	-302	-65.2
MT023	Semiconductor manufacturing equipment and robotics:				
	Exports .....	5,141	5,595	454	8.8
	Imports .....	2,053	2,186	133	6.5
	Trade balance .....	3,087	3,409	322	10.4
MT024	Taps, cocks, valves and similar devices:				
	Exports .....	2,180	2,423	243	11.2
	Imports .....	2,931	3,128	197	6.7
	Trade balance .....	-752	-705	47	-6.2
MT026	Gear boxes and other speed changers, torque converters; ball screws; flywheels and pulleys; clutches and shaft couplings; universal joints; and parts thereof:				
	Exports .....	818	889	72	8.8
	Imports .....	1,607	1,607	1	( <sup>3</sup> )
	Trade balance .....	-789	-718	71	9.0
MT027	Boilers, turbines, and related machinery:				
	Exports .....	1,540	1,560	20	1.3
	Imports .....	363	499	136	37.5
	Trade balance .....	1,177	1,060	-116	-9.9
MT028	Electric motors, generators, and related equipment:				
	Exports .....	3,391	3,316	-75	-2.2
	Imports .....	3,880	3,875	-4	-0.1
	Trade balance .....	-489	-560	-71	-14.5
MT029	Electrical transformers, static converters, and inductors:				
	Exports .....	2,000	1,923	-77	-3.8
	Imports .....	3,537	3,631	94	2.7
	Trade balance .....	-1,538	-1,708	-170	-11.1
MT031	Portable electric handtools:				
	Exports .....	369	333	-37	-9.9
	Imports .....	481	607	126	26.2
	Trade balance .....	-112	-275	-163	-145.8
MT032	Nonelectrically powered handtools and parts thereof:				
	Exports .....	462	478	16	3.4
	Imports .....	661	684	23	3.4
	Trade balance .....	-199	-206	-7	-3.4
MT034	Flashlights and other similar electric lights, light bulbs and fluorescent tubes, arc lamps:				
	Exports .....	786	833	47	5.9
	Imports .....	1,097	1,153	56	5.1
	Trade balance .....	-311	-320	-10	-3.1

See footnotes at end of table.

Table 11-5—Continued

Machinery sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MT035	Electric and gas welding and soldering equipment:				
	Exports .....	507	534	26	5.2
	Imports .....	596	683	86	14.5
	Trade balance .....	-89	-149	-60	-67.7
MT036	Insulated electrical wire and cable and conduit; glass and ceramic insulators:				
	Exports .....	3,566	3,936	369	10.4
	Imports .....	5,398	5,935	536	9.9
	Trade balance .....	-1,832	-1,999	-167	-9.1
MT045	Miscellaneous machinery:				
	Exports .....	4,957	5,474	517	10.4
	Imports .....	4,117	4,377	260	6.3
	Trade balance .....	840	1,097	257	30.6
MT046	Molds and molding machinery:				
	Exports .....	1,301	1,442	141	10.8
	Imports .....	3,528	3,030	-498	-14.1
	Trade balance .....	-2,227	-1,588	639	28.7

<sup>1</sup> Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.<sup>2</sup> This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.<sup>3</sup> Less than 0.05 percent.

Note.—Calculations based on unrounded data.

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

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## CHAPTER 12

# Transportation Equipment

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The U.S. trade deficit in transportation equipment decreased by \$4.5 billion (14 percent) to \$27.0 billion in 1996 (table 12-1). This improvement was the result of growth in U.S. exports, which rose by \$11.6 billion (11 percent) to \$115.7 billion.<sup>1</sup> U.S. imports of transportation equipment grew by \$7.1 billion (5 percent) to \$142.7 billion. Large increases in the U.S. trade surplus for aircraft, spacecraft, and related equipment (\$5.7 billion, or 32 percent), as well as construction and mining equipment (\$1.3 billion, or 30 percent) were the leading factors contributing to the decline in the U.S. trade deficit in transportation equipment.

More than one-half of the rise in imports of transportation equipment (\$4.0 billion out of \$7.1 billion) in 1996 can be attributed to a surge in U.S. import demand for motor vehicles and internal combustion piston engines, other than for aircraft (table 12-2). Total imports of automobiles, trucks, buses, and bodies and chassis of these vehicles grew by \$3.0 billion (4 percent) to \$87.4 billion<sup>2</sup> in 1996, while imports of internal combustion piston engines, other than for aircraft rose sharply, up by \$1.0 billion (12 percent) to \$9.4 billion. These two product areas accounted for 68 percent of U.S. transportation equipment imports in 1996.

The size of the sectoral deficit was diminished by a substantial increase in U.S. exports of aircraft, spacecraft, and related equipment, as well as construction and mining equipment (table 12-3). U.S. exports of aircraft products, motor vehicles, and construction and mining equipment rose by \$6.9 billion (29 percent), \$1.6 billion (7 percent), and \$1.3 billion (17 percent), respectively, to total \$30.8 billion, \$23.5 billion, and \$9.2 billion in 1996. The growth in U.S. exports of aircraft, spacecraft, and related equipment was primarily attributable to a 22-percent rise in orders in 1994,<sup>3</sup> and the improved financial status of domestic and international air carriers. While Japan, the United Kingdom, and Korea were the leading export markets for these goods, only exports to the United Kingdom grew by a significant margin (up \$532 million, or 31 percent) to reach \$2.3 billion in 1996. This rise was largely driven by U.S. exports of large civil aircraft (LCA), which grew by \$429 million (63 percent) to \$1.1 billion.<sup>4</sup> The recipient airlines in the United Kingdom are among the most profitable in the world, have extensive route structures, and have traditionally bought U.S. aircraft. Their ability to “fine

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<sup>1</sup>This increase in U.S. exports was the largest recorded in any major industry/commodity sector in 1996.

<sup>2</sup>In 1995, the increase in these imports amounted to \$5.1 billion, or 7 percent, over 1994.

<sup>3</sup>The lead time for aircraft procurement is typically 18-24 months from order to delivery.

<sup>4</sup>In 1995, the United Kingdom received two Boeing 747s, two 757s, and two 777s. In 1996, Boeing shipped two 747s, four Boeing 767s, and two 777s to the United Kingdom. The 767 is a larger and more expensive aircraft than the 757.

Table 12-1

Transportation equipment: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Canada	35,689	37,186	1,497	4.2
Japan	8,378	8,324	-54	-0.6
Mexico	6,377	7,097	720	11.3
Germany	3,636	4,266	630	17.3
United Kingdom	4,171	4,959	789	18.9
France	2,321	2,586	265	11.4
Korea	3,598	3,427	-171	-4.8
Sweden	733	872	139	18.9
Saudi Arabia	1,938	3,574	1,636	84.4
Australia	2,191	3,047	856	39.1
All Other	35,107	40,355	5,249	15.0
Total	104,138	115,694	11,556	11.1
EU-15	19,936	21,937	2,000	10.0
OPEC	5,320	8,380	3,060	57.5
Latin America	13,866	14,659	793	5.7
CBERA	1,327	1,226	-101	-7.6
Asian Pacific Rim	24,534	26,576	2,041	8.3
ASEAN	4,271	5,964	1,693	39.6
Central and Eastern Europe	282	280	-2	-0.5
U.S. imports for consumption:				
Canada	46,827	49,501	2,673	5.7
Japan	42,314	39,645	-2,669	-6.3
Mexico	13,329	17,270	3,942	29.6
Germany	10,984	12,002	1,018	9.3
United Kingdom	5,013	5,629	616	12.3
France	4,128	4,245	117	2.8
Korea	2,226	2,478	252	11.3
Sweden	2,490	2,888	398	16.0
Saudi Arabia	1	2	1	84.2
Australia	207	365	158	76.2
All Other	8,102	8,670	569	7.0
Total	135,621	142,695	7,075	5.2
EU-15	26,213	28,475	2,262	8.6
OPEC	197	252	55	27.8
Latin America	14,520	18,528	4,008	27.6
CBERA	15	22	7	49.4
Asian Pacific Rim	46,891	44,787	-2,104	-4.5
ASEAN	547	624	77	14.1
Central and Eastern Europe	218	222	4	1.8
U.S. merchandise trade balance:				
Canada	-11,138	-12,314	-1,176	-10.6
Japan	-33,936	-31,321	2,615	7.7
Mexico	-6,951	-10,173	-3,222	-46.3
Germany	-7,349	-7,736	-387	-5.3
United Kingdom	-842	-670	172	20.4
France	-1,807	-1,659	148	8.2
Korea	1,372	949	-424	-30.9
Sweden	-1,757	-2,016	-259	-14.7
Saudi Arabia	1,937	3,572	1,635	84.4
Australia	1,984	2,682	699	35.2
All Other	27,005	31,685	4,680	17.3
Total	-31,483	-27,001	4,482	14.2
EU-15	-6,276	-6,538	-262	-4.2
OPEC	5,122	8,128	3,005	58.7
Latin America	-654	-3,870	-3,216	-491.6
CBERA	1,312	1,203	-108	-8.2
Asian Pacific Rim	-22,357	-18,211	4,146	18.5
ASEAN	3,724	5,340	1,616	43.4
Central and Eastern Europe	64	58	-6	-8.7

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Table 12-2**  
**Leading increases in U.S. imports of transportation equipment, by product, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Motor vehicles .....	84,384	87,367	2,983	4
Aircraft, spacecraft, and related equipment .....	6,135	7,353	1,218	20
Internal combustion piston engines, other than for aircraft .....	8,389	9,403	1,014	12
Aircraft engines and gas turbines .....	5,285	6,241	956	18
Construction and mining equipment .....	3,648	3,682	34	1
All other .....	27,780	28,649	869	3
<b>Total .....</b>	<b>135,621</b>	<b>142,695</b>	<b>7,075</b>	<b>5</b>

Note.—Calculations based on unrounded data.

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

**Table 12-3**  
**Leading increases in U.S. exports of transportation equipment, by product, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Aircraft, spacecraft, and related equipment .....	23,839	30,754	6,915	29
Motor vehicles .....	21,899	23,466	1,567	7
Construction and mining equipment .....	7,887	9,203	1,316	17
Aircraft engines and other gas turbines .....	8,641	8,963	322	4
Internal combustion piston engines, other than for aircraft .....	8,772	9,021	249	3
All other .....	33,100	34,287	1,187	4
<b>Total .....</b>	<b>104,138</b>	<b>115,694</b>	<b>11,556</b>	<b>11</b>

Note.—Calculations based on unrounded data

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

tune,” or select the most appropriate aircraft for a given route, will be further enhanced by these purchases. U.S. exports of motor vehicles rose by \$1.6 billion (7 percent) in 1996. This increase was fueled by a \$763 million (7 percent) rise in exports to Canada, the largest U.S. export market, due largely to the rebound in consumer spending in that nation from a 12-year low in 1995. A \$779 million (194 percent) increase in U.S. exports of motor vehicles to Mexico was the result of a much improved market in Mexico, together with the reduction in Mexican

trade balancing requirements<sup>5</sup> and tariff reductions agreed to under NAFTA. Passenger car and truck sales in Mexico in 1996 reached 331,495 units, an 80-percent increase over 1995 levels.<sup>6</sup>

The significant growth in exports of U.S.-manufactured construction and mining equipment was the result of vigorous construction and mining activity in numerous overseas markets. U.S. shipments to Indonesia grew by \$130 million (147 percent) to \$218 million in 1996, due to increased mining activity and exploration, as well as the high level of participation of U.S. engineering and construction firms, which often import U.S. equipment for use in their operations in the Indonesian market.<sup>7</sup> Shipments to Australia, which increased by \$113 million (34 percent) to \$444 million in 1996, coincided with sustained economic expansion and the increased mining exploration and promotion policies of the Australian Government.<sup>8</sup> In Singapore, a record \$13 billion in construction contracts awarded in 1996 caused U.S. exports to this country to grow by \$112 million (39 percent) to \$396 million. The majority of construction activity in Singapore, a country with no domestic production of construction equipment, is the result of constant upgrading and renovation of existing facilities, and long-term government projects involving the construction of public housing, hospitals, schools, and transportation facilities.<sup>9</sup>

Trade statistics for all commodity/industry groups in the transportation equipment sector are presented in table 12-6 at the end of this chapter.

## U.S. BILATERAL TRADE

During 1996, the largest U.S. trading partners in the transportation equipment sector were Canada, Japan, Mexico, Germany, and the United Kingdom (table 12-1). Canada continued to be the largest single export market for U.S. transportation equipment, accounting for \$37.2 billion (32 percent) of total U.S. transportation equipment exports in 1996, followed by Japan, which accounted for 7 percent of total U.S. exports in this sector, or \$8.3 billion. Canada and Japan were also the leading suppliers of U.S. transportation equipment imports suppliers in 1996, accounting for \$49.5 billion (35 percent) and \$39.6 billion (28 percent) of total U.S. imports, respectively. Aircraft, motor vehicles, and construction and mining equipment together represented 55 percent of U.S. exports and 69 percent of U.S. imports during 1996. The leading U.S. import and export transportation equipment products, by major trading partner countries, are presented in table 12-4.

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<sup>5</sup>Before the implementation of NAFTA, U.S. automakers in Mexico had to export \$1.75 for every \$1.00 imported; a gradual phase-down began with NAFTA, so that in 1996, this ratio was \$0.74 to \$1.00.

<sup>6</sup>*Automotive News*, Jan. 27, 1997, p. 26.

<sup>7</sup>Industry representatives, interviews by USITC staff, Indonesia, Feb. 20-21, and Singapore, Feb. 24, 1997.

<sup>8</sup>USDOC, International Trade Administration, "Australia--Earthmoving Equipment--Mining," *Market Research Report*, July 1, 1996, and "Australia--Machinery for the Construction Industry," *Market Research Report*, Mar. 1, 1996.

<sup>9</sup>U.S. Department of Commerce official, interview by USITC staff, Singapore, Feb. 24, 1997; and Commerce, International Trade Administration, "Singapore--\$13 billion in Construction," *Market Research Report*, Mar. 5, 1997.

**Table 12-4**

**Transportation equipment: Leading U.S. import and export products, by major partner, 1996**

<b>Partner</b>	<b>Leading imports</b>	<b>Leading exports</b>
Canada . . . . .	Cars Motor vehicle parts Trucks Spark-ignition internal combustion piston engines	Motor vehicle parts Cars Trucks Spark-ignition internal combustion piston engines
Japan . . . . .	Cars Motor vehicle parts Spark-ignition internal combustion piston engines Certain machines and mechanical appliances	Cars Powered aircraft, spacecraft, and launch vehicles Parts for non-powered aircraft, other aircraft, spacecraft, and launch vehicles Certain machines and mechanical appliances
Mexico . . . . .	Cars Trucks Motor vehicle parts Spark-ignition internal combustion piston engines	Motor vehicle parts Cars Spark- and compression-ignition internal combustion engine parts Certain machines and mechanical appliances
Germany . . . . .	Cars Trucks Motor vehicle parts Spark-ignition internal combustion piston engines	Cars Motor vehicle parts Parts for non-powered aircraft, other aircraft, spacecraft, and launch vehicles Powered aircraft, spacecraft, and launch vehicles
United Kingdom . . . . .	Turbojets, turbopropellers, other gas turbines, and parts Cars Parts for non-powered aircraft, other aircraft, spacecraft, and launch vehicles Motor vehicle parts	Powered aircraft, spacecraft, and launch vehicles Turbojets, turbopropellers, other gas turbines, and parts Parts for non-powered aircraft, other aircraft, spacecraft, and launch vehicles Parts for hoists, cranes, lifting, handling, loading, and construction machinery
France . . . . .	Powered aircraft, spacecraft, and launch vehicles Turbojets, turbopropellers, other gas turbines, and parts Motor vehicle parts Parts for non-powered aircraft, other aircraft, spacecraft, and launch vehicles	Turbojets, turbopropellers, other gas turbines, and parts Parts for non-powered aircraft, other aircraft, spacecraft, and launch vehicles Certain machines and mechanical appliances Powered aircraft, spacecraft, and launch vehicles

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. Products are ranked in decreasing order based on 1996 trade.

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

U.S. imports from Mexico increased sharply, by \$3.9 billion (30 percent) to \$17.3 billion in 1996. U.S. imports from Canada grew by \$2.7 billion (6 percent) to \$49.5 billion, while those from Germany rose by \$1.0 billion (9 percent) to \$12.0 billion. Imports from Japan declined by \$2.7 billion (6 percent) to \$39.6 billion. The increase in U.S. imports from Canada was partly attributable to U.S. and Japanese transplant automakers' growing use of Canadian-built engines and parts. U.S. imports from Japan decreased as U.S. output from Japanese-owned, U.S.-based car companies, as well as other Japanese transplant automakers, continued to grow.

The \$6.9-billion increase in U.S. exports of aircraft, spacecraft, and related equipment in 1996 represented the single largest shift in the sector. Although U.S. imports of these products rose by \$1.2 billion (20 percent) in 1996 to \$7.4 billion, the United States reduced its sector trade deficit in 1996 by large increases in U.S. exports to Saudi Arabia (\$1.3 billion, or 395 percent); Switzerland (\$1.2 billion, or 648 percent); and Finland (\$1.1 billion, or 872 percent). In addition, U.S. exports of construction and mining equipment rose by \$1.3 billion, or 17 percent. Exports of the latter rose significantly to Nigeria (up \$177 million, or 173 percent); Indonesia (up \$130 million, or 147 percent); Australia (up \$114 million, or 34 percent); and Singapore (up \$112 million, or 39 percent).

## COMMODITY ANALYSIS

### Aircraft, Spacecraft, and Related Equipment

The U.S. trade surplus in aircraft, spacecraft, and related equipment grew by \$5.7 billion (32 percent) in 1996 to \$23.4 billion.<sup>10</sup> This improvement was principally the result of a 25-percent rise in U.S. exports of large civil aircraft (LCA),<sup>11</sup> which accounted for virtually all of the \$2.6 billion (28-percent) increase in total U.S. shipments of LCA. Renewed airline profitability spurred new orders for U.S. LCA for both domestic and global fleet replacement, as well as their measured expansion of air transport service.<sup>12</sup>

#### U.S. imports

U.S. imports of aircraft, spacecraft, and related equipment rose by \$1.2 billion (20 percent) to \$7.4 billion in 1996. Canada, France, and the United Kingdom were the principal sources of these imports, accounting for 67 percent of the total in 1996, a 1-percent rise over 1995. U.S. imports from the United Kingdom grew modestly, by \$935 million (8 percent) to \$2.3 billion in 1996. A significant increase in United Kingdom exports of parts of civil aircraft to the United States (up \$102 million, or 43 percent, to \$338 million) accounted for some of this rise. The remainder of this increase was spread across all categories of aircraft, spacecraft, and related equipment. Imports from Canada grew by \$709 million (48 percent) to \$2.2 billion. This increase was largely accounted for by multi-engined, turbofan-powered civil aircraft over 4,536 kg and not exceeding 15,000 kg; parts for civil aircraft; new nonmilitary helicopters; and undercarriage assemblies and parts thereof. Together, these four sectors accounted for \$439 million (62 percent) of the total increase in imports from Canada. In 1996, U.S. markets for business and commuter aircraft expanded, driven by increased U.S. demand for business and commuter passenger travel. U.S. imports of these aircraft are essential for both fleet replacement and business expansion.

Total U.S. imports from France rose by \$92 million (5 percent) to \$1.8 billion in 1996. The largest increase in imports occurred in new cargo LCA from France (up \$484 million, or

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<sup>10</sup>This trade position improvement was the largest experienced by any industry/commodity group in 1996.

<sup>11</sup>LCA are civil passenger, cargo, and used or rebuilt aircraft over 33,000 lbs. Passenger LCA typically have at least 100 seats.

<sup>12</sup>Lead time for delivery of a new LCA is about 18-24 months, although this varies with model and current market demand.



23 percent). However, U.S. imports of French passenger LCA, both new and used/rebuilt, declined by \$220 million (25 percent) to \$656 million. Divergent trends in U.S. imports of these LCA were the result of the conservative stance taken by U.S. passenger airlines regarding their air transportation market and fleet replacement needs, and the opposite stance of U.S. freight airlines such as Federal Express, who are buying domestic, foreign, and rebuilt aircraft for their current and projected market needs.

### **U.S. exports**

U.S. exports of aircraft, spacecraft, and related equipment rose by \$6.9 billion (29 percent) to \$30.8 billion in 1996.<sup>13</sup> Of this total, U.S. exports of LCA accounted for \$13.9 billion (45 percent of total U.S. exports), reflecting the improved profitability of foreign air carriers. In 1996, Japan, the United Kingdom, and Korea were the leading export markets for this equipment. U.S. exports to the United Kingdom grew by \$532 million (31 percent) to \$2.3 billion; exports to Japan rose by \$138 million (5 percent) to \$3.0 billion; but exports to Korea declined by \$80 million (4 percent) to \$2.1 billion. The increase in U.S. exports to the United Kingdom was largely driven by U.S. exports of LCA, which grew by \$429 million (63 percent) to \$1.1 billion.<sup>14</sup> The recipient airlines in the United Kingdom are among the most profitable in the world, and have extensive route structures. Their ability to “fine tune,” or select the most appropriate aircraft for a given route, will be further enhanced by these purchases. Other countries where significant improvements in U.S. exports occurred included: Saudi Arabia, up by \$1.3 billion (395 percent) to \$1.6 billion; Switzerland, up by \$1.2 billion (648 percent) to \$1.4 billion; and Finland, up by \$1.1 billion (872 percent) to \$1.2 billion.

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### **Motor Vehicles**

The U.S. trade deficit in motor vehicles<sup>15</sup> increased by \$1.4 billion (2 percent) to \$63.9 billion in 1996. The U.S. deficit with Japan and Canada accounted for 38 percent (\$24.3 billion) and 34 percent (\$21.6 billion), respectively, of the total U.S. trade deficit for these products. Nevertheless, the deficit with Japan decreased by \$1.7 billion (7 percent) in 1996, and the deficit with Canada decreased by \$312 million (1 percent). The U.S. trade deficits with Mexico and Germany, however, increased in 1996. The deficit with Mexico grew by \$2.5 billion (32 percent) to \$10.5 billion, accounting for 16 percent of the total; the deficit with Germany increased by \$167 million (2 percent) to \$7.2 billion, accounting for 11 percent of the total. Although the United States traditionally maintains a trade deficit in motor vehicles, this

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<sup>13</sup>This was the largest increase in U.S. exports experienced by any industry/commodity group in 1996.

<sup>14</sup>In 1995, the United Kingdom received two Boeing 747s, two 757s, and two 777s. In 1996, Boeing shipped two 747s, four Boeing 767s, and two 777s to the United Kingdom. The 767 is a larger and more expensive aircraft than the 757.

<sup>15</sup>This product category includes automobiles, trucks, buses, and bodies and chassis of the foregoing.

does not indicate a lack of competitiveness, but rather the existence of global production strategies and rationalization, coupled with foreign trade barriers.

The motor vehicle industry is one of the most significant in the U.S. economy because of its large trade volume and its contribution to the U.S. trade deficit. Trade with the four leading partners and the contribution to the U.S. trade deficit of these four countries is shown in table 12-5.

**Table 12-5**  
**Motor vehicles: U.S. exports, imports, and trade deficits with the top four U.S. trading partners, 1996**

Partner	Motor vehicles			Total U.S. trade			Vehicle share of total		
	Exports	Imports	Deficit	Exports	Imports	Deficit	Exports	Imports	Deficit
	<i>Million dollars</i>						<i>Percent</i>		
Canada .....	12,159	33,727	21,569	119,123	156,299	37,176	10	22	58
Japan .....	2,588	26,862	24,274	63,585	114,762	51,177	4	23	47
Mexico .....	1,181	11,714	10,533	54,686	74,179	19,493	2	16	54
Germany .....	1,176	8,347	7,171	22,191	39,215	17,024	5	21	42
Subtotal .....	17,104	80,650	63,547	259,585	384,455	124,870	7	21	51
All other .....	6,362	6,717	354	322,552	406,015	83,463	2	2	( <sup>1</sup> )
Total .....	23,466	87,367	63,901	582,137	790,470	208,333	4	11	31

<sup>1</sup>Less than 0.05 percent.

Note.—Calculations based on unrounded data.

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

### U.S. imports

Imports of U.S. motor vehicles totaled \$87.4 billion in 1996, an increase of \$3 billion (4 percent) from 1995. Canada continued to be the largest source, accounting for 39 percent of total U.S. imports. Japan accounted for an additional 31 percent of total imports, down from 34 percent in 1995; imports from Mexico accounted for 13 percent, up from 10 percent in 1995.

U.S. motor vehicle imports from Mexico increased by \$3.3 billion (40 percent) to \$11.7 billion in 1996. Increased U.S. imports from Mexico were principally a function of the increasing integration and interdependence of the U.S. and Mexican automotive industries, and strong motor vehicle demand in the U.S. market.<sup>16</sup> In 1996, well over three-fourths of U.S. Big Three production in Mexico was exported to the United States, and the U.S. parts content of U.S. Big Three automobiles produced in Mexico is reportedly significant. Mexican production of passenger cars and trucks rose to 1.2 million units in 1996, a 30-percent increase.<sup>17</sup>

<sup>16</sup>U.S. industry sources report that U.S. Big Three production at Mexican facilities has helped to meet market demand in the United States. Andrew H. Card, President and CEO, American Automobile Manufacturers Association, testimony before the USITC in connection with investigation No. 332-381, *Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review*, May 16, 1997, p. 377.

<sup>17</sup>*Automotive News*, Jan. 27, 1997, p. 26.

U.S. motor vehicle imports from Canada rose by \$450 million (1 percent) to \$33.7 billion in 1996. The U.S.-Canadian auto industry is fully integrated, and the U.S. Big Three automakers consider the United States and Canada as a single unit for production planning purposes.<sup>18</sup> The modest increase in imports from Canada may be attributed to the strength of the U.S. motor vehicle market in 1996, which recorded sales of 15.5 million vehicles, up from 15.1 million in 1995.<sup>19</sup>

U.S. motor vehicle imports from Japan decreased by \$2.1 billion (7 percent) to \$26.9 billion in 1996. This continues a trend that began in 1994 resulting from the addition of significant production capacity in the United States by Japanese motor vehicle manufacturers. Japanese exports of passenger cars to the United States began to rise in the last quarter of 1996 as a result of the weak yen; reports indicate that Japanese makers are beginning to employ a "roving production" strategy that will allow them to move production from region to region as quickly as possible to take advantage of currency fluctuations, thereby providing them with the opportunity to repatriate production of certain models from the United States back to Japan.<sup>20</sup> However, Japanese sources report that it is unlikely that U.S. imports from Japan will increase over the long run because of expanded Japanese transplant activity.<sup>21</sup> Toyota alone reported a 7-percent increase in its North American production rates, which reached 782,995 vehicles in 1996.<sup>22</sup>

### U.S. exports

Exports of U.S. motor vehicles totaled \$23.5 billion in 1996, an increase of \$1.6 billion (7 percent) from 1995. Canada was again the largest market, accounting for 52 percent of total sector exports. Exports to Japan accounted for 11 percent of total sector exports, down from 14 percent in 1995, while exports to Mexico accounted for 5 percent of total sector exports, up from 2 percent in 1995.

U.S. motor vehicles exported to Mexico increased by \$779 million (194 percent) to \$1.2 billion in 1996. Increased U.S. exports of motor vehicles to Mexico are a direct result of a significantly improved market in Mexico, together with the reduction in Mexican trade balancing requirements<sup>23</sup> and tariff reductions agreed to under NAFTA. Passenger car and truck

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<sup>18</sup>U.S. Department of State telegram, "The Canadian Auto Industry -- Major Spark in an Otherwise Lackluster Economy," U.S. Embassy, Ottawa, Feb. 1996. U.S. industry sources report that U.S. Big Three vehicles assembled in Canada may contain as high as 90 percent U.S. content. Andrew H. Card, President and CEO, American Automobile Manufacturers Association, testimony before the USITC in connection with investigation No. 332-381, *Impact of the North American Free Trade Agreement on the U.S. Economy and Industries: A Three Year Review*, May 16, 1997, p. 412.

<sup>19</sup>Ward's Automotive International, Feb. 1997, p. 10.

<sup>20</sup>Weaker Yen Causing Japanese to Repatriate Manufacturing," *BNA International Trade Daily*, Nov. 5, 1996.

<sup>21</sup>MITI to 'Monitor' Car Exports to U.S., To Avoid Friction," *The Japan Automotive Digest*, Jan. 20, 1997, p. 12.

<sup>22</sup>Toyota Made 783,000 in North America Last Year, Heading for 1.2 Million," *The Japan Automotive Digest*, Jan. 27, 1997, p. 6.

<sup>23</sup>Before the implementation of NAFTA, U.S. automakers in Mexico had to export \$1.75 for every \$1.00 imported; a gradual phase-down began with NAFTA, so that in 1996, this ratio was

(continued...)

sales in Mexico in 1996 reached 331,495 units, an 80-percent increase over 1995 levels.<sup>24</sup> In October 1995, the Mexican Government announced the temporary removal of the sales tax on new cars and light trucks. A reduction in taxes on commercial-use cars and light trucks was also announced in November 1995 in an effort to increase sales. These changes were effective during 1996. Moreover, Mexican 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>25</sup>

U.S. motor vehicle exports to Canada rose by \$763 million (7 percent) to \$12.2 billion in 1996, attributable to a rebound in consumer spending in Canada after a 12-year low recorded in 1995. Sales of passenger cars and trucks in Canada increased by 2 percent in 1996 to 1.2 million units.<sup>26</sup> U.S. automakers were particularly successful in the light-truck segment of the Canadian market, increasing their share of that market by 12 percent in 1996.<sup>27</sup>

U.S. motor vehicles exported to Germany increased by \$518 million (79 percent) to \$1.2 billion in 1996. This increase is largely attributable to reverse imports, or exports to Germany, from new German transplant operations in the United States. German automakers BMW and Mercedes-Benz have established production facilities in the United States to avoid high employment costs in Germany, and to meet U.S. demand for their products.

U.S. motor vehicle exports to Japan decreased by \$415 million (14 percent) to \$2.6 billion in 1996. The weaker yen in the last quarter of the year made U.S.-made vehicles relatively more expensive in the Japanese market. According to a U.S. industry official, the yen-to-dollar exchange rate and the allegedly slow progress in establishing foreign dealerships in which to sell U.S.-made vehicles in Japan continue to hamper sales of U.S. Big Three vehicles in Japan.<sup>28</sup> Moreover, the aggressive sales strategies of Japanese makers in their domestic market have slowed sales of imports.<sup>29</sup> In addition, some industry observers believe that U.S. Big Three vehicles designed for the Japanese market are lacking in appeal for Japanese consumers, both in interior and exterior style.<sup>30</sup> Japanese industry sources report that although imported vehicle sales rose by 10 percent in 1996 to a record 427,525 units, sales of U.S.-made passenger cars, which accounted for 31 percent of the imported passenger car market, decreased

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<sup>23</sup>(...continued)

\$0.74 to \$1.00.

<sup>24</sup>*Automotive News*, Jan. 27, 1997, p. 26.

<sup>25</sup>*Impact of the North American Free Trade Agreement on U.S. Automotive Exports to Mexico, Second Annual Report to Congress - July 1996*, U.S. Department of Commerce, International Trade Administration, found at Internet <http://www.ita.doc.gov/industry/basic/nafta/html>.

<sup>26</sup>"U.S. Big Three Project Sales of 15.2 Million in '97," *Ward's Automotive International*, Feb. 1997, p. 10.

<sup>27</sup>"Surging Canadian Market Shares Off Eight-Year Doldrums," *Ward's Automotive Reports*, special insert, Mar. 17, 1996, p. 1.

<sup>28</sup>"U.S. Car Sales in Japan Hampered by Low Yen, Lack of Dealerships, Card Says," *BNA International Trade Daily*, Nov. 19, 1996.

<sup>29</sup>"Japan's December Vehicle Imports Down, But Up 13 % From Year Before," *BNA International Trade Daily*, Jan. 10, 1997.

<sup>30</sup>"Why Big Three Cars Don't Sell in Japan: The Best Guess is They Are Neither Hakurai Nor Haikara," *The Japan Automotive Digest*, Jan. 20, 1997, p. 1.

0.3 percent.<sup>31</sup> Sales in Japan of passenger cars made in North America by Japanese makers decreased by 18 percent in 1996,<sup>32</sup> largely as a result of a combination of the weaker yen, increased U.S. demand for transplant output, the relative obsolescence of models produced in North America, and inherent difficulties in serving the Japanese market from abroad.<sup>33</sup>

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## Construction and Mining Equipment

The U.S. trade surplus in construction and mining equipment reached \$5.5 billion in 1996, an increase of \$1.3 billion (30 percent) from the 1995 surplus of \$4.2 billion. Increased U.S. exports to all secondary markets, including the United Kingdom, Australia, Singapore, and Belgium, more than offset a decrease in the value of exports to Canada and Venezuela, the United States' largest markets. These increases, combined with modest import growth, added to the United States' growing surplus in these products.

### U.S. imports

U.S. imports of construction and mining equipment grew by only \$34 million (1 percent) to \$3.7 billion in 1996. Germany replaced Canada as the second-largest supplier of machinery to the United States as imports of construction and mining equipment from Germany grew by \$127 million (42 percent) to \$432 million in 1996. Over the course of the year, fleet expansion by construction and mining contractors and rental companies and machine replacement rates reached record levels in many consuming industries.<sup>34</sup> In addition, home building, commercial construction, and government spending on highways and other public works posted strong growth in 1996,<sup>35</sup> leading to greater overall demand for these products. At the same time, imports from other major sources of construction and mining equipment declined. Shipments from Japan, the top U.S. supplier and leading global competitor in this area, decreased by \$211 million (17 percent) to \$1 billion due, in part, to the relative strength of the Japanese yen.<sup>36</sup> This decrease, the first significant drop in imports from Japan since 1991, caused the United States' deficit with Japan to shrink by \$224 million (21 percent) in 1996. For the second straight year, imports of such equipment from Belgium dropped (by 29

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<sup>31</sup>These sales reportedly accounted for 8 percent of total Japanese sales in 1996, broken out as follows: Passenger cars - 393,393, up 9 percent; and trucks - 34,104, up 32 percent.

<sup>32</sup>"Japan's December Vehicle Imports Down, But Up 13 % From Year Before," *BNA International Trade Daily*, Jan. 10, 1997.

<sup>33</sup>This source predicts that reverse imports, i.e., U.S. exports from transplants, may continue to decline. "Servicing the Market: Japanese Makers Era of 'Reverse Imports' May Be Coming To An End," *The Japan Automotive Digest*, Oct. 14, 1996, p. 1.

<sup>34</sup>*Construction Equipment*, Construction Equipment and Ingersoll-Rand's "1997 Annual Report & Forecast," Jan. 1997, pp. 57-77.

<sup>35</sup>*Ibid.*, and *Machinery Outlook*, "1997 Forecast--Can You Stand More of the Same?" Dec. 1996, p. 15.

<sup>36</sup>Industry representative, telephone conversation with USITC staff, Apr. 4, 1997.

percent to \$181 million in 1996), reflecting a decline in reverse imports<sup>37</sup> due to the end of the United Auto Workers' strike against Caterpillar, Inc., in December 1995.<sup>38</sup>

## U.S. exports

Vigorous construction and mining activity in numerous overseas markets prompted U.S. exports of construction and mining equipment to grow by \$1.3 billion (17 percent) to \$9.2 billion in 1996. Exports to Nigeria experienced significant growth in 1996, with an increase of \$177 million (173 percent) to \$279 million, due to increased housing construction, renovation of the Nigerian railway, and the continued petroleum exploration and production in Nigeria. U.S. shipments to Indonesia grew by \$130 million (147 percent) to \$218 million in 1996, due to increased mining activity and exploration, as well as the high level of participation of U.S. engineering and construction firms who often import U.S. equipment for use in their operations in the Indonesian market.<sup>39</sup>

Shipments to Australia, which increased by \$114 million (34 percent) to \$444 million in 1996, coincided with sustained economic expansion in Australia and the increased mining exploration and promotion policies of the Australian Government.<sup>40</sup> In addition, the initiation of long-term projects in anticipation of the Sydney 2000 Olympic Games, and greater public and private spending on infrastructure spurred greater consumption of these products. In Singapore, a record \$13 billion in construction contracts awarded in 1996 caused U.S. exports to this country to grow by \$112 million (39 percent) to \$396 million. The majority of construction activity in Singapore, a country with no domestic production of construction equipment, is the result of constant upgrading and renovation of existing facilities, and long-term government projects involving construction of public housing, hospitals, schools, and transportation facilities.<sup>41</sup>

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<sup>37</sup>Goods manufactured overseas by U.S. firms which are then imported into the United States.

<sup>38</sup>*Machinery Outlook*, "U.S. Continues to Import More Machinery," Sept. 1995, p. 12, and *Machinery Outlook*, "1st Half U.S. Machinery Trade Figures Yield Interesting Trends," Sept. 1994, pp. 15-16.

<sup>39</sup>Industry representatives, interviews by USITC staff, Indonesia, Feb. 20-21, 1997, and Singapore, Feb. 24, 1997.

<sup>40</sup>USDOC, International Trade Administration, "Australia--Earthmoving Equipment--Mining," *Market Research Report*, July 1, 1996, and "Australia--Machinery for the Construction Industry," *Market Research Report*, Mar. 1, 1996.

<sup>41</sup>U.S. Department of Commerce official, interview by USITC staff, Singapore, Feb. 24, 1997; and Commerce, ITA, "Singapore--\$13 billion in Construction," *Market Research Report*, Mar. 5, 1997.

## Internal Combustion Piston Engines, Other Than for Aircraft

The U.S. trade surplus in internal combustion piston engines (for motor vehicles) of \$384 million in 1995 shifted to a deficit of \$383 million in 1996, a decline of \$766 million. Although U.S. exports of engines increased in 1996, imports increased by a larger margin, particularly from Canada. As part of the larger automotive industry, trade shifts in the engine sector often reflect U.S. and foreign automotive firms' global production/sourcing strategies, intra-company shipments, and increased internationalization of the industry.

### U.S. imports

U.S. imports of engines rose by \$1.0 billion (12 percent) to \$9.4 billion in 1996. Reflecting automakers' globalization strategies and the high level of integration within the North American automotive industry, Canada, Mexico, and Japan accounted for 77 percent of total U.S. engine imports in 1996. Canada accounted for the largest growth in engine imports, increasing \$733 million (42 percent) to \$2.5 billion in 1996. In 1996, Ford began production of its first V-10 engine at its Windsor, Ontario facility for use in its Econoline and Club Wagon vans assembled in the United States.<sup>42</sup> The growth in U.S. imports of engines from Mexico tapered off in 1996, with an increase of \$106 million (7 percent) to \$1.7 billion, following significant growth during 1992-95 associated with expanded engine capacity by U.S. and foreign automakers.

Imports from Japan, the leading U.S. supplier, remained relatively unchanged, amounting to \$3 billion in 1996. Japanese transplant automakers are increasingly sourcing engines as well as other automotive components from U.S. production facilities for use in their North American motor vehicle assembly to boost U.S. content, diversify component sourcing, and minimize the effects of exchange rate fluctuations.<sup>43</sup>

### U.S. exports

U.S. exports of engines were relatively unchanged, rising by \$248 million (3 percent) to \$9.0 billion in 1996. Exports to Canada, the leading U.S. market, remained generally stable with an increase of \$244 million (5 percent) to nearly \$5 billion in 1996, corresponding to flat Canadian motor vehicle production levels. Despite a rebound in the Mexican automotive market, U.S. exports of engines to Mexico, the second-leading U.S. market, fell by \$178 million (15 percent) to \$977 million in 1996. This decline reflects, in part, expansions in Mexican engine and parts capacity, a NAFTA-related change in maquiladora regulations allowing greater direct sales to Mexican operations, and shifts in individual automakers'

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<sup>42</sup>"Ford Begins Production of First V-10," *Ward's Automotive International*, June 1996, p. 5.

<sup>43</sup>"New 2.5-Liter Engine Will Raise Local Content at SIA Above 60%," *The Japan Automotive Digest*, Apr. 22, 1996, p. 5; Alan L. Adler, "Honda Will Expand U.S. Auto Engine Production," *NewsEDGE/LAN*, May 17, 1996; and "Honda Starts Up 3-Liter V6 Engine Line at Anna Works," *The Japan Automotive Digest*, Sept. 9, 1996, p. 9.

regional production strategies.<sup>44</sup> Reflecting the integration of the North American automotive industry, NAFTA partners accounted for 66 percent of U.S. engine exports.

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### **Aircraft Engines and Gas Turbines**

The U.S. trade surplus in aircraft engines and gas turbines declined by \$633 million (19 percent) in 1996 to \$2.7 billion, largely because of a \$956 million (18-percent) increase in imports, chiefly from the United Kingdom. This increase was largely attributable to overall growth in demand as well as increased foreign sourcing of parts. The primary U.S. trading partner for these goods was the European Union (EU), which accounted for \$4.0 billion (44 percent) of total U.S. exports of aircraft and spacecraft engines, other gas turbines, and parts thereof, while supplying \$4.0 billion (64 percent) of total U.S. imports of these goods. The EU is the world's second-largest producer of aircraft.

#### **U.S. imports**

U.S. imports of aircraft engines and gas turbines rose by \$956 million (18 percent) to \$6.2 billion in 1996. The United Kingdom, France, and Canada were the principal sources of these imports, accounting for 65 percent of total U.S. imports of these goods (69 percent in 1995). U.S. imports from the United Kingdom rose by \$337 million (26 percent) to \$1.6 billion. A large part of this increase (\$92 million) was attributable to increased U.S. imports of large aircraft engines.<sup>45</sup> These engines, usually fitted to the larger Boeing aircraft (747, 757, 767, and 777) roughly paralleled the rate of U.S. shipments of LCA, which grew by 21 percent in 1996.<sup>46</sup>

U.S. imports from Germany, the fourth largest source, grew by \$209 million (30 percent) in 1996 to \$686 million. U.S. imports of German parts made for civil aircraft engines increased sharply (by \$170 million, or 54 percent) to \$482 million, whereas imports of large aircraft engines increased by \$71 million (174 percent) to \$112 million. German aircraft engines are used exclusively in the United States on a new model business jet built by Gulfstream Aerospace. Deliveries of this aircraft began in late 1996. As deliveries rise during 1997, both the availability of the engine and the establishment of a parts depot to service the engine will necessitate increased imports from Germany.

U.S. imports from Canada rose by \$130 million (13 percent) to \$1.2 billion. Major increases were recorded in U.S. imports of turbopropeller aircraft engines, not exceeding 1,100 kW, which rose by \$50 million (26 percent) to \$241 million; nonaircraft gas turbines, not

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<sup>44</sup>Data for this industry grouping reflect a decline in exports of higher-valued complete engines and an increase in exports of engine parts for use in assembly.

<sup>45</sup>Turbojet engines for civil aircraft, with a thrust over 25 kN, are hereinafter referred to as large aircraft engines.

<sup>46</sup>"1996 Year-end Review and Forecast - An Analysis," Aerospace Industries of America, Inc., speech given at annual presentation, Dec. 11, 1996.



elsewhere specified, not exceeding 5,000 kW, which rose by \$41 million (332 percent) to \$53 million; and parts for aircraft engines, which rose by \$20 million (4 percent) to \$465 million. The growth of the U.S. regional aircraft market is largely responsible for increased U.S. imports of aircraft engines and parts from Canada.

U.S. imports from France decreased modestly (by \$41 million, or 3 percent) to \$1.3 billion. Products affected by significant shifts in U.S. demand included large aircraft engines, which declined by \$125 million (48 percent) to \$137 million, and parts for civil aircraft engines, which increased by \$84 million (9 percent) to \$1.0 billion. Complete large aircraft engines from France are typically placed in Boeing 737s for export; as exports of this aircraft declined in 1996, imports of these engines declined. Increased demand for parts of engines was driven by the need to service the existing fleet of aircraft, predominately Boeing 737s, and U.S. domestic deliveries of this aircraft.

### **U.S. exports**

U.S. exports of aircraft engines and gas turbines increased by \$323 million (4 percent) to \$9.0 billion in 1996. Products contributing to this rise included large aircraft engines (up 13 percent, or \$162 million) and parts for civil turbojet aircraft engines, which showed a \$288 million (9 percent) gain in 1996. In 1996, France, Canada, and the United Kingdom were the leading markets for U.S. exports of aircraft engines and gas turbines. U.S. exports to France declined by \$18 million (1 percent) to \$1.2 billion, while exports to Canada rose by \$286 million (33 percent) to \$1.2 billion. U.S. exports to the United Kingdom increased by \$176 million (21 percent) to \$1.0 billion.

U.S. exports to Canada were led by a \$98 million (45-percent) increase in civil turbojet or turbopropeller aircraft engines to \$316 million, and a \$87 million (22-percent) rise in parts of turbojet or turbopropeller aircraft engines to \$484 million. Canada is a growing global source of commuter and business aircraft, which contributed to the increase in U.S. exports of aircraft engines. Shipments of these aircraft surged in 1996, the result of increased market demand by regional and corporate flight departments for air transportation service. The United States is the leading supplier of engines for these two categories of aircraft.

Products that led the increase in U.S. exports to the United Kingdom included civil turbojet or turbopropeller aircraft engines, up \$68 million (54 percent) to \$192 million; parts for civil aircraft engines, which rose by \$88 million (33 percent) to \$356 million; and parts for nonaircraft gas turbines, which increased by \$59 million (41 percent) to \$188 million. The United Kingdom's role as a growing global source of commuter, regional, and corporate aircraft, helped fuel the increase in U.S. exports of aircraft engines.

A major component of the change in U.S. exports to France was a \$90 million decline (39-percent) in U.S. exports of large aircraft engines. Partially offsetting this decline was a \$70 million (9-percent) rise in U.S. exports to France of parts of civil turbojet or turbopropeller aircraft engines. These engines are typically used on Airbus aircraft, while parts are used for both engine construction (by CFM, Inc.) and for the maintenance of engines currently in use.

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Table 12-6

Transportation equipment sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million Dollars</i>					
MT001	Aircraft engines and gas turbines:				
	Exports .....	8,641	8,963	323	3.7
	Imports .....	5,285	6,241	956	18.1
	Trade balance .....	3,356	2,722	-633	-18.9
MT002	Internal combustion piston engines, other than for aircraft:				
	Exports .....	8,772	9,021	248	2.8
	Imports .....	8,389	9,403	1,015	12.1
	Trade balance .....	384	-383	-766	( <sup>3</sup> )
MT011	Forklift trucks and similar industrial vehicles:				
	Exports .....	928	920	-8	-0.9
	Imports .....	1,136	1,007	-129	-11.3
	Trade balance .....	-208	-88	120	57.9
MT012	Construction and mining equipment:				
	Exports .....	7,887	9,203	1,316	16.7
	Imports .....	3,648	3,682	34	0.9
	Trade balance .....	4,239	5,520	1,281	30.2
MT025	Ball and roller bearings:				
	Exports .....	967	1,008	41	4.2
	Imports .....	1,520	1,526	6	0.4
	Trade balance .....	-553	-518	35	6.4
MT030	Primary cells and batteries and electric storage batteries:				
	Exports .....	1,208	1,310	102	8.4
	Imports .....	1,637	1,710	73	4.5
	Trade balance .....	-429	-400	29	6.8
MT033	Ignition, starting, lighting, and other electrical equipment:				
	Exports .....	1,336	1,404	68	5.1
	Imports .....	1,833	2,032	200	10.9
	Trade balance .....	-497	-629	-131	-26.4
MT037	Rail locomotive and rolling stock:				
	Exports .....	877	851	-26	-2.9
	Imports .....	1,292	1,312	20	1.6
	Trade balance .....	-414	-461	-46	-11.1
MT038	Automobiles, trucks, buses, and bodies and chassis of the foregoing:				
	Exports .....	21,899	23,466	1,567	7.2
	Imports .....	84,384	87,367	2,983	3.5
	Trade balance .....	-62,485	-63,901	-1,416	-2.3
MT039	Certain motor-vehicle parts:				
	Exports .....	22,265	22,793	528	2.4
	Imports .....	16,298	16,867	569	3.5
	Trade balance .....	5,967	5,927	-41	-0.7
MT040	Motorcycles, mopeds, and parts:				
	Exports .....	593	638	45	7.6
	Imports .....	1,162	1,137	-24	-2.1
	Trade balance .....	-568	-499	69	12.2
MT041	Miscellaneous vehicles and transportation- related-equipment:				
	Exports .....	3,390	3,969	579	17.1
	Imports .....	1,509	1,416	-93	-6.2
	Trade balance .....	1,881	2,553	672	35.8
MT042	Aircraft, spacecraft, and related equipment:				
	Exports .....	23,839	30,754	6,915	29.0
	Imports .....	6,135	7,353	1,218	19.9
	Trade balance .....	17,704	23,401	5,697	32.2
MT043	Ships, tugs, pleasure boats, and similar vessels:				
	Exports .....	1,220	1,058	-162	-13.3
	Imports .....	919	1,130	211	22.9
	Trade balance .....	301	-72	-373	( <sup>3</sup> )

See footnotes at end of table.

Table 12-6--Continued

Transportation equipment sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million Dollars</i>					
MT044	Motors and engines, except internal combustion, aircraft, or electric:				
	Exports .....	315	335	20	6.4
	Imports .....	474	511	36	7.7
	Trade balance .....	-159	-176	-16	-10.2

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

<sup>3</sup>Not meaningful for purposes of comparison.

Note.--Calculations based on unrounded data.

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



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## CHAPTER 13

# Electronic Products

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The U.S. trade deficit in electronic products decreased by \$6.0 billion (12 percent) in 1996 to \$43.5 billion (table 13-1). U.S. exports increased by \$10.2 billion (8 percent) to \$137.0 billion, while U.S. imports increased by \$4.1 billion (2 percent) to \$180.5 billion. Strong international demand for computing power led to a \$3.5 billion increase in U.S. exports of automatic data processing machines, an area in which U.S. producers excel.

The most significant rise in U.S. imports occurred in automatic data processing machines (computer products), which grew by \$5.1 billion (9 percent) to \$61.5 billion (table 13-2). These machines represented 34 percent of total U.S. imports of electronic products in 1996, a modest increase (2 percent) over 1995. Imports of computer products from Singapore and Taiwan grew by 17 and 15 percent, respectively. U.S. imports of diodes, transistors, integrated circuits, and similar solid-state devices, the second-largest electronic products import category, declined in value by \$2.4 billion (6 percent) to \$36.8 billion. Much of this decline in the value of imports was the result of a steep decline in the prices of these devices, particularly in dynamic random access memories (DRAMs), despite an increase in the number of units imported. During 1996, prices for DRAMs declined by as much as 70 percent.<sup>1</sup>

U.S. exports of electronic products rose by \$10.2 billion (8 percent) in 1996 to \$137.0 billion (table 13-3), falling behind the 1995 increase of \$20.4 billion (19 percent). The largest export percentage gain among product categories in this sector was in audio/video recording/reproducing apparatus, which rose by \$210 million (28 percent) to \$964 million. This rise was accounted for by the increasing use of maquiladoras<sup>2</sup> and the transshipping of U.S. imports to Mexico and Canada.

U.S. exports of computers and medical goods also increased significantly, rising by \$3.5 billion and \$1.3 billion (10 percent and 14 percent), respectively, to \$38.0 billion and \$10.2 billion. The growth in U.S. exports of automatic data processing machines reflected the healthy demand for U.S. computers, peripherals, and parts worldwide.<sup>3</sup> Principal markets included Canada, Japan, the United Kingdom, and Germany. Among these four countries, Japan

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<sup>1</sup>World Wide Web, retrieved Apr. 9, 1997, Electronic Buyers' News, <http://techweb.cmp.com/ebn/semicon/dram/html>, "DRAM Leaders Gird for a Tough 1997," EBT, Jan. 1997).

<sup>2</sup>U.S. and other foreign producers use the maquiladora industry (in-bond assembly) in Mexico to reduce their labor costs.

<sup>3</sup>Seventy-two percent of all U.S. computer-related products shipped in 1996 were assembled computers and peripherals.

Table 13-1

Electronic products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
Japan	14,006	16,489	2,484	17.7
Canada	17,761	18,929	1,168	6.6
Mexico	9,836	12,619	2,783	28.3
Singapore	6,541	7,122	581	8.9
Taiwan	4,006	4,308	302	7.5
Korea	5,324	6,347	1,023	19.2
Malaysia	5,197	4,603	-594	-11.4
United Kingdom	9,063	8,794	-269	-3.0
China	1,877	1,970	93	5.0
Germany	7,453	7,780	327	4.4
All Other	45,802	48,062	2,260	4.9
Total	126,866	137,022	10,156	8.0
EU-15	33,949	34,508	559	1.6
OPEC	1,934	1,989	56	2.9
Latin America	18,466	22,374	3,908	21.2
CBERA	1,314	1,385	71	5.4
Asian Pacific Rim	49,364	53,638	4,274	8.7
ASEAN	16,702	17,368	666	4.0
Central and Eastern Europe	548	620	72	13.1
U.S. imports for consumption:				
Japan	49,043	43,964	-5,080	-10.4
Canada	10,850	11,663	814	7.5
Mexico	14,019	16,502	2,483	17.7
Singapore	15,762	17,412	1,649	10.5
Taiwan	13,516	14,730	1,215	9.0
Korea	13,626	12,153	-1,473	-10.8
Malaysia	13,421	13,577	155	1.2
United Kingdom	5,132	5,344	211	4.1
China	9,666	11,180	1,514	15.7
Germany	5,369	5,340	-29	-0.5
All Other	25,998	28,680	2,681	10.3
Total	176,403	180,543	4,141	2.3
EU-15	20,036	20,506	470	2.3
OPEC	1,120	1,438	319	28.5
Latin America	15,198	17,760	2,562	16.9
CBERA	664	757	93	14.0
Asian Pacific Rim	127,070	126,582	-489	-0.4
ASEAN	38,008	41,397	3,390	8.9
Central and Eastern Europe	87	295	208	239.3
U.S. merchandise trade balance:				
Japan	-35,037	-27,474	7,563	21.6
Canada	6,911	7,266	354	5.1
Mexico	-4,183	-3,883	300	7.2
Singapore	-9,222	-10,290	-1,068	-11.6
Taiwan	-9,509	-10,422	-913	-9.6
Korea	-8,302	-5,806	2,496	30.1
Malaysia	-8,224	-8,974	-750	-9.1
United Kingdom	3,931	3,450	-481	-12.2
China	-7,788	-9,209	-1,421	-18.2
Germany	2,084	2,440	356	17.1
All Other	19,804	19,382	-422	-2.1
Total	-49,536	-43,521	6,015	12.1
EU-15	13,913	14,002	89	0.6
OPEC	814	551	-263	-32.3
Latin America	3,268	4,614	1,346	41.2
CBERA	651	628	-22	-3.4
Asian Pacific Rim	-77,707	-72,944	4,763	6.1
ASEAN	-21,305	-24,029	-2,724	-12.8
Central and Eastern Europe	461	325	-136	-29.6

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Table 13-2**  
**Changes in U.S. imports of electronic products, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Automatic data processing machines .....	56,308	61,457	5,149	9
Audio/video recording/reproducing apparatus .....	6,733	5,873	-860	-13
Drawing and mathematical calculating or measuring instruments .....	6,665	7,136	471	7
Medical goods .....	4,951	5,368	416	8
Diodes, transistors, integrated circuits, and similar semiconductor solid-state devices .....	39,167	36,771	-2,396	-6
All other .....	62,579	62,674	95	( <sup>1</sup> )
<b>Total .....</b>	<b>176,403</b>	<b>180,543</b>	<b>4,141</b>	<b>2</b>

<sup>1</sup>Less than one percent.

Note.—Calculations based on unrounded data.

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

**Table 13-3**  
**Changes in U.S. exports of electronic products, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
Automatic data processing machines .....	34,476	37,977	3,501	10
Medical goods .....	8,966	10,217	1,251	14
Drawing and mathematical calculating or measuring instruments .....	11,572	12,558	986	9
Diodes, transistors, integrated circuits, and similar semiconductor solid-state devices .....	23,317	24,134	817	4
Audio/video recording/reproducing apparatus .....	754	964	210	28
All other .....	47,781	50,762	2,981	6
<b>Total .....</b>	<b>126,866</b>	<b>137,022</b>	<b>10,156</b>	<b>8</b>

Note.—Calculations based on unrounded data.

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

and the United Kingdom experienced the greatest change in trade. Trade with Japan increased by \$839 million (20 percent) to \$5.0 billion, led by expanded exports of computers and computer peripherals, while trade with the United Kingdom decreased by \$89 million (3 percent) to \$3.3 billion as a result of U.S. firms opening manufacturing sites in that country to serve the European market. Medical equipment exports to Japan, Germany, and Mexico rose by \$356 million (22 percent), \$549 million (14 percent), and \$103 million (50 percent), respectively. While both Japan and Germany have strong domestic industries, there is robust demand for innovative U.S.-built devices.

Trade statistics for all commodity/industry groups in the electronic products sector are presented in table 13-5 at the end of this chapter.

## U.S. BILATERAL TRADE

The chief categories of electronic products are computers and parts and semiconductor devices. Trade in these products in 1996 reflected strong international demand for computing power. This demand was the continuation of a trend toward higher usage of computers, which has, in turn, driven the demand for semiconductor devices used in the machines. Together, these two products accounted for 45 percent of U.S. exports and 54 percent of U.S. imports of electronic products during 1996, a level similar to 1995. The largest markets for U.S. exports of computers were Canada, Japan, the United Kingdom, and Germany; the top markets for semiconductor devices were Malaysia, Canada, and Singapore. The leading trading partner countries for U.S. imports and exports of electronic products are presented in table 13-4.

In contrast to most other products made by the U.S. electronics industry, the United States maintains a trade surplus in medical goods,<sup>4</sup> with the 1996 surplus rising by an additional \$835 million (21 percent) over the 1995 surplus to \$4.9 billion. The largest bilateral change in 1996 U.S. trade occurred between the United States and Japan. Imports of electronic devices from Japan, notably computers and semiconductor devices, decreased by \$5.1 billion (10 percent) to \$44.0 billion. A large part of this decrease was accounted for by diminished demand for Japanese computers and semiconductor devices. Lower cost Asian producers increased their computer shipments to the U.S. market, largely at the expense of the Japanese producers, and severe price declines in semiconductor devices drove the value of imports lower, in spite of a rise in unit shipments. U.S. exports increased by \$2.5 billion (18 percent) to \$16.5 billion, partially due to a rise in U.S. exports to Japan of computers, medical goods, and measuring, testing, controlling, and analyzing instruments.

U.S. imports of electronic products from Canada increased by \$814 million (8 percent) to \$11.7 billion. However, Canada accounted for a modest 6 percent of total U.S. imports in 1996, similar to its 1995 position. Among the top-ten markets, Canada was the leading U.S. export market for electronic products in 1996, accounting for 14 percent of the annual total. Exports to Canada climbed by \$1.2 billion (7 percent) to \$18.9 billion.

U.S. imports of semiconductor devices from Japan fell by \$2 billion (19 percent) to \$8.6 billion, while U.S. imports of computers from Japan fell by \$906 million (6 percent) to \$13.9 billion. These declines were the result of increased competition in the market by lower cost Asian producers, and a severe oversupply in the semiconductor market, which resulted in a steep decline in unit price. Japan was also the second-largest export market among the top-ten for U.S. electronic products, accounting for 12 percent of total U.S. exports in 1996. Exports to Japan rose by \$2.5 billion (18 percent) in 1996 to \$16.5 billion. Significant rises in U.S. exports to Japan occurred in computers and computer peripherals due to U.S. leadership in new computer technology and in medical goods. Computer exports increased by \$839 million (20 percent) to \$5.0 billion, and U.S. exports of peripherals grew by \$544 million, or 22 percent, to \$3.0 billion. Exports of medical goods rose \$356 million (22 percent) to \$2.0 billion, the result of U.S. manufacturers' strong reputation in the global market.

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<sup>4</sup>Medical goods consist of both electronic and nonelectronic items. For example, electromedical devices include cardiac pacemakers, medical imaging devices (MRI, CT Scanners, ultrasound scanners), medical lasers, and patient monitoring systems. Nonelectrical devices include angioplastic catheters, syringes, coronary stents, and intravenous and blood administration sets.



**Table 13-4**  
**Electronic products: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
Japan . . . . .	Computers and related products Electronic integrated circuits, microassemblies, and parts Parts and accessories for computers and related products Transmission apparatus for radiotelephony, radiotelegraphy, radiobroadcasting or television	Computers and related products Electronic integrated circuits, microassemblies, and parts Parts and accessories for computers and related products Medical goods
Canada . . . . .	Parts and accessories for computers and related products Electronic integrated circuits, microassemblies, and parts Telephone and telegraph apparatus Computers and related products	Computers and related products Electronic integrated circuits, microassemblies, and parts Parts and accessories for computers and related products Telephone and telegraph apparatus
Mexico . . . . .	Insulated wire and cable Television receivers and video monitors Computers and related products Apparatus for making, breaking, protecting, or connecting electrical circuits	Electronic integrated circuits, microassemblies, and parts Insulated wire and cable Computers and related products Thermionic, cold cathode, or photocathode tubes
Singapore . . . . .	Computers and related products Electronic integrated circuits, microassemblies, and parts Parts and accessories for computers and related products Reception apparatus for radiotelephony, radiotelegraphy, or radiobroadcasting	Electronic integrated circuits, microassemblies, and parts Parts and accessories for computers and related products Prepared unrecorded media for sound Computers and related products
Taiwan . . . . .	Computers and related products Parts and accessories for computers and related products Electronic integrated circuits, microassemblies, and parts Printed circuits	Electronic integrated circuits, microassemblies, and parts Computers and related products Parts and accessories for computers and related products Electrical machines and apparatus, nesoi
Korea . . . . .	Electronic integrated circuits, microassemblies, and parts Parts and accessories for computers and related products Computers and related products Transmission apparatus for radiotelephony, radiotelegraphy, radiobroadcasting or television	Electronic integrated circuits, microassemblies, and parts Computers and related products Transmission apparatus for radiotelephony, radiotelegraphy, radiobroadcasting or television Parts and accessories for computers and related products

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. Products are ranked in decreasing order based on 1996 trade.

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

Other significant changes occurred in U.S. exports to Japan of medical goods, which grew by \$356 million (22 percent) to \$2.0 billion and measuring, testing, controlling, and analyzing instruments, which increased by \$348 million (22 percent) to \$1.9 billion. The United States is the world's leader in the production of sophisticated, high-technology medical goods. U.S. exports, which grew by \$1.3 billion (14 percent) in 1996 to \$10.2 billion, were dispersed throughout the industrial world, with Japan and Germany representing the top two markets in

1996. U.S. imports of medical goods, however, consist of both advanced equipment from top electronics companies in Germany and Japan, and low-technology, labor-intensive apparatus from assembly plants in Mexico and the Dominican Republic. In 1996, U.S. imports of medical goods rose by \$416 million (8 percent) to \$5.4 billion.

## COMMODITY ANALYSIS

### Automatic Data Processing Machines<sup>5</sup>

The U.S. trade deficit in computer products rose by \$1.6 billion (8 percent) to \$23.5 billion in 1996.<sup>6</sup> Although the overall trade deficit for these products continued to increase, the deficit growth rate slowed from 36 percent during 1993-94 and 28 percent during 1994-95. In general, the growth of U.S. imports in 1996 was more moderate because worldwide demand for these products lessened as a result of inventory build-up in the personal computer market, a decrease in business capital spending for information technology products, and a lower than expected computer replacement rate among corporations.<sup>7</sup> The moderate expansion of U.S. exports during 1995-96 reflected strong demand for U.S. computer product exports, especially in Asian and Latin American markets, and moderate but still healthy demand from most other markets.<sup>8</sup> U.S. consumers continued to demand price-competitive personal computers and computer peripherals supplied primarily by Asian producers, albeit at growth rates slower than in previous periods.<sup>9</sup>

### U.S. imports

U.S. imports of computer products rose by \$5.1 billion (9 percent) to \$61.5 billion in 1996.<sup>10</sup> This increase occurred because of intense competition among U.S. computer hardware vendors which has significantly lowered the price of computers and peripherals, stimulating demand. Additionally, corporations continued to purchase computers to process information quickly, efficiently, and responsively in a competitive marketplace. Also, analysts indicate that increased Internet usage also has spurred the purchase of computers. During 1996, the United States imported computer products principally from Japan, Singapore, Taiwan, and Korea. However, imports of computer products from Japan, the leading supplier of imports, fell by

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<sup>5</sup>Automatic data processing machines, also referred to as computer products, are composed of finished (computers and computer peripherals) and unfinished (parts for computers and computer peripherals, such as printed circuit assemblies) products. Electrical components are not included in this section.

<sup>6</sup>This increase in the trade deficit represented the fifth-largest decline in U.S. trade position among all industry/commodity groups.

<sup>7</sup>*Standard and Poor's Industry Surveys: Computers: Hardware*, Sept. 19, 1996, pp. 6-9.

<sup>8</sup>*Ibid.*, pp. 12-13.

<sup>9</sup>World Wide Web, DQInteractive: Info Desk; In the News, retrieved Apr. 29, 1997, <http://dq2.dataquest.com/info/press/ir-n9706.html>, Dataquest, "Dataquest Reports Worldwide PC Market Thrived in 1996 with 18 Percent Growth," Jan. 1997.

<sup>10</sup>Computer products experienced the second-largest increase in U.S. imports among all industry/commodity groups.

\$906 million (6 percent) to \$13.9 billion in 1996 as lower cost Asian producers continued to increase their shipments to the U.S. market at the expense of Japanese producers.

Continuing a trend since 1992, low-cost personal computers and computer peripheral imports from Singapore and Taiwan increased in 1996. U.S. computer product imports from Singapore increased by \$1.9 billion (17 percent) to \$13.0 billion. The majority of these imports were computer peripherals, such as stand-alone disk drives and other data storage units, which increased in value from \$6.0 billion in 1995 to \$7.4 billion in 1996. U.S. imports of computer products from Taiwan increased by \$1.1 billion (15 percent) to \$8.2 billion in 1996, with the majority of such imports, or \$4.3 billion, consisting of low-cost computer peripherals and personal computers.

In comparison, U.S. imports of all computer products from Korea increased just slightly, or by \$25 million (1 percent), to \$3.9 billion in 1996 -- the first time since 1992 that U.S. imports of all computer products from Korea did not considerably increase. U.S. imports of computer parts from Korea, which consisted mostly of printed circuit assemblies, declined by \$443 million (19 percent) to \$1.9 billion in 1996. The decline in imports of parts was more than offset by growth in imports of computers and computer peripherals from Korea by \$468 million (32 percent) to \$1.9 billion in 1996. Of all finished computer product imports from Korea in 1996, 69 percent were of color cathode-ray tube monitors.

### U.S. exports

U.S. exports of computer hardware climbed by \$3.5 billion (10 percent) to \$38.0 billion in 1996.<sup>11</sup> This expansion reflects growing demand for U.S. computer products in most countries. In general, demand for U.S. computer products increased because of U.S. leadership in new computer technology, aggressive pricing, corporate adoption of computers to streamline business processes, and increased Internet usage. Since 1992, the United States has exported computer products principally to Canada, Japan, the United Kingdom, and Germany. Among these four countries, U.S. exports to Japan showed the greatest increase during 1995-96.

U.S. exports of computer products to Japan rose \$839 million (20 percent) to \$5 billion in 1996. U.S. exports of computers and computer peripherals, or finished products, rose at a slightly faster rate than computer parts. Exports of computers and computer peripherals to Japan increased by \$544 million (22 percent) to \$3.0 billion in 1996, while U.S. computer parts exports to Japan grew by \$297 million (18 percent) to \$1.9 billion. Consumption of U.S. computers and peripherals by consumers and businesses expanded in Japan as prices for personal computers and peripherals continued to decrease and as users responded by increasing their purchases of such products.<sup>12</sup>

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<sup>11</sup>Computer products experienced the second-largest increase in U.S. exports among all industry/commodity groups.

<sup>12</sup>World Wide Web, retrieved Jan. 30, 1997, <http://www.jeida.org.jp/yosoku/h9yosoku-e.html>, Japan Electronics Industry Development Association, "Announcement of Estimated Shipment of Computers, Terminals, and Peripheral Equipment for FY 1997," Nov. 21, 1996; and World Wide Web, retrieved Jan. 30, 1997, Yahoo! <http://www.biz.yahoo.com/bin/jump?/finance/97/01/30>, "Dataquest Sees Japan 1997 PC Shipments Up 27 Percent," *Reuters*, Jan. 30, 1997.

U.S. exports to Canada and Germany registered comparatively smaller increases than Japan during 1995-96. U.S. exports to Canada rose by \$249 million (5 percent) to \$5.0 billion, and exports to Germany increased by \$235 million (8 percent) to \$3.3 billion. As in Japan, demand for assembled U.S. computers rose in Canada<sup>13</sup> and Germany as prices decreased and as users continued to adopt client/server personal computer networks.<sup>14</sup> In addition, most U.S. exports to Canada are of finished goods: in 1996, 72 percent of all computer products shipped from the United States to Canada were computers and computer peripherals, while computer parts comprised the remainder. U.S. computer exports to Germany were evenly divided between finished products and computer parts in 1996, unchanged from U.S. export composition in 1995.

In comparison, U.S. exports to the United Kingdom decreased by \$89 million (3 percent) to \$3.3 billion in 1996. Total exports declined as U.S. companies have opened manufacturing facilities in the country to serve the European market,<sup>15</sup> reducing the amount of higher value, assembled computers and peripherals shipped to the United Kingdom but increasing the export of computer parts. Exports of computers and computer peripherals to the United Kingdom declined by \$165 million (8 percent) to \$1.8 billion in 1996, while exports of computer parts rose by \$76 million (5 percent) to \$1.6 billion during the same period.

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### **Diodes, Transistors, Integrated Circuits, and Similar Semiconductor Solid-State Devices**

In 1996, the U.S. trade deficit in semiconductors<sup>16</sup> improved by \$3.2 billion (20 percent) to \$12.6 billion. U.S. imports decreased by \$2.4 billion (6 percent) to \$36.8 billion while U.S. exports increased by \$818 million (4 percent) to \$24.1 billion.<sup>17</sup> As a result, total U.S. two-way trade in semiconductors declined in 1996 by \$1.6 billion (3 percent). The decline in the value of total trade is indicative of a 9-percent slump in the value of the global semiconductor market in 1996 that was largely brought on by overproduction in 1996 and excess inventories that remained from 1995.<sup>18</sup> The slight increase in U.S. exports reflects the

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<sup>13</sup>Industry representative, telephone interview by USITC staff, Feb. 28, 1997.

<sup>14</sup>Eurobit, "Computer and Office Equipment: NACE 33," ch. 10 in *Panorama of EU Industry 95/96*, (Luxembourg: Office for Official Publications of the European Communities, 1995).

<sup>15</sup>*Ibid.*; Lewis H. Young, "Scotland's New Draw: Research Consortiums," *Electronic Business Buyer*, Feb. 1995, pp. 77-78; and World Wide Web, retrieved Jan. 16, 1997, Upside.com: Search, <http://www.upside.com/taxis/search>, Karen Southwick, "Clash of the Clans," *Upside*, Mar. 1995.

<sup>16</sup>Semiconductors include discrete devices such as transistors and diodes, and integrated circuits such as memory devices, logic devices, microcomponents, and hybrid devices.

<sup>17</sup>The U.S. trade position improvement was the second largest experienced by any industry/commodity group in 1996, and the decline in U.S. imports was greater than that of any group.

<sup>18</sup>World Wide Web, retrieved Apr. 9, 1997, Semiconductor Industry Association (SIA), <http://www.semichips.org/btobill/book.htm>, *Global Billings Report*, (SIA, Feb. 1997), and World Wide Web, retrieved Apr. 30, 1997, *Electronic Business Today* (EBT),

(continued...)

sustained world demand for certain specialized semiconductor products of which U. S. companies are leaders in production, most notably application specific integrated circuits (ASICs) and microcomponents.<sup>19</sup> The improvement in the U.S. trade deficit in semiconductors in 1996 is the first since 1990, with the deficit having reached record levels in each succeeding year from 1991-95.

### U.S. imports

The value of U.S. semiconductor imports dropped by \$2.4 billion (6 percent) to \$36.8 billion in 1996 despite an increase in the number of units imported. Much of the decrease is related to the rapid decline in the global price for memory devices, particularly dynamic random access memories (DRAMs). The unit price of DRAMs, the principal semiconductor memory devices employed in automatic data processing machines, declined by as much as 70 percent during 1996.<sup>20</sup> This price decline is primarily due to production expanding at a faster rate than demand. Increased demand from personal computer (PC) manufacturers caused tremendous growth in the global DRAM market in 1995 (74 percent) that led to expectations of similar expansion in 1996. As a result, existing DRAM manufacturers added production while additional firms entered the market. Although the PC market experienced strong growth in 1996, and an increase in the quantity of DRAMs shipped, the growth fell short of expectations and the increase in DRAM production led to oversupply and a drop in unit prices. The United States is a major importer of DRAMs and in 1996, the number of units imported increased by more than 16 percent. However, because of the severe price erosion, the value of these imports declined by \$3.4 billion (28 percent) to a total of \$8.5 billion. The leading suppliers of U.S. semiconductor imports, and DRAM imports in particular, are Japan and Korea. In 1996, the decline in Japan and Korea's trade surpluses with the United States mirrored the decreases in their DRAM exports to the United States. Japanese exports of DRAMs to the United States dropped \$1.6 billion (41 percent) to \$2.4 billion in 1996, while Japan's overall semiconductor trade surplus with the United States decreased by \$2.3 billion (27 percent). Similarly, the value of Korean DRAM exports to the United States declined by \$1.4 billion (33 percent) to \$2.8 billion in 1996, while Korea's total semiconductor trade surplus with the United States dropped by \$1.1 billion (20 percent) to \$4.4 billion.

Although overall U.S. imports were down in 1996, imports from a number of major trading partners increased. Among these were the Philippines, Canada, Mexico, and Thailand, all of which are major production-sharing partners with the United States.<sup>21</sup> In 1996, most of these exports to the United States were comprised of devices fabricated in the United States and shipped to these countries for final assembly and testing. Imports from the Philippines grew by

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<sup>18</sup>(...continued)

<http://www.ebtmag.com/issue/9701/01semi.htm>, Robert Ristelhueber, "Semiconductor Makers See Brighter '97," (EBT, Jan. 1997).

<sup>19</sup>Although the increase in U.S. exports of semiconductors was small in the context of these products, the \$818 million increase was the eleventh largest increase experienced by an industry/commodity group in 1996.

<sup>20</sup>World Wide Web, retrieved Apr. 9, 1997, Electronic Buyers' News, <http://techweb.cmp.com/ebn/semicon/dram/html>, "DRAM Leaders Gird for a Tough 1997," (EBT, Jan. 1997).

<sup>21</sup>USITC, *Production Sharing, 1992-1995*, USITC publication 3032, pp. 3-17 to 3-18.

\$498 million (25 percent); from Canada, by \$410 million (24 percent); from Mexico, by \$59 million (8 percent); and from Thailand, by \$50 million (6 percent).

### **U.S. exports**

U.S. exports of semiconductors grew by \$817 million (4 percent) to \$24.1 billion in 1996. This increase in semiconductor exports was concentrated in unassembled semiconductors<sup>22</sup> as well as ASICs and microcomponents. The largest shifts in U.S. semiconductor exports occurred in trade with Malaysia, Mexico, and the Philippines, and are primarily related to changes in the use of production sharing. Exports to Malaysia declined by \$668 million (18 percent) to \$3.1 billion, while exports to Mexico increased by \$518 million (33 percent) to \$2.1 billion. Exports to the Philippines increased by \$433 million (27 percent) to \$2.0 billion.

Most U.S. semiconductor producers do not participate in the relatively labor-intensive assembly stage of semiconductor manufacturing, but instead send their unfinished products to production-sharing assembly facilities abroad. U.S. exports of unassembled semiconductors rose by \$657 million (5 percent) to \$13.5 billion in 1996, and accounted for 56 percent of total U.S. exports in 1996. The chief markets for U.S. exports of unassembled semiconductors in 1996 were Malaysia (\$2.8 billion), Philippines (\$2.0 billion), Korea (\$1.5 billion), Canada (\$1.0 billion), and Taiwan (\$900 million). Exports to the Philippines increased by \$443 million (29 percent); to Canada by \$163 million (19 percent); to Korea by \$156 million (12 percent); and to Taiwan by \$148 million (20 percent); while exports to Malaysia decreased by \$749 million (21 percent).

Exports of assembled ASICs and microcomponents, including microprocessors, microcontrollers, grew by \$504 million (22 percent) to \$2.8 billion. U.S. firms dominate world production of these devices, and in 1996, assembled microcomponents accounted for 12 percent of all U.S. semiconductor exports. Growth in U.S. exports of ASICs and microcomponents is closely associated with their growing use in automobiles and the continuing strong demand for computer and telecommunications equipment into which they are incorporated. The major markets for these U.S. exports include Canada, Singapore, and Japan. Exports to Canada increased by \$404 million (254 percent) largely due to strong automobile and telecommunications demand. Exports to Singapore grew by \$43 million (12 percent) to \$403 million while exports to Japan declined by \$8 million (2 percent) to \$324 million.

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<sup>22</sup>Unassembled semiconductors include chips, dice, wafers, and parts that have not yet been packaged and tested.

## Medical Goods

The U.S. trade surplus in medical goods increased by \$835 million (21 percent) to \$4.9 billion in 1996. U.S. exports grew by \$1.3 billion (14 percent) to \$10.2 billion, while U.S. imports grew by \$416 million (8 percent) to \$5.4 billion in 1996. The U.S. medical goods industry enjoyed a trade surplus with its chief competitors, Germany and Japan, as U.S. medical exports to each increased by double digit rates and imports from the two countries increased negligibly or declined. Although the U.S. industry has benefited from a favorable trade balance with Japan for several years, 1996 was the first year in over a decade that U.S. medical goods exports to Germany exceeded imports from that country. This culminated a decade of consistently rising trade surpluses for the U.S. medical goods industry which adapted more readily than its competitors to increasingly price sensitive, maturing health care markets in the United States, Europe, and Japan while taking advantage of rising opportunities in rapidly emerging countries in Asia and Latin America.<sup>23</sup>

### U.S. imports

One of the largest shifts in trade occurred in U.S. imports from China. U.S. imports from China increased by \$100 million (71 percent) to \$240 million making it the seventh leading supplier of U.S. imports of medical goods. This growth was due largely to the establishment of joint ventures by affiliates of U.S., Japanese, and EU-based electromedical companies to take advantage of lower wages in China, while establishing a foothold in one of the fastest growing markets for medical goods in the world.<sup>24</sup> Another contributor to the growth in U.S. imports from China was the movement of production facilities to that country by a major Japanese supplier of blood pressure apparatus. This move displaced Japan as the leading supplier of sphygmomanometers to the United States.<sup>25</sup> Mexico, Malaysia, and the Dominican Republic also continued to be important sources of import growth to the United States as U.S.-based producers of highly price-sensitive hospital consumables continued to increase their use of low-wage assembly in those countries to keep their products competitive in cost-conscious health care markets.<sup>26</sup>

Although the EU and Japan remained the leading suppliers of imports of medical goods to the United States in 1996, their exports to the United States grew less quickly than U.S. exports to those countries as their companies have had more difficulty than U.S. firms in adjusting to increasingly price sensitive health care markets around the world.<sup>27</sup> Imports from Germany, the largest EU supplier of medical goods to the United States, declined by more than \$24 million (2 percent), in part because increased demand in the German and other EU markets diverted German manufacturers' attention to the EU. Also, German producers of medical and surgical instruments have been less innovative than U.S. companies in providing new

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<sup>23</sup>U.S. and European industry analysts, telephone interviews by USITC staff, Apr. 8-10, 1997 and Health Industry Manufacturers Association (HIMA), *1997 Global Medical Technology Update: The Challenges Facing U.S. Industry and Policy Makers* (Washington: HIMA, 1997), pp. 1-235.

<sup>24</sup>U.S. and Japanese industry representatives, telephone interviews by USITC staff, Apr. 8-10, 1997.

<sup>25</sup>Japanese investment analyst, telephone interview by USITC staff, Apr. 9, 1997.

<sup>26</sup>U.S. medical industry representatives, telephone interviews by USITC staff, Apr. 8, 1997.

<sup>27</sup>U.S., German, and Japanese medical goods industry representatives and investment analysts, telephone interviews by USITC staff, Apr. 8-10, 1997.

technologies, particularly cardiac products, such as cardioverter defibrillators, cardiac catheterization products, and stents,<sup>28</sup> and thus have become less competitive in the U.S. market.<sup>29</sup>

U.S. imports from Japan increased by only \$10 million (1 percent) as Japanese medical goods companies also remained behind U.S. companies in supplying innovative technology.<sup>30</sup> The breadth of medical technology offered by Japanese companies has been fairly limited. Imports from that country continue to consist largely of medical imaging equipment (Hitachi and Toshiba) and endoscopic and other optical medical devices (Olympus).

### U.S. exports

U.S. exports of medical goods to the EU increased by \$549 million (14 percent) to \$4.4 billion, accounting for 43 percent of total exports of such goods. Exports to the Netherlands rose by \$188 million (32 percent) to \$770 million. Much of the growth in exports to the Netherlands resulted from increased intracompany shipments between U.S. and Dutch medical imaging and pacemaker producers that maintain manufacturing facilities in both the United States and the Netherlands. Exports to Germany, the largest EU market, grew by \$162 million (16 percent) to \$1.2 billion. Even though the German health care market has been undergoing cost containment efforts over the past several years, the unified German market for medical devices remains one of the strongest in Europe for innovative U.S. medical products for two main reasons. First, Germany is one of the most advanced markets in terms of technology acceptance and diffusion of new devices. Also, the German population is aging, and there is a continued need for upgrading of health care facilities in the former eastern states.<sup>31</sup> Products accounting for the largest growth in U.S. exports to Germany included complete patient monitoring equipment, basal metabolism, and blood pressure apparatus.

U.S. exports of medical goods to Japan rose by \$356 million (22 percent) to just under \$2.0 billion as Japan continued to be the largest single country market for U.S. medical goods. Despite Japan's continued sluggish economic growth, other factors have especially benefited U.S. suppliers of pacemakers, cardioverter defibrillators, advanced cardiac catheter devices, stents, and complete patient monitoring systems (these products have the reputation in the Japanese and other global markets as among the most innovative technologies in the world).<sup>32</sup> These factors include Japan's aging population, increased incidence of health-related disease,

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<sup>28</sup>Stents are used to hold open arteries and veins which have been opened by catheter procedures.

<sup>29</sup>Siemens Medical Systems, a major German-based electromedical equipment producer, sold its major pacemaker division to St. Jude (Minneapolis, MN) after its attempts to compete with Medtronic (Minneapolis, MN) were unsuccessful. Medtronic is the world's leading supplier of pacemakers. However, Siemens continued to be a leading EU supplier to the United States in 1996. U.S. investment analysts, telephone interviews by USITC staff, Apr. 8-10, 1997 and Jill Topkis Weiss, "Med Tech 102: The Medical Device Handbook," *Deutsche Morgan Grenfell: US Equities Research*, Nov. 18, 1996, pp. 1-111.

<sup>30</sup>U.S., German, and Japanese medical goods industry representatives and investment analysts, telephone interviews by USITC staff, Apr. 8-10, 1997.

<sup>31</sup>German medical industry representatives, telephone interviews by USITC staff, Apr. 9, 1997, and HIMA, *Global Medical Technology Update*, pp. 79-88.

<sup>32</sup>U.S. investment analysts, telephone interviews by USITC staff, Apr. 8-10, 1997 and Weiss, "Med Tech 102..." pp. 1-111.



and increased expenditures by public and private hospitals on updating their cardiac and other critical care units. Japan also was an important market for U.S.-made parts for ophthalmic instruments and syringe parts used as critical components by several Japanese manufacturers of medical and optical instruments. Finally, exports to Japan of U.S.-manufactured dental instruments and appliances exhibited large growth in 1996.

Rapidly developing markets in Asia and Latin America were also responsible for a significant portion of the U.S. growth in exports. Exports to Mexico grew by \$103 million (50 percent) to \$307 million as that economy continued to recover from the effects of the peso devaluation in 1994. China, Singapore, Korea, Brazil, and Taiwan also showed significant market growth for U.S.-made medical devices as rising incomes and infrastructure development in those countries have encouraged U.S. medical firms to target them for focused marketing efforts.<sup>33</sup> U.S. exports to China alone grew by \$30 million (37 percent) to \$113 million as new western style clinics and hospitals were established in the high-growth economic regions around Guangzhou and Shanghai.<sup>34</sup> Finally, exports to Brazil increased by \$22 million (11 percent) to \$225 million as that country has become a base for U.S. sales efforts to the emerging Mercosur market and other South American countries.<sup>35</sup>

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#### Audio/video recording/reproducing apparatus<sup>36</sup>

The U.S. trade deficit in audio/video recording/reproducing apparatus disc players (A/V apparatus) decreased by \$1.1 billion (18 percent) in 1996 to \$4.9 billion, reflecting improved trade balances with two of the three leading Pacific Rim trading partners. U.S. deficits with Japan and Malaysia declined by \$456 million (21 percent) and by \$141 million (9 percent), respectively. The deficit with Pacific Rim countries improved from \$6.2 billion to \$5.2 billion primarily because of a nearly \$1-billion decrease in U.S. imports, because many manufacturers shifted sourcing from countries with high labor costs, such as Japan and Korea, to others with lower labor costs, such as Mexico. Exports to Pacific Rim countries increased only slightly. For countries in both the NAFTA and the EU, the trade balance changed from deficits to surpluses. The NAFTA balance improved from a \$66-million deficit to a \$42-million surplus as a result of U.S. exports more than doubling. The balance with the EU improved from a \$6-million deficit to a \$27-million surplus, as a result of a decrease in imports and an increase in exports.

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<sup>33</sup>U.S. industry representatives, telephone interviews by USITC staff, Apr. 8-10, 1997.

<sup>34</sup>U.S. trade association representatives and investment analysts, telephone interviews by USITC staff, Apr. 9-10, 1997.

<sup>35</sup>U.S. subsidiaries of U.S.-based medical goods producers in Sao Paulo, Brazil, telephone interviews by USITC staff, Mar. 11, 1997 and Apr. 2, 1997.

<sup>36</sup>Products included in this digest are tape recorders, tape players, video cassette recorders, turntables, and compact disc players.

## **U.S. imports**

Imports of A/V apparatus decreased by \$860 million (13 percent) during 1996 to \$5.9 billion.<sup>37</sup> Imports from Pacific Rim countries, accounting for over 90 percent of U.S. imports of A/V apparatus, decreased by almost \$1 billion (15 percent) to \$5.4 billion. Imports from Japan, Malaysia, and China together accounted for about 68 percent of total imports of these products. Imports from Japan and Malaysia decreased by \$447 million (20 percent) to \$1.8 billion and by \$144 million (10 percent) to \$1.4 billion, respectively, while imports from China increased by \$5.1 million (less than 1 percent) to \$880 million.

The decline in U.S. imports is attributable in large part to declining imports of videocassette recorders, which declined by \$453 million (15 percent), as household penetration rates reached 89 percent<sup>38</sup> and demand fell. Imports also declined due to the continuing shift in consumer demand towards compact disc (CD) players and away from turntables, record changers, and cassette players. Imports of separate CD players and audio cassette recorders declined as imports of radio/CD player/cassette recorder combinations increased. Finally, price reductions, resulting from the movement of production to countries with lower labor costs, also contributed to declining imports. Many of the products in this digest are consumer electronics products, for which price competition is particularly keen.

## **U.S. exports**

U.S. exports of A/V apparatus increased by \$210 million (28 percent) in 1996, to \$964 million. About 43 percent of total exports were to Mexico and Canada, reaching \$314 million and \$102 million, respectively. Most of the increase was accounted for by increased exports to Mexico, which rose by \$185 million (144 percent) to \$314 million. Exports to Mexico of parts and accessories of A/V apparatus increased by \$99 million (161 percent) to \$160 million as the use of maquiladora plants for the assembly of A/V production increased, continuing to take advantage of lower cost labor. Also, exports to Mexico of sound reproducing apparatus not incorporating a recorder, primarily CD players, increased by \$84 million (59 percent) to \$226 million. Much of this increase was accounted for by imported CD players which are re-exported for installation in automobiles assembled in Mexico, since CD players are not produced in the United States.

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## **Measuring, Testing, Controlling, and Analyzing Instruments**

The U.S. trade surplus in measuring, testing, controlling, and analyzing instruments (certain measuring instruments) rose by \$515 million (10 percent) to \$5.4 billion in 1996,

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<sup>37</sup>This was the third-largest decline in U.S. imports experienced among all industry/commodity groups in 1996.

<sup>38</sup>Consumer Electronics Manufacturers Association.

continuing a significant rate of growth since 1994. The improvement in the trade balance largely reflected the continued rise in U.S. exports, which resulted from the growing demand of foreign consumers and manufacturers for high-quality U.S.-made products. These technology-intensive instruments are used to improve manufacturing productivity and to enhance the quality and appearance of finished products.

Although there was an overall improvement in the U.S. trade position, the trade balances with the principal foreign trading partners of the United States showed different trends during 1995-96. Whereas the U.S. trade surplus with Japan increased by \$325 million (1,935 percent) to \$342 million, the trade surplus with Canada fell by \$77 million (6 percent) to \$1.2 billion. With respect to Mexico, the \$410 million deficit recorded during 1995 grew by \$100 million (24 percent) to \$510 million in 1996. These contrasting trends are probably indicative of the prevailing economic conditions that influenced demand for certain measuring instruments within the United States and its principal trading partners during the period as noted below.

### **U.S. imports**

Total U.S. imports of certain measuring instruments rose by \$471 million (7 percent) to \$7.1 billion in 1996. This increase reflects the growing demand for high-quality, competitively priced foreign-made products. A rise in intra-corporate trade between U.S. companies and their subsidiaries in foreign countries also contributed to the growth in imports. Japan remained the largest foreign supplier of certain measuring instruments in 1996 (accounting for 22 percent of total imports); however, imports from Japan increased by only \$22 million (1 percent) to \$1.6 billion during 1996. Following Japan as major U.S. suppliers were Mexico (18 percent), Germany (13 percent), Canada (11 percent), and the United Kingdom (10 percent).

Certain measuring instruments from Germany and the United Kingdom represented the most significant shifts during the period, with imports from Germany increasing by \$137 million (17 percent) to \$949 million, and imports from the United Kingdom rising by \$80 million (12 percent) to \$727 million. Products from these two countries consisted largely of instruments and apparatus for measuring or checking the flow, level, pressure, or other variables of liquids or gases, as well as instruments and apparatus used for physical or chemical analysis.

The value of U.S. imports from Mexico remained consistent with 1995 levels, increasing by only \$1 million (1 percent) in 1996. The lack of significant growth in imports from Mexico was probably a reflection of reduced shipments to U.S. companies from affiliated operations in Mexico that experienced the adverse effects of the devaluation of the peso. Shipments from these affiliated operations to their U.S. counterparts represented a significant share of total certain measuring instruments imported from Mexico during the period.

### **U.S. exports**

U.S. exports of certain measuring instruments rose by \$1.0 billion (9 percent) to \$12.6 billion in 1996. Among the products with significant increases were measuring and checking instruments, automatic regulating and controlling instruments, and instruments for measuring and checking electrical quantities. Canada continued to be the principal U.S. foreign market during 1996 (accounting for 16 percent of total U.S. exports), followed by Japan (15 percent),

Korea (7 percent), and Mexico (6 percent). U.S. exports to Japan rose by \$348 million (22 percent) to \$1.9 billion, primarily in reaction to increased demand for instruments for measuring and checking electrical quantities and for optical instruments used for inspecting semiconductor wafers. The \$239 million (36 percent) increase to \$907 million in exports to Korea largely reflected a rise in demand for U.S.-made advanced-technology instruments used in the country's expanding industrial infrastructure. U.S. exports to Mexico fell by \$99 million (11 percent) to \$781 million. The decline in exports to Mexico primarily reflected the devaluation of the peso, which lowered demand of consumers in that country for measuring instruments and components manufactured in the United States. Exports to Canada declined by \$29 million (1 percent) to \$2.0 billion, largely reflecting a slowdown in industrial activity that lowered consumer demand for automatic regulating and controlling instruments. With respect to the largest international regional markets, U.S. exports to Asian countries increased by \$823 million (19 percent) to \$5.1 billion, whereas exports to the EU rose by \$164 million (5 percent) to \$3.3 billion. Increasing demand for instruments designed to upgrade petroleum product loading terminals to meet safety, environmental, and efficiency standards and other metering and control equipment enhanced U.S. exports to countries with such facilities.

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**Table 13-5**  
**Electronic products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million Dollars</i>					
ST001	Office machines:				
	Exports .....	1,930	2,099	170	8.8
	Imports .....	6,366	6,296	-70	-1.1
	Trade balance .....	-4,436	-4,196	240	5.4
ST002	Telephone and telegraph apparatus:				
	Exports .....	8,203	8,630	427	5.2
	Imports .....	7,742	8,202	459	5.9
	Trade balance .....	460	428	-32	-6.9
ST003	Microphones, loudspeakers, audio amplifiers, and combinations thereof:				
	Exports .....	1,046	1,138	93	8.9
	Imports .....	2,001	2,108	107	5.4
	Trade balance .....	-955	-970	-15	-1.5
ST004	Tape recorders, tape players, video cassette recorders, turntables, and compact disc players:				
	Exports .....	754	964	210	27.8
	Imports .....	6,733	5,873	-860	-12.8
	Trade balance .....	-5,978	-4,908	1,070	17.9
ST005	Unrecorded magnetic tapes, discs and other media:				
	Exports .....	2,030	2,670	640	31.5
	Imports .....	1,936	2,072	135	7.0
	Trade balance .....	94	599	505	539.8
ST006	Records, tapes, compact discs, computer software, and other recorded media:				
	Exports .....	3,814	3,453	-361	-9.5
	Imports .....	916	994	78	8.5
	Trade balance .....	2,898	2,459	-439	-15.1
ST007	Radio transmission and reception apparatus, and combinations thereof:				
	Exports .....	6,604	6,500	-104	-1.6
	Imports .....	8,528	8,071	-458	-5.4
	Trade balance .....	-1,924	-1,571	353	18.4
ST008	Radio navigational aid, radar, and remote control apparatus:				
	Exports .....	1,198	1,215	17	1.4
	Imports .....	522	594	72	13.9
	Trade balance .....	676	621	-56	-8.2
ST009	Television receivers, video monitors, and combinations including television receivers:				
	Exports .....	1,331	1,268	-63	-4.7
	Imports .....	4,540	4,498	-42	-0.9
	Trade balance .....	-3,209	-3,230	-21	-0.7
ST010	Television apparatus (except receivers and monitors), including cameras, camcorders, and cable apparatus:				
	Exports .....	637	726	89	14.0
	Imports .....	3,881	4,353	471	12.1
	Trade balance .....	-3,244	-3,627	-382	-11.8
ST011	Electric sound and visual signaling apparatus:				
	Exports .....	692	788	97	14.0
	Imports .....	1,748	1,883	136	7.8
	Trade balance .....	-1,056	-1,095	-39	-3.7
ST012	Electrical capacitors and resistors:				
	Exports .....	1,571	1,807	236	15.0
	Imports .....	1,879	1,691	-188	-10.0
	Trade balance .....	-308	116	424	( <sup>3</sup> )
ST013	Apparatus for making, breaking, protecting, or connecting electrical circuits:				
	Exports .....	7,502	8,200	698	9.3
	Imports .....	8,528	8,829	301	3.5
	Trade balance .....	-1,026	-628	397	38.7

See footnotes at end of table.

Table 13-5--Continued

Electronic products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million Dollars</i>					
ST014	Television picture tubes and other cathode-ray tubes:				
	Exports .....	1,391	1,566	175	12.6
	Imports .....	1,116	987	-129	-11.5
	Trade balance .....	275	579	304	110.6
ST015	Special-purpose tubes:				
	Exports .....	150	153	3	2.1
	Imports .....	274	252	-22	-8.1
	Trade balance .....	-124	-99	25	20.5
ST016	Diodes, transistors, integrated circuits, and similar semiconductor solid state devices:				
	Exports .....	23,317	24,135	818	3.5
	Imports .....	39,168	36,771	-2,397	-6.1
	Trade balance .....	-15,851	-12,636	3,214	20.3
ST017	Electrical and electronic articles, apparatus, and parts not elsewhere provided for:				
	Exports .....	2,814	2,904	90	3.2
	Imports .....	1,463	1,472	8	0.6
	Trade balance .....	1,351	1,432	82	6.0
ST018	Automatic data processing machines:				
	Exports .....	34,476	37,977	3,501	10.2
	Imports .....	56,308	61,457	5,149	9.1
	Trade balance .....	-21,832	-23,480	-1,647	-7.6
ST019	Photographic supplies:				
	Exports .....	1,780	2,148	368	20.7
	Imports .....	1,754	1,702	-52	-3.0
	Trade balance .....	26	446	420	1,628.2
ST020	Exposed photographic plates, film, and paper:				
	Exports .....	98	101	3	3.0
	Imports .....	125	150	25	20.3
	Trade balance .....	-27	-49	-22	-83.3
ST021	Optical fibers, optical fiber bundles and cables:				
	Exports .....	475	646	170	35.8
	Imports .....	154	216	62	40.0
	Trade balance .....	321	430	108	33.7
ST022	Optical goods, including ophthalmic goods:				
	Exports .....	1,527	1,941	414	27.1
	Imports .....	2,820	3,114	294	10.4
	Trade balance .....	-1,293	-1,173	120	9.3
ST023	Photographic cameras and equipment:				
	Exports .....	1,038	1,075	37	3.6
	Imports .....	2,618	2,748	130	5.0
	Trade balance .....	-1,581	-1,673	-93	-5.9
ST024	Medical goods:				
	Exports .....	8,966	10,217	1,251	14.0
	Imports .....	4,951	5,368	416	8.4
	Trade balance .....	4,015	4,850	835	20.8
ST025	Surveying and navigational instruments:				
	Exports .....	1,511	1,547	36	2.4
	Imports .....	556	571	15	2.7
	Trade balance .....	955	976	21	2.2
ST026	Watches:				
	Exports .....	139	154	15	11.0
	Imports .....	2,243	2,268	25	1.1
	Trade balance .....	-2,104	-2,114	-10	-0.5
ST027	Clocks and timing devices:				
	Exports .....	108	123	15	13.7
	Imports .....	430	447	17	4.0
	Trade balance .....	-322	-324	-2	-0.7

See footnotes at end of table.

Table 13-5--Continued

Electronic products sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	U.S. exports		Change, 1996 from 1995	
		1995	1996	Absolute	Percent
<i>Million Dollars</i>					
ST028	Balances of sensitivity of 5 cgs or better:				
	Exports .....	21	23	2	11.0
	Imports .....	35	36	2	4.8
	Trade balance .....	-14	-13	1	4.2
ST029	Drawing and mathematical calculating and measuring instruments:				
	Exports .....	172	275	103	60.2
	Imports .....	401	385	-16	-4.1
	Trade balance .....	-229	-110	120	52.1
ST030	Measuring, testing, controlling, and analyzing instruments:				
	Exports .....	11,572	12,578	1,006	8.7
	Imports .....	6,665	7,136	471	7.1
	Trade balance .....	4,907	5,442	535	10.9

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.

<sup>3</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data.

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





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## CHAPTER 14

# Miscellaneous Manufactures

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Led by consistently expanding U.S. imports of furniture and toys, the U.S. trade deficit in the miscellaneous manufactures sector increased by \$2.8 billion (11 percent) to \$28.1 billion in 1996.<sup>1</sup> Moderate growth in U.S. imports, which rose by \$3.1 billion (8 percent) to \$42.5 billion in 1996, again exceeded a more modest growth in exports, which increased by just \$347 million (3 percent) to \$14.4 billion (table 14-1).

In 1996, furniture again accounted for the most pronounced increase in U.S. imports of miscellaneous manufactures and rose by \$1.1 billion (13 percent) to \$9.5 billion (table 14-2). Canada and Mexico were the top-two sources for U.S. furniture imports and experienced the largest increases in imports, up by \$461 million (19 percent) and by \$328 million (27 percent) in 1996, respectively. High transportation costs associated with shipping many types of furniture from Asia and integration of the North American motor-vehicle seat industry were in large part responsible for making Canada and Mexico the top U.S. partners in furniture trade in 1996. China, the third-largest furniture supplier, also had the third-largest increase in imports, up by \$232 million (27 percent) in 1996, and continued to show success in the U.S. household furniture market in 1996. Furniture producers in China have benefitted from the shift of production from Taiwan because labor costs there have risen relative to costs in China.

U.S. imports of toys and models also increased significantly in 1996. Although the United States is the world's largest market for toys, U.S. companies, for the most part, no longer manufacture and/or assemble labor-intensive toys. Demographic trends have led to the rise in U.S. consumption of toys, models, and dolls in recent years as discussed below.

Increased imports of games and lamps were attributed in large part to the strong U.S. economy in 1996, which enabled consumers to spend more of their income on nonsubsistence items. U.S. imports of games climbed by \$387 million (16 percent) to \$2.9 billion in 1996. High-technology, copyrighted home video games, mainly from Japan, accounted for nearly 85 percent of the increased imports in this category. Imports of lamps and lighting fittings also showed a significant increase in 1996, climbing by \$224 million (10 percent) to \$2.4 billion, with China accounting for over one-half of the imports. Major import categories included Christmas tree lighting sets, chandeliers, and floor-standing lamps.

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<sup>1</sup>Miscellaneous manufactures include a wide range of consumer products such as luggage, handbags, musical instruments, silverware, jewelry, bicycles, furniture, writing instruments, lamps, sporting goods, brushes, brooms, toys, dolls, games, umbrellas, and miscellaneous articles (Christmas ornaments, artificial flowers, wigs, typewriter ribbons, objects of art, and antiques).

Table 14-1

Miscellaneous manufactures: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1995 and 1996<sup>1</sup>

Item	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
U.S. exports of domestic merchandise:				
China	143	242	99	69.4
Canada	3,018	3,127	110	3.6
Japan	1,866	2,172	307	16.4
Mexico	1,087	1,165	78	7.2
Taiwan	456	434	-21	-4.6
Italy	160	145	-15	-9.4
United Kingdom	911	936	25	2.7
France	343	296	-47	-13.8
Germany	590	607	17	2.9
Korea	496	440	-57	-11.4
All Other	4,977	4,828	-148	-3.0
Total	14,046	14,393	347	2.5
EU-15	2,940	2,877	-63	-2.2
OPEC	982	583	-399	-40.6
Latin America	2,202	2,278	75	3.4
CBERA	371	356	-15	-4.0
Asian Pacific Rim	4,019	4,327	308	7.7
ASEAN	448	459	11	2.5
Central and Eastern Europe	35	55	20	55.6
U.S. imports for consumption:				
China	11,680	13,560	1,880	16.1
Canada	3,315	3,887	572	17.3
Japan	2,696	2,758	62	2.3
Mexico	2,508	3,034	526	21.0
Taiwan	3,903	3,576	-327	-8.4
Italy	2,769	2,946	177	6.4
United Kingdom	1,381	1,280	-101	-7.3
France	1,018	1,426	408	40.1
Germany	829	846	18	2.1
Korea	1,063	995	-68	-6.4
All Other	8,206	8,206	1	( <sup>2</sup> )
Total	39,367	42,515	3,148	8.0
EU-15	7,246	7,725	479	6.6
OPEC	513	537	24	4.6
Latin America	3,557	4,006	449	12.6
CBERA	359	388	29	8.1
Asian Pacific Rim	23,306	24,916	1,610	6.9
ASEAN	3,101	3,120	19	0.6
Central and Eastern Europe	182	223	41	22.3
U.S. merchandise trade balance:				
China	-11,538	-13,318	-1,781	-15.4
Canada	-297	-760	-463	-155.6
Japan	-830	-586	244	29.4
Mexico	-1,420	-1,868	-448	-31.5
Taiwan	-3,447	-3,141	306	8.9
Italy	-2,609	-2,801	-192	-7.4
United Kingdom	-469	-344	126	26.8
France	-675	-1,130	-456	-67.5
Germany	-239	-239	( <sup>3</sup> )	( <sup>3</sup> )
Korea	-567	-555	11	2.0
All Other	-3,229	-3,378	-149	-4.6
Total	-25,321	-28,121	-2,800	-11.1
EU-15	-4,305	-4,848	-542	-12.6
OPEC	469	46	-422	-90.1
Latin America	-1,355	-1,728	-373	-27.6
CBERA	12	-32	-44	( <sup>4</sup> )
Asian Pacific Rim	-19,287	-20,589	-1,302	-6.7
ASEAN	-2,653	-2,661	-8	-0.3
Central and Eastern Europe	-147	-168	-21	-14.4

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.<sup>2</sup>Less than 0.05 percent.<sup>3</sup>Less than \$500,000.<sup>4</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 1996.

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

**Table 14-2**  
**Changes in U.S. imports of miscellaneous manufactures, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
	<i>Million dollars</i>			
Furniture and selected furnishings .....	8,423	9,497	1,074	12.8
Toys and models .....	4,526	5,481	955	21.1
Games and fairground amusements .....	2,494	2,881	387	15.5
Lamps and lighting fittings .....	2,198	2,422	224	10.2
Dolls .....	1,167	1,356	190	16.3
Luggage, handbags, and flat goods .....	3,332	3,512	179	5.4
Precious jewelry and related articles .....	3,642	3,790	147	4.0
Sporting goods .....	2,956	3,068	112	3.8
All Other .....	10,629	10,508	-121	-1.1
<b>Total</b>	<b>39,367</b>	<b>42,515</b>	<b>3,148</b>	<b>8.0</b>

Note.—Calculations based on unrounded data.

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

Although generally there is a relatively small export base in the U.S. miscellaneous manufactures sector, a rather significant increase was again reported for U.S. exports of sporting goods, narrowing the trade deficit in that category by \$57 million (5 percent) to \$1.2 billion. Exports of sporting goods, of which 40 percent consisted of golf equipment, rose by \$169 million (10 percent) to \$1.9 billion in 1996 (table 14-3). U.S. brand-name recognition, the global reputation of high quality U.S. sporting goods, and a gradual decline in tariff and nontariff barriers in overseas markets led to the continued growth in exports in this category. Japan was the leading market for U.S. exports of sporting goods in 1996, accounting for 29 percent of total exports, followed by Canada (15 percent), the United Kingdom (9 percent), and Mexico (7 percent). Mexico and Korea, however, accounted for one-half of the growth in U.S. exports of sporting goods in 1996, with exports to Mexico rising by \$51 million (57 percent) to \$140 million, and exports to Korea climbing by \$34 million (57 percent) to \$93 million.<sup>2</sup>

Trade statistics for all commodity/industry groups in the miscellaneous manufactures sector are presented in table 14-5.

## U.S. BILATERAL TRADE

The major U.S. trading partners for products in the miscellaneous manufactures sector during 1996 were China, Canada, Japan, Mexico, and Taiwan. These markets accounted for one-half of U.S. exports of miscellaneous manufactures, and about two-thirds of U.S. imports. The leading U.S. import and export miscellaneous manufactures products for major trading partner countries are presented in table 14-4.

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<sup>2</sup>By comparison, imports from China (\$857 million) and Taiwan (\$729 million) accounted for over one-half of U.S. imports of sporting goods in 1996, which totaled \$3.1 billion. Imports from Mexico, chiefly golf equipment from the maquiladora industry, grew by \$95 million (61 percent) to \$250 million.

**Table 14-3**  
**Changes in U.S. exports of miscellaneous manufactures, 1995-96**

Commodity	1995	1996	Change, 1996 from 1995	
			Absolute	Percent
<i>Million dollars</i>				
<b>Increases:</b>				
Furniture and selected furnishings .....	3,302	3,519	217	6.6
Sporting goods .....	1,731	1,900	169	9.8
Prefabricated buildings .....	409	465	56	13.7
Luggage, handbags, and flat goods .....	253	306	53	21.0
Writing instruments and related articles .....	264	304	40	15.3
<b>Decreases:</b>				
Miscellaneous articles .....	1,420	1,254	-166	-11.7
Arms and ammunition .....	2,662	2,606	-56	-2.1
Games and fairground amusements .....	1,130	1,089	-41	-3.6
All other .....	2,875	2,950	75	2.5
<b>Total</b> .....	<b>14,046</b>	<b>14,393</b>	<b>347</b>	<b>2.5</b>

Note.— Calculations based on unrounded data.

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

**Table 14-4**  
**Miscellaneous manufactures: Leading U.S. import and export products, by major partner, 1996**

Partner	Leading imports	Leading exports
China .....	Toys and models Luggage, handbags, and flat goods Lamps and lighting fixtures Dolls	Games Prefabricated buildings Furniture, except chairs and sofas Sporting goods
Canada .....	Furniture, except chairs and sofas Car seats, chairs, and sofas Sporting goods Toys	Car seats, chairs, and sofas Furniture, except chairs and sofas Sporting goods Games
Japan .....	Games Bicycle parts Writing instruments Typewriter and printer ribbons	Sporting goods Ammunition Car seats, chairs, and sofas Furniture, except chairs and sofas
Mexico .....	Car seats and chairs Furniture, except chairs and sofas Toys Lamps and lighting fixtures	Car seats, chairs and sofas Sporting goods Furniture, except chairs and sofas Lamps and lighting fixtures
Taiwan .....	Sporting goods Furniture, except chairs and sofas Chairs and sofas Bicycles	Ammunition Bicycle parts Sporting goods Arms
Italy .....	Jewelry Chairs and sofas Furniture, except chairs and sofas Works of art	Sporting goods Works of art Games Furniture, except chairs and sofas

Note.—Categories are 4-digit *HTS* headings/subheadings (or groups of 4-digit *HTS* headings/subheadings) and corresponding export categories. Products are ranked in decreasing order based on 1996 trade.

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

China accounted for nearly one-half (\$13.3 billion) of the total merchandise trade deficit in sector products in 1996 and almost two-thirds (up by \$1.8 billion, or 15 percent) of the total increase in the trade deficit in 1996. U.S. imports from China rose by \$1.9 billion (16 percent) to \$13.6 billion, while U.S. exports to China rose by just \$99 million (69 percent) to \$242 million. Imports from China are concentrated in products for which the manufacturing processes are labor intensive and the production technologies are mature. Major increases in U.S. imports from China in 1996 were posted for toys and models, up \$857 million (26 percent) to \$4.1 billion; furniture, up \$232 million (27 percent) to \$1.1 billion; dolls, up by \$214 million (25 percent) to \$1.1 billion; lamps and lighting fittings, up \$190 million (17 percent) to \$1.3 billion; and games, up \$105 million (20 percent) to \$634 million.

The U.S. trade deficit with Canada in these products expanded by \$463 million (156 percent) to \$760 million. The rise in imports, by \$572 million (17 percent) to \$3.9 billion, significantly outpaced the growth in exports of \$110 million (4 percent) to \$3.1 billion. Furniture accounted for 80 percent of the increase in imports from Canada in 1996. U.S. furniture exports to Canada, however, declined slightly to \$1.5 billion. U.S. and Canadian trade patterns were influenced by weak Canadian consumer demand for furniture due in part to persistently high rates of unemployment in Canada that led to fewer furniture purchases. As a result, Canadian furniture producers concentrated marketing efforts on the U.S. market.

The U.S. trade deficit with Mexico increased by \$448 million (32 percent) to \$1.9 billion, as U.S. imports rose by \$526 million (21 percent) to \$3.0 billion, while U.S. exports to Mexico climbed by \$78 million (7 percent) to \$1.2 billion. Furniture accounted for a little over one-half of the Mexican exports to the United States in the miscellaneous manufactures sector. The U.S. import growth is attributed in part to the improvements in product quality within the Mexican wood household furniture industry; to the devaluation of the peso, which lowered labor costs in Mexican and encouraged U.S. companies to expand the assembly of wood furniture and car seats in Mexico; and to lower transportation costs than those from Asia.

In 1996, the U.S. trade deficit with Taiwan contracted by \$306 million (9 percent) to \$3.1 billion. U.S. exports to Taiwan declined by \$21 million (5 percent) to \$434 million, while imports decreased by \$327 million (8 percent) to \$3.6 billion. Major import categories included furniture and sporting goods, which accounted for 27 percent and 20 percent, respectively, of the total imports in this sector. Both categories showed decreases from the year-earlier period, reflecting rising labor costs in Taiwan and the steady shift of production to China and other low-labor-cost countries in Asia.

The U.S. trade deficit with Japan in miscellaneous manufactures in 1996 contracted by \$244 million (29 percent) to \$586 million. U.S. exports to Japan rose by \$307 million (16 percent) to \$2.2 billion, while imports grew by only \$62 million (2 percent) to \$2.8 billion. The slower growth rate in imports was attributed in part to the moderate demand for video games, which accounted for over 50 percent of U.S. imports from Japan in this sector.

## COMMODITY ANALYSIS

### Furniture and Selected Furnishings

The U.S. merchandise trade deficit in furniture widened by \$857 million (17 percent) to \$6.0 billion in 1996, chiefly reflecting the relative strength of the U.S. economy compared

with Canada, the expanded use of assembly plants in Mexico following the peso devaluation, and growing imports of mid-priced, wood household furniture from China. Canada accounted for over one-half of the expansion in the U.S. trade deficit in furniture with an increase of \$480 million (52 percent) to \$1.4 billion in 1996. The furniture trade deficits with Mexico and China also widened significantly in 1996, growing by \$297 million (47 percent) to \$932 million and by \$228 million (26 percent) to \$1.1 billion, respectively.

### U.S. imports

U.S. imports of furniture rose by \$1.1 billion (13 percent) to \$9.5 billion in 1996. The product mix from Canada, Mexico, and China, the three main sources of U.S. furniture imports and the countries with the largest increases in imports in 1996, differ significantly. Household furniture, office furniture, and motor-vehicle seats and parts each had a nearly even share of U.S. imports from Canada, and all other furniture accounted for the remaining 18 percent of imports (figure 14-1). Motor-vehicle furniture was the leading U.S. import category from Mexico, whereas household furniture was the top U.S. import category from China. In contrast to the Canadian industry, producers of metal or plastic office furniture in Mexico and China have not been able to achieve the sales volumes necessary to support the highly automated methods of production required to be cost competitive in the international office furniture market.

U.S. imports of furniture from Canada rose by \$461 million (19 percent) to \$2.9 billion in 1996. Imports of household and office furniture from Canada each grew by 24 percent, with imports of household furniture advancing by \$177 million to \$916 million and imports of office furniture climbing by \$137 million to \$695 million. U.S. imports of household and office furniture from Canada were encouraged by proximity of Canadian producers to the United States, shared infrastructure, and similar markets. Canadian household furniture producers face significantly lower transportation costs to deliver their products to the U.S. market than their East Asian or EU competitors and they have access to abundant sources of competitively priced lumber suitable for wood furniture.

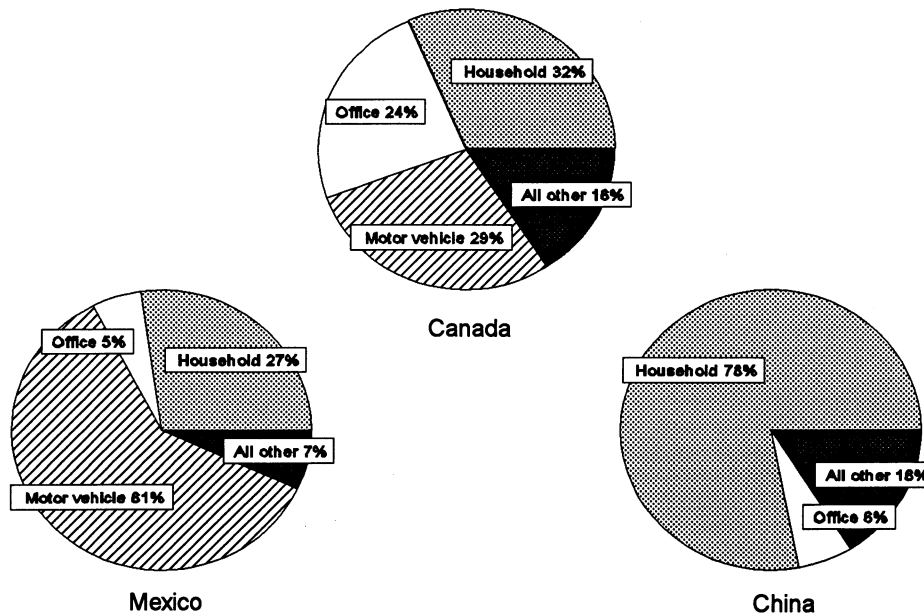
U.S. imports of furniture from Mexico rose by \$329 million (27 percent) to \$1.5 billion in 1996. A significant portion of the increase was accounted for by imports of motor-vehicle seats and parts, which rose by \$168 million (22 percent) to \$925 million in 1996. U.S. imports of motor-vehicle seats and parts from all countries rose by \$222 million (13 percent) to \$1.9 billion in 1996. NAFTA partners accounted for almost all of the increase in trade.<sup>3</sup> U.S. trade with Canada and Mexico in car seats and parts reflects the highly rationalized nature of North American vehicle production. Johnson Controls, Lear Seating, Delphi Interior, and Magna International Inc.<sup>4</sup> established seat assembly operations in both Mexico and Canada roughly a decade ago to supply the North American vehicle market (chiefly the U.S. Big Three and

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<sup>3</sup>U.S. imports of motor-vehicle seats and parts from Canada rose by \$73 million (10 percent) to \$836 million in 1996.

<sup>4</sup>Johnson Controls and Lear Seating are the two-largest, car-seat manufacturers and accounted for roughly two-thirds of North American car-seat production in 1996. Delphi Interior and Magna International Inc., the next-largest, independent suppliers, accounted for close to 10 percent of such shipments in 1996. Magna is a Canadian-owned company.

**Figure 14-1**  
**Shares of U.S. imports of furniture from Canada, Mexico, and China, by type, 1996**



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

Japanese transplants). Most of the imports from both countries are assembled from U.S.-made parts and materials.

Imports of household furniture, which rose by \$125 million (43 percent) to \$416 million in 1996 also represented a significant portion of the growth of furniture imports from Mexico. The Mexican household furniture industry's competitive strength lies in its highly skilled, yet low-cost labor force and its proximity to the United States. The devaluation of the peso in December 1994 reduced labor costs in Mexico and made furniture produced in Mexico more price competitive in the U.S. market.<sup>5</sup> In the past, U.S. imports of Mexican-made furniture have been hindered by poor quality control and inconsistent delivery.<sup>6</sup> Increased international competition in the furniture supply sectors<sup>7</sup> resulting from the implementation of the NAFTA has reportedly allowed furniture producers in Mexico to achieve greater control over suppliers and subsequently gain meaningful improvements in quality control and delivery schedules.<sup>8</sup>

<sup>5</sup>Several furniture producers in southern California have initiated or expanded manufacturing and/or assembly operations in Baja California to take advantage of lower labor costs and less stringent pollution standards. These operations often use U.S.-origin lumber and furniture parts. 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>Industry officials, telephone interview by USITC staff, Jan. 14, 1997.

<sup>7</sup>Furniture supply sectors include firms providing lumber, adhesives, enamels, resins, wood laminate, textiles, or metal fittings.

<sup>8</sup>Industry officials, telephone interview by USITC staff, Sept. 25, 1996.

U.S. imports of furniture from China rose by \$232 million (26 percent) to \$1.1 billion in 1996. The majority of the increase in imports was accounted for by household furniture, which rose by \$176 million (25 percent) to \$868 million. China was second only to Canada as a source of U.S. imports of household furniture in 1996. The production capability of the Chinese furniture industry increased significantly when rising labor costs resulted in the relocation of several large-scale Taiwanese manufacturers to China.<sup>9</sup> Major producers in China maintain their competitive position by investing in the state-of-the-art wood working machinery.<sup>10</sup> A significant portion of U.S. imports of household furniture from China consists of unassembled articles of furniture carved from imported North-American hardwoods. Assembly and finishing is completed in the United States to avoid high transportation costs and damage during shipment.

### U.S. exports

U.S. exports of furniture rose by \$217 million (7 percent) to \$3.5 billion in 1996. Exports of motor-vehicle seats and parts, which rose by \$107 million (10 percent) to \$1.2 billion, accounted for about one-half of the increase in total U.S. exports of furniture in 1996. NAFTA partners are the principal markets for U.S. exports of motor-vehicle seats and parts, accounting for 87 percent (\$1 billion) of such exports in 1996.<sup>11</sup> U.S. exports to Canada and Mexico of these products is the result of the increasingly integrated nature of North American vehicle production. U.S. exports of leather, car-seat covers to Japan, the third-largest market for U.S.-made car seats, also increased in 1996.<sup>12</sup> U.S. producers of leather, car-seat covers, particularly the Seton/Lindgens Group, have aggressively pursued opportunities in the Japanese market.

The leading growth market for U.S. exports of furniture in 1996 was Japan, with exports to that country rising by \$66 million (29 percent) to \$296 million. Increased exports of household furniture, which rose by \$39 million (47 percent) to \$123 million, accounted for nearly three-fifths of the total growth in U.S. furniture exports to Japan. U.S. producers have had increasing success in the Japanese market because of the growing acceptance of western-style furniture compared with traditional Japanese furniture,<sup>13</sup> and the price competitiveness of U.S.-made furniture relative to that offered by EU producers in the Japanese market.

U.S. exports of furniture to Canada declined slightly in 1996, falling by \$19 million (1 percent) to \$1.5 billion. Despite an improving economy and housing market, Canadian consumer demand for furniture stagnated in 1996.<sup>14</sup> Persistently high rates of unemployment have resulted in consumers delaying discretionary purchases, including household furniture. Corporate downsizing, high vacancy rates in commercial real estate, and spending restraints

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<sup>9</sup>Imports of furniture from Taiwan decreased by \$81 million (8 percent) to \$973 million in 1996. Imports from Taiwan have gradually declined each year since peaking at \$1.2 billion in 1993.

<sup>10</sup>Wood working machinery is generally purchased from the EU.

<sup>11</sup>Exports of car seats and parts to Canada grew by \$60 million (11 percent) to \$623 million, while exports to Mexico increased by \$9 million (2 percent) to \$428 million.

<sup>12</sup>U.S. exports of car seats and parts to Japan rose by \$23 million (30 percent) to \$100 million.

<sup>13</sup>Traditional Japanese furniture consists of floor-oriented furniture such as low tables, floor seating, chests for tea implements, wooden screens, and bedding that is stored during the day.

<sup>14</sup>Scotiabank: The Bank of Nova Scotia, *Global Economic Outlook* (Nova Scotia, Canada, Jan. 1997), p. 1.



imposed by Federal and Provincial Governments<sup>15</sup> have reportedly kept new office furniture purchases to a minimum in 1996. Although corporate profits have reached historically high rates, Canadian companies have continued to downsize. As a result, replacement furniture purchases have risen to 94 percent of the total office furniture market in 1996, compared with 35-40 percent in the 1980s.<sup>16</sup>

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### **Toys and Models**

Sustained expansion of U.S. imports from China prompted yet another rise in the overall U.S. merchandise trade deficit in toys and models (toys), which increased by \$938 million (24 percent) to \$4.9 billion in 1996. Whereas U.S. exports of toys increased by \$16 million (3 percent) to \$597 million, that relatively small growth was overshadowed by the \$955 million (21 percent) rise in U.S. imports of toys to \$5.5 billion. For the most part, U.S. toy companies no longer manufacture and/or assemble labor-intensive toys in the United States, opting instead to either purchase products from foreign suppliers, contract out production, or establish foreign manufacturing plants in those countries with cheaper labor, mainly within the Asian Pacific Rim.<sup>17</sup> A limited amount of production remains in the United States to take advantage of lower shipping costs, faster delivery times, and technological expertise. To a certain degree, bulk toys such as jungle gym sets or large play houses are also still manufactured domestically.

The United States continues to be the world's largest market for toys. The relatively strong U.S. economy in recent years has enabled consumers to spend more of their income on nonsubsistence items such as toys. Demographic trends, such as a growing percentage of babies being born to dual-income parents, many of whom delayed marriage (and/or childbirth) and, therefore, tend to be more affluent, have also increased domestic consumption of toys.<sup>18</sup> The continued importance of character licensing, especially for recent blockbuster movies and children's cartoons, combined with an emphasis on traditional as well as educational toys and crafts, has provided a further boost to the industry in recent years.

### **U.S. imports**

U.S. imports from China continued to rise, increasing by \$857 million (26 percent) to \$4.1 billion in 1996. With a combination of low-cost labor and high quality products, China was once again the overwhelming world leader in the manufacture and assembly of toys, accounting for 76 percent of total U.S. imports. U.S. and other foreign toy companies continue

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<sup>15</sup>Federal and province governments are significant purchasers of office furniture.

<sup>16</sup>World Wide Web, retrieved Apr. 16, 1997, Stat-USA.gov, National Trade Data Bank and Economic Bulletin Board, U.S. Department of Commerce, Canada-Office Furniture--ISA960901 Market Research Reports, p. 2.

<sup>17</sup>For this industry/commodity group in 1996, the U.S. trade deficit with the Pacific Rim countries alone increased by \$803 million (21 percent) to \$4.6 billion over the previous year.

<sup>18</sup>Toy Manufacturers of America, *Toy Industry Fact Book, 1996-97*, New York, NY, p. 24.

to take advantage of the economic reforms begun under the late Deng Xiaoping in the form of economic zones and tax incentives. Negotiations are currently underway for China to become a member of the World Trade Organization (WTO). The large U.S. bilateral trade deficit in items like toys is an important discussion point in these WTO negotiations.<sup>19</sup> The sometimes tenuous, year-to-year renewal of most-favored nation (MFN) status, however, has not reduced U.S. toy industry investment in China to date. The following categories of imported toys experienced the greatest growth from China in 1996: stuffed toys, up by \$250 million (35 percent) to \$959 million; toys without a spring mechanism, up by \$172 million (18 percent) to \$1.1 billion; non-metal toys without a spring mechanism, up by \$158 million (49 percent) to \$482 million; and toys in sets, up by \$96 million (28 percent) to \$433 million.

Mexico remained the second-largest source of U.S. imports of toys in 1996. U.S. imports of toys from Mexico increased by \$52 million (25 percent) to \$263 million in 1996, mainly because of decreased labor costs stemming from the Mexican peso devaluation relative to the U.S. dollar, beginning in January 1995.<sup>20</sup> Toys without a spring mechanism remained the predominant type of toy imported from Mexico (\$112 million in 1996), followed by toys in sets, toys without a spring mechanism, and toys with an electric motor. Toys assembled in Mexico tend to be larger, with higher per-unit transportation costs than those imported from China by U.S. parent companies. Many of these companies also have production facilities in China and often import components from China for further assembly and processing in Mexico. U.S. imports of toys from Denmark also increased substantially in 1996, rising by \$41 million (84 percent) to \$90 million, due to rising domestic demand for toy building blocks.<sup>21</sup>

### **U.S. exports**

Total U.S. exports of toys continued to steadily increase, although exports to Canada and Mexico, the two major export markets for U.S. toys, declined by 2 and 5 percent respectively in 1996. This reduction was offset by increased U.S. exports to Japan, the United Kingdom, Korea, and Australia. Leading U.S. exports include toys without a spring mechanism, toys in sets, electric trains, model assembly kits, and festive and entertainment articles.

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<sup>19</sup>Industry experts, telephone interviews by USITC staff, Apr. 21-25, 1997. Further, experts contend that the trade deficit with China, in such labor-intensive products as toys that are not manufactured to a large extent in the United States anymore, is distorted. For example, a popular doll might have the following as production inputs: oil from the Middle East, plastic pellets from Taiwan, nylon hair from Japan, management from Hong Kong, and cardboard packaging from the United States, with the value added in China (labor and overhead) accounting for only a small portion of the final price to the consumer, yet the label will still say "Made in China." Rone Tempest, "Barbie and the World Economy," *Los Angeles Times*, Sept. 22, 1996, p. 1.

<sup>20</sup>See Mexico country report in chapter 3.

<sup>21</sup>Denmark-based Lego, one of the world's largest producers of building blocks and construction-kit toys, supplements its U.S. production with imports from Denmark.

**Table 14-5**  
**Miscellaneous manufactures sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
<i>Million Dollars</i>					
MM046	Luggage, handbags, and flat goods:				
	Exports .....	253	306	53	21.0
	Imports .....	3,332	3,512	179	5.4
	Trade balance .....	-3,079	-3,206	-126	-4.1
MM047	Certain other leather goods:				
	Exports .....	93	80	-14	-14.8
	Imports .....	229	239	10	4.5
	Trade balance .....	-136	-160	-24	-17.7
MM048	Musical instruments and accessories:				
	Exports .....	418	432	14	3.3
	Imports .....	1,015	995	-21	-2.0
	Trade balance .....	-598	-563	35	5.8
MM049	Umbrellas, whips, riding crops, and canes:				
	Exports .....	10	9	-2	-16.9
	Imports .....	198	196	-3	-1.3
	Trade balance .....	-188	-187	1	0.5
MM050	Silverware and certain other articles of precious metal:				
	Exports .....	74	103	29	39.5
	Imports .....	139	83	-55	-39.9
	Trade balance .....	-65	19	84	( <sup>3</sup> )
MM051	Precious jewelry and related articles:				
	Exports .....	386	402	16	4.0
	Imports .....	3,642	3,790	147	4.1
	Trade balance .....	3,256	-3,388	-132	-4.1
MM052	Costume jewelry and related articles:				
	Exports .....	124	113	-11	-8.6
	Imports .....	493	462	-32	-6.4
	Trade balance .....	-369	-348	21	5.7
MM053	Bicycles and certain parts:				
	Exports .....	257	268	11	4.2
	Imports .....	968	878	-91	-9.4
	Trade balance .....	-712	-610	102	14.3
MM054	Furniture and selected furnishings:				
	Exports .....	3,302	3,519	217	6.6
	Imports .....	8,423	9,497	1,074	12.8
	Trade balance .....	-5,122	-5,978	-857	-16.7
MM055	Writing instruments and related articles:				
	Exports .....	264	304	40	15.3
	Imports .....	668	719	51	7.7
	Trade balance .....	-404	-415	-11	-2.7
MM056	Lamps and lighting fittings:				
	Exports .....	543	529	-14	-2.6
	Imports .....	2,198	2,422	224	10.2
	Trade balance .....	-1,655	-1,893	-238	-14.4
MM057	Prefabricated buildings:				
	Exports .....	409	465	56	13.7
	Imports .....	67	92	25	36.7
	Trade balance .....	342	373	-31	-9.1
MM058	Children's vehicles:				
	Exports .....	44	36	-8	-18.2
	Imports .....	266	293	27	10.2
	Trade balance .....	-222	-257	-35	-15.8
MM059	Dolls:				
	Exports .....	28	26	-2	-8.0
	Imports .....	1,167	1,356	190	16.3
	Trade balance .....	-1,138	-1,330	-192	-16.9
MM060	Toys and models:				
	Exports .....	581	597	16	2.8
	Imports .....	4,526	5,481	955	21.1
	Trade balance .....	-3,946	-4,884	-938	-23.8

See footnotes at end of table.

Table 14-5—Continued

Miscellaneous manufactures sector: U.S. trade for selected industry/commodity groups, 1995 and 1996<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1995	1996	Change, 1996 from 1995	
				Absolute	Percent
————— Million Dollars —————					
MM061	Games and fairground amusements:				
	Exports .....	1,130	1,089	-41	-3.6
	Imports .....	2,494	2,881	387	15.5
	Trade balance .....	-1,364	-1,792	-428	-31.4
MM062	Sporting goods:				
	Exports .....	1,731	1,900	169	9.8
	Imports .....	2,956	3,068	112	3.8
	Trade balance .....	-1,225	-1,168	57	4.7
MM063	Smokers' articles:				
	Exports .....	85	97	12	14.2
	Imports .....	153	149	-4	-2.8
	Trade balance .....	-68	-52	16	23.9
MM064	Brooms, brushes, and hair grooming articles:				
	Exports .....	149	163	14	9.3
	Imports .....	610	625	15	2.5
	Trade balance .....	-461	-462	-1	-0.3
MM065	Miscellaneous articles:				
	Exports .....	1,420	1,254	-166	-11.7
	Imports .....	5,037	5,056	19	0.4
	Trade balance .....	-3,617	-3,803	-186	-5.1
MM066	Apparel fasteners:				
	Exports .....	84	98	14	16.9
	Imports .....	127	123	-3	-2.7
	Trade balance .....	-43	-26	17	40.6
MM067	Arms and ammunition:				
	Exports .....	2,662	2,606	-56	-2.1
	Imports .....	657	598	-59	-9.0
	Trade balance .....	2,005	2,008	4	0.2

<sup>1</sup>Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.<sup>2</sup>This coding system is used by the U.S. International Trade Commission to identify major groupings of HTS import and export items for trade monitoring purposes.<sup>3</sup>Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data.

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

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**APPENDIX A**  
**Industry/Commodity Groups**  
**in this Report**

## **Agricultural products sector**

AG001 Certain miscellaneous animals and meats  
AG002 Cattle and beef  
AG003 Swine and pork  
AG004 Sheep and meat of sheep  
AG005 Poultry  
AG006 Fresh or chilled fish  
AG007 Frozen fish  
AG008 Canned fish and other fish  
AG009 Shellfish  
AG010 Dairy produce  
AG011 Eggs  
AG012 Sugar and other sweeteners  
AG013 Animal feeds  
AG014 Live plants  
AG015 Seeds  
AG016 Cut flowers  
AG017 Miscellaneous vegetable substances  
AG018 Fresh, chilled, or frozen vegetables  
AG019 Prepared or preserved vegetables, mushrooms, and olives  
AG020 Edible nuts  
AG021 Tropical fruit  
AG022 Citrus fruit  
AG023 Deciduous fruit  
AG024 Other fresh fruit  
AG025 Dried fruit other than tropical  
AG026 Frozen fruit  
AG027 Prepared or preserved fruit  
AG028 Coffee and tea  
AG029 Spices  
AG030 Cereals  
AG031 Milled grains, malts, and starches  
AG032 Oilseeds  
AG033 Animal or vegetable fats and oils  
AG034 Edible preparations  
AG035 Cocoa, chocolate, and confectionary  
AG036 Fruit and vegetable juices  
AG037 Nonalcoholic beverages, excluding fruit and vegetable juices  
AG038 Malt beverages  
AG039 Wine and certain other fermented beverages  
AG040 Distilled spirits  
AG041 Unmanufactured tobacco  
AG042 Cigars and certain other manufactured tobacco  
AG043 Cigarettes  
AG044 Hides, skins, and leather

AG045 Furskins  
AG062 Ethyl alcohol for nonbeverage purposes  
AG063 Wool and other animal hair  
AG064 Cotton, not carded or combed

## **Forest products sector**

AG046 Logs and rough wood products  
AG047 Lumber  
AG048 Moldings, millwork, and joinery  
AG049 Structural panel products  
AG050 Wooden containers  
AG051 Tools and tool handles of wood  
AG052 Miscellaneous articles of wood  
AG053 Cork and rattan  
AG054 Wood pulp and wastepaper  
AG055 Paper boxes and bags  
AG056 Industrial papers and paperboards  
AG057 Newsprint  
AG058 Printing and writing papers  
AG059 Certain specialty papers  
AG060 Miscellaneous paper products  
AG061 Printed matter

## **Chemicals and related products sector**

CH008 Other olefins  
CH009 Primary aromatics  
CH010 Benzenoid commodity chemicals  
CH011 Benzenoid specialty chemicals  
CH012 Miscellaneous organic chemicals  
CH013 Miscellaneous inorganic chemicals  
CH014 Inorganic acids  
CH015 Chlor-alkali chemicals  
CH016 Industrial gases  
CH017 Fertilizers  
CH018 Paints, inks, and related items, and certain components thereof  
CH019 Synthetic organic pigments  
CH020 Synthetic dyes and azoic couplers  
CH021 Synthetic tanning agents  
CH022 Natural tanning and dyeing materials  
CH023 Photographic chemicals and preparations  
CH024 Pesticide products and formulations  
CH025 Adhesives and glues  
CH026 Medicinal chemicals  
CH027 Essential oils and other flavoring materials

## **Chemicals and related products sector--Continued**

CH028 Perfumes, cosmetics, and toiletries  
CH029 Soaps, detergents, and surface-active agents  
CH030 Miscellaneous chemicals and specialties  
CH031 Explosives, propellant powders, and related items  
CH032 Polyethylene resins in primary forms  
CH033 Polypropylene resins in primary forms  
CH034 Polyvinyl chloride resins in primary forms  
CH035 Styrene polymers in primary forms  
CH036 Saturated polyester resins  
CH037 Other plastics in primary forms  
CH038 Styrene-butadiene rubber in primary forms  
CH039 Other synthetic rubber  
CH040 Pneumatic tires and tubes (new)  
CH041 Other tires  
CH042 Plastic or rubber semifabricated forms  
CH043 Plastic containers and closures  
CH044 Hose, belting, and plastic pipe  
CH045 Miscellaneous rubber or plastic products  
CH046 Gelatin  
CH047 Natural rubber

## **Energy-related products sector**

CH001 Electrical energy  
CH002 Nuclear material  
CH003 Coal, coke, and related chemical products  
CH004 Crude petroleum  
CH005 Petroleum products  
CH006 Natural gas and components  
CH007 Major primary olefins

## **Textiles, apparel, and footwear sector**

CH048 Manmade fibers and filament yarns  
CH049 Spun yarns and miscellaneous yarns  
CH050 Broadwoven fabrics  
CH051 Knit fabrics  
CH052 Miscellaneous fabrics  
CH053 Coated, covered, impregnated, or laminated textile fabrics

CH054 Cordage, nets, and netting  
CH055 Certain textile articles and fabrics suitable for industrial use  
CH056 Miscellaneous textiles and articles  
CH057 Sacks and bags of textile materials  
CH058 Carpets and rugs  
CH059 Home furnishings  
CH060 Men's and boys' suits and sports coats  
CH061 Men's and boys' coats and jackets  
CH062 Men's and boys' trousers  
CH063 Women's and girls' trousers  
CH064 Shirts and blouses  
CH065 Sweaters  
CH066 Women's and girls' trousers  
CH067 Women's and girls' dresses  
CH068 Robes, nightwear, and underwear  
CH069 Hosiery  
CH070 Body-supporting garments  
CH071 Neckwear, handkerchiefs, and scarves  
CH072 Gloves, including gloves for sports  
CH073 Headwear  
CH074 Leather apparel and accessories  
CH075 Fur apparel and other fur articles  
CH076 Rubber, plastic, and coated-fabric apparel  
CH077 Nonwoven and related products  
CH078 Other wearing apparel  
CH079 Footwear and footwear parts

## **Minerals and metals sector**

MM001 Clays and nonmetallic minerals, not elsewhere specified or included  
MM002 Certain miscellaneous minerals substances  
MM003 Iron ores and concentrates  
MM004 Copper ores and concentrates  
MM005 Lead ores and residues  
MM006 Zinc ores and residues  
MM007 Certain ores, concentrates, ash, and residues  
MM008 Precious metal ores and concentrates  
MM009 Certain nonmetallic minerals and articles  
MM010 Industrial ceramics  
MM011 Ceramic bricks and miscellaneous ceramic construction articles  
MM012 Ceramic floor and wall tiles  
MM013 Ceramic household articles  
MM014 Flat glass and certain flat-glass products

## **Minerals and metals sector--Continued**

MM015 Glass containers  
MM016 Household glassware  
MM017 Certain glass and glass products  
MM018 Fiberglass products  
MM019 Natural and synthetic gemstones  
MM020 Precious metals and related articles  
MM021 Primary iron products  
MM022 Ferroalloys  
MM023 Iron and steel waste and scrap  
MM024 Abrasive and ferrous products  
MM025 Steel mill products, all grades  
MM026 Steel pipe and tube fittings and certain cast products  
MM027 Fabricated structurals  
MM028 Metal construction components  
MM029 Metallic containers  
MM030 Wire products of iron, steel, aluminum, copper, and nickel  
MM031 Chain and miscellaneous products of base metal  
MM032 Industrial fasteners of base metal  
MM033 Cooking and kitchen ware  
MM034 Metal and ceramic sanitary ware  
MM035 Iron construction castings and other nonmalleable cast-iron articles  
MM036 Copper and related articles  
MM037 Unwrought aluminum  
MM038 Aluminum mill products  
MM039 Lead and related articles  
MM040 Zinc and related articles  
MM041 Certain base metals and chemical elements  
MM042 Nonpowered handtools  
MM043 Cutlery other than tableware, certain sewing implements and related products  
MM044 Table flatware and related products  
MM045 Certain builders' hardware

## **Machinery sector**

MT003 Pumps for liquids  
MT004 Air-conditioning equipment and parts  
MT005 Certain industrial thermal-processing equipment and certain furnaces  
MT006 Commercial machinery  
MT007 Electrical household appliances and certain heating equipment

MT008 Centrifuges and filtering and purifying equipment  
MT009 Wrapping, packaging, and can-sealing machinery  
MT010 Scales and weighing machinery  
MT013 Mineral processing machinery  
MT014 Farm and garden machinery and equipment  
MT015 Industrial food-processing and related machinery  
MT016 Pulp, paper, and paperboard machinery  
MT017 Printing, typesetting, and bookbinding machinery and printing plates  
MT018 Textile machinery and parts  
MT019 Metal rolling mills and parts thereof  
MT020 Machine tools for cutting metal and parts; tool holders, work holders; dividing heads and other special attachments for machine tools  
MT021 Machine tools for metal forming and parts thereof  
MT022 Non-metalworking machine tools and parts thereof  
MT023 Semiconductor manufacturing equipment and robotics  
MT024 Taps, cocks, valves, and similar devices  
MT026 Gear boxes and other speed changers; torque converters; ball screws; flywheels and pulleys; clutches and shaft couplings; universal joints; and parts thereof  
MT027 Boilers, turbines, and related machinery  
MT028 Electric motors, generators, and related machinery  
MT029 Electrical transformers, static converters, and inductors  
MT031 Portable electric handtools  
MT032 Nonelectrically powered handtools and parts thereof  
MT034 Flashlights and other similar electric lights, light bulbs and fluorescent tubes; arc lamps  
MT035 Electric and glass welding and soldering equipment  
MT036 Insulated electrical wire and cable and conduit; glass and ceramic insulators  
MT045 Miscellaneous machinery  
MT046 Molds and molding machinery



## **Transportation equipment sector**

- MT001 Aircraft engines and gas turbines
- MT002 Internal combustion piston engines, other than for aircraft
- MT011 Forklift trucks and similar industrial vehicles
- MT012 Construction and mining equipment
- MT025 Ball and roller bearings
- MT030 Primary cells and batteries and electric storage batteries
- MT033 Ignition, starting, lighting, and other electrical equipment
- MT037 Rail locomotive and rolling stock
- MT038 Automobiles, trucks, buses, and bodies and chassis of the foregoing
- MT039 Certain motor-vehicle parts
- MT040 Motorcycles, mopeds, and parts
- MT041 Miscellaneous vehicles and transportation-related equipment
- MT042 Aircraft, spacecraft, and related equipment
- MT043 Ships, tugs, pleasure boats, and similar vessels
- MT044 Motors and engines, except internal combustion, aircraft or electric

## **Electronic products sector**

- ST001 Office machines
- ST002 Telephone and telegraph apparatus
- ST003 Microphones, loudspeakers, audio amplifiers, and combinations thereof
- ST004 Tape recorders, tape players, video cassette recorders, turntables, and compact disc players
- ST005 Unrecorded magnetic tapes, discs, and other media
- ST006 Records, tapes, compact discs, computer software, and other recorded media
- ST007 Radio transmission and reception apparatus, and combinations thereof
- ST008 Radio navigation aid, radar, and remote control apparatus
- ST009 Television receivers, video monitors, and combinations including television receivers

- ST010 Television apparatus (except receivers and monitors), including cameras, camcorders, and cable apparatus
- ST011 Electric sound and visual signaling apparatus
- ST012 Electric capacitors and resistors
- ST013 Apparatus for making, breaking, protecting, or connecting electrical circuits
- ST014 Television picture tubes and other cathode-ray tubes
- ST015 Special-purpose tubes
- ST016 Diodes, transistors, integrated circuits, and similar semiconductor solid-state devices
- ST017 Electrical and electronic articles, apparatus, and parts not elsewhere provided for
- ST018 Automatic data processing machines
- ST019 Photographic supplies
- ST020 Exposed photographic plates, film, and paper
- ST021 Optical fibers, optical fiber bundles and cables
- ST022 Optical goods, including ophthalmic goods
- ST023 Photographic cameras and equipment
- ST024 Medical goods
- ST025 Surveying and navigational instruments
- ST026 Watches
- ST027 Clocks and timing devices
- ST028 Balances of a sensitivity of 5 cgs or better
- ST029 Drawing and mathematical calculating and measuring instruments
- ST030 Measuring, testing, controlling, and analyzing instruments

## **Miscellaneous manufactures sector**

- MM046 Luggage, handbags, and flat goods
- MM047 Certain other leather goods
- MM048 Musical instruments and accessories
- MM049 Umbrellas, whips, riding crops, and canes
- MM050 Silverware and certain other articles of precious metals
- MM051 Precious jewelry and related articles
- MM052 Costume jewelry and related articles

**Miscellaneous manufactures sector--**

***Continued***

- MM053 Bicycles and certain parts
- MM054 Furniture and selected furnishings
- MM055 Writing instruments and related articles
- MM056 Lamps and lighting fittings
- MM057 Prefabricated buildings
- MM058 Children's vehicles
- MM059 Dolls
- MM060 Toys and models
- MM061 Games and fairground amusements
- MM062 Sporting goods
- MM063 Smokers' articles
- MM064 Brooms, brushes, and hair grooming  
articles
- MM065 Miscellaneous articles
- MM066 Apparel fasteners
- MM067 Arms and ammunition

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## **APPENDIX B**

# **Profile of U.S. Industry and Market, by Industry/Commodity Groups, 1992-96**

Note.--These data have been estimated by the Commission's international trade analysts on the basis of primary and secondary data sources including discussions with various Government and industry contacts. These estimated data are subject to change either from secondary sources or from detailed surveys the Commission often conducts in the course of statutory investigations or other work. Further, these data may undergo adjustments based on revisions in tariff nomenclature, classification practices, or redefinitions of industry classes.

Table B-1

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG001	Certain miscellaneous animals and meats:					
	Number of establishments	147,000	143,766	145,000	132,800	136,300
	Employees (thousands)	167	147	148	149	149
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars)	6,700	6,700	6,800	6,700	7,450
	U.S. exports (million dollars)	1,509	1,456	1,521	1,783	1,895
	U.S. imports (million dollars)	905	914	1,010	1,071	1,146
	Apparent U.S. consumption (million dollars)	6,096	6,158	6,289	5,988	6,701
	Trade balance (million dollars)	604	542	511	712	749
	Ratio of imports to apparent consumption (percent)	14.8	14.8	16.1	17.9	17.1
	Ratio of exports to shipments (percent)	22.5	21.7	22.4	26.6	25.4
AG002	Cattle and beef:					
	Number of establishments (thousands)	1,233	1,226	1,152	1,182	1,195
	Employees (thousands)	1,347	1,339	1,259	1,292	1,269
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars)	50,000	50,000	52,000	57,000	56,000
	U.S. exports (million dollars)	2,120	2,016	2,361	2,648	2,447
	U.S. imports (million dollars)	2,906	3,045	2,716	2,627	2,248
	Apparent U.S. consumption (million dollars)	50,786	51,029	52,355	56,979	55,801
	Trade balance (million dollars)	-786	-1,029	-355	21	199
	Ratio of imports to apparent consumption (percent)	5.7	6.0	5.2	4.6	4.0
	Ratio of exports to shipments (percent)	4.2	4.0	4.5	4.6	4.4
AG003	Swine and pork:					
	Number of establishments	237,500	235,840	234,190	206,087	158,250
	Employees (thousands)	323	321	315	277	216
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	17,000	17,540	17,190	17,444	18,500
	U.S. exports (million dollars)	400	438	485	748	918
	U.S. imports (million dollars)	436	501	503	566	742
	Apparent U.S. consumption (million dollars)	17,036	17,603	17,208	17,262	18,324
	Trade balance (million dollars)	-36	-63	-18	182	176
	Ratio of imports to apparent consumption (percent)	2.6	2.8	2.9	3.3	4.0
	Ratio of exports to shipments (percent)	2.4	2.5	2.8	4.3	5.0
AG004	Sheep and meat of sheep:					
	Number of establishments	101,040	93,280	87,150	81,070	77,010
	Employees (thousands)	103	95	89	83	77
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	470	485	460	478	477
	U.S. exports (million dollars)	36	39	37	19	21
	U.S. imports (million dollars)	46	62	59	85	19
	Apparent U.S. consumption (million dollars) <sup>3</sup>	480	508	482	544	475
	Trade balance (million dollars)	-10	-23	-22	-66	2
	Ratio of imports to apparent consumption (percent)	9.6	12.2	12.2	15.6	4.0
	Ratio of exports to shipments (percent)	7.7	8.0	8.0	4.0	4.4
AG005	Poultry:					
	Number of establishments	300	300	300	300	290
	Employees (thousands)	188	190	195	195	190
	Capacity utilization (percent)	90	90	90	90	90
	U.S. production (million dollars)	22,825	23,738	25,786	27,050	28,750
	U.S. exports (million dollars)	1,051	1,229	1,691	2,149	2,589
	U.S. imports (million dollars)	22	24	23	31	35
	Apparent U.S. consumption (million dollars)	21,796	22,533	24,118	24,932	26,196
	Trade balance (million dollars)	1,029	1,205	1,668	2,118	2,554
	Ratio of imports to apparent consumption (percent)	0.1	0.1	0.1	0.1	0.1
	Ratio of exports to shipments (percent)	4.6	5.2	6.6	7.9	9.0

See footnotes at end of table.

Table B-1--Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG006	Fresh or chilled fish:					
	Number of establishments	82,000	80,000	70,000	62,000	60,000
	Employees (thousands)	180	150	150	110	100
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	2,700	2,500	2,700	2,450	2,500
	U.S. exports (million dollars)	190	196	217	244	263
	U.S. imports (million dollars)	601	652	744	808	885
	Apparent U.S. consumption (million dollars)	3,111	2,956	3,227	3,014	3,122
	Trade balance (million dollars)	-411	-456	-527	-564	-622
	Ratio of imports to apparent consumption (percent)	19.3	22.1	23.1	26.8	28.3
	Ratio of exports to shipments (percent)	7.0	7.8	8.0	10.0	10.5
AG007	Frozen fish:					
	Number of establishments	880	880	850	875	850
	Employees (thousands)	70	70	65	60	60
	Capacity utilization (percent)	70	70	75	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	2,215	2,132	2,207	2,000	2,100
	U.S. exports (million dollars)	1,886	1,526	1,556	1,754	1,557
	U.S. imports (million dollars)	1,302	1,293	1,267	1,384	1,344
	Apparent U.S. consumption (million dollars)	1,631	1,899	1,918	1,630	1,887
	Trade balance (million dollars)	584	233	289	370	213
	Ratio of imports to apparent consumption (percent)	79.8	68.1	66.1	84.9	71.2
	Ratio of exports to shipments (percent)	85.1	71.6	70.5	87.7	74.1
AG008	Canned fish and other fish:					
	Number of establishments	600	600	550	550	550
	Employees (thousands)	18	18	17	18	18
	Capacity utilization (percent)	80	85	75	80	80
	U.S. shipments (million dollars)	1,500	1,600	1,700	1,850	1,900
	U.S. exports (million dollars)	446	417	373	429	426
	U.S. imports (million dollars)	683	617	685	671	694
	Apparent U.S. consumption (million dollars)	1,737	1,800	2,012	2,092	2,168
	Trade balance (million dollars)	-237	-200	-312	-242	-268
	Ratio of imports to apparent consumption (percent)	39.3	34.3	34.0	32.1	32.0
	Ratio of exports to shipments (percent)	29.7	26.1	21.9	23.2	22.4
AG009	Shellfish:					
	Number of establishments	800	800	800	800	750
	Employees (thousands)	60	60	60	60	58
	Capacity utilization (percent)	66	66	66	66	64
	U.S. production (million dollars)	1,600	1,600	1,600	1,800	1,800
	U.S. exports (million dollars)	872	860	904	788	739
	U.S. imports (million dollars)	3,067	3,243	3,896	3,884	3,741
	Apparent U.S. consumption (million dollars)	3,795	3,983	4,592	4,896	4,802
	Trade balance (million dollars)	-2,195	-2,383	-2,992	-3,096	-3,002
	Ratio of imports to apparent consumption (percent)	80.8	81.4	84.8	79.3	77.9
	Ratio of exports to shipments (percent)	54.5	53.8	56.5	43.8	41.1
AG010	Dairy produce:					
	Number of establishments	174,000	162,000	152,000	143,000	135,000
	Employees (thousands)	733	682	695	662	650
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	48,000	47,000	49,000	50,000	57,000
	U.S. exports (million dollars)	593	655	572	636	506
	U.S. imports (million dollars)	845	836	922	1,052	1,198
	Apparent U.S. consumption (million dollars)	48,252	47,181	49,350	50,416	57,692
	Trade balance (million dollars)	-252	-181	-350	-416	-692
	Ratio of imports to apparent consumption (percent)	1.8	1.8	1.9	2.1	2.1
	Ratio of exports to shipments (percent)	1.2	1.4	1.2	1.3	0.9

See footnotes at end of table.

Table B-1—Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG011	Eggs:					
	Number of establishments	75	75	70	70	68
	Employees (thousands)	8	8	8	8	8
	Capacity utilization (percent)	85	85	85	85	86
	U.S. production (million dollars)	4,148	4,701	4,833	5,365	5,650
	U.S. exports (million dollars)	134	133	158	164	207
	U.S. imports (million dollars)	27	35	30	20	24
	Apparent U.S. consumption (million dollars)	4,041	4,603	4,705	5,221	5,467
	Trade balance (million dollars)	107	98	128	144	183
	Ratio of imports to apparent consumption (percent)	0.7	0.8	0.6	0.4	0.4
	Ratio of exports to shipments (percent)	3.2	2.8	3.3	3.1	3.7
AG012	Sugar and other sweeteners:					
	Number of establishments	100	100	97	95	95
	Employees (thousands)	31	31	30	30	30
	Capacity utilization (percent)	89	89	90	90	90
	U.S. shipments (million dollars)	8,000	8,200	8,300	8,666	10,000
	U.S. exports (million dollars)	300	269	303	354	381
	U.S. imports (million dollars)	857	812	844	885	1,407
	Apparent U.S. consumption (million dollars)	8,557	8,743	8,841	9,197	11,026
	Trade balance (million dollars)	-557	-543	-541	-531	-1,026
	Ratio of imports to apparent consumption (percent)	10.0	9.3	9.5	9.6	12.8
	Ratio of exports to shipments (percent)	3.8	3.3	3.7	4.1	3.8
AG013	Animal feeds:					
	Number of establishments	1,870	1,800	1,800	1,800	1,800
	Employees (thousands)	49	49	49	49	49
	Capacity utilization (percent)	85	85	85	85	85
	U.S. production (million dollars)	21,600	21,000	21,000	21,000	21,000
	U.S. exports (million dollars)	3,656	3,616	3,482	3,822	4,375
	U.S. imports (million dollars)	450	543	613	580	779
	Apparent U.S. consumption (million dollars)	18,394	17,927	18,131	17,758	17,404
	Trade balance (million dollars)	3,206	3,073	2,869	3,242	3,596
	Ratio of imports to apparent consumption (percent)	2.4	3.0	3.4	3.3	4.5
	Ratio of exports to shipments (percent)	16.9	17.2	16.6	18.2	20.8
AG014	Live plants:					
	Number of establishments	25,000	25,000	24,000	24,000	24,000
	Employees (thousands)	125	125	120	120	120
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	8,957	8,927	9,407	9,676	9,995
	U.S. exports (million dollars)	103	94	99	96	92
	U.S. imports (million dollars)	200	216	238	283	312
	Apparent U.S. consumption (million dollars)	9,054	9,049	9,546	9,863	10,215
	Trade balance (million dollars)	-97	-122	-139	-187	-220
	Ratio of imports to apparent consumption (percent)	2.2	2.4	2.5	2.9	3.1
	Ratio of exports to shipments (percent)	1.2	1.1	1.1	1.0	0.9
AG015	Seeds:					
	Number of establishments	10,929	10,000	9,000	9,000	9,000
	Employees (thousands)	168	153	138	138	138
	Capacity utilization (percent)	85	85	85	85	85
	U.S. shipments (million dollars)	2,000	2,000	2,000	2,000	2,000
	U.S. exports (million dollars)	316	319	340	610	648
	U.S. imports (million dollars)	154	156	155	236	298
	Apparent U.S. consumption (million dollars)	1,838	1,837	1,815	1,626	1,650
	Trade balance (million dollars)	162	163	185	374	350
	Ratio of imports to apparent consumption (percent)	8.4	8.5	8.5	14.5	18.1
	Ratio of exports to shipments (percent)	15.8	16.0	17.0	30.5	32.4

See footnotes at end of table.

Table B-1--Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG016	Cut flowers:					
	Number of establishments	3,000	3,000	2,900	2,500	2,400
	Employees (thousands)	39	39	36	35	34
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	493	453	470	424	447
	U.S. exports (million dollars)	33	39	38	40	48
	U.S. imports (million dollars)	352	382	420	512	573
	Apparent U.S. consumption (million dollars)	812	796	852	896	972
	Trade balance (million dollars)	-319	-343	-382	-472	-525
	Ratio of imports to apparent consumption (percent)	43.4	48.0	49.3	57.1	59.0
	Ratio of exports to shipments (percent)	6.7	8.6	8.1	9.4	10.7
AG017	Miscellaneous vegetable substances:					
	Firms (number)	100	100	90	80	80
	Employees (thousands)	2	2	2	2	2
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars) <sup>4</sup>	800	800	813	800	800
	U.S. exports (million dollars)	462	436	433	458	449
	U.S. imports (million dollars)	545	568	623	762	792
	Apparent U.S. consumption (million dollars)	883	932	1,003	1,104	1,143
	Trade balance (million dollars)	-83	-132	-190	-304	-343
	Ratio of imports to apparent consumption (percent)	61.7	60.9	62.1	69.0	69.3
	Ratio of exports to shipments (percent)	57.8	54.5	53.3	57.3	56.1
AG018	Fresh, chilled, or frozen vegetables:					
	Number of establishments	38,000	36,500	36,400	36,100	36,000
	Employees (thousands)	42	40	50	45	46
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars)	4,376	3,938	4,300	4,400	4,530
	U.S. exports (million dollars)	972	1,058	1,122	1,148	1,070
	U.S. imports (million dollars)	966	1,253	1,364	1,586	1,840
	Apparent U.S. consumption (million dollars)	4,370	4,133	4,542	4,838	5,300
	Trade balance (million dollars)	6	-195	-242	-438	-770
	Ratio of imports to apparent consumption (percent)	22.1	30.3	30.0	32.8	34.7
	Ratio of exports to shipments (percent)	22.2	26.9	26.1	26.1	23.6
AG019	Prepared or preserved vegetables, mushrooms, and olives:					
	Number of establishments	1,990	1,750	1,700	1,690	1,700
	Employees (thousands)	4	4	4	4	4
	Capacity utilization (percent)	81	83	85	87	88
	U.S. production (million dollars)	7,799	8,189	8,400	8,200	8,500
	U.S. exports (million dollars)	955	1,075	1,290	1,293	1,332
	U.S. imports (million dollars)	788	777	909	982	981
	Apparent U.S. consumption (million dollars)	7,632	7,891	8,019	7,845	8,149
	Trade balance (million dollars)	167	298	381	311	351
	Ratio of imports to apparent consumption (percent)	10.3	9.8	11.3	12.5	12.0
	Ratio of exports to shipments (percent)	12.2	13.1	15.4	15.8	15.7
AG020	Edible nuts:					
	Number of establishments	70,000	70,000	68,000	68,000	68,000
	Employees (thousands)	325	300	380	380	380
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	2,703	2,740	2,756	2,765	2,679
	U.S. exports (million dollars)	1,188	1,224	1,318	1,462	1,666
	U.S. imports (million dollars)	461	460	497	509	570
	Apparent U.S. consumption (million dollars)	1,976	1,976	1,935	1,812	1,583
	Trade balance (million dollars)	727	764	821	953	1,096
	Ratio of imports to apparent consumption (percent)	23.3	23.3	25.7	28.1	36.0
	Ratio of exports to shipments (percent)	44.0	44.7	47.8	52.9	62.2

See footnotes at end of table.

Table B-1—Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG021	Tropical fruit:					
	Number of establishments	9,000	9,000	9,000	9,000	9,000
	Employees (thousands)	25	25	25	25	25
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	226	361	348	355	403
	U.S. exports (million dollars)	64	69	70	76	79
	U.S. imports (million dollars)	1,233	1,217	1,253	1,337	1,391
	Apparent U.S. consumption (million dollars)	1,395	1,509	1,531	1,616	1,715
	Trade balance (million dollars)	-1,169	-1,148	-1,183	-1,261	-1,312
	Ratio of imports to apparent consumption (percent)	88.4	80.6	81.8	82.7	81.1
	Ratio of exports to shipments (percent)	28.3	19.1	20.1	21.4	19.6
AG022	Citrus fruit:					
	Number of establishments	17,898	17,918	17,938	17,865	17,755
	Employees (thousands)	97	95	95	94	93
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	2,401	2,151	2,245	2,256	2,606
	U.S. exports (million dollars)	649	647	674	740	700
	U.S. imports (million dollars)	134	119	129	132	177
	Apparent U.S. consumption (million dollars)	1,886	1,623	1,700	1,648	2,083
	Trade balance (million dollars)	515	528	545	608	523
	Ratio of imports to apparent consumption (percent)	7.1	7.3	7.6	8.0	8.5
	Ratio of exports to shipments (percent)	27.0	30.1	30.0	32.8	26.9
AG023	Deciduous fruit:					
	Farms (number)	84,000	83,000	82,000	82,000	82,000
	Employees (thousands)	160	160	160	160	160
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	1,820	1,888	1,790	2,305	3,003
	U.S. exports (million dollars)	607	596	774	718	731
	U.S. imports (million dollars)	163	146	157	181	197
	Apparent U.S. consumption (million dollars)	1,376	1,438	1,173	1,768	2,469
	Trade balance (million dollars)	444	450	617	537	534
	Ratio of imports to apparent consumption (percent)	11.8	10.2	13.4	10.2	8.0
	Ratio of exports to shipments (percent)	33.4	31.6	43.2	31.2	24.3
AG024	Other fresh fruit:					
	Number of establishments	60,000	60,000	60,000	60,000	60,000
	Employees (thousands)	120	120	120	120	120
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	1,605	1,860	1,915	1,859	2,380
	U.S. exports (million dollars)	409	437	482	488	507
	U.S. imports (million dollars)	486	473	528	615	774
	Apparent U.S. consumption (million dollars)	1,682	1,896	1,961	1,986	2,647
	Trade balance (million dollars)	-77	-36	-46	-127	-267
	Ratio of imports to apparent consumption (percent)	28.9	24.9	26.9	31.0	29.2
	Ratio of exports to shipments (percent)	25.5	23.5	25.2	26.3	21.3
AG025	Dried fruit, other than tropical:					
	Number of establishments	40	40	40	40	40
	Employees (thousands)	10	10	9	9	9
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	835	787	754	748	861
	U.S. exports (million dollars)	357	360	369	382	388
	U.S. imports (million dollars)	34	42	46	47	58
	Apparent U.S. consumption (million dollars)	512	469	431	413	531
	Trade balance (million dollars)	323	318	323	335	330
	Ratio of imports to apparent consumption (percent)	6.6	9.0	10.7	11.4	10.9
	Ratio of exports to shipments (percent)	42.8	45.7	48.9	51.1	45.1

See footnotes at end of table.



Table B-1--Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG026	Frozen fruit:					
	Number of establishments	40	40	40	40	40
	Employees (thousands)	6	6	6	6	6
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	600	620	650	650	648
	U.S. exports (million dollars)	58	58	71	77	79
	U.S. imports (million dollars)	57	63	64	68	82
	Apparent U.S. consumption (million dollars)	599	625	643	641	651
	Trade balance (million dollars)	1	-5	7	9	-3
	Ratio of imports to apparent consumption (percent)	9.5	10.1	10.0	10.6	12.6
	Ratio of exports to shipments (percent)	9.7	9.4	10.9	11.8	12.2
AG027	Prepared or preserved fruit:					
	Number of establishments	200	200	200	200	200
	Employees (thousands)	20	20	20	20	20
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	2,970	3,080	3,170	3,946	3,882
	U.S. exports (million dollars)	167	166	157	179	173
	U.S. imports (million dollars)	417	421	414	415	484
	Apparent U.S. consumption (million dollars)	3,220	3,335	3,427	4,182	4,193
	Trade balance (million dollars)	-250	-255	-257	-236	-311
	Ratio of imports to apparent consumption (percent)	13.0	12.6	12.1	9.9	11.5
	Ratio of exports to shipments (percent)	5.6	5.4	5.0	4.5	4.5
AG028	Coffee and tea:					
	Number of establishments	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. exports (million dollars)	160	187	231	229	237
	U.S. imports (million dollars)	1,871	1,705	2,655	3,427	2,958
	Apparent U.S. consumption (million dollars)	1,711	1,518	2,424	3,198	2,721
	Trade balance (million dollars)	-1,711	-1,518	-2,424	-3,198	-2,721
	Ratio of imports to apparent consumption (percent)	109.4	112.3	109.5	107.2	108.7
	Ratio of exports to shipments (percent)	(1)	(1)	(1)	(1)	(1)
AG029	Spices:					
	Number of establishments	74	74	74	74	74
	Employees (thousands)	8	8	8	8	8
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	1,325	1,350	1,375	1,436	1,509
	U.S. exports (million dollars)	43	51	52	46	55
	U.S. imports (million dollars)	234	223	272	290	349
	Apparent U.S. consumption (million dollars)	1,516	1,522	1,595	1,680	1,803
	Trade balance (million dollars)	-191	-172	-220	-244	-294
	Ratio of imports to apparent consumption (percent)	15.4	14.7	17.1	17.3	19.4
	Ratio of exports to shipments (percent)	3.2	3.8	3.8	3.2	3.6
AG030	Cereals:					
	Number of establishments	405,000	394,000	383,000	372,000	351,000
	Employees (thousands)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars)	28,000	31,700	27,300	34,700	37,700
	U.S. exports (million dollars)	11,245	10,728	10,088	14,870	16,751
	U.S. imports (million dollars)	513	586	861	723	791
	Apparent U.S. consumption (million dollars)	17,268	21,558	18,073	20,553	21,740
	Trade balance (million dollars)	10,732	10,142	9,227	14,147	15,960
	Ratio of imports to apparent consumption (percent)	3.0	2.7	4.8	3.5	3.6
	Ratio of exports to shipments (percent)	40.2	33.8	37.0	42.9	44.4

See footnotes at end of table.

Table B-1--Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG031	Milled grains, malts, and starches:					
	Number of establishments	210	210	210	210	210
	Employees (thousands)	72	72	72	72	72
	Capacity utilization (percent)	80	81	83	83	83
	U.S. production (million dollars)	5,000	5,000	5,100	5,100	5,150
	U.S. exports (million dollars)	387	445	464	491	425
	U.S. imports (million dollars)	70	96	132	151	175
	Apparent U.S. consumption (million dollars)	4,683	4,651	4,768	4,760	4,900
	Trade balance (million dollars)	317	349	332	340	250
	Ratio of imports to apparent consumption (percent)	1.5	2.1	2.8	3.2	3.6
	Ratio of exports to shipments (percent)	7.7	8.9	9.1	9.6	8.3
AG032	Oilseeds:					
	Number of establishments	405,000	394,000	383,800	372,000	361,000
	Employees (thousands)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars)	12,000	13,100	13,100	15,030	16,000
	U.S. exports (million dollars)	4,564	4,758	4,537	5,661	7,638
	U.S. imports (million dollars)	122	155	268	221	279
	Apparent U.S. consumption (million dollars)	7,558	8,497	8,831	9,590	8,641
	Trade balance (million dollars)	4,442	4,603	4,269	5,440	7,359
	Ratio of imports to apparent consumption (percent)	1.6	1.8	3.0	2.3	3.2
	Ratio of exports to shipments (percent)	38.0	36.3	34.6	37.7	47.7
AG033	Animal or vegetable fats and oils:					
	Number of establishments	540	530	520	510	500
	Employees (thousands)	30	32	34	34	32
	Capacity utilization (percent)	85	81	82	82	82
	U.S. shipments (million dollars)	5,300	6,200	7,800	7,800	6,900
	U.S. exports (million dollars)	1,439	1,454	1,851	2,529	2,529
	U.S. imports (million dollars)	966	856	1,046	1,265	1,265
	Apparent U.S. consumption (million dollars)	4,827	5,602	6,995	6,536	6,536
	Trade balance (million dollars)	473	598	805	1,264	1,264
	Ratio of imports to apparent consumption (percent)	20.0	15.3	15.0	19.4	19.4
	Ratio of exports to shipments (percent)	27.2	23.5	23.7	32.4	32.4
AG034	Edible preparations:					
	Number of establishments	5,100	5,100	5,100	5,100	5,200
	Employees (thousands)	395	397	397	400	420
	Capacity utilization (percent)	84	85	90	90	95
	U.S. production (million dollars)	94,700	96,600	100,000	105,000	110,100
	U.S. exports (million dollars)	2,156	2,522	3,062	2,871	3,353
	U.S. imports (million dollars)	1,249	1,348	1,561	1,746	1,943
	Apparent U.S. consumption (million dollars)	93,793	95,426	98,499	103,875	108,690
	Trade balance (million dollars)	907	1,174	1,501	1,125	1,410
	Ratio of imports to apparent consumption (percent)	1.3	1.4	1.6	1.7	1.8
	Ratio of exports to shipments (percent)	2.3	2.6	3.1	2.7	3.0
AG035	Cocoa, chocolate, and confectionery:					
	Number of establishments	920	920	950	970	1,000
	Employees (thousands)	62	62	65	68	72
	Capacity utilization (percent)	62	62	70	80	85
	U.S. shipments (million dollars)	10,428	10,756	11,076	11,700	12,500
	U.S. exports (million dollars)	438	560	545	524	586
	U.S. imports (million dollars)	1,347	1,299	1,299	1,478	1,806
	Apparent U.S. consumption (million dollars)	11,337	11,495	11,830	12,654	13,720
	Trade balance (million dollars)	-909	-739	-754	-954	-1,220
	Ratio of imports to apparent consumption (percent)	11.9	11.3	11.0	11.7	13.2
	Ratio of exports to shipments (percent)	4.2	5.2	4.9	4.5	4.7

See footnotes at end of table.

Table B-1--Continued

Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG036	Fruit and vegetable juices:					
	Number of establishments	100	100	100	98	98
	Employees (thousands)	150	150	150	149	149
	Capacity utilization (percent)	70	78	75	75	75
	U.S. shipments (million dollars)	1,950	2,100	2,200	2,276	2,500
	U.S. exports (million dollars)	461	470	539	652	642
	U.S. imports (million dollars)	812	653	663	635	929
	Apparent U.S. consumption (million dollars)	2,301	2,283	2,324	2,259	2,787
	Trade balance (million dollars)	-351	-183	-124	17	-287
	Ratio of imports to apparent consumption (percent)	35.3	28.6	28.5	28.1	33.3
	Ratio of exports to shipments (percent)	23.6	22.4	24.5	28.6	25.7
AG037	Nonalcoholic beverages, excluding fruit and vegetable juices:					
	Number of establishments	3,100	3,200	3,300	3,200	3,200
	Employees (thousands)	112	110	112	110	110
	Capacity utilization (percent)	75	75	75	75	75
	U.S. shipments (million dollars)	38,000	40,000	42,000	44,100	46,200
	U.S. exports (million dollars)	191	220	344	332	244
	U.S. imports (million dollars)	250	277	349	353	430
	Apparent U.S. consumption (million dollars)	38,059	40,057	42,005	44,121	46,386
	Trade balance (million dollars)	-59	-57	-5	-21	-186
	Ratio of imports to apparent consumption (percent)	0.7	0.7	0.8	0.8	0.9
	Ratio of exports to shipments (percent)	0.5	0.6	0.8	0.8	0.5
AG038	Malt beverages:					
	Number of establishments <sup>5</sup>	391	480	619	879	879
	Employees (thousands)	40	40	37	36	35
	Capacity utilization (percent)	84	75	79	84	84
	U.S. shipments (million dollars)	17,340	17,671	17,800	17,800	18,362
	U.S. exports (million dollars)	194	202	341	413	362
	U.S. imports (million dollars)	854	929	1,038	1,151	1,301
	Apparent U.S. consumption (million dollars)	18,000	18,398	18,497	18,538	19,301
	Trade balance (million dollars)	-660	-727	-697	-738	-939
	Ratio of imports to apparent consumption (percent)	4.7	5.0	5.6	6.2	6.7
	Ratio of exports to shipments (percent)	1.1	1.1	1.9	2.3	2.0
AG039	Wine and certain other fermented beverages:					
	Number of establishments <sup>6</sup>	1,648	1,683	1,772	1,820	1,820
	Employees (thousands)	14	14	14	14	14
	Capacity utilization (percent)	83	56	57	83	83
	U.S. shipments (million dollars)	4,301	4,514	4,400	4,400	4,668
	U.S. exports (million dollars)	176	177	192	236	320
	U.S. imports (million dollars)	1,094	984	1,045	1,159	1,435
	Apparent U.S. consumption (million dollars)	5,219	5,321	5,253	5,323	5,783
	Trade balance (million dollars)	-918	-807	-853	-923	-1,115
	Ratio of imports to apparent consumption (percent)	21.0	18.5	19.9	21.8	24.8
	Ratio of exports to shipments (percent)	4.1	3.9	4.4	5.4	6.9
AG040	Distilled spirits:					
	Number of establishments	274	291	297	278	278
	Employees (thousands)	7	7	7	7	4
	Capacity utilization (percent)	78	78	78	78	78
	U.S. shipments (million dollars)	3,394	3,569	3,888	3,723	3,756
	U.S. exports (million dollars)	343	344	356	390	392
	U.S. imports (million dollars)	1,552	1,442	1,552	1,629	1,843
	Apparent U.S. consumption (million dollars)	4,603	4,667	5,084	4,962	5,207
	Trade balance (million dollars)	-1,209	-1,098	-1,196	-1,239	-1,451
	Ratio of imports to apparent consumption (percent)	33.7	30.9	30.5	32.8	35.4
	Ratio of exports to shipments (percent)	10.1	9.6	9.2	10.5	10.4

See footnotes at end of table.

Table B-1--Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG041	Unmanufactured tobacco:					
	Number of establishments	47	47	47	47	47
	Employees (thousands)	7	6	6	6	6
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars)	3,557	3,187	2,980	3,084	3,140
	U.S. exports (million dollars)	1,651	1,306	1,303	1,400	1,390
	U.S. imports (million dollars) <sup>7</sup>	1,475	1,370	631	550	923
	Apparent U.S. consumption (million dollars)	3,381	3,251	2,308	2,234	2,673
	Trade balance (million dollars)	176	-64	672	850	467
	Ratio of imports to apparent consumption (percent)	43.6	42.1	27.3	24.6	34.5
	Ratio of exports to shipments (percent)	46.4	41.0	43.7	45.4	44.3
AG042	Cigars, and certain other manufactured tobacco:					
	Number of establishments	57	57	57	57	57
	Employees (thousands)	6	6	6	6	5
	Capacity utilization (percent)	86	75	81	85	85
	U.S. shipments (million dollars)	2,072	2,110	2,150	2,170	2,305
	U.S. exports (million dollars)	317	327	402	452	503
	U.S. imports (million dollars)	85	107	90	117	207
	Apparent U.S. consumption (million dollars)	1,840	1,890	1,838	1,835	2,009
	Trade balance (million dollars)	232	220	312	335	296
	Ratio of imports to apparent consumption (percent)	4.6	5.7	4.9	6.4	10.3
	Ratio of exports to shipments (percent)	15.3	15.5	18.7	20.8	21.8
AG043	Cigarettes:					
	Number of establishments	11	11	11	11	11
	Employees (thousands)	25	24	23	25	20
	Capacity utilization (percent)	87	83	87	87	87
	U.S. shipments (million dollars)	29,476	23,266	27,000	29,000	31,083
	U.S. exports (million dollars)	4,192	3,926	4,965	4,770	4,736
	U.S. imports (million dollars)	199	360	73	51	38
	Apparent U.S. consumption (million dollars)	25,483	19,700	22,108	24,281	26,385
	Trade balance (million dollars)	3,993	3,566	4,892	4,719	4,698
	Ratio of imports to apparent consumption (percent)	0.8	1.8	0.3	0.2	0.1
	Ratio of exports to shipments (percent)	14.2	16.9	18.4	16.4	15.2
AG044	Hides, skins, and leather:					
	Number of establishments	1,235	1,235	1,220	1,220	1,220
	Employees (thousands)	18	18	18	18	18
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	4,194	4,337	4,755	5,170	5,573
	U.S. exports (million dollars)	1,974	1,977	2,108	2,319	2,216
	U.S. imports (million dollars)	767	868	995	1,095	1,054
	Apparent U.S. consumption (million dollars)	2,987	3,228	3,642	3,946	4,411
	Trade balance (million dollars)	1,207	1,109	1,113	1,224	1,162
	Ratio of imports to apparent consumption (percent)	25.7	26.9	27.3	27.8	23.9
	Ratio of exports to shipments (percent)	47.1	45.6	44.3	44.9	39.8
AG045	Furskins:					
	Number of establishments	571	498	457	446	443
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	164	146	185	153	180
	U.S. exports (million dollars)	134	128	167	157	224
	U.S. imports (million dollars)	83	83	109	87	107
	Apparent U.S. consumption (million dollars)	113	101	127	83	63
	Trade balance (million dollars)	51	45	58	70	117
	Ratio of imports to apparent consumption (percent)	73.5	82.2	85.8	104.8	169.8
	Ratio of exports to shipments (percent)	81.7	87.7	90.3	102.6	124.4

See footnotes at end of table.

Table B-1—Continued

## Agricultural products sector: Profile of U.S. industry and market, by industry /commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
AG062	Ethyl alcohol for nonbeverages purposes:					
	Number of establishments	30	30	35	42	45
	Employees (thousands)	7	7	7	7	7
	Capacity utilization (percent)	93	94	90	80	78
	U.S. production (million dollars)	1,239	1,178	1,594	1,408	1,600
	U.S. exports (million dollars)	38	71	215	265	128
	U.S. imports (million dollars)	114	143	146	164	160
	Apparent U.S. consumption (million dollars)	1,315	1,250	1,525	1,307	1,632
	Trade balance (million dollars)	-76	-72	69	101	-32
	Ratio of imports to apparent consumption (percent)	8.7	11.4	9.6	12.5	9.8
	Ratio of exports to shipments (percent)	3.1	6.0	13.5	18.8	8.0
AG063	Wool and other animal hair: <sup>8</sup>					
	Number of establishments	101,040	98,280	87,150	81,070	77,010
	Employees (thousands)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars) <sup>9</sup>	74	51	78	86	55
	U.S. exports (million dollars)	19	14	36	35	20
	U.S. imports (million dollars)	172	175	173	214	173
	Apparent U.S. consumption (million dollars)	227	212	215	265	208
	Trade balance (million dollars)	-153	-161	-137	-179	-153
	Ratio of imports to apparent consumption (percent)	75.8	82.5	80.5	80.8	83.2
	Ratio of exports to shipments (percent)	25.7	27.5	46.2	40.7	36.4
AG064	Cotton, not carded or combed: <sup>10</sup>					
	Number of establishments	13,420	13,438	13,220	16,931	14,243
	Employees (thousands)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars)	4,273	4,522	6,795	6,530	6,194
	U.S. exports (million dollars)	1,999	1,528	2,653	3,681	2,715
	U.S. imports (million dollars)	0	0	7	10	283
	Apparent U.S. consumption (million dollars)	2,274	2,994	4,149	2,859	3,726
	Trade balance (million dollars)	1,999	1,528	2,646	3,671	2,432
	Ratio of imports to apparent consumption (percent)	0.0	0.0	0.2	0.4	7.5
	Ratio of exports to shipments (percent)	46.8	33.8	39.0	56.4	43.8

<sup>1</sup>Not available.<sup>2</sup>Capacity utilization is not meaningful in this industry.<sup>3</sup>Does not reflect changes in inventory.<sup>4</sup>Does not include gums and resins. Production data for gums and resins are no longer reported.<sup>5</sup>Figures do not include microbreweries and brewpubs. The total number of establishments licensed to brew malt beverages (including microbreweries and brewpubs) was 392 during the year ending Sept. 30, 1992, as reported by the Bureau of Alcohol Tobacco, and Firearms (BATF).<sup>6</sup>Figures represent the number of bonded wine cellars as reported by the BATF.<sup>7</sup>In 1992, initial official published statistics for U.S. imports of unmanufactured tobacco were overstated by \$123 million. A correction to these import statistics was issued and reflected in this number.<sup>8</sup>Figures represent the number of operations with sheep.<sup>9</sup>Figures represent value of shorn wool production (greasy basis) and mohair production.<sup>10</sup>Estimated from 1992 Census of Agriculture.

Table B-2

## Forest products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
AG046	Logs and rough wood products:					
	Number of establishments	13,000	13,100	13,000	13,000	14,000
	Employees (thousands)	84	87	85	85	87
	Capacity utilization (percent)	82	92	92	90	92
	U.S. shipments (million dollars)	13,000	15,000	16,000	16,500	16,700
	U.S. exports (million dollars)	2,809	3,134	2,963	3,063	2,909
	U.S. imports (million dollars)	349	387	366	404	419
	Apparent U.S. consumption (million dollars)	10,540	12,253	13,403	13,841	14,210
	Trade balance (million dollars)	2,460	2,747	2,597	2,659	2,490
	Ratio of imports to apparent consumption (percent)	3.3	3.2	2.7	2.9	3.0
	Ratio of exports to shipments (percent)	21.6	20.9	18.5	18.6	17.4
AG047	Lumber:					
	Number of establishments	6,880	7,000	7,000	6,900	6,850
	Employees (thousands)	167	175	170	180	200
	Capacity utilization (percent)	85	85	90	90	90
	U.S. shipments (million dollars)	23,000	28,000	30,000	23,000	29,000
	U.S. exports (million dollars)	2,337	2,470	2,458	2,447	2,430
	U.S. imports (million dollars)	3,481	5,032	6,059	5,515	6,829
	Apparent U.S. consumption (million dollars)	24,144	30,562	33,601	26,068	33,399
	Trade balance (million dollars)	-1,144	-2,562	-3,601	-3,068	-4,399
	Ratio of imports to apparent consumption (percent)	14.4	16.5	18.0	21.2	20.5
	Ratio of exports to shipments (percent)	10.2	8.8	8.2	10.6	8.4
AG048	Moldings, millwork, and joinery:					
	Number of establishments	3,000	3,000	3,000	3,500	3,500
	Employees (thousands)	87	90	85	94	95
	Capacity utilization (percent)	68	70	80	80	80
	U.S. shipments (million dollars)	9,200	10,275	10,895	10,358	10,500
	U.S. exports (million dollars)	444	458	443	456	563
	U.S. imports (million dollars)	659	812	959	969	1,171
	Apparent U.S. consumption (million dollars)	9,415	10,629	11,411	10,871	11,108
	Trade balance (million dollars)	-215	-354	-516	-513	-608
	Ratio of imports to apparent consumption (percent)	7.0	7.6	8.4	8.9	10.5
	Ratio of exports to production (percent)	4.8	4.5	4.1	4.4	5.4
AG049	Structural panel products:					
	Number of establishments	600	600	600	625	620
	Employees (thousands)	74	76	75	75	80
	Capacity utilization (percent)	80	80	85	85	92
	U.S. production (million dollars)	12,000	12,200	13,500	14,500	14,400
	U.S. exports (million dollars)	858	921	962	1,018	994
	U.S. imports (million dollars)	1,190	1,515	1,820	1,986	2,152
	Apparent U.S. consumption (million dollars)	12,332	12,794	14,358	15,468	15,558
	Trade balance (million dollars)	-332	-594	-858	-968	-1,158
	Ratio of imports to apparent consumption (percent)	9.7	11.8	12.7	12.8	13.9
	Ratio of exports to production (percent)	7.2	7.5	7.1	7.0	6.9
AG050	Wooden containers:					
	Number of establishments	2,400	2,500	2,500	2,600	2,600
	Employees (thousands)	40	41	35	42	50
	Capacity utilization (percent)	74	74	75	80	80
	U.S. production (million dollars)	2,800	3,110	3,600	3,680	3,800
	U.S. exports (million dollars)	73	83	76	77	85
	U.S. imports (million dollars)	162	174	197	224	253
	Apparent U.S. consumption (million dollars)	2,889	3,201	3,721	3,827	3,968
	Trade balance (million dollars)	-89	-91	-121	-147	-168
	Ratio of imports to apparent consumption (percent)	5.6	5.4	5.3	5.9	6.4
	Ratio of exports to shipments (percent)	2.6	2.7	2.1	2.1	2.2

See footnotes at end of table.

Table B-2--Continued

## Forest products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
AG051	Tools and tool handles of wood:					
	Number of establishments	135	135	135	130	128
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	70	70	70	75	75
	U.S. production (million dollars)	160	160	170	170	165
	U.S. exports (million dollars)	16	20	16	18	24
	U.S. imports (million dollars)	86	94	109	130	114
	Apparent U.S. consumption (million dollars)	230	234	263	282	255
	Trade balance (million dollars)	-70	-74	-93	-112	-90
	Ratio of imports to apparent consumption (percent)	37.4	40.2	41.4	46.1	44.7
	Ratio of exports to shipments (percent)	10.0	12.5	9.4	10.6	14.5
AG052	Miscellaneous articles of wood:					
	Number of establishments	680	680	650	700	700
	Employees (thousands)	35	40	50	58	58
	Capacity utilization (percent)	73	75	75	75	80
	U.S. production (million dollars)	2,575	2,700	2,800	2,800	3,000
	U.S. exports (million dollars)	147	155	177	178	179
	U.S. imports (million dollars)	428	465	540	615	617
	Apparent U.S. consumption (million dollars)	2,856	3,010	3,163	3,237	3,438
	Trade balance (million dollars)	-281	-310	-363	-437	-438
	Ratio of imports to apparent consumption (percent)	15.0	15.4	17.1	19.0	17.9
	Ratio of exports to shipments (percent)	5.7	5.7	6.3	6.4	6.0
AG053	Cork and rattan:					
	Number of establishments	31	31	30	35	35
	Employees (thousands)	2	2	2	2	2
	Capacity utilization (percent)	70	60	75	75	80
	U.S. production (million dollars)	70	58	78	85	95
	U.S. exports (million dollars)	44	44	50	65	82
	U.S. imports (million dollars)	342	354	360	408	407
	Apparent U.S. consumption (million dollars)	368	368	388	428	421
	Trade balance (million dollars)	-298	-310	-310	-343	-325
	Ratio of imports to apparent consumption (percent)	92.9	96.2	92.8	95.3	96.7
	Ratio of exports to shipments (percent)	62.9	75.9	64.1	76.5	86.3
AG054	Wood pulp and wastepaper:					
	Number of establishments	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands)	13	13	14	14	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars)	8,100	7,700	8,000	8,300	8,100
	U.S. exports (million dollars)	3,862	2,999	3,816	6,241	4,059
	U.S. imports (million dollars)	2,138	1,899	2,329	3,845	2,665
	Apparent U.S. consumption (million dollars)	6,376	6,600	6,513	5,904	6,706
	Trade balance (million dollars)	1,724	1,100	1,487	2,396	1,394
	Ratio of imports to apparent consumption (percent)	33.5	28.8	35.8	65.1	39.7
	Ratio of exports to shipments (percent)	47.7	38.9	47.7	75.2	50.1
AG055	Paper boxes and bags:					
	Number of establishments	2,600	2,600	2,600	2,600	( <sup>1</sup> )
	Employees (thousands)	180	180	182	182	( <sup>1</sup> )
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars)	36,100	36,500	37,000	37,900	37,100
	U.S. exports (million dollars)	665	752	871	1,083	1,204
	U.S. imports (million dollars)	315	358	451	596	658
	Apparent U.S. consumption (million dollars)	35,750	36,106	36,580	37,413	36,554
	Trade balance (million dollars)	350	394	420	487	546
	Ratio of imports to apparent consumption (percent)	0.9	1.0	1.2	1.6	1.8
	Ratio of exports to shipments (percent)	1.8	2.1	2.4	2.9	3.2

See footnotes at end of table.

Table B-2--Continued

## Forest products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
AG056	Industrial papers and paperboards:					
	Number of establishments .....	700	700	704	704	( <sup>1</sup> )
	Employees (thousands) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars) .....	36,900	35,900	39,000	45,000	42,900
	U.S. exports (million dollars) .....	3,328	3,331	3,827	5,085	5,064
	U.S. imports (million dollars) .....	1,065	1,114	1,388	1,884	1,830
	Apparent U.S. consumption (million dollars) .....	34,637	33,683	36,561	41,799	39,666
	Trade balance (million dollars) .....	2,263	2,217	2,439	3,201	3,234
	Ratio of imports to apparent consumption (percent) ...	3.1	3.3	3.8	4.5	4.6
	Ratio of exports to shipments (percent) .....	9.0	9.3	9.8	11.3	11.8
AG057	Newsprint:					
	Number of establishments .....	18	19	19	19	19
	Employees (thousands) .....	9	9	9	9	9
	Capacity utilization (percent) .....	96	97	98	96	( <sup>1</sup> )
	U.S. production (million dollars) .....	4,200	4,300	4,350	4,410	3,700
	U.S. exports (million dollars) .....	467	496	481	591	652
	U.S. imports (million dollars) .....	3,599	3,593	3,333	4,418	4,063
	Apparent U.S. consumption (million dollars) .....	7,332	7,397	7,202	8,237	7,111
	Trade balance (million dollars) .....	-3,132	-3,097	-2,852	-3,827	-3,411
	Ratio of imports to apparent consumption (percent) ...	49.1	48.6	46.3	53.6	57.1
	Ratio of exports to shipments (percent) .....	11.1	11.5	11.1	13.4	17.6
AG058	Printing and writing papers:					
	Number of establishments .....	132	132	132	132	( <sup>1</sup> )
	Employees (thousands) .....	131	134	134	133	( <sup>1</sup> )
	Capacity utilization (percent) .....	90	91	91	93	( <sup>1</sup> )
	U.S. production (million dollars) .....	19,750	19,750	20,800	22,900	20,000
	U.S. exports (million dollars) .....	948	911	1,146	1,421	1,394
	U.S. imports (million dollars) .....	2,168	2,634	2,831	4,192	3,565
	Apparent U.S. consumption (million dollars) .....	20,970	21,473	22,485	25,671	22,171
	Trade balance (million dollars) .....	-1,220	-1,723	-1,685	-2,771	-2,171
	Ratio of imports to apparent consumption (percent) ...	10.3	12.3	12.6	16.3	16.1
	Ratio of exports to shipments (percent) .....	4.8	4.6	5.5	6.2	7.0
AG059	Certain specialty papers:					
	Number of establishments .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars) .....	4,900	4,800	4,950	5,010	4,700
	U.S. exports (million dollars) .....	426	432	530	718	773
	U.S. imports (million dollars) .....	476	512	568	742	774
	Apparent U.S. consumption (million dollars) .....	4,950	4,880	4,988	5,034	4,701
	Trade balance (million dollars) .....	-50	-80	-38	-24	-1
	Ratio of imports to apparent consumption (percent) ...	9.6	10.5	11.4	14.7	16.5
	Ratio of exports to shipments (percent) .....	8.7	9.0	10.7	14.3	16.4
AG060	Miscellaneous paper products:					
	Number of establishments .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. production (million dollars) .....	20,000	20,000	21,000	22,255	23,100
	U.S. exports (million dollars) .....	635	706	781	888	987
	U.S. imports (million dollars) .....	429	489	583	758	875
	Apparent U.S. consumption (million dollars) .....	19,794	19,783	20,802	22,125	22,988
	Trade balance (million dollars) .....	206	217	198	130	112
	Ratio of imports to apparent consumption (percent) ...	2.2	2.5	2.8	3.4	4.0
	Ratio of exports to shipments (percent) .....	3.2	3.5	3.7	4.0	4.3

See footnotes at end of table.



**Table B-2--Continued**

**Forest products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96**

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
AG061	Printed matter:					
	Number of establishments .....	60,000	60,000	60,000	60,000	60,000
	Employees (thousands) .....	1,500	1,500	1,500	1,500	1,500
	Capacity utilization (percent) .....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. production (million dollars) .....	160,000	166,000	176,000	181,000	190,000
	U.S. exports (million dollars) .....	3,670	3,828	3,788	4,113	4,109
	U.S. imports (million dollars) .....	1,813	1,962	2,146	2,468	2,564
	Apparent U.S. consumption (million dollars) .....	158,143	164,134	174,358	179,355	188,455
	Trade balance (million dollars) .....	1,857	1,866	1,642	1,645	1,545
	Ratio of imports to apparent consumption (percent) ...	1.1	1.2	1.2	1.4	1.4
	Ratio of exports to shipments (percent) .....	2.3	2.3	2.2	2.3	2.2

<sup>1</sup>Not available.

<sup>2</sup>Capacity utilization is not meaningful in this industry.

Table B-3

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH008	Other olefins:					
	Establishments (number) . . . . .	23	23	23	23	23
	Employees (thousands) . . . . .	1	1	1	1	1
	Capacity utilization (percent) . . . . .	88	87	90	95	95
	U.S. shipments (million dollars) . . . . .	920	940	980	1,050	1,080
	U.S. exports (million dollars) . . . . .	253	223	190	242	192
	U.S. imports (million dollars) . . . . .	32	35	38	53	48
	Apparent U.S. consumption (million dollars) . . . . .	699	752	828	861	936
	Trade balance (million dollars) . . . . .	221	188	152	189	144
	Ratio of imports to apparent consumption (percent) . . . . .	4.6	4.7	4.6	6.2	5.1
	Ratio of exports to shipments (percent) . . . . .	27.5	23.7	19.4	23.0	17.8
CH009	Primary aromatics:					
	Establishments (number) . . . . .	31	31	31	31	31
	Employees (thousands) . . . . .	2	2	2	2	2
	Capacity utilization (percent) . . . . .	66	73	78	80	80
	U.S. shipments (million dollars) . . . . .	3,600	3,931	4,200	4,250	4,350
	U.S. exports (million dollars) . . . . .	106	145	138	208	214
	U.S. imports (million dollars) . . . . .	187	169	158	246	588
	Apparent U.S. consumption (million dollars) . . . . .	3,681	3,955	4,220	4,288	4,724
	Trade balance (million dollars) . . . . .	-81	-24	-20	-38	-374
	Ratio of imports to apparent consumption (percent) . . . . .	5.1	4.3	3.7	5.7	12.4
	Ratio of exports to shipments (percent) . . . . .	2.9	3.7	3.3	4.9	4.9
CH010	Benzenoid commodity chemicals:					
	Establishments (number) . . . . .	54	53	53	53	53
	Employees (thousands) . . . . .	15	15	15	15	15
	Capacity utilization (percent) . . . . .	82	82	82	90	90
	U.S. shipments (million dollars) . . . . .	14,000	13,500	13,900	15,581	15,815
	U.S. exports (million dollars) . . . . .	1,162	1,213	1,555	2,258	1,487
	U.S. imports (million dollars) . . . . .	313	339	392	813	808
	Apparent U.S. consumption (million dollars) . . . . .	13,151	12,626	12,737	14,136	15,136
	Trade balance (million dollars) . . . . .	849	874	1,163	1,445	679
	Ratio of imports to apparent consumption (percent) . . . . .	2.4	2.7	3.1	5.8	5.3
	Ratio of exports to shipments (percent) . . . . .	8.3	9.0	11.2	14.5	9.4
CH011	Benzenoid specialty chemicals:					
	Establishments (number) . . . . .	250	250	250	250	250
	Employees (thousands) . . . . .	95	95	95	95	95
	Capacity utilization (percent) . . . . .	87	82	85	85	86
	U.S. shipments (million dollars) . . . . .	8,175	7,800	8,000	8,900	9,078
	U.S. exports (million dollars) . . . . .	3,480	3,677	4,109	4,625	4,827
	U.S. imports (million dollars) . . . . .	2,262	2,112	2,355	3,201	3,664
	Apparent U.S. consumption (million dollars) . . . . .	6,957	6,235	6,246	7,476	7,915
	Trade balance (million dollars) . . . . .	1,218	1,565	1,754	1,424	1,163
	Ratio of imports to apparent consumption (percent) . . . . .	32.5	33.9	37.7	42.8	46.3
	Ratio of exports to shipments (percent) . . . . .	42.6	47.1	51.4	52.0	53.2
CH012	Miscellaneous organic chemicals:					
	Establishments (number) . . . . .	240	245	250	259	262
	Employees (thousands) . . . . .	70	70	75	75	75
	Capacity utilization (percent) . . . . .	85	85	85	89	86
	U.S. shipments (million dollars) . . . . .	43,000	44,500	51,000	57,500	57,000
	U.S. exports (million dollars) . . . . .	4,633	4,684	5,642	7,697	7,031
	U.S. imports (million dollars) . . . . .	3,148	3,403	4,327	4,903	4,970
	Apparent U.S. consumption (million dollars) . . . . .	41,515	43,219	49,685	54,706	54,939
	Trade balance (million dollars) . . . . .	1,485	1,281	1,315	2,794	2,061
	Ratio of imports to apparent consumption (percent) . . . . .	7.6	7.9	8.7	9.0	9.0
	Ratio of exports to shipments (percent) . . . . .	10.8	10.5	11.1	13.4	12.3

See footnotes at end of table.

Table B-3--Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH013	Miscellaneous inorganic chemicals:					
	Firms (number) . . . . .	640	640	640	640	640
	Employees (thousands) . . . . .	73	64	59	54	( <sup>1</sup> )
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	11,805	10,839	11,656	13,169	( <sup>1</sup> )
	U.S. exports (million dollars) . . . . .	2,971	3,002	3,278	4,116	4,230
	U.S. imports (million dollars) . . . . .	2,835	3,064	3,400	4,194	4,823
	Apparent U.S. consumption (million dollars) . . . . .	11,669	10,901	11,778	13,247	( <sup>1</sup> )
	Trade balance (million dollars) . . . . .	136	-62	-122	-78	-593
	Ratio of imports to apparent consumption (percent) . . . . .	24.3	28.1	28.9	31.7	( <sup>1</sup> )
	Ratio of exports to shipments (percent) . . . . .	25.2	27.7	28.1	31.3	( <sup>1</sup> )
CH014	Inorganic acids:					
	Establishments (number) . . . . .	145	145	145	143	143
	Employees (thousands) . . . . .	9	9	9	9	9
	Capacity utilization (percent) . . . . .	80	80	80	80	80
	U.S. shipments (million dollars) . . . . .	2,499	2,550	2,601	2,653	2,706
	U.S. exports (million dollars) . . . . .	156	157	160	166	142
	U.S. imports (million dollars) . . . . .	142	144	199	209	234
	Apparent U.S. consumption (million dollars) . . . . .	2,485	2,537	2,640	2,696	2,798
	Trade balance (million dollars) . . . . .	14	13	-39	-43	-92
	Ratio of imports to apparent consumption (percent) . . . . .	5.7	5.7	7.5	7.8	8.4
	Ratio of exports to shipments (percent) . . . . .	6.2	6.2	6.2	6.3	5.2
CH015	Chlor-alkali chemicals:					
	Establishments (number) . . . . .	60	60	60	60	60
	Employees (thousands) . . . . .	8	8	7	7	7
	Capacity utilization (percent) . . . . .	96	95	95	95	95
	U.S. shipments (million dollars) . . . . .	3,598	3,012	2,999	3,973	( <sup>1</sup> )
	U.S. exports (million dollars) . . . . .	803	598	594	899	967
	U.S. imports (million dollars) . . . . .	170	125	149	210	188
	Apparent U.S. consumption (million dollars) . . . . .	2,965	2,539	2,554	3,284	( <sup>1</sup> )
	Trade balance (million dollars) . . . . .	633	473	445	689	779
	Ratio of imports to apparent consumption (percent) . . . . .	5.7	4.9	5.8	6.4	( <sup>1</sup> )
	Ratio of exports to shipments (percent) . . . . .	22.3	19.9	19.8	22.6	( <sup>1</sup> )
CH016	Industrial gases:					
	Establishments (number) . . . . .	600	600	600	600	600
	Employees (thousands) . . . . .	8	8	8	8	8
	Capacity utilization (percent) . . . . .	73	73	73	73	73
	U.S. shipments (million dollars) . . . . .	3,120	3,436	3,188	3,501	3,500
	U.S. exports (million dollars) . . . . .	98	99	105	114	115
	U.S. imports (million dollars) . . . . .	39	39	42	47	53
	Apparent U.S. consumption (million dollars) . . . . .	3,061	3,376	3,125	3,434	3,438
	Trade balance (million dollars) . . . . .	59	60	63	67	62
	Ratio of imports to apparent consumption (percent) . . . . .	1.3	1.2	1.3	1.4	1.5
	Ratio of exports to shipments (percent) . . . . .	3.1	2.9	3.3	3.3	3.3
CH017	Fertilizers:					
	Establishments (number) . . . . .	350	348	350	350	350
	Employees (thousands) . . . . .	38	37	37	37	37
	Capacity utilization (percent) . . . . .	80	80	85	83	85
	U.S. shipments (million dollars) . . . . .	8,515	7,758	8,737	9,480	9,670
	U.S. exports (million dollars) . . . . .	2,483	1,877	2,780	3,319	3,151
	U.S. imports (million dollars) . . . . .	1,471	1,600	2,040	2,357	2,489
	Apparent U.S. consumption (million dollars) . . . . .	7,503	7,481	7,997	8,518	9,008
	Trade balance (million dollars) . . . . .	1,012	277	740	962	662
	Ratio of imports to apparent consumption (percent) . . . . .	19.6	21.4	25.5	27.7	27.6
	Ratio of exports to shipments (percent) . . . . .	29.2	24.2	31.8	35.0	32.6

See footnotes at end of table.

Table B-3--Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH018	Paints, inks, and related items, certain components thereof:					
	Establishments (number) . . . . .	1,580	1,580	1,580	1,580	1,500
	Employees (thousands) . . . . .	14	14	15	15	15
	Capacity utilization (percent) . . . . .	82	84	85	84	85
	U.S. shipments (million dollars) . . . . .	17,793	18,250	18,956	19,673	20,100
	U.S. exports (million dollars) . . . . .	1,712	1,772	2,057	2,340	2,461
	U.S. imports (million dollars) . . . . .	930	980	1,148	1,425	1,504
	Apparent U.S. consumption (million dollars) . . . . .	17,011	17,458	18,047	18,758	19,143
	Trade balance (million dollars) . . . . .	782	792	909	915	957
	Ratio of imports to apparent consumption (percent) . . . . .	5.5	5.6	6.4	7.6	7.9
	Ratio of exports to shipments (percent) . . . . .	9.6	9.7	10.9	11.9	12.2
CH019	Synthetic organic pigments:					
	Firms (number) . . . . .	32	32	32	32	32
	Employees (thousands) . . . . .	6	6	6	6	6
	Capacity utilization (percent) . . . . .	85	85	85	85	85
	U.S. shipments (million dollars) . . . . .	789	793	793	870	913
	U.S. exports (million dollars) . . . . .	223	267	299	283	295
	U.S. imports (million dollars) . . . . .	274	294	339	341	356
	Apparent U.S. consumption (million dollars) . . . . .	840	820	833	928	974
	Trade balance (million dollars) . . . . .	-51	-27	-40	-58	-61
	Ratio of imports to apparent consumption (percent) . . . . .	32.6	35.9	40.7	36.7	36.6
	Ratio of exports to shipments (percent) . . . . .	28.3	33.7	37.7	32.5	32.3
CH020	Synthetic dyes and azoic couples:					
	Firms (number) . . . . .	32	32	32	32	32
	Employees (thousands) . . . . .	8	8	8	8	8
	Capacity utilization (percent) . . . . .	85	85	85	85	85
	U.S. shipments (million dollars) . . . . .	860	991	991	1,040	1,095
	U.S. exports (million dollars) . . . . .	192	200	227	267	385
	U.S. imports (million dollars) . . . . .	571	583	595	569	572
	Apparent U.S. consumption (million dollars) . . . . .	1,239	1,374	1,359	1,342	1,282
	Trade balance (million dollars) . . . . .	-379	-383	-368	-302	-187
	Ratio of imports to apparent consumption (percent) . . . . .	46.1	42.4	43.8	42.4	44.6
	Ratio of exports to shipments (percent) . . . . .	22.3	20.2	22.9	25.7	35.2
CH021	Synthetic tanning agents:					
	Firms (number) . . . . .	5	5	5	5	5
	Employees (thousands) . . . . .	1	1	1	1	1
	Capacity utilization (percent) . . . . .	85	85	85	85	85
	U.S. shipments (million dollars) . . . . .	20	19	20	20	20
	U.S. exports (million dollars) . . . . .	11	10	11	14	17
	U.S. imports (million dollars) . . . . .	4	6	6	6	7
	Apparent U.S. consumption (million dollars) . . . . .	13	15	15	12	10
	Trade balance (million dollars) . . . . .	7	4	5	8	10
	Ratio of imports to apparent consumption (percent) . . . . .	30.8	40.0	40.0	50.0	70.0
	Ratio of exports to shipments (percent) . . . . .	55.0	52.6	55.0	70.0	85.0
CH022	Natural tanning and dyeing materials:					
	Firms (number) . . . . .	10	10	10	10	10
	Employees (thousands) . . . . .	1	1	1	1	1
	Capacity utilization (percent) . . . . .	85	85	85	85	85
	U.S. shipments (million dollars) . . . . .	10	10	10	10	10
	U.S. exports (million dollars) . . . . .	17	16	19	17	19
	U.S. imports (million dollars) . . . . .	65	64	58	52	57
	Apparent U.S. consumption (million dollars) . . . . .	58	58	49	45	48
	Trade balance (million dollars) . . . . .	-48	-48	-39	-35	-38
	Ratio of imports to apparent consumption (percent) . . . . .	112.1	110.3	118.4	115.6	118.8
	Ratio of exports to shipments (percent) . . . . .	170.0	160.0	190.0	170.0	190.0

See footnotes at end of table.

Table B-3—Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH023	Photographic chemicals and preparations:					
	Firms (number)	5	5	5	5	5
	Employees (thousands)	1	1	1	1	1
	Capacity utilization (percent)	85	85	85	85	85
	U.S. shipments (million dollars)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. exports (million dollars)	306	331	383	506	496
	U.S. imports (million dollars)	496	554	650	749	701
	Apparent U.S. consumption (million dollars)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Trade balance (million dollars)	-190	-223	-267	-243	-205
	Ratio of imports to apparent consumption (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Ratio of exports to shipments (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
CH024	Pesticide products and formulations:					
	Firms (number)	59	59	59	55	55
	Employees (thousands)	22	22	22	20	20
	Capacity utilization (percent)	85	85	85	85	85
	U.S. shipments (million dollars)	4,174	4,580	4,580	4,580	4,900
	U.S. exports (million dollars)	1,543	1,584	1,736	1,969	2,013
	U.S. imports (million dollars)	806	825	852	1,017	1,153
	Apparent U.S. consumption (million dollars)	3,437	3,821	3,696	3,628	4,040
	Trade balance (million dollars)	737	759	884	952	860
	Ratio of imports to apparent consumption (percent)	23.5	21.6	23.1	28.0	28.5
	Ratio of exports to shipments (percent)	37.0	34.6	37.9	43.0	41.1
CH025	Adhesives and glues:					
	Establishments (number)	480	480	482	490	500
	Employees (thousands)	10	10	10	10	10
	Capacity utilization (percent)	80	80	85	84	85
	U.S. shipments (million dollars)	2,910	2,890	3,040	3,200	3,350
	U.S. exports (million dollars)	222	256	308	348	394
	U.S. imports (million dollars)	111	118	134	138	141
	Apparent U.S. consumption (million dollars)	2,799	2,752	2,866	2,990	3,097
	Trade balance (million dollars)	111	138	174	210	253
	Ratio of imports to apparent consumption (percent)	4.0	4.3	4.7	4.6	4.6
	Ratio of exports to shipments (percent)	7.6	8.9	10.1	10.9	11.8
CH026	Medicinal chemicals:					
	Firms (number)	770	770	718	717	717
	Employees (thousands)	191	197	184	174	174
	Capacity utilization (percent)	160	160	160	160	160
	U.S. shipments (million dollars)	55,600	58,428	59,600	60,300	63,000
	U.S. exports (million dollars)	6,816	7,270	7,614	8,091	8,546
	U.S. imports (million dollars)	6,026	6,123	6,971	8,655	11,189
	Apparent U.S. consumption (million dollars)	54,810	57,281	58,957	60,864	65,643
	Trade balance (million dollars)	790	1,147	643	-564	-2,643
	Ratio of imports to apparent consumption (percent)	11.0	10.7	11.8	14.2	17.0
	Ratio of exports to shipments (percent)	12.3	12.4	12.8	13.4	13.6
CH027	Essential oils and other flavoring materials:					
	Establishments (number)	58	58	57	55	53
	Employees (thousands)	49	50	51	52	50
	Capacity utilization (percent)	75	77	80	80	80
	U.S. shipments (million dollars)	2,700	2,800	2,900	3,000	3,000
	U.S. exports (million dollars)	618	734	848	910	981
	U.S. imports (million dollars)	555	557	624	810	780
	Apparent U.S. consumption (million dollars)	2,637	2,623	2,676	2,900	2,799
	Trade balance (million dollars)	63	177	224	100	201
	Ratio of imports to apparent consumption (percent)	21.0	21.2	23.3	27.9	27.9
	Ratio of exports to shipments (percent)	22.9	26.2	29.2	30.3	32.7

See footnotes at end of table.

Table B-3—Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH028	Perfumes, cosmetics, and toiletries:					
	Establishments (number) . . . . .	650	650	650	650	650
	Employees (thousands) . . . . .	56	57	57	58	58
	Capacity utilization (percent) . . . . .	83	85	87	88	85
	U.S. shipments (million dollars) . . . . .	17,200	17,900	18,500	19,000	19,300
	U.S. exports (million dollars) . . . . .	1,228	1,415	1,715	1,875	2,537
	U.S. imports (million dollars) . . . . .	898	973	1,055	1,168	1,276
	Apparent U.S. consumption (million dollars) . . . . .	16,870	17,458	17,840	18,293	18,039
	Trade balance (million dollars) . . . . .	330	442	660	707	1,261
	Ratio of imports to apparent consumption (percent) . . . . .	5.3	5.6	5.9	6.4	7.1
	Ratio of exports to shipments (percent) . . . . .	7.1	7.9	9.3	9.9	13.1
CH029	Soaps, detergents, and surface-active agents:					
	Establishments (number) . . . . .	950	950	950	950	950
	Employees (thousands) . . . . .	47	47	47	48	48
	Capacity utilization (percent) . . . . .	83	85	87	88	85
	U.S. shipments (million dollars) . . . . .	14,900	15,400	16,000	16,500	16,500
	U.S. exports (million dollars) . . . . .	1,158	1,263	1,454	1,644	1,814
	U.S. imports (million dollars) . . . . .	387	450	556	653	760
	Apparent U.S. consumption (million dollars) . . . . .	14,129	14,587	15,102	15,509	15,446
	Trade balance (million dollars) . . . . .	771	813	898	991	1,054
	Ratio of imports to apparent consumption (percent) . . . . .	2.7	3.1	3.7	4.2	4.9
	Ratio of exports to shipments (percent) . . . . .	7.8	8.2	9.1	10.0	11.0
CH030	Miscellaneous chemicals and specialties:					
	Establishments (number) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. exports (million dollars) . . . . .	1,417	1,464	1,584	1,814	1,987
	U.S. imports (million dollars) . . . . .	724	653	774	944	1,030
	Apparent U.S. consumption (million dollars) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Trade balance (million dollars) . . . . .	693	811	810	870	957
	Ratio of imports to apparent consumption (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Ratio of exports to shipments (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
CH031	Explosives and propellant powders, and related items:					
	Firms (number) . . . . .	135	135	135	135	130
	Employees (thousands) . . . . .	15	13	13	13	13
	Capacity utilization (percent) . . . . .	90	92	90	89	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	1,410	1,522	1,650	1,600	( <sup>1</sup> )
	U.S. exports (million dollars) . . . . .	212	259	252	250	328
	U.S. imports (million dollars) . . . . .	216	209	196	187	208
	Apparent U.S. consumption (million dollars) . . . . .	1,414	1,472	1,594	1,537	( <sup>1</sup> )
	Trade balance (million dollars) . . . . .	-4	50	56	63	120
	Ratio of imports to apparent consumption (percent) . . . . .	15.3	14.2	12.3	12.2	( <sup>1</sup> )
	Ratio of exports to shipments (percent) . . . . .	15.0	17.0	15.3	15.6	( <sup>1</sup> )
CH032	Polyethylene resins in primary forms:					
	Establishments (number) . . . . .	40	40	40	41	42
	Employees (thousands) . . . . .	22	21	21	20	20
	Capacity utilization (percent) . . . . .	86	86	88	88	88
	U.S. shipments (million dollars) . . . . .	7,916	6,890	7,493	7,671	8,400
	U.S. exports (million dollars) . . . . .	1,255	1,260	1,459	1,988	2,134
	U.S. imports (million dollars) . . . . .	462	571	783	1,192	1,086
	Apparent U.S. consumption (million dollars) . . . . .	7,123	6,201	6,817	6,875	7,352
	Trade balance (million dollars) . . . . .	793	689	676	796	1,048
	Ratio of imports to apparent consumption (percent) . . . . .	6.5	9.2	11.5	17.3	14.8
	Ratio of exports to shipments (percent) . . . . .	15.9	18.3	19.5	25.9	25.4

See footnotes at end of table.

Table B-3--Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH033	Polypropylene resins in primary forms:					
	Establishments (number) . . . . .	21	23	23	23	24
	Employees (thousands) . . . . .	5	5	5	5	5
	Capacity utilization (percent) . . . . .	85	86	88	87	91
	U.S. shipments (million dollars) . . . . .	2,048	2,801	3,065	3,119	3,550
	U.S. exports (million dollars) . . . . .	522	432	449	660	742
	U.S. imports (million dollars) . . . . .	83	116	155	190	210
	Apparent U.S. consumption (million dollars) . . . . .	1,609	2,485	2,771	2,649	3,018
	Trade balance (million dollars) . . . . .	439	316	294	470	532
	Ratio of imports to apparent consumption (percent) . . . . .	5.2	4.7	5.6	7.2	7.0
	Ratio of exports to shipments (percent) . . . . .	25.5	15.4	14.6	21.2	20.9
CH034	Polyvinyl chloride resins in primary forms:					
	Establishments (number) . . . . .	27	27	27	27	27
	Employees (thousands) . . . . .	8	7	7	7	7
	Capacity utilization (percent) . . . . .	97	97	100	97	96
	U.S. shipments (million dollars) . . . . .	2,788	3,243	3,475	3,519	3,600
	U.S. exports (million dollars) . . . . .	488	500	671	856	680
	U.S. imports (million dollars) . . . . .	82	117	182	192	203
	Apparent U.S. consumption (million dollars) . . . . .	2,382	2,860	2,986	2,855	3,123
	Trade balance (million dollars) . . . . .	406	383	489	664	477
	Ratio of imports to apparent consumption (percent) . . . . .	3.4	4.1	6.1	6.7	6.5
	Ratio of exports to shipments (percent) . . . . .	17.5	15.4	19.3	24.3	18.9
CH035	Styrene polymers in primary forms:					
	Establishments (number) . . . . .	68	68	68	68	68
	Employees (thousands) . . . . .	11	11	11	11	11
	Capacity utilization (percent) . . . . .	91	90	94	94	93
	U.S. shipments (million dollars) . . . . .	4,077	4,611	4,999	5,013	5,240
	U.S. exports (million dollars) . . . . .	539	600	662	790	799
	U.S. imports (million dollars) . . . . .	199	235	300	351	335
	Apparent U.S. consumption (million dollars) . . . . .	3,737	4,246	4,637	4,574	4,776
	Trade balance (million dollars) . . . . .	340	365	362	439	464
	Ratio of imports to apparent consumption (percent) . . . . .	5.3	5.5	6.5	7.7	7.0
	Ratio of exports to shipments (percent) . . . . .	13.2	13.0	13.2	15.8	15.2
CH036	Saturated polyester resins:					
	Establishments (number) . . . . .	49	49	49	50	50
	Employees (thousands) . . . . .	6	6	6	6	6
	Capacity utilization (percent) . . . . .	77	79	83	86	85
	U.S. shipments (million dollars) . . . . .	3,066	3,221	3,925	4,216	4,500
	U.S. exports (million dollars) . . . . .	456	390	491	640	623
	U.S. imports (million dollars) . . . . .	88	108	197	242	230
	Apparent U.S. consumption (million dollars) . . . . .	2,698	2,939	3,631	3,818	4,107
	Trade balance (million dollars) . . . . .	368	282	294	398	393
	Ratio of imports to apparent consumption (percent) . . . . .	3.3	3.7	5.4	6.3	5.6
	Ratio of exports to shipments (percent) . . . . .	14.9	12.1	12.5	15.2	13.8
CH037	Other plastics in primary forms:					
	Establishments (number) . . . . .	279	279	279	278	278
	Employees (thousands) . . . . .	33	32	32	32	32
	Capacity utilization (percent) . . . . .	89	90	93	92	92
	U.S. shipments (million dollars) . . . . .	13,956	14,012	14,900	14,958	15,700
	U.S. exports (million dollars) . . . . .	3,793	3,992	4,670	5,398	5,598
	U.S. imports (million dollars) . . . . .	1,208	1,386	1,684	1,937	2,127
	Apparent U.S. consumption (million dollars) . . . . .	11,371	11,406	11,914	11,497	12,229
	Trade balance (million dollars) . . . . .	2,585	2,606	2,986	3,461	3,471
	Ratio of imports to apparent consumption (percent) . . . . .	10.6	12.2	14.1	16.8	17.4
	Ratio of exports to shipments (percent) . . . . .	27.2	28.5	31.3	36.1	35.7

See footnotes at end of table.

Table B-3—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH038	Styrene-butadiene rubber in primary forms:					
	Establishments (number) . . . . .	10	11	11	11	11
	Employees (thousands) . . . . .	5	5	5	5	5
	Capacity utilization (percent) . . . . .	90	89	90	91	90
	U.S. shipments (million dollars) . . . . .	1,033	968	1,025	1,187	1,150
	U.S. exports (million dollars) . . . . .	258	255	298	353	361
	U.S. imports (million dollars) . . . . .	116	111	137	159	143
	Apparent U.S. consumption (million dollars) . . . . .	891	824	864	993	932
	Trade balance (million dollars) . . . . .	142	144	161	194	218
	Ratio of imports to apparent consumption (percent) . . . . .	13.0	13.5	15.9	16.0	15.3
	Ratio of exports to shipments (percent) . . . . .	25.0	26.3	29.1	29.7	31.4
CH039	Other synthetic rubber:					
	Establishments (number) . . . . .	34	34	34	34	34
	Employees (thousands) . . . . .	11	11	11	11	11
	Capacity utilization (percent) . . . . .	80	79	80	81	80
	U.S. shipments (million dollars) . . . . .	3,401	2,906	3,070	3,111	3,100
	U.S. exports (million dollars) . . . . .	833	769	874	1,011	1,090
	U.S. imports (million dollars) . . . . .	403	445	491	557	565
	Apparent U.S. consumption (million dollars) . . . . .	2,971	2,582	2,687	2,657	2,575
	Trade balance (million dollars) . . . . .	430	324	383	454	525
	Ratio of imports to apparent consumption (percent) . . . . .	13.6	17.2	18.3	21.0	21.9
	Ratio of exports to shipments (percent) . . . . .	24.5	26.5	28.5	32.5	35.2
CH040	Pneumatic tires and tubes (new):					
	Establishments (number) . . . . .	39	39	37	40	40
	Employees (thousands) . . . . .	62	63	63	62	62
	Capacity utilization (percent) . . . . .	95	95	97	98	95
	U.S. shipments (million dollars) . . . . .	10,500	10,600	10,900	11,000	11,400
	U.S. exports (million dollars) . . . . .	1,402	1,464	1,614	1,869	1,960
	U.S. imports (million dollars) . . . . .	2,448	2,661	2,960	3,073	3,011
	Apparent U.S. consumption (million dollars) . . . . .	11,546	11,797	12,246	12,204	12,451
	Trade balance (million dollars) . . . . .	-1,046	-1,197	-1,346	-1,204	-1,051
	Ratio of imports to apparent consumption (percent) . . . . .	21.2	22.6	24.2	25.2	24.2
	Ratio of exports to shipments (percent) . . . . .	13.4	13.8	14.8	17.0	17.2
CH041	Other tires:					
	Establishments (number) . . . . .	1,800	1,750	1,600	1,400	1,400
	Employees (thousands) . . . . .	6	6	5	5	5
	Capacity utilization (percent) . . . . .	85	88	90	92	90
	U.S. shipments (million dollars) . . . . .	2,000	1,800	1,800	1,750	1,800
	U.S. exports (million dollars) . . . . .	66	66	79	73	84
	U.S. imports (million dollars) . . . . .	94	107	114	121	116
	Apparent U.S. consumption (million dollars) . . . . .	2,028	1,841	1,835	1,798	1,832
	Trade balance (million dollars) . . . . .	-28	-41	-35	-48	-32
	Ratio of imports to apparent consumption (percent) . . . . .	4.6	5.8	6.2	6.7	6.3
	Ratio of exports to shipments (percent) . . . . .	3.3	3.7	4.4	4.2	4.7
CH042	Plastic or rubber semifabricated forms:					
	Establishments (number) . . . . .	1,546	1,551	1,551	1,555	1,555
	Employees (thousands) . . . . .	101	103	103	103	103
	Capacity utilization (percent) . . . . .	81	81	81	82	82
	U.S. shipments (million dollars) . . . . .	16,914	17,462	17,800	18,127	18,300
	U.S. exports (million dollars) . . . . .	2,833	3,139	3,596	4,116	4,244
	U.S. imports (million dollars) . . . . .	1,934	2,015	2,286	2,647	2,800
	Apparent U.S. consumption (million dollars) . . . . .	16,015	16,338	16,490	16,658	16,856
	Trade balance (million dollars) . . . . .	899	1,124	1,310	1,469	1,444
	Ratio of imports to apparent consumption (percent) . . . . .	12.1	12.3	13.9	15.9	16.6
	Ratio of exports to shipments (percent) . . . . .	16.7	18.0	20.2	22.7	23.2

See footnotes at end of table.



Table B-3--Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH043	Plastic containers and closures:					
	Establishments (number) . . . . .	1,860	1,860	1,860	1,860	1,860
	Employees (thousands) . . . . .	75	77	76	76	76
	Capacity utilization (percent) . . . . .	90	90	90	90	90
	U.S. shipments (million dollars) . . . . .	9,039	9,280	9,466	9,578	9,800
	U.S. exports (million dollars) . . . . .	841	914	1,060	1,264	1,434
	U.S. imports (million dollars) . . . . .	738	845	968	1,210	1,279
	Apparent U.S. consumption (million dollars) . . . . .	8,936	9,211	9,374	9,524	9,645
	Trade balance (million dollars) . . . . .	103	69	92	54	155
	Ratio of imports to apparent consumption (percent) . . . . .	8.3	9.2	10.3	12.7	13.3
	Ratio of exports to shipments (percent) . . . . .	9.3	9.8	11.2	13.2	14.6
CH044	Hose, belting, and plastic pipe:					
	Establishments (number) . . . . .	438	438	475	476	478
	Employees (thousands) . . . . .	36	36	38	38	38
	Capacity utilization (percent) . . . . .	71	72	75	76	77
	U.S. shipments (million dollars) . . . . .	5,204	5,355	5,900	6,129	6,300
	U.S. exports (million dollars) . . . . .	829	880	1,027	1,137	1,377
	U.S. imports (million dollars) . . . . .	657	699	855	991	1,063
	Apparent U.S. consumption (million dollars) . . . . .	5,032	5,174	5,728	5,983	5,986
	Trade balance (million dollars) . . . . .	172	181	172	146	314
	Ratio of imports to apparent consumption (percent) . . . . .	13.1	13.5	14.9	16.6	17.8
	Ratio of exports to shipments (percent) . . . . .	15.9	16.4	17.4	18.6	21.9
CH045	Miscellaneous rubber or plastic products:					
	Establishments (number) . . . . .	12,800	12,900	12,900	12,800	12,800
	Employees (thousands) . . . . .	600	605	605	595	600
	Capacity utilization (percent) . . . . .	90	85	87	88	85
	U.S. shipments (million dollars) . . . . .	72,000	70,000	72,000	71,000	71,000
	U.S. exports (million dollars) . . . . .	2,407	2,592	3,110	3,253	3,757
	U.S. imports (million dollars) . . . . .	3,448	3,815	4,456	4,914	5,115
	Apparent U.S. consumption (million dollars) . . . . .	73,041	71,223	73,346	72,661	72,358
	Trade balance (million dollars) . . . . .	-1,041	-1,223	-1,346	-1,661	-1,358
	Ratio of imports to apparent consumption (percent) . . . . .	4.7	5.4	6.1	6.8	7.1
	Ratio of exports to shipments (percent) . . . . .	3.3	3.7	4.3	4.6	5.3
CH046	Gelatin:					
	Establishments (number) . . . . .	8	8	8	8	8
	Employees (thousands) . . . . .	1	1	1	1	1
	Capacity utilization (percent) . . . . .	92	90	90	90	90
	U.S. shipments (million dollars) . . . . .	145	148	152	160	165
	U.S. exports (million dollars) . . . . .	33	35	36	42	46
	U.S. imports (million dollars) . . . . .	94	97	90	102	130
	Apparent U.S. consumption (million dollars) . . . . .	206	210	206	220	249
	Trade balance (million dollars) . . . . .	-61	-62	-54	-60	-84
	Ratio of imports to apparent consumption (percent) . . . . .	45.6	46.2	43.7	46.4	52.2
	Ratio of exports to shipments (percent) . . . . .	22.8	23.6	23.7	26.3	27.9

See footnotes at end of table.

Table B-3—Continued

## Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
CH047	Natural rubber:					
	Establishments (number) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) .....	0	0	0	0	0
	U.S. exports (million dollars) .....	31	27	33	42	44
	U.S. imports (million dollars) .....	770	852	965	1,629	1,468
	Apparent U.S. consumption (million dollars) .....	739	825	932	1,587	1,424
	Trade balance (million dollars) .....	-739	-825	-932	-1,587	-1,424
	Ratio of imports to apparent consumption (percent) .....	104	103	104	103	103
	Ratio of exports to shipments (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Not available.

Table B-4

## Energy-related products: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH001	Electrical energy:					
	Establishments (number) . . . . .	3,225	3,225	3,225	3,225	3,225
	Employees (thousands) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) . . . . .	100	100	100	100	100
	U.S. shipments (million dollars) . . . . .	153,831	163,261	185,062	190,428	196,141
	U.S. exports (million dollars) . . . . .	64	61	30	47	69
	U.S. imports (million dollars) . . . . .	590	662	960	856	902
	Apparent U.S. consumption (million dollars) . . . . .	154,357	163,862	185,992	191,237	196,974
	Trade balance (million dollars) . . . . .	-526	-601	-930	-809	-832
	Ratio of imports to apparent consumption (percent) . . . . .	0.4	0.4	0.5	0.4	0.5
	Ratio of exports to shipments (percent) . . . . .	0.0	0.0	0.0	0.0	( <sup>2</sup> )
CH002	Nuclear materials:					
	Establishments (number) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. exports (million dollars) . . . . .	1,247	1,139	1,226	965	1,047
	U.S. imports (million dollars) . . . . .	1,080	930	1,114	1,127	1,326
	Apparent U.S. consumption (million dollars) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Trade balance (million dollars) . . . . .	167	209	112	-162	-279
	Ratio of imports to apparent consumption (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Ratio of exports to shipments (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
CH003	Coal, coke, and related chemical products:					
	Establishments (number) . . . . .	523	520	520	520	520
	Employees (thousands) . . . . .	160	155	150	150	150
	Capacity utilization (percent) . . . . .	85	85	85	85	85
	U.S. shipments (million dollars) . . . . .	23,461	25,980	30,000	29,700	33,173
	U.S. exports (million dollars) . . . . .	4,723	3,587	3,464	4,328	4,452
	U.S. imports (million dollars) . . . . .	536	603	799	847	1,253
	Apparent U.S. consumption (million dollars) . . . . .	19,274	22,996	27,335	26,219	29,974
	Trade balance (million dollars) . . . . .	4,187	2,984	2,665	3,481	3,199
	Ratio of imports to apparent consumption (percent) . . . . .	2.8	2.6	2.9	3.2	4.2
	Ratio of exports to shipments (percent) . . . . .	20.1	13.8	11.5	14.6	13.4
CH004	Crude petroleum:					
	Establishments (number) . . . . .	18,000	18,000	18,000	18,000	18,000
	Employees (thousands) . . . . .	204	204	204	204	204
	Capacity utilization (percent) . . . . .	100	100	100	100	100
	U.S. shipments (million dollars) . . . . .	41,750	35,613	34,000	34,846	43,601
	U.S. exports (million dollars) . . . . .	27	20	44	1	460
	U.S. imports (million dollars) . . . . .	38,104	38,248	38,530	42,077	44,849
	Apparent U.S. consumption (million dollars) . . . . .	79,827	73,841	72,486	76,922	87,990
	Trade balance (million dollars) . . . . .	-38,077	-38,228	-38,486	-42,076	-44,389
	Ratio of imports to apparent consumption (percent) . . . . .	47.7	51.8	53.2	54.7	51.0
	Ratio of exports to shipments (percent) . . . . .	0.1	0.1	0.1	0.0	1.1
CH005	Petroleum products:					
	Establishments (number) . . . . .	190	190	190	190	190
	Employees (thousands) . . . . .	75	75	75	75	75
	Capacity utilization (percent) . . . . .	85	85	85	85	90
	U.S. shipments (million dollars) . . . . .	120,565	127,488	130,000	131,549	147,961
	U.S. exports (million dollars) . . . . .	6,603	6,654	6,014	6,583	7,604
	U.S. imports (million dollars) . . . . .	11,260	11,041	10,450	9,777	18,915
	Apparent U.S. consumption (million dollars) . . . . .	125,222	131,875	134,436	134,743	159,272
	Trade balance (million dollars) . . . . .	-4,657	-4,387	-4,436	-3,194	-11,311
	Ratio of imports to apparent consumption (percent) . . . . .	9.0	8.4	7.8	7.3	11.9
	Ratio of exports to shipments (percent) . . . . .	5.5	5.2	4.6	5.0	5.1

See footnote at end of table.

Table B-4--Continued

## Energy-related products: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH006	Natural gas and components:					
	Establishments (number) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) .....	200	200	205	205	200
	Capacity utilization (percent) .....	80	80	80	80	80
	U.S. shipments (million dollars) .....	75,000	77,000	76,000	76,000	77,000
	U.S. exports (million dollars) .....	759	603	568	775	770
	U.S. imports (million dollars) .....	3,595	4,421	5,201	5,157	8,253
	Apparent U.S. consumption (million dollars) .....	77,836	80,818	80,633	80,382	84,483
	Trade balance (million dollars) .....	-2,836	-3,818	-4,633	-4,382	-7,483
	Ratio of imports to apparent consumption (percent) ..	4.6	5.5	6.5	6.4	9.8
	Ratio of exports to shipments (percent) .....	1.0	0.8	0.7	1.0	1.0
CH007	Major primary olefins:					
	Establishments (number) .....	37	37	37	37	37
	Employees (thousands) .....	5	5	5	5	5
	Capacity utilization (percent) .....	95	94	97	98	98
	U.S. shipments (million dollars) .....	12,100	12,300	13,200	13,300	13,700
	U.S. exports (million dollars) .....	225	148	123	145	199
	U.S. imports (million dollars) .....	200	193	289	496	897
	Apparent U.S. consumption (million dollars) .....	12,075	12,345	13,366	13,651	14,398
	Trade balance (million dollars) .....	25	-45	-166	-351	-698
	Ratio of imports to apparent consumption (percent) ..	1.7	1.6	2.2	3.6	6.2
	Ratio of exports to shipments (percent) .....	1.9	1.2	0.9	1.1	1.5

<sup>1</sup>Not available.<sup>2</sup>Less than 0.05 percent.

Table B-5

## Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH048	Manmade fibers and filament yarns:					
	Establishments (number) . . . . .	230	230	230	230	230
	Employees (thousands) . . . . .	73	69	69	68	65
	Capacity utilization (percent) . . . . .	82	84	85	89	88
	U.S. shipments (million dollars) . . . . .	12,862	13,100	14,100	14,700	14,700
	U.S. exports (million dollars) . . . . .	1,434	1,393	1,585	2,064	2,109
	U.S. imports (million dollars) . . . . .	900	1,126	1,299	1,381	1,402
	Apparent U.S. consumption (million dollars) . . . . .	12,328	12,833	13,814	14,017	13,993
	Trade balance (million dollars) . . . . .	534	267	286	683	707
	Ratio of imports to apparent consumption (percent) . . . . .	7.3	8.8	9.4	9.9	10.0
	Ratio of exports to shipments (percent) . . . . .	11.1	10.6	11.2	14.0	14.3
CH049	Spun yarns and miscellaneous yarns:					
	Establishments (number) . . . . .	465	465	460	468	468
	Employees (thousands) . . . . .	86	83	82	81	82
	Capacity utilization (percent) . . . . .	86	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	8,540	8,583	8,070	7,900	7,900
	U.S. exports (million dollars) . . . . .	434	347	458	574	654
	U.S. imports (million dollars) . . . . .	474	497	594	613	645
	Apparent U.S. consumption (million dollars) . . . . .	8,580	8,733	8,206	7,939	7,891
	Trade balance (million dollars) . . . . .	-40	-150	-136	-39	9
	Ratio of imports to apparent consumption (percent) . . . . .	5.5	5.7	7.2	7.7	8.2
	Ratio of exports to shipments (percent) . . . . .	5.1	4.0	5.7	7.3	8.3
CH050	Broadwoven fabrics:					
	Establishments (number) . . . . .	1,330	1,330	2,086	1,976	2,000
	Employees (thousands) . . . . .	242	243	225	226	214
	Capacity utilization (percent) . . . . .	89	92	93	90	88
	U.S. shipments (million dollars) . . . . .	22,040	22,330	22,720	23,200	21,700
	U.S. exports (million dollars) . . . . .	1,471	1,592	1,747	1,888	2,089
	U.S. imports (million dollars) . . . . .	3,223	3,339	3,362	3,462	3,384
	Apparent U.S. consumption (million dollars) . . . . .	23,792	24,077	24,335	24,774	22,995
	Trade balance (million dollars) . . . . .	-1,752	-1,747	-1,615	-1,574	-1,295
	Ratio of imports to apparent consumption (percent) . . . . .	13.5	13.9	13.8	14.0	14.7
	Ratio of exports to shipments (percent) . . . . .	6.7	7.1	7.7	8.1	9.6
CH051	Knit fabrics:					
	Establishments (number) . . . . .	664	670	670	670	670
	Employees (thousands) . . . . .	49	49	49	49	47
	Capacity utilization (percent) . . . . .	74	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	7,412	7,469	7,530	7,800	7,700
	U.S. exports (million dollars) . . . . .	328	322	344	437	497
	U.S. imports (million dollars) . . . . .	217	286	336	334	520
	Apparent U.S. consumption (million dollars) . . . . .	7,301	7,433	7,522	7,697	7,723
	Trade balance (million dollars) . . . . .	111	36	8	103	-23
	Ratio of imports to apparent consumption (percent) . . . . .	3.0	3.8	4.5	4.3	6.7
	Ratio of exports to shipments (percent) . . . . .	4.4	4.3	4.6	5.6	6.5
CH052	Miscellaneous fabrics:					
	Establishments (number) . . . . .	275	275	275	275	275
	Employees (thousands) . . . . .	25	26	26	25	25
	Capacity utilization (percent) . . . . .	78	78	80	80	80
	U.S. shipments (million dollars) . . . . .	1,320	1,340	1,370	1,400	1,400
	U.S. exports (million dollars) . . . . .	179	199	234	268	260
	U.S. imports (million dollars) . . . . .	100	105	130	151	153
	Apparent U.S. consumption (million dollars) . . . . .	1,241	1,246	1,266	1,283	1,293
	Trade balance (million dollars) . . . . .	79	94	104	117	107
	Ratio of imports to apparent consumption (percent) . . . . .	8.1	8.4	10.3	11.8	11.8
	Ratio of exports to shipments (percent) . . . . .	13.6	14.9	17.1	19.1	18.6

See footnotes at end of table.

Table B-5--Continued

Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH053	Coated, covered, impregnated or laminated textile fabrics:					
	Establishments (number) . . . . .	260	279	275	270	270
	Employees (thousands) . . . . .	11	10	11	11	11
	Capacity utilization (percent) . . . . .	77	78	80	80	81
	U.S. shipments (million dollars) . . . . .	2,055	2,100	2,200	1,900	1,900
	U.S. exports (million dollars) . . . . .	360	370	450	492	542
	U.S. imports (million dollars) . . . . .	200	206	227	243	255
	Apparent U.S. consumption (million dollars) . . . . .	1,895	1,936	1,977	1,651	1,613
	Trade balance (million dollars) . . . . .	160	164	223	249	287
	Ratio of imports to apparent consumption (percent) . . . . .	10.6	10.6	11.5	14.7	15.8
	Ratio of exports to shipments (percent) . . . . .	17.5	17.6	20.5	25.9	28.5
CH054	Cordage, nets, and netting:					
	Establishments (number) . . . . .	204	200	195	200	200
	Employees (thousands) . . . . .	7	7	7	7	7
	Capacity utilization (percent) . . . . .	82	80	80	70	70
	U.S. shipments (million dollars) . . . . .	564	559	750	770	780
	U.S. exports (million dollars) . . . . .	52	50	43	48	55
	U.S. imports (million dollars) . . . . .	124	123	147	162	140
	Apparent U.S. consumption (million dollars) . . . . .	636	632	854	884	865
	Trade balance (million dollars) . . . . .	-72	-73	-104	-114	-85
	Ratio of imports to apparent consumption (percent) . . . . .	19.5	19.5	17.2	18.3	16.2
	Ratio of exports to shipments (percent) . . . . .	9.2	8.9	5.7	6.2	7.1
CH055	Certain textile articles and fabrics suitable for industrial use:					
	Establishments (number) . . . . .	78	80	80	78	78
	Employees (thousands) . . . . .	15	14	14	13	13
	Capacity utilization (percent) . . . . .	85	85	85	85	86
	U.S. shipments (million dollars) . . . . .	3,100	3,250	3,500	3,400	3,400
	U.S. exports (million dollars) . . . . .	268	277	282	277	262
	U.S. imports (million dollars) . . . . .	144	177	202	235	262
	Apparent U.S. consumption (million dollars) . . . . .	2,976	3,150	3,420	3,358	3,400
	Trade balance (million dollars) . . . . .	124	100	80	42	( <sup>1</sup> )
	Ratio of imports to apparent consumption (percent) . . . . .	4.8	5.6	5.9	7.0	7.7
	Ratio of exports to shipments (percent) . . . . .	8.6	8.5	8.1	8.1	7.7
CH056	Miscellaneous textiles and articles:					
	Establishments (number) . . . . .	3,800	3,800	3,800	3,600	3,600
	Employees (thousands) . . . . .	83	86	85	83	83
	Capacity utilization (percent) . . . . .	85	85	85	85	85
	U.S. shipments (million dollars) . . . . .	7,200	7,500	7,875	8,270	8,400
	U.S. exports (million dollars) . . . . .	709	793	848	976	1,045
	U.S. imports (million dollars) . . . . .	894	983	1,179	1,417	1,492
	Apparent U.S. consumption (million dollars) . . . . .	7,385	7,690	8,206	8,711	8,847
	Trade balance (million dollars) . . . . .	-185	-190	-331	-441	-447
	Ratio of imports to apparent consumption (percent) . . . . .	12.1	12.8	14.4	16.3	16.9
	Ratio of exports to shipments (percent) . . . . .	9.8	10.6	10.8	11.8	12.4
CH057	Sacks and bags of textile materials:					
	Establishments (number) . . . . .	280	260	260	250	250
	Employees (thousands) . . . . .	6	6	6	5	5
	Capacity utilization (percent) . . . . .	73	70	70	70	70
	U.S. shipments (million dollars) . . . . .	700	700	860	870	880
	U.S. exports (million dollars) . . . . .	17	30	22	26	19
	U.S. imports (million dollars) . . . . .	43	50	52	76	17
	Apparent U.S. consumption (million dollars) . . . . .	726	720	890	920	878
	Trade balance (million dollars) . . . . .	-26	-20	-30	-50	2
	Ratio of imports to apparent consumption (percent) . . . . .	5.9	6.9	5.8	8.3	1.9
	Ratio of exports to shipments (percent) . . . . .	2.4	4.3	2.6	3.0	2.2

See footnotes at end of table.

Table B-5--Continued

Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH058	Carpets and rugs:					
	Establishments (number) . . . . .	450	475	475	447	440
	Employees (thousands) . . . . .	49	51	52	52	50
	Capacity utilization (percent) . . . . .	82	84	84	84	84
	U.S. shipments (million dollars) . . . . .	9,500	10,000	10,100	10,300	9,800
	U.S. exports (million dollars) . . . . .	725	730	713	686	757
	U.S. imports (million dollars) . . . . .	709	671	748	858	845
	Apparent U.S. consumption (million dollars) . . . . .	9,484	9,941	10,135	10,472	9,888
	Trade balance (million dollars) . . . . .	16	59	-35	-172	-88
	Ratio of imports to apparent consumption (percent) . . . . .	7.5	6.8	7.4	8.2	8.5
	Ratio of exports to shipments (percent) . . . . .	7.6	7.3	7.1	6.7	7.7
CH059	Home furnishings:					
	Establishments (number) . . . . .	1,600	1,650	1,650	1,620	1,620
	Employees (thousands) . . . . .	66	65	66	72	74
	Capacity utilization (percent) . . . . .	82	80	85	85	85
	U.S. shipments (million dollars) . . . . .	8,700	9,700	9,600	9,700	9,800
	U.S. exports (million dollars) . . . . .	249	253	261	266	280
	U.S. imports (million dollars) . . . . .	827	939	1,075	1,258	1,255
	Apparent U.S. consumption (million dollars) . . . . .	9,278	10,386	10,414	10,692	10,775
	Trade balance (million dollars) . . . . .	-578	-686	-814	-992	-975
	Ratio of imports to apparent consumption (percent) . . . . .	8.9	9.0	10.3	11.8	11.6
	Ratio of exports to shipments (percent) . . . . .	2.9	2.6	2.7	2.7	2.9
CH060	Men's and boys' suits and sport coats:					
	Establishments (number) . . . . .	330	314	304	313	300
	Employees (thousands) . . . . .	37	35	33	30	26
	Capacity utilization (percent) . . . . .	85	82	87	82	80
	U.S. shipments (million dollars) . . . . .	2,044	1,860	1,937	1,677	1,552
	U.S. exports (million dollars) . . . . .	114	125	148	149	133
	U.S. imports (million dollars) . . . . .	662	664	748	850	924
	Apparent U.S. consumption (million dollars) . . . . .	2,592	2,399	2,537	2,378	2,343
	Trade balance (million dollars) . . . . .	-548	-539	-600	-701	-791
	Ratio of imports to apparent consumption (percent) . . . . .	25.5	27.7	29.5	35.7	39.4
	Ratio of exports to shipments (percent) . . . . .	5.6	6.7	7.6	8.9	8.6
CH061	Men's and boys' coats and jackets:					
	Establishments (number) . . . . .	411	423	410	410	405
	Employees (thousands) . . . . .	24	26	24	23	25
	Capacity utilization (percent) . . . . .	86	87	90	91	92
	U.S. shipments (million dollars) . . . . .	1,232	1,253	1,217	1,296	1,526
	U.S. exports (million dollars) . . . . .	103	102	136	125	144
	U.S. imports (million dollars) . . . . .	1,285	1,563	1,773	1,692	1,783
	Apparent U.S. consumption (million dollars) . . . . .	2,414	2,714	2,854	2,863	3,165
	Trade balance (million dollars) . . . . .	-1,182	-1,461	-1,637	-1,567	-1,639
	Ratio of imports to apparent consumption (percent) . . . . .	53.2	57.6	62.1	59.1	56.3
	Ratio of exports to shipments (percent) . . . . .	8.4	8.1	11.2	9.6	9.4
CH062	Men's and boys' trousers:					
	Establishments (number) . . . . .	738	726	713	732	720
	Employees (thousands) . . . . .	105	102	102	97	88
	Capacity utilization (percent) . . . . .	90	90	92	88	90
	U.S. shipments (million dollars) . . . . .	7,295	7,480	8,384	8,084	7,968
	U.S. exports (million dollars) . . . . .	843	974	1,050	1,082	1,232
	U.S. imports (million dollars) . . . . .	2,666	2,797	3,145	3,755	4,083
	Apparent U.S. consumption (million dollars) . . . . .	9,118	9,303	10,479	10,757	10,819
	Trade balance (million dollars) . . . . .	-1,823	-1,823	-2,095	-2,673	-2,851
	Ratio of imports to apparent consumption (percent) . . . . .	29.2	30.1	30.0	34.9	37.7
	Ratio of exports to shipments (percent) . . . . .	11.6	13.0	12.5	13.4	15.5

See footnotes at end of table.

Table B-5--Continued

Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH063	Women's and girls' trousers:					
	Establishments (number) . . . . .	1,760	1,712	1,700	1,835	1,750
	Employees (thousands) . . . . .	68	66	65	62	54
	Capacity utilization (percent) . . . . .	92	94	93	94	92
	U.S. shipments (million dollars) . . . . .	4,389	5,143	5,099	5,131	4,865
	U.S. exports (million dollars) . . . . .	312	325	409	486	570
	U.S. imports (million dollars) . . . . .	3,342	3,354	3,583	3,670	3,948
	Apparent U.S. consumption (million dollars) . . . . .	7,419	8,172	8,273	8,315	8,243
	Trade balance (million dollars) . . . . .	-3,030	-3,029	-3,174	-3,184	-3,378
	Ratio of imports to apparent consumption (percent) . . . . .	45.0	41.0	43.3	44.1	47.9
	Ratio of exports to shipments (percent) . . . . .	7.1	6.3	8.0	9.5	11.7
CH064	Shirts and blouses:					
	Establishments (number) . . . . .	2,030	2,004	1,986	2,066	2,005
	Employees (thousands) . . . . .	133	133	121	114	98
	Capacity utilization (percent) . . . . .	88	89	89	87	90
	U.S. shipments (million dollars) . . . . .	10,697	11,329	11,511	11,728	11,611
	U.S. exports (million dollars) . . . . .	664	854	1,021	1,285	1,402
	U.S. imports (million dollars) . . . . .	9,173	10,042	10,840	11,986	12,377
	Apparent U.S. consumption (million dollars) . . . . .	19,206	20,517	21,330	22,429	22,586
	Trade balance (million dollars) . . . . .	-8,509	-9,188	-9,819	-10,701	-10,975
	Ratio of imports to apparent consumption (percent) . . . . .	47.8	48.9	50.8	53.4	54.8
	Ratio of exports to shipments (percent) . . . . .	6.2	7.5	8.9	11.0	12.1
CH065	Sweaters:					
	Establishments (number) . . . . .	315	312	314	327	310
	Employees (thousands) . . . . .	14	14	14	14	13
	Capacity utilization (percent) . . . . .	88	90	90	76	80
	U.S. shipments (million dollars) . . . . .	813	895	897	792	765
	U.S. exports (million dollars) . . . . .	27	32	30	32	46
	U.S. imports (million dollars) . . . . .	2,149	1,961	2,052	1,750	1,765
	Apparent U.S. consumption (million dollars) . . . . .	2,935	2,824	2,919	2,510	2,484
	Trade balance (million dollars) . . . . .	-2,122	-1,929	-2,022	-1,718	-1,719
	Ratio of imports to apparent consumption (percent) . . . . .	73.2	69.4	70.3	69.7	71.1
	Ratio of exports to shipments (percent) . . . . .	3.3	3.6	3.3	4.0	6.0
CH066	Women's and girls' suits, skirts, and coats:					
	Establishments (number) . . . . .	1,060	1,081	1,016	966	950
	Employees (thousands) . . . . .	52	54	48	45	42
	Capacity utilization (percent) . . . . .	92	90	86	85	84
	U.S. shipments (million dollars) . . . . .	3,809	4,082	3,713	3,401	3,335
	U.S. exports (million dollars) . . . . .	260	283	255	274	287
	U.S. imports (million dollars) . . . . .	3,011	3,244	3,261	3,548	3,857
	Apparent U.S. consumption (million dollars) . . . . .	6,560	7,043	6,719	6,675	6,905
	Trade balance (million dollars) . . . . .	-2,751	-2,961	-3,006	-3,274	-3,570
	Ratio of imports to apparent consumption (percent) . . . . .	45.9	46.1	48.5	53.2	55.9
	Ratio of exports to shipments (percent) . . . . .	6.8	6.9	6.9	8.1	8.6
CH067	Women's and girls' dresses:					
	Establishments (number) . . . . .	2,375	2,314	2,182	2,056	2,010
	Employees (thousands) . . . . .	63	59	54	50	47
	Capacity utilization (percent) . . . . .	83	85	82	85	83
	U.S. shipments (million dollars) . . . . .	4,360	4,633	4,804	4,674	4,382
	U.S. exports (million dollars) . . . . .	98	105	103	112	115
	U.S. imports (million dollars) . . . . .	1,011	1,082	1,260	1,443	1,574
	Apparent U.S. consumption (million dollars) . . . . .	5,273	5,610	5,961	6,005	5,841
	Trade balance (million dollars) . . . . .	-913	-977	-1,157	-1,331	-1,459
	Ratio of imports to apparent consumption (percent) . . . . .	19.2	19.3	21.1	24.0	26.9
	Ratio of exports to shipments (percent) . . . . .	2.2	2.3	2.1	2.4	2.6

See footnotes at end of table.



Table B-5—Continued

Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH068	Robes, nightwear, and underwear:					
	Establishments (number) . . . . .	707	688	664	624	600
	Employees (thousands) . . . . .	66	62	59	55	46
	Capacity utilization (percent) . . . . .	94	92	92	94	92
	U.S. shipments (million dollars) . . . . .	3,921	3,916	3,970	4,023	3,644
	U.S. exports (million dollars) . . . . .	382	512	569	712	813
	U.S. imports (million dollars) . . . . .	1,563	1,909	2,197	2,673	2,947
	Apparent U.S. consumption (million dollars) . . . . .	5,102	5,313	5,598	5,984	5,778
	Trade balance (million dollars) . . . . .	-1,181	-1,397	-1,628	-1,961	-2,134
	Ratio of imports to apparent consumption (percent) . . . . .	30.6	35.9	39.2	44.7	51.0
	Ratio of exports to shipments (percent) . . . . .	9.7	13.1	14.3	17.7	22.3
CH069	Hosiery:					
	Establishments (number) . . . . .	691	679	679	675	670
	Employees (thousands) . . . . .	70	69	67	64	61
	Capacity utilization (percent) . . . . .	83	85	88	85	86
	U.S. shipments (million dollars) . . . . .	4,426	4,691	4,832	4,784	5,070
	U.S. exports (million dollars) . . . . .	135	206	220	257	273
	U.S. imports (million dollars) . . . . .	178	231	291	363	404
	Apparent U.S. consumption (million dollars) . . . . .	4,469	4,716	4,903	4,890	5,201
	Trade balance (million dollars) . . . . .	-43	-25	-71	-106	-131
	Ratio of imports to apparent consumption (percent) . . . . .	4.0	4.9	5.9	7.4	7.8
	Ratio of exports to shipments (percent) . . . . .	3.1	4.4	4.6	5.4	5.4
CH070	Body-supporting garments:					
	Establishments (number) . . . . .	103	110	104	101	95
	Employees (thousands) . . . . .	12	12	12	12	11
	Capacity utilization (percent) . . . . .	90	88	91	92	92
	U.S. shipments (million dollars) . . . . .	1,567	1,588	1,795	1,853	1,878
	U.S. exports (million dollars) . . . . .	278	316	344	431	405
	U.S. imports (million dollars) . . . . .	557	639	751	927	864
	Apparent U.S. consumption (million dollars) . . . . .	1,846	1,911	2,202	2,349	2,337
	Trade balance (million dollars) . . . . .	-279	-323	-407	-496	-459
	Ratio of imports to apparent consumption (percent) . . . . .	30.2	33.4	34.1	39.5	37.0
	Ratio of exports to shipments (percent) . . . . .	17.7	19.9	19.2	23.3	21.6
CH071	Neckwear, handkerchiefs and scarves: <sup>2</sup>					
	Establishments (number) . . . . .	167	167	171	160	150
	Employees (thousands) . . . . .	7	7	7	6	6
	Capacity utilization (percent) . . . . .	86	82	80	75	72
	U.S. shipments (million dollars) . . . . .	544	484	416	354	320
	U.S. exports (million dollars) . . . . .	21	31	26	29	39
	U.S. imports (million dollars) . . . . .	294	322	336	339	351
	Apparent U.S. consumption (million dollars) . . . . .	817	775	726	664	632
	Trade balance (million dollars) . . . . .	-273	-291	-310	-310	-312
	Ratio of imports to apparent consumption (percent) . . . . .	36.0	41.5	46.3	51.1	55.5
	Ratio of exports to shipments (percent) . . . . .	3.9	6.4	6.3	8.2	12.2
CH072	Gloves, including gloves for sports:					
	Establishments (number) . . . . .	185	175	160	160	165
	Employees (thousands) . . . . .	10	10	8	8	8
	Capacity utilization (percent) . . . . .	77	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	812	868	897	984	1,055
	U.S. exports (million dollars) . . . . .	166	157	168	175	186
	U.S. imports (million dollars) . . . . .	1,124	1,349	1,499	1,733	1,893
	Apparent U.S. consumption (million dollars) . . . . .	1,770	2,060	2,228	2,542	2,762
	Trade balance (million dollars) . . . . .	-958	-1,192	-1,331	-1,558	-1,707
	Ratio of imports to apparent consumption (percent) . . . . .	63.5	65.5	67.3	68.2	68.5
	Ratio of exports to shipments (percent) . . . . .	20.4	18.1	18.7	17.8	17.6

See footnotes at end of table.

Table B-5--Continued

Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH073	Headwear:					
	Establishments (number) . . . . .	315	335	345	360	350
	Employees (thousands) . . . . .	19	20	21	21	20
	Capacity utilization (percent) . . . . .	85	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	865	937	886	929	985
	U.S. exports (million dollars) . . . . .	103	109	112	115	118
	U.S. imports (million dollars) . . . . .	687	778	821	842	883
	Apparent U.S. consumption (million dollars) . . . . .	1,449	1,606	1,595	1,656	1,750
	Trade balance (million dollars) . . . . .	-584	-669	-709	-727	-765
	Ratio of imports to apparent consumption (percent) . . . . .	47.4	48.4	51.5	50.8	50.5
	Ratio of exports to shipments (percent) . . . . .	11.9	11.6	12.6	12.4	12.0
CH074	Leather apparel and accessories:					
	Establishments (number) . . . . .	430	405	382	367	355
	Employees (thousands) . . . . .	11	11	10	9	8
	Capacity utilization (percent) . . . . .	79	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	550	558	643	620	590
	U.S. exports (million dollars) . . . . .	99	97	93	122	103
	U.S. imports (million dollars) . . . . .	1,411	1,418	1,456	1,199	1,149
	Apparent U.S. consumption (million dollars) . . . . .	1,862	1,879	2,006	1,697	1,636
	Trade balance (million dollars) . . . . .	-1,312	-1,321	-1,363	-1,077	-1,046
	Ratio of imports to apparent consumption (percent) . . . . .	75.8	75.5	72.6	70.7	70.2
	Ratio of exports to shipments (percent) . . . . .	18.0	17.4	14.5	19.7	17.5
CH075	Fur apparel and other fur articles:					
	Establishments (number) . . . . .	249	213	190	178	180
	Employees (thousands) . . . . .	1	1	1	1	1
	Capacity utilization (percent) . . . . .	95	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	166	154	131	95	100
	U.S. exports (million dollars) . . . . .	67	55	58	72	74
	U.S. imports (million dollars) . . . . .	140	173	187	146	187
	Apparent U.S. consumption (million dollars) . . . . .	239	272	260	169	213
	Trade balance (million dollars) . . . . .	-73	-118	-129	-74	-113
	Ratio of imports to apparent consumption (percent) . . . . .	58.6	63.6	71.9	86.4	87.8
	Ratio of exports to shipments (percent) . . . . .	40.4	35.7	44.3	75.8	74.0
CH076	Rubber, plastic, and coated-fabric apparel:					
	Establishments (number) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) . . . . .	3	3	2	2	2
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	140	122	120	120	125
	U.S. exports (million dollars) . . . . .	48	70	87	91	97
	U.S. imports (million dollars) . . . . .	140	160	172	192	178
	Apparent U.S. consumption (million dollars) . . . . .	232	212	205	221	206
	Trade balance (million dollars) . . . . .	-92	-90	-85	-101	-81
	Ratio of imports to apparent consumption (percent) . . . . .	60.3	75.5	83.9	86.9	86.4
	Ratio of exports to shipments (percent) . . . . .	34.3	57.4	72.5	75.8	77.6
CH077	Nonwoven and related products:					
	Establishments (number) . . . . .	82	85	90	90	90
	Employees (thousands) . . . . .	9	9	9	9	9
	Capacity utilization (percent) . . . . .	85	90	90	90	90
	U.S. shipments (million dollars) . . . . .	3,400	3,550	3,750	3,900	4,055
	U.S. exports (million dollars) . . . . .	407	447	526	577	621
	U.S. imports (million dollars) . . . . .	436	435	437	476	456
	Apparent U.S. consumption (million dollars) . . . . .	3,429	3,538	3,661	3,799	3,890
	Trade balance (million dollars) . . . . .	-29	12	89	101	165
	Ratio of imports to apparent consumption (percent) . . . . .	12.7	12.3	11.9	12.5	11.7
	Ratio of exports to shipments (percent) . . . . .	12.0	12.6	14.0	14.8	15.3

See footnotes at end of table.

Table B-5--Continued

Textiles, apparel, and footwear sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
CH078	Other wearing apparel:					
	Establishments (number) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. exports (million dollars) .....	368	448	603	910	1,230
	U.S. imports (million dollars) .....	1,612	2,006	2,292	2,297	2,276
	Apparent U.S. consumption (million dollars) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Trade balance (million dollars) .....	-1,244	-1,558	-1,689	-1,387	-1,046
	Ratio of imports to apparent consumption (percent) ..	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Ratio of exports to shipments (percent) .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
CH079	Footwear and footwear parts:					
	Establishments (number) .....	668	665	668	678	650
	Employees (thousands) .....	80	77	73	66	55
	Capacity utilization (percent) .....	77	80	82	79	80
	U.S. shipments (million dollars) .....	4,358	4,403	4,701	3,996	3,344
	U.S. exports (million dollars) .....	603	604	646	671	761
	U.S. imports (million dollars) .....	10,141	11,105	11,714	12,095	12,708
	Apparent U.S. consumption (million dollars) .....	13,896	14,904	15,769	15,420	15,291
	Trade balance (million dollars) .....	-9,538	-10,501	-11,068	-11,424	-11,947
	Ratio of imports to apparent consumption (percent) ..	73.0	74.5	74.3	78.4	83.1
	Ratio of exports to shipments (percent) .....	13.8	13.7	13.7	16.8	22.8

<sup>1</sup>Not available.<sup>2</sup>Includes neckties, muffles, scarves, shawls, and veils.

Table B-6

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM001	Clays and nonmetallic minerals and products, not elsewhere specified or included:					
	Number of establishments . . . . .	320	320	320	320	320
	Employees (thousands) . . . . .	14	14	14	14	14
	Capacity utilization (percent) . . . . .	70	72	74	78	80
	U.S. shipments (million dollars) . . . . .	2,400	2,450	2,550	2,700	2,780
	U.S. exports (million dollars) . . . . .	847	855	950	1,023	1,033
	U.S. imports (million dollars) . . . . .	97	125	153	183	211
	Apparent U.S. consumption (million dollars) . . . . .	1,650	1,720	1,753	1,860	1,958
	Trade balance (million dollars) . . . . .	750	730	797	840	822
	Ratio of imports to apparent consumption (percent) . . . . .	5.9	7.3	8.7	9.8	10.8
	Ratio of exports to shipments (percent) . . . . .	35.3	34.9	37.3	37.9	37.2
MM002	Certain miscellaneous mineral substances:					
	Number of establishments . . . . .	10	9	9	8	8
	Employees (thousands) . . . . .	2	2	2	2	2
	Capacity utilization (percent) . . . . .	84	82	82	80	80
	U.S. shipments (million dollars) . . . . .	42	40	42	40	40
	U.S. exports (million dollars) . . . . .	3	3	5	7	11
	U.S. imports (million dollars) . . . . .	36	33	34	47	49
	Apparent U.S. consumption (million dollars) . . . . .	75	70	71	80	78
	Trade balance (million dollars) . . . . .	-33	-30	-29	-40	-38
	Ratio of imports to apparent consumption (percent) . . . . .	48.0	47.1	47.9	58.8	62.8
	Ratio of exports to shipments (percent) . . . . .	7.1	7.5	11.9	17.5	27.5
MM003	Iron ores and concentrates:					
	Number of establishments . . . . .	22	22	23	24	25
	Employees (thousands) . . . . .	8	8	9	10	10
	Capacity utilization (percent) . . . . .	73	73	80	92	91
	U.S. shipments (million dollars) . . . . .	1,550	1,510	1,580	1,795	1,680
	U.S. exports (million dollars) . . . . .	187	167	162	184	232
	U.S. imports (million dollars) . . . . .	396	415	510	486	556
	Apparent U.S. consumption (million dollars) . . . . .	1,759	1,758	1,928	2,097	2,004
	Trade balance (million dollars) . . . . .	-209	-248	-348	-302	-324
	Ratio of imports to apparent consumption (percent) . . . . .	22.5	23.6	26.5	23.2	27.7
	Ratio of exports to shipments (percent) . . . . .	12.1	11.1	10.3	10.3	13.8
MM004	Copper ores and concentrates:					
	Number of establishments . . . . .	65	50	50	40	40
	Employees (thousands) . . . . .	14	13	13	14	14
	Capacity utilization (percent) . . . . .	90	90	90	90	90
	U.S. shipments (million dollars) . . . . .	2,500	2,180	2,720	3,380	2,715
	U.S. exports (million dollars) . . . . .	445	342	393	486	287
	U.S. imports (million dollars) . . . . .	107	42	126	127	70
	Apparent U.S. consumption (million dollars) . . . . .	2,162	1,880	2,453	3,021	2,498
	Trade balance (million dollars) . . . . .	338	300	267	359	217
	Ratio of imports to apparent consumption (percent) . . . . .	4.9	2.2	5.1	4.2	2.8
	Ratio of exports to shipments (percent) . . . . .	17.8	15.7	14.4	14.4	10.6
MM005	Lead ores and residues:					
	Number of establishments . . . . .	15	15	16	16	16
	Employees (thousands) . . . . .	2	2	2	2	2
	Capacity utilization (percent) . . . . .	54	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	300	275	350	445	540
	U.S. exports (million dollars) . . . . .	32	14	23	25	28
	U.S. imports (million dollars) . . . . .	2	0	0	2	2
	Apparent U.S. consumption (million dollars) . . . . .	270	261	327	422	514
	Trade balance (million dollars) . . . . .	30	14	23	23	26
	Ratio of imports to apparent consumption (percent) . . . . .	0.7	0.0	0.0	0.5	0.4
	Ratio of exports to shipments (percent) . . . . .	10.7	5.1	6.6	5.6	5.2

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM006	Zinc ores and residues:					
	Number of establishments	26	26	26	26	26
	Employees (thousands)	2	2	2	3	3
	Capacity utilization (percent)	87	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	675	500	630	700	800
	U.S. exports (million dollars)	250	137	191	242	227
	U.S. imports (million dollars)	46	18	18	13	18
	Apparent U.S. consumption (million dollars)	471	381	457	471	591
	Trade balance (million dollars)	204	119	173	229	209
	Ratio of imports to apparent consumption (percent)	9.8	4.7	3.9	2.8	3.0
	Ratio of exports to shipments (percent)	37.0	27.4	30.3	34.6	28.4
MM007	Certain ores, concentrates, ash, and residues:					
	Number of establishments	186	180	175	175	175
	Employees (thousands)	5	4	4	4	4
	Capacity utilization (percent)	53	50	48	51	51
	U.S. shipments (million dollars)	475	340	410	690	675
	U.S. exports (million dollars)	280	191	301	704	362
	U.S. imports (million dollars)	475	476	508	622	604
	Apparent U.S. consumption (million dollars)	670	625	617	608	917
	Trade balance (million dollars)	-195	-285	-207	82	-242
	Ratio of imports to apparent consumption (percent)	70.9	76.2	82.3	102.3	65.9
	Ratio of exports to shipments (percent)	58.9	56.2	73.4	102.0	53.6
MM008	Precious metal ores and concentrates:					
	Number of establishments	366	336	336	303	331
	Employees (thousands)	17	16	16	16	17
	Capacity utilization (percent)	87	80	73	79	86
	U.S. shipments (million dollars)	3,112	3,267	3,517	3,399	3,505
	U.S. exports (million dollars)	5	3	16	8	9
	U.S. imports (million dollars)	4	20	49	87	74
	Apparent U.S. consumption (million dollars)	3,111	3,284	3,550	3,478	3,570
	Trade balance (million dollars)	1	-17	-33	-79	-65
	Ratio of imports to apparent consumption (percent)	0.1	0.6	1.4	2.5	2.1
	Ratio of exports to shipments (percent)	0.2	0.1	0.5	0.2	0.3
MM009	Certain nonmetallic minerals and articles:					
	Number of establishments	20,000	20,000	20,000	20,000	20,000
	Employees (thousands)	300	300	300	300	300
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	42,000	45,000	50,000	50,000	54,000
	U.S. exports (million dollars)	926	861	944	995	1,063
	U.S. imports (million dollars)	1,304	1,438	1,820	2,144	2,361
	Apparent U.S. consumption (million dollars)	42,378	45,577	50,876	51,149	55,298
	Trade balance (million dollars)	-378	-577	-876	-1,149	-1,298
	Ratio of imports to apparent consumption (percent)	3.1	3.2	3.6	4.2	4.3
	Ratio of exports to shipments (percent)	2.2	1.9	1.9	2.0	2.0
MM010	Industrial ceramics:					
	Number of establishments	180	190	220	220	210
	Employees (thousands)	12	11	11	11	11
	Capacity utilization (percent)	73	73	74	76	76
	U.S. shipments (million dollars)	2,350	2,400	2,500	2,700	2,750
	U.S. exports (million dollars)	386	387	411	635	620
	U.S. imports (million dollars)	301	330	356	425	448
	Apparent U.S. consumption (million dollars)	2,265	2,343	2,445	2,490	2,578
	Trade balance (million dollars)	85	57	55	210	172
	Ratio of imports to apparent consumption (percent)	13.3	14.1	14.6	17.1	17.4
	Ratio of exports to shipments (percent)	16.4	16.1	16.4	23.5	22.5

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
MM011	Ceramic bricks and miscellaneous ceramic construction articles:					
	Number of establishments . . . . .	328	328	328	328	328
	Employees (thousands) . . . . .	19	19	19	19	19
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	900	1,000	1,000	1,000	1,000
	U.S. exports (million dollars) . . . . .	17	17	19	20	22
	U.S. imports (million dollars) . . . . .	21	22	15	16	18
	Apparent U.S. consumption (million dollars) . . . . .	904	1,005	996	996	996
	Trade balance (million dollars) . . . . .	-4	-5	4	4	4
	Ratio of imports to apparent consumption (percent) . . . . .	2.3	2.2	1.5	1.6	1.8
	Ratio of exports to shipments (percent) . . . . .	1.9	1.7	1.9	2.0	2.2
MM012	Ceramic floor and wall tiles:					
	Number of establishments . . . . .	110	110	110	110	110
	Employees (thousands) . . . . .	10	10	10	10	10
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	680	740	735	790	790
	U.S. exports (million dollars) . . . . .	19	23	24	26	25
	U.S. imports (million dollars) . . . . .	419	472	519	562	628
	Apparent U.S. consumption (million dollars) . . . . .	1,080	1,189	1,230	1,326	1,393
	Trade balance (million dollars) . . . . .	-400	-449	-495	-536	-603
	Ratio of imports to apparent consumption (percent) . . . . .	38.8	39.7	42.2	42.4	45.1
	Ratio of exports to shipments (percent) . . . . .	2.8	3.1	3.3	3.3	3.2
MM013	Ceramic household articles:					
	Number of establishments . . . . .	200	200	200	200	200
	Employees (thousands) . . . . .	11	11	11	11	11
	Capacity utilization (percent) . . . . .	83	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	700	710	720	760	790
	U.S. exports (million dollars) . . . . .	103	110	105	99	95
	U.S. imports (million dollars) . . . . .	1,391	1,426	1,563	1,658	1,556
	Apparent U.S. consumption (million dollars) . . . . .	1,988	2,026	2,178	2,319	2,251
	Trade balance (million dollars) . . . . .	-1,288	-1,316	-1,458	-1,559	-1,461
	Ratio of imports to apparent consumption (percent) . . . . .	70.0	70.4	71.8	71.5	69.1
	Ratio of exports to shipments (percent) . . . . .	14.7	15.5	14.6	13.0	12.0
MM014	Flat glass and certain flat- glass products:					
	Number of establishments . . . . .	1,100	1,100	1,100	1,100	1,100
	Employees (thousands) . . . . .	49	48	50	52	50
	Capacity utilization (percent) . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars) . . . . .	6,700	7,200	7,700	7,900	7,300
	U.S. exports (million dollars) . . . . .	836	951	1,031	1,135	1,278
	U.S. imports (million dollars) . . . . .	599	698	864	917	1,050
	Apparent U.S. consumption (million dollars) . . . . .	6,463	6,947	7,533	7,682	7,072
	Trade balance (million dollars) . . . . .	237	253	167	218	228
	Ratio of imports to apparent consumption (percent) . . . . .	9.3	10.0	11.5	11.9	14.8
	Ratio of exports to shipments (percent) . . . . .	12.5	13.2	13.4	14.4	17.5
MM015	Glass containers:					
	Number of establishments . . . . .	76	76	76	76	76
	Employees (thousands) . . . . .	32	31	29	26	24
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	4,816	4,782	4,650	4,346	4,200
	U.S. exports (million dollars) . . . . .	155	133	127	129	148
	U.S. imports (million dollars) . . . . .	263	265	323	377	407
	Apparent U.S. consumption (million dollars) . . . . .	4,924	4,914	4,846	4,594	4,459
	Trade balance (million dollars) . . . . .	-108	-132	-196	-248	-259
	Ratio of imports to apparent consumption (percent) . . . . .	5.3	5.4	6.7	8.2	9.1
	Ratio of exports to shipments (percent) . . . . .	3.2	2.8	2.7	3.0	3.5

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM016	Household glassware:					
	Number of establishments	218	218	218	218	218
	Employees (thousands)	17	17	19	19	20
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	1,600	1,600	1,700	1,800	1,800
	U.S. exports (million dollars)	150	167	192	198	205
	U.S. imports (million dollars)	533	568	643	729	746
	Apparent U.S. consumption (million dollars)	1,983	2,001	2,151	2,331	2,341
	Trade balance (million dollars)	-383	-401	-451	-531	-541
	Ratio of imports to apparent consumption (percent)	26.9	28.4	29.9	31.3	31.9
	Ratio of exports to shipments (percent)	9.4	10.4	11.3	11.0	11.4
MM017	Certain glass and glass products:					
	Number of establishments	443	443	443	443	443
	Employees (thousands)	19	20	22	22	22
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	2,500	2,600	2,900	3,000	3,000
	U.S. exports (million dollars)	369	387	437	576	604
	U.S. imports (million dollars)	400	408	518	583	679
	Apparent U.S. consumption (million dollars)	2,531	2,621	2,981	3,007	3,075
	Trade balance (million dollars)	-31	-21	-81	-7	-75
	Ratio of imports to apparent consumption (percent)	15.8	15.6	17.4	19.4	22.1
	Ratio of exports to shipments (percent)	14.8	14.9	15.1	19.2	20.1
MM018	Fiberglass products:					
	Number of establishments	253	253	253	253	253
	Employees (thousands)	35	33	35	39	37
	Capacity utilization (percent)	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
	U.S. shipments (million dollars)	4,900	5,100	5,700	6,100	6,200
	U.S. exports (million dollars)	392	387	448	490	538
	U.S. imports (million dollars)	160	200	255	294	342
	Apparent U.S. consumption (million dollars)	4,668	4,913	5,507	5,904	6,004
	Trade balance (million dollars)	232	187	193	196	196
	Ratio of imports to apparent consumption (percent)	3.4	4.1	4.6	5.0	5.7
	Ratio of exports to shipments (percent)	8.0	7.6	7.9	8.0	8.7
MM019	Natural and synthetic gemstones:					
	Number of establishments	418	391	391	370	370
	Employees (thousands)	1	1	1	1	1
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	600	600	800	700	700
	U.S. exports (million dollars)	476	231	268	268	247
	U.S. imports (million dollars)	4,783	5,739	6,429	6,666	7,412
	Apparent U.S. consumption (million dollars)	4,907	6,108	6,961	7,098	7,865
	Trade balance (million dollars)	-4,307	-5,508	-6,161	-6,398	-7,165
	Ratio of imports to apparent consumption (percent)	97.5	94.0	92.4	93.9	94.2
	Ratio of exports to shipments (percent)	79.3	38.5	33.5	38.3	35.3
MM020	Precious metals and related articles:					
	Number of establishments	131	131	131	131	131
	Employees (thousands)	9	9	8	9	9
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	2,679	2,874	3,389	3,304	3,115
	U.S. exports (million dollars)	4,869	9,895	6,531	6,475	7,886
	U.S. imports (million dollars)	4,083	3,994	4,033	4,676	5,330
	Apparent U.S. consumption (million dollars)	1,893	-3,027	891	1,505	559
	Trade balance (million dollars)	786	5,901	2,498	1,799	2,556
	Ratio of imports to apparent consumption (percent)	215.7	-131.9	452.6	310.7	953.5
	Ratio of exports to shipments (percent)	181.7	344.3	192.7	196.0	253.2

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM021	Primary iron products:					
	Number of establishments . . . . .	17	17	17	17	17
	Employees (thousands) . . . . .	22	22	23	23	23
	Capacity utilization (percent) . . . . .	80	90	94	95	92
	U.S. shipments (million dollars) . . . . .	7,100	7,230	7,320	7,390	7,360
	U.S. exports (million dollars) . . . . .	8	8	12	13	13
	U.S. imports (million dollars) . . . . .	130	213	450	541	552
	Apparent U.S. consumption (million dollars) . . . . .	7,222	7,435	7,758	7,918	7,899
	Trade balance (million dollars) . . . . .	-122	-205	-438	-528	-539
	Ratio of imports to apparent consumption (percent) . . . . .	1.8	2.9	5.8	6.8	7.0
	Ratio of exports to shipments (percent) . . . . .	0.1	0.1	0.2	0.2	0.2
MM022	Ferroalloys:					
	Number of establishments . . . . .	27	26	26	25	25
	Employees (thousands) . . . . .	5	5	5	4	4
	Capacity utilization (percent) . . . . .	64	72	80	85	90
	U.S. shipments (million dollars) . . . . .	1,015	985	990	1,100	1,225
	U.S. exports (million dollars) . . . . .	110	95	87	114	137
	U.S. imports (million dollars) . . . . .	807	760	777	1,245	1,217
	Apparent U.S. consumption (million dollars) . . . . .	1,712	1,650	1,680	2,231	2,305
	Trade balance (million dollars) . . . . .	-697	-665	-690	-1,131	-1,080
	Ratio of imports to apparent consumption (percent) . . . . .	47.1	46.1	46.3	55.8	52.8
	Ratio of exports to shipments (percent) . . . . .	10.8	9.6	8.8	10.4	11.2
MM023	Iron and steel waste and scrap:					
	Number of establishments . . . . .	1,200	1,150	1,175	1,169	1,158
	Employees (thousands) . . . . .	23	24	25	25	24
	Capacity utilization (percent) . . . . .	81	86	90	92	91
	U.S. shipments (million dollars) . . . . .	4,270	5,320	6,230	6,425	6,421
	U.S. exports (million dollars) . . . . .	1,107	1,323	1,269	1,703	1,425
	U.S. imports (million dollars) . . . . .	155	182	238	300	433
	Apparent U.S. consumption (million dollars) . . . . .	3,318	4,179	5,199	5,022	5,429
	Trade balance (million dollars) . . . . .	952	1,141	1,031	1,403	992
	Ratio of imports to apparent consumption (percent) . . . . .	4.7	4.4	4.6	6.0	8.0
	Ratio of exports to shipments (percent) . . . . .	25.9	24.9	20.4	26.5	22.2
MM024	Abrasives and ferrous products:					
	Number of establishments . . . . .	50	50	45	45	45
	Employees (thousands) . . . . .	20	19	19	18	18
	Capacity utilization (percent) . . . . .	80	78	80	82	80
	U.S. shipments (million dollars) . . . . .	2,500	2,571	2,650	2,700	2,800
	U.S. exports (million dollars) . . . . .	380	398	432	410	449
	U.S. imports (million dollars) . . . . .	495	545	595	633	662
	Apparent U.S. consumption (million dollars) . . . . .	2,615	2,718	2,813	2,923	3,013
	Trade balance (million dollars) . . . . .	-115	-147	-163	-223	-213
	Ratio of imports to apparent consumption (percent) . . . . .	18.9	20.1	21.2	21.7	22.0
	Ratio of exports to shipments (percent) . . . . .	15.2	15.5	16.3	15.2	16.0
MM025	Steel mill products, all grades:					
	Number of establishments . . . . .	850	850	850	850	850
	Employees (thousands) . . . . .	205	200	200	198	200
	Capacity utilization (percent) . . . . .	80	89	94	93	89
	U.S. shipments (million dollars) . . . . .	51,550	55,400	62,300	66,400	67,450
	U.S. exports (million dollars) . . . . .	3,046	2,811	3,029	4,665	4,065
	U.S. imports (million dollars) . . . . .	7,932	8,670	12,435	11,786	12,680
	Apparent U.S. consumption (million dollars) . . . . .	56,436	61,259	71,706	73,521	76,065
	Trade balance (million dollars) . . . . .	-4,886	-5,859	-9,406	-7,121	-8,615
	Ratio of imports to apparent consumption (percent) . . . . .	14.1	14.2	17.3	16.0	16.7
	Ratio of exports to shipments (percent) . . . . .	5.9	5.1	4.9	7.0	6.0

See footnotes at end of table.



Table B-6—Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM026	Steel pipe and tube fittings and certain cast products:					
	Number of establishments	500	500	495	495	498
	Employees (thousands)	43	42	40	40	41
	Capacity utilization (percent)	80	80	80	81	79
	U.S. shipments (million dollars)	3,800	3,600	3,700	3,750	3,775
	U.S. exports (million dollars)	525	484	484	630	663
	U.S. imports (million dollars)	285	310	367	427	515
	Apparent U.S. consumption (million dollars)	3,560	3,426	3,583	3,547	3,627
	Trade balance (million dollars)	240	174	117	203	148
	Ratio of imports to apparent consumption (percent)	8.0	9.0	10.2	12.0	14.2
	Ratio of exports to shipments (percent)	13.8	13.4	13.1	16.8	17.6
MM027	Fabricated structurals:					
	Number of establishments	2,242	2,130	2,024	2,020	2,021
	Employees (thousands)	69	67	66	64	63
	Capacity utilization (percent)	70	85	83	81	83
	U.S. shipments (million dollars)	7,947	7,319	8,805	8,601	8,650
	U.S. exports (million dollars)	99	117	122	143	178
	U.S. imports (million dollars)	45	85	109	143	177
	Apparent U.S. consumption (million dollars)	7,893	7,287	8,792	8,601	8,649
	Trade balance (million dollars)	54	32	13	( <sup>3</sup> )	1
	Ratio of imports to apparent consumption (percent)	0.6	1.2	1.2	1.7	2.0
	Ratio of exports to shipments (percent)	1.2	1.6	1.4	1.7	2.1
MM028	Metal construction components:					
	Number of establishments	4,000	3,930	3,820	3,800	3,850
	Employees (thousands)	130	126	131	130	130
	Capacity utilization (percent)	77	78	80	85	90
	U.S. shipments (million dollars)	12,034	12,722	14,077	15,111	16,600
	U.S. exports (million dollars)	396	407	453	483	552
	U.S. imports (million dollars)	124	138	181	258	374
	Apparent U.S. consumption (million dollars)	11,762	12,453	13,805	14,886	16,422
	Trade balance (million dollars)	272	269	272	225	178
	Ratio of imports to apparent consumption (percent)	1.1	1.1	1.3	1.7	2.3
	Ratio of exports to shipments (percent)	3.3	3.2	3.2	3.2	3.3
MM029	Metallic containers:					
	Number of establishments <sup>4</sup>	540	520	521	521	520
	Employees (thousands) <sup>4</sup>	60	58	60	59	60
	Capacity utilization (percent) <sup>4</sup>	88	90	90	90	88
	U.S. shipments (million dollars) <sup>4</sup>	16,300	15,510	16,325	17,225	16,525
	U.S. exports (million dollars)	647	635	642	787	796
	U.S. imports (million dollars)	271	282	324	380	449
	Apparent U.S. consumption (million dollars) <sup>4</sup>	15,924	15,157	16,007	16,818	16,178
	Trade balance (million dollars)	376	353	318	407	347
	Ratio of imports to apparent consumption (percent) <sup>4</sup>	1.7	1.9	2.0	2.3	2.8
	Ratio of exports to shipments (percent) <sup>4</sup>	4.0	4.1	3.9	4.6	4.8
MM030	Wire products of iron, steel, aluminum, copper, and nickel:					
	Number of establishments	1,325	1,300	1,300	1,300	1,300
	Employees (thousands)	96	100	102	108	112
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	12,769	13,832	15,057	16,351	16,000
	U.S. exports (million dollars)	297	337	469	599	685
	U.S. imports (million dollars)	642	668	984	1,119	1,162
	Apparent U.S. consumption (million dollars)	13,114	14,163	15,572	16,871	16,477
	Trade balance (million dollars)	-345	-331	-515	-520	-477
	Ratio of imports to apparent consumption (percent)	4.9	4.7	6.3	6.6	7.1
	Ratio of exports to shipments (percent)	2.3	2.4	3.1	3.7	4.3

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM031	Chain and miscellaneous products of base metal:					
	Number of establishments	5,000	4,350	4,750	4,800	4,900
	Employees (thousands)	390	380	410	430	440
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	26,000	28,200	31,300	36,600	36,700
	U.S. exports (million dollars)	2,433	2,670	3,178	3,555	4,183
	U.S. imports (million dollars)	3,166	3,492	4,154	4,553	5,053
	Apparent U.S. consumption (million dollars)	26,733	29,022	32,276	37,598	37,570
	Trade balance (million dollars)	-733	-822	-976	-998	-870
	Ratio of imports to apparent consumption (percent)	11.8	12.0	12.9	12.1	13.5
	Ratio of exports to shipments (percent)	9.4	9.5	10.2	9.7	11.4
MM032	Industrial fasteners of base metal:					
	Number of establishments	937	935	925	925	925
	Employees (thousands)	44	44	43	46	45
	Capacity utilization (percent)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	4,854	5,043	5,439	5,881	5,700
	U.S. exports (million dollars)	719	743	879	1,027	1,332
	U.S. imports (million dollars)	1,469	1,643	1,646	1,871	1,826
	Apparent U.S. consumption (million dollars)	5,604	5,943	6,206	6,725	6,194
	Trade balance (million dollars)	-750	-900	-767	1,027	1,027
	Ratio of imports to apparent consumption (percent)	26.2	27.6	26.5	27.8	29.5
	Ratio of exports to shipments (percent)	14.8	14.7	16.2	17.5	23.4
MM033	Cooking and kitchen ware:					
	Number of establishments	23	23	23	23	23
	Employees (thousands)	5	5	5	5	5
	Capacity utilization (percent)	75	75	75	75	75
	U.S. shipments (million dollars)	817	884	958	999	1,100
	U.S. exports (million dollars)	209	216	233	245	296
	U.S. imports (million dollars)	822	881	1,001	1,158	1,179
	Apparent U.S. consumption (million dollars)	1,430	1,549	1,726	1,912	1,983
	Trade balance (million dollars)	-613	-665	-768	-913	-883
	Ratio of imports to apparent consumption (percent)	57.5	56.9	58.0	60.6	59.5
	Ratio of exports to shipments (percent)	25.6	24.4	24.3	24.5	26.9
MM034	Metal and ceramic sanitary ware:					
	Number of establishments <sup>4</sup>	195	200	200	200	200
	Employees (thousands) <sup>4</sup>	24	25	25	25	25
	Capacity utilization (percent) <sup>4</sup>	75	80	85	83	85
	U.S. shipments (million dollars) <sup>4</sup>	1,328	1,412	1,506	1,470	1,494
	U.S. exports (million dollars)	135	165	153	159	142
	U.S. imports (million dollars)	182	204	249	271	300
	Apparent U.S. consumption (million dollars) <sup>4</sup>	1,375	1,451	1,602	1,582	1,652
	Trade balance (million dollars)	-47	-39	-96	-112	-158
	Ratio of imports to apparent consumption (percent) <sup>4</sup>	13.2	14.1	15.5	17.1	18.2
	Ratio of exports to shipments (percent) <sup>4</sup>	10.2	11.7	10.2	10.8	9.5
MM035	Iron construction castings and other nonmalleable cast-iron articles:					
	Number of establishments	27	27	27	25	24
	Employees (thousands)	2	2	2	2	2
	Capacity utilization (percent)	85	85	85	86	87
	U.S. shipments (million dollars)	142	145	144	145	150
	U.S. exports (million dollars)	27	29	26	26	44
	U.S. imports (million dollars)	48	57	72	87	91
	Apparent U.S. consumption (million dollars)	163	173	190	206	197
	Trade balance (million dollars)	-21	-28	-46	-61	-47
	Ratio of imports to apparent consumption (percent)	29.4	32.9	37.9	42.2	46.2
	Ratio of exports to shipments (percent)	19.0	20.0	18.1	17.9	29.3

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM036	Copper and related articles:					
	Number of establishments	840	840	830	680	675
	Employees (thousands)	37	39	41	41	40
	Capacity utilization (percent)	86	88	91	92	92
	U.S. shipments (million dollars)	11,100	10,400	12,500	15,400	12,900
	U.S. exports (million dollars)	1,528	1,562	1,813	2,708	2,370
	U.S. imports (million dollars)	1,908	2,068	2,655	3,401	3,472
	Apparent U.S. consumption (million dollars)	11,480	10,906	13,342	16,093	14,002
	Trade balance (million dollars)	-380	-506	-842	-693	-1,102
	Ratio of imports to apparent consumption (percent)	16.6	19.0	19.9	21.1	24.8
	Ratio of exports to shipments (percent)	13.8	15.0	14.5	17.6	18.4
MM037	Unwrought aluminum:					
	Number of establishments	91	91	90	90	90
	Employees (thousands)	22	21	21	21	22
	Capacity utilization (percent)	97	89	79	81	86
	U.S. shipments (million dollars)	7,165	6,257	7,533	9,251	7,716
	U.S. exports (million dollars)	1,154	771	896	1,294	1,057
	U.S. imports (million dollars)	2,120	2,774	4,221	4,585	3,828
	Apparent U.S. consumption (million dollars)	8,131	8,260	10,858	12,542	10,487
	Trade balance (million dollars)	-966	-2,003	-3,325	-3,291	-2,771
	Ratio of imports to apparent consumption (percent)	26.1	33.6	38.9	36.6	36.5
	Ratio of exports to shipments (percent)	16.1	12.3	11.9	14.0	13.7
MM038	Aluminum mill products:					
	Number of establishments	290	295	300	300	300
	Employees (thousands)	55	55	55	60	60
	Capacity utilization (percent)	78	82	90	94	95
	U.S. shipments (million dollars)	14,738	14,166	15,624	19,094	17,660
	U.S. exports (million dollars)	1,761	1,728	2,177	2,974	2,771
	U.S. imports (million dollars)	1,015	1,096	1,446	2,048	1,737
	Apparent U.S. consumption (million dollars)	13,992	13,534	14,893	18,168	16,626
	Trade balance (million dollars)	746	632	731	926	1,034
	Ratio of imports to apparent consumption (percent)	7.3	8.1	9.7	11.3	10.4
	Ratio of exports to shipments (percent)	11.9	12.2	13.9	15.6	15.7
MM039	Lead and related articles:					
	Number of establishments	55	50	50	50	50
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	62	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	900	825	1,000	1,209	1,400
	U.S. exports (million dollars)	78	64	70	86	163
	U.S. imports (million dollars)	119	97	149	195	240
	Apparent U.S. consumption (million dollars)	941	858	1,079	1,318	1,477
	Trade balance (million dollars)	-41	-33	-79	-109	-77
	Ratio of imports to apparent consumption (percent)	12.6	11.3	13.8	14.8	16.2
	Ratio of exports to shipments (percent)	8.7	7.8	7.0	7.1	11.6
MM040	Zinc and related articles:					
	Number of establishments	40	40	39	39	38
	Employees (thousands)	2	2	2	2	2
	Capacity utilization (percent)	76	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars)	685	525	500	560	510
	U.S. exports (million dollars)	75	58	67	81	79
	U.S. imports (million dollars)	832	746	813	952	939
	Apparent U.S. consumption (million dollars)	1,442	1,213	1,246	1,431	1,370
	Trade balance (million dollars)	-757	-688	-746	-871	-860
	Ratio of imports to apparent consumption (percent)	57.7	61.5	65.2	66.5	68.5
	Ratio of exports to shipments (percent)	10.9	11.0	13.4	14.5	15.5

See footnotes at end of table.

Table B-6--Continued

## Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MM041	Certain base metals and chemical elements:					
	Number of establishments .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) .....	20	20	20	22	22
	Capacity utilization (percent) .....	72	73	75	76	76
	U.S. shipments (million dollars) .....	3,900	3,700	4,700	5,700	5,500
	U.S. exports (million dollars) .....	905	808	927	1,190	1,263
	U.S. imports (million dollars) .....	1,636	1,472	1,720	2,536	2,640
	Apparent U.S. consumption (million dollars) .....	4,631	4,364	5,493	7,046	6,877
	Trade balance (million dollars) .....	-731	-664	-793	-1,346	-1,377
	Ratio of imports to apparent consumption (percent) ..	35.3	33.7	31.3	36.0	38.4
	Ratio of exports to shipments (percent) .....	23.2	21.8	19.7	20.9	23.0
MM042	Nonpowered handtools:					
	Number of establishments .....	1,252	1,250	1,250	1,250	1,220
	Employees (thousands) .....	118	121	125	121	120
	Capacity utilization (percent) .....	75	80	85	85	85
	U.S. shipments (million dollars) .....	10,622	11,472	13,193	13,868	15,250
	U.S. exports (million dollars) .....	1,192	1,315	1,455	1,639	1,732
	U.S. imports (million dollars) .....	1,450	1,789	1,939	2,230	2,280
	Apparent U.S. consumption (million dollars) .....	10,880	11,946	13,677	14,459	15,798
	Trade balance (million dollars) .....	-258	-474	-484	-591	-548
	Ratio of imports to apparent consumption (percent) ..	13.3	15.0	14.2	15.4	14.4
	Ratio of exports to shipments (percent) .....	11.2	11.5	11.0	11.8	11.4
MM043	Cutlery other than tableware, certain sewing implements, and related products:					
	Number of establishments .....	135	135	135	132	130
	Employees (thousands) .....	12	12	11	11	11
	Capacity utilization (percent) .....	85	85	85	85	85
	U.S. shipments (million dollars) .....	1,500	1,635	1,850	1,900	1,925
	U.S. exports (million dollars) .....	280	308	385	420	480
	U.S. imports (million dollars) .....	484	525	585	656	673
	Apparent U.S. consumption (million dollars) .....	1,704	1,852	2,050	2,136	2,118
	Trade balance (million dollars) .....	-204	-217	-200	-236	-193
	Ratio of imports to apparent consumption (percent) ..	28.4	28.4	28.5	30.7	31.8
	Ratio of exports to shipments (percent) .....	18.7	18.8	20.8	22.1	24.9
MM044	Table flatware and related products:					
	Number of establishments .....	6	6	5	5	5
	Employees (thousands) .....	5	5	5	5	5
	Capacity utilization (percent) .....	80	85	90	90	90
	U.S. shipments (million dollars) .....	195	195	198	200	194
	U.S. exports (million dollars) .....	24	21	28	35	30
	U.S. imports (million dollars) .....	216	209	224	272	287
	Apparent U.S. consumption (million dollars) .....	387	383	394	437	451
	Trade balance (million dollars) .....	-192	-188	-196	-237	-257
	Ratio of imports to apparent consumption (percent) ..	55.8	54.6	56.9	62.2	63.6
	Ratio of exports to shipments (percent) .....	12.3	10.8	14.1	17.5	15.5

See footnotes at end of table.

**Table B-6--Continued**

**Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96**

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
MM045	Certain builders' hardware:					
	Number of establishments .....	220	210	214	215	217
	Employees (thousands) .....	32	32	33	34	33
	Capacity utilization (percent) .....	81	81	83	85	83
	U.S. shipments (million dollars) .....	3,434	3,513	3,983	4,167	4,205
	U.S. exports (million dollars) .....	495	553	620	637	634
	U.S. imports (million dollars) .....	590	646	709	763	866
	Apparent U.S. consumption (million dollars) .....	3,529	3,606	4,072	4,293	4,437
	Trade balance (million dollars) .....	-95	-93	-89	-126	-232
	Ratio of imports to apparent consumption (percent) ..	16.7	17.9	17.4	17.8	19.5
	Ratio of exports to shipments (percent) .....	14.4	15.7	15.6	15.3	15.1

<sup>1</sup>Not available.

<sup>2</sup>Capacity utilization could not be meaningfully calculated for this industry group.

<sup>3</sup>Less than \$500,000.

<sup>4</sup>Estimated.

Table B-7

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT003	Pumps for liquids:					
	Number of establishments	568	585	572	585	586
	Employees (thousands)	51	53	51	55	55
	Capacity utilization (percent)	58	63	64	69	70
	U.S. shipments (million dollars)	6,586	6,784	6,920	7,152	7,367
	U.S. exports (million dollars)	1,857	2,043	2,222	2,368	2,504
	U.S. imports (million dollars)	1,294	1,477	1,777	1,967	2,061
	Apparent U.S. consumption (million dollars)	6,023	6,218	6,475	6,751	6,924
	Trade balance (million dollars)	563	566	445	401	443
	Ratio of imports to apparent consumption (percent)	21.5	23.8	27.4	29.1	29.8
	Ratio of exports to shipments (percent)	28.2	30.1	32.1	33.1	34.0
MT004	Air-conditioning equipment and parts:					
	Number of establishments	1,077	1,109	1,165	1,275	1,300
	Employees (thousands)	140	143	146	152	155
	Capacity utilization (percent)	74	76	79	85	87
	U.S. shipments (million dollars)	20,763	21,386	22,455	26,946	28,293
	U.S. exports (million dollars)	3,533	3,739	4,121	4,538	4,988
	U.S. imports (million dollars)	2,824	3,055	3,666	4,129	4,576
	Apparent U.S. consumption (million dollars)	20,054	20,702	22,000	26,537	27,881
	Trade balance (million dollars)	709	684	455	409	412
	Ratio of imports to apparent consumption (percent)	14.1	14.8	16.7	15.6	16.4
	Ratio of exports to shipments (percent)	17.0	17.5	18.4	16.8	17.6
MT005	Certain industrial thermal-processing equipment, and certain furnaces:					
	Number of establishments	294	302	305	308	315
	Employees (thousands)	28	31	33	35	36
	Capacity utilization (percent)	63	66	66	67	70
	U.S. shipments (million dollars)	3,156	3,314	3,380	3,549	3,726
	U.S. exports (million dollars)	1,440	1,532	1,879	2,098	2,195
	U.S. imports (million dollars)	813	794	1,003	1,089	1,338
	Apparent U.S. consumption (million dollars)	2,529	2,576	2,504	2,540	2,869
	Trade balance (million dollars)	627	738	876	1,009	857
	Ratio of imports to apparent consumption (percent)	32.1	30.8	40.1	42.9	46.6
	Ratio of exports to shipments (percent)	45.6	46.2	55.6	59.1	58.9
MT006	Commercial machinery:					
	Number of establishments	530	510	500	520	518
	Employees (thousands)	40	40	40	41	41
	Capacity utilization (percent)	80	80	83	83	83
	U.S. shipments (million dollars)	6,722	6,760	6,895	7,240	7,457
	U.S. exports (million dollars)	1,734	1,870	2,031	2,390	2,463
	U.S. imports (million dollars)	890	964	1,082	1,191	1,223
	Apparent U.S. consumption (million dollars)	5,878	5,854	5,946	6,041	6,217
	Trade balance (million dollars)	844	906	949	1,199	1,240
	Ratio of imports to apparent consumption (percent)	15.1	16.5	18.2	19.7	19.7
	Ratio of exports to shipments (percent)	25.8	27.7	29.5	33.0	33.0
MT007	Electrical household appliances and certain heating equipment:					
	Number of establishments	450	440	420	422	430
	Employees (thousands)	98	98	98	102	104
	Capacity utilization (percent)	83	83	83	84	87
	U.S. shipments (million dollars)	19,273	19,851	20,248	21,260	21,685
	U.S. exports (million dollars)	2,100	2,277	2,348	2,433	2,585
	U.S. imports (million dollars)	3,373	3,570	3,858	4,074	4,261
	Apparent U.S. consumption (million dollars)	20,546	21,144	21,758	22,901	23,361
	Trade balance (million dollars)	-1,273	-1,293	-1,510	-1,641	-1,676
	Ratio of imports to apparent consumption (percent)	16.4	16.9	17.7	17.8	18.2
	Ratio of exports to shipments (percent)	10.9	11.5	11.6	11.4	11.9

See footnote at end of table.

Table B-7--Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT008	Centrifuges and filtering and purifying equipment:					
	Number of establishments . . . . .	278	278	270	280	280
	Employees (thousands) . . . . .	36	36	35	30	30
	Capacity utilization (percent) . . . . .	70	75	73	75	75
	U.S. shipments (million dollars) . . . . .	3,087	3,180	3,500	3,800	3,950
	U.S. exports (million dollars) . . . . .	1,703	1,728	1,902	2,268	2,535
	U.S. imports (million dollars) . . . . .	650	706	1,067	1,330	1,483
	Apparent U.S. consumption (million dollars) . . . . .	2,034	2,158	2,665	2,862	2,898
	Trade balance (million dollars) . . . . .	1,053	1,022	835	938	1,052
	Ratio of imports to apparent consumption (percent) . . . . .	32.0	32.7	40.0	46.5	51.2
	Ratio of exports to shipments (percent) . . . . .	55.2	54.3	54.3	59.7	64.2
MT009	Wrapping, packaging, and can-sealing machinery:					
	Number of establishments . . . . .	630	630	630	630	630
	Employees (thousands) . . . . .	26	25	25	28	28
	Capacity utilization (percent) . . . . .	86	87	88	92	92
	U.S. shipments (million dollars) . . . . .	2,861	3,098	3,272	3,630	3,700
	U.S. exports (million dollars) . . . . .	606	672	792	839	841
	U.S. imports (million dollars) . . . . .	699	719	842	932	1,042
	Apparent U.S. consumption (million dollars) . . . . .	2,954	3,145	3,322	3,723	3,901
	Trade balance (million dollars) . . . . .	-93	-47	-50	-93	-201
	Ratio of imports to apparent consumption (percent) . . . . .	23.7	22.9	25.3	25.0	26.7
	Ratio of exports to shipments (percent) . . . . .	21.2	21.7	24.2	23.1	22.7
MT010	Scales and weighing machinery:					
	Number of establishments . . . . .	97	97	95	90	85
	Employees (thousands) . . . . .	6	6	6	6	6
	Capacity utilization (percent) . . . . .	85	83	85	80	80
	U.S. shipments (million dollars) . . . . .	662	675	590	590	600
	U.S. exports (million dollars) . . . . .	105	108	120	127	136
	U.S. imports (million dollars) . . . . .	157	162	183	201	197
	Apparent U.S. consumption (million dollars) . . . . .	714	729	653	664	661
	Trade balance (million dollars) . . . . .	-52	-54	-63	-74	-61
	Ratio of imports to apparent consumption (percent) . . . . .	22.0	22.2	28.0	30.3	29.8
	Ratio of exports to shipments (percent) . . . . .	15.9	16.0	20.3	21.5	22.7
MT013	Mineral processing machinery:					
	Number of establishments . . . . .	100	100	90	90	90
	Employees (thousands) . . . . .	7	6	7	7	7
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	730	752	775	915	915
	U.S. exports (million dollars) . . . . .	537	539	569	673	674
	U.S. imports (million dollars) . . . . .	200	236	260	371	432
	Apparent U.S. consumption (million dollars) . . . . .	393	449	466	613	673
	Trade balance (million dollars) . . . . .	337	303	309	302	242
	Ratio of imports to apparent consumption (percent) . . . . .	50.9	52.6	55.8	60.5	64.2
	Ratio of exports to shipments (percent) . . . . .	73.6	71.7	73.4	73.6	73.7
MT014	Farm and garden machinery and equipment:					
	Number of establishments . . . . .	1,870	1,900	1,900	1,870	1,820
	Employees (thousands) . . . . .	94	98	103	100	98
	Capacity utilization (percent) . . . . .	60	75	87	85	89
	U.S. shipments (million dollars) . . . . .	12,275	13,916	16,560	16,200	17,000
	U.S. exports (million dollars) . . . . .	3,449	3,724	3,929	4,309	4,836
	U.S. imports (million dollars) . . . . .	2,242	2,469	3,277	3,474	3,379
	Apparent U.S. consumption (million dollars) . . . . .	11,068	12,661	15,908	15,365	15,543
	Trade balance (million dollars) . . . . .	1,207	1,255	652	835	1,457
	Ratio of imports to apparent consumption (percent) . . . . .	20.3	19.5	20.6	22.6	21.7
	Ratio of exports to shipments (percent) . . . . .	28.1	26.8	23.7	26.6	28.4

See footnote at end of table.

Table B-7--Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT015	Industrial food-processing and related machinery:					
	Number of establishments	505	500	500	500	500
	Employees (thousands)	18	19	20	20	20
	Capacity utilization (percent)	80	80	83	83	85
	U.S. shipments (million dollars)	2,102	2,311	2,266	2,330	2,400
	U.S. exports (million dollars)	595	609	641	694	708
	U.S. imports (million dollars)	445	411	439	552	505
	Apparent U.S. consumption (million dollars)	1,952	2,113	2,064	2,188	2,197
	Trade balance (million dollars)	150	198	202	142	203
	Ratio of imports to apparent consumption (percent)	22.8	19.5	21.3	25.2	23.0
	Ratio of exports to shipments (percent)	28.3	26.4	28.3	29.8	29.5
MT016	Pulp, paper, and paperboard machinery:					
	Number of establishments	237	237	237	237	237
	Employees (thousands)	19	18	17	19	19
	Capacity utilization (percent)	81	82	89	80	75
	U.S. shipments (million dollars)	2,255	2,529	2,812	3,000	3,100
	U.S. exports (million dollars)	586	655	644	857	851
	U.S. imports (million dollars)	637	709	893	978	1,178
	Apparent U.S. consumption (million dollars)	2,306	2,583	3,061	3,121	3,427
	Trade balance (million dollars)	-51	-54	-249	-121	-327
	Ratio of imports to apparent consumption (percent)	27.6	27.5	29.2	31.3	34.4
	Ratio of exports to shipments (percent)	26.0	25.9	22.9	28.6	27.5
MT017	Printing, typesetting, and bookbinding machinery and printing plates:					
	Number of establishments	1,739	1,745	1,745	1,745	1,745
	Employees (thousands)	58	19	21	21	21
	Capacity utilization (percent)	73	79	87	80	80
	U.S. shipments (million dollars)	4,993	2,727	2,800	3,200	2,900
	U.S. exports (million dollars)	1,120	1,125	1,094	1,297	1,421
	U.S. imports (million dollars)	1,242	1,366	1,574	2,009	1,796
	Apparent U.S. consumption (million dollars)	5,115	2,968	3,280	3,912	3,275
	Trade balance (million dollars)	-122	-241	-480	-712	-375
	Ratio of imports to apparent consumption (percent)	24.3	46.0	48.0	51.4	54.8
	Ratio of exports to shipments (percent)	22.4	41.3	39.1	40.5	49.0
MT018	Textile machinery and parts:					
	Number of establishments	500	500	500	500	500
	Employees (thousands)	15	14	15	15	15
	Capacity utilization (percent)	80	80	80	80	80
	U.S. shipments (million dollars)	1,334	1,612	1,915	1,611	1,563
	U.S. exports (million dollars)	659	657	687	752	728
	U.S. imports (million dollars)	1,502	1,843	1,833	1,752	1,528
	Apparent U.S. consumption (million dollars)	2,177	2,798	3,061	2,611	2,363
	Trade balance (million dollars)	-843	-1,186	-1,146	-1,000	-800
	Ratio of imports to apparent consumption (percent)	69.0	65.9	59.9	67.1	64.7
	Ratio of exports to shipments (percent)	49.4	40.8	35.9	46.7	46.6
MT019	Metal rolling mills and parts thereof:					
	Number of establishments	18	18	17	15	15
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	60	70	75	80	80
	U.S. shipments (million dollars)	437	516	482	621	540
	U.S. exports (million dollars)	182	265	287	235	205
	U.S. imports (million dollars)	103	144	201	278	533
	Apparent U.S. consumption (million dollars)	358	395	396	664	868
	Trade balance (million dollars)	79	121	86	-43	-328
	Ratio of imports to apparent consumption (percent)	28.8	36.5	50.8	41.9	61.4
	Ratio of exports to shipments (percent)	41.6	51.4	59.5	37.8	38.0

See footnote at end of table.



Table B-7--Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT020	Machine tools for cutting metal and parts; tool holders, etc.:					
	Number of establishments	800	800	820	800	750
	Employees (thousands)	80	82	86	88	87
	Capacity utilization (percent)	70	80	89	85	85
	U.S. shipments (million dollars)	5,578	5,812	6,535	6,650	7,100
	U.S. exports (million dollars)	1,270	1,292	1,653	1,722	2,228
	U.S. imports (million dollars)	1,960	2,188	2,735	3,512	3,880
	Apparent U.S. consumption (million dollars)	6,268	6,708	7,617	8,440	8,752
	Trade balance (million dollars)	-690	-896	-1,082	-1,790	-1,652
	Ratio of imports to apparent consumption (percent)	31.3	32.6	35.9	41.6	44.3
	Ratio of exports to shipments (percent)	22.8	22.2	25.3	25.9	31.4
MT021	Machine tools for metal forming and parts thereof:					
	Number of establishments	350	350	360	340	340
	Employees (thousands)	16	17	17	18	18
	Capacity utilization (percent)	70	80	89	85	85
	U.S. shipments (million dollars)	1,651	1,735	1,933	2,153	2,500
	U.S. exports (million dollars)	779	737	778	862	1,033
	U.S. imports (million dollars)	552	644	913	1,125	1,226
	Apparent U.S. consumption (million dollars)	1,424	1,642	2,068	2,416	2,693
	Trade balance (million dollars)	227	93	-135	-263	-193
	Ratio of imports to apparent consumption (percent)	38.8	39.2	44.1	46.6	45.5
	Ratio of exports to shipments (percent)	47.2	42.5	40.2	40.0	41.3
MT022	Non-metal working machine tools and parts thereof:					
	Number of establishments	330	330	340	330	330
	Employees (thousands)	11	13	15	16	17
	Capacity utilization (percent)	75	80	89	85	85
	U.S. shipments (million dollars)	1,762	1,885	2,249	2,564	2,900
	U.S. exports (million dollars)	474	665	861	1,456	1,368
	U.S. imports (million dollars)	633	681	818	993	1,207
	Apparent U.S. consumption (million dollars)	1,921	1,901	2,206	2,101	2,739
	Trade balance (million dollars)	-159	-16	43	463	161
	Ratio of imports to apparent consumption (percent)	33.0	35.8	37.1	47.3	44.1
	Ratio of exports to shipments (percent)	26.9	35.3	38.3	56.8	47.2
MT023	Semiconductor manufacturing equipment and robotics:					
	Number of establishments	600	550	450	400	380
	Employees (thousands)	32	56	78	84	80
	Capacity utilization (percent)	70	75	80	100	100
	U.S. shipments (million dollars)	4,000	5,300	7,200	11,860	13,400
	U.S. exports (million dollars)	6,787	7,574	9,292	5,141	5,595
	U.S. imports (million dollars)	5,242	6,131	8,121	2,053	2,186
	Apparent U.S. consumption (million dollars)	2,455	3,857	6,029	8,772	9,991
	Trade balance (million dollars)	1,545	1,443	1,171	3,088	3,409
	Ratio of imports to apparent consumption (percent)	213.5	159.0	134.7	23.4	21.9
	Ratio of exports to shipments (percent)	169.7	142.9	129.1	43.3	41.8
MT024	Taps, cocks, valves, and similar devices:					
	Number of establishments	892	895	889	893	890
	Employees (thousands)	72	74	71	74	72
	Capacity utilization (percent)	70	72	73	76	76
	U.S. shipments (million dollars)	9,573	9,669	9,862	10,355	10,614
	U.S. exports (million dollars)	1,521	1,665	1,909	2,180	2,423
	U.S. imports (million dollars)	2,057	2,175	2,600	2,931	3,128
	Apparent U.S. consumption (million dollars)	10,109	10,179	10,553	11,106	11,319
	Trade balance (million dollars)	-536	-510	-691	-751	-705
	Ratio of imports to apparent consumption (percent)	20.3	21.4	24.6	26.4	27.6
	Ratio of exports to shipments (percent)	15.9	17.2	19.4	21.1	22.8

See footnote at end of table.

Table B-7—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT026	Gear boxes and other speed changers; torque converters; etc.:					
	Number of establishments . . . . .	220	230	230	230	210
	Employees (thousands) . . . . .	38	39	40	39	38
	Capacity utilization (percent) . . . . .	75	80	89	85	85
	U.S. shipments (million dollars) . . . . .	3,657	3,876	3,803	4,334	4,551
	U.S. exports (million dollars) . . . . .	592	652	764	818	889
	U.S. imports (million dollars) . . . . .	964	1,102	1,412	1,607	1,607
	Apparent U.S. consumption (million dollars) . . . . .	4,029	4,326	4,451	5,123	5,269
	Trade balance (million dollars) . . . . .	-372	-450	-648	-789	-718
	Ratio of imports to apparent consumption (percent) . . . . .	23.9	25.5	31.7	31.4	30.5
	Ratio of exports to shipments (percent) . . . . .	16.2	16.8	20.1	18.9	19.5
MT027	Boilers, turbines, and related machinery:					
	Number of establishments . . . . .	35	35	35	30	30
	Employees (thousands) . . . . .	10	11	11	9	8
	Capacity utilization (percent) . . . . .	60	65	74	75	79
	U.S. shipments (million dollars) . . . . .	1,556	1,634	1,797	1,805	2,100
	U.S. exports (million dollars) . . . . .	857	1,134	1,231	1,540	1,560
	U.S. imports (million dollars) . . . . .	230	306	348	363	499
	Apparent U.S. consumption (million dollars) . . . . .	929	806	914	628	1,039
	Trade balance (million dollars) . . . . .	627	828	883	1,177	1,061
	Ratio of imports to apparent consumption (percent) . . . . .	24.8	38.0	38.1	57.8	48.0
	Ratio of exports to shipments (percent) . . . . .	55.1	69.4	68.5	85.3	74.3
MT028	Electric motors, generators, and related equipment:					
	Number of establishments . . . . .	500	500	510	510	510
	Employees (thousands) . . . . .	90	90	93	96	96
	Capacity utilization (percent) . . . . .	81	80	82	84	85
	U.S. shipments (million dollars) . . . . .	14,940	16,300	17,205	17,770	17,800
	U.S. exports (million dollars) . . . . .	2,742	2,925	2,955	3,391	3,316
	U.S. imports (million dollars) . . . . .	2,658	2,974	3,457	3,880	3,875
	Apparent U.S. consumption (million dollars) . . . . .	14,856	16,349	17,707	18,259	18,359
	Trade balance (million dollars) . . . . .	84	-49	-502	-489	-559
	Ratio of imports to apparent consumption (percent) . . . . .	17.9	18.2	19.5	21.3	21.1
	Ratio of exports to shipments (percent) . . . . .	18.4	17.9	17.2	19.1	18.6
MT029	Electrical transformers, static converters, and inductors:					
	Number of establishments . . . . .	305	305	310	310	315
	Employees (thousands) . . . . .	48	50	52	51	53
	Capacity utilization (percent) . . . . .	68	70	75	78	82
	U.S. shipments (million dollars) . . . . .	6,270	6,345	7,110	7,585	7,700
	U.S. exports (million dollars) . . . . .	1,206	1,421	1,750	2,000	1,923
	U.S. imports (million dollars) . . . . .	2,130	2,467	2,713	3,537	3,631
	Apparent U.S. consumption (million dollars) . . . . .	7,194	7,391	8,073	9,122	9,408
	Trade balance (million dollars) . . . . .	-924	-1,046	-963	-1,537	-1,708
	Ratio of imports to apparent consumption (percent) . . . . .	29.6	33.4	33.6	38.8	38.6
	Ratio of exports to shipments (percent) . . . . .	19.2	22.4	24.6	26.4	25.0
MT031	Portable electric handtools:					
	Number of establishments . . . . .	29	29	30	30	30
	Employees (thousands) . . . . .	9	9	9	10	10
	Capacity utilization (percent) . . . . .	82	83	84	85	89
	U.S. shipments (million dollars) . . . . .	1,500	1,775	1,900	1,930	1,945
	U.S. exports (million dollars) . . . . .	260	307	350	369	333
	U.S. imports (million dollars) . . . . .	381	359	421	481	607
	Apparent U.S. consumption (million dollars) . . . . .	1,621	1,827	1,971	2,042	2,219
	Trade balance (million dollars) . . . . .	-121	-52	-71	-112	-274
	Ratio of imports to apparent consumption (percent) . . . . .	23.5	19.7	21.4	23.6	27.4
	Ratio of exports to shipments (percent) . . . . .	17.3	17.3	18.4	19.1	17.1

See footnote at end of table.

Table B-7--Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT032	Nonelectrically powered handtools and parts thereof:					
	Number of establishments	45	45	48	46	42
	Employees (thousands)	11	12	13	12	12
	Capacity utilization (percent)	77	82	89	85	85
	U.S. shipments (million dollars)	1,288	1,495	1,491	1,558	1,800
	U.S. exports (million dollars)	381	378	474	462	478
	U.S. imports (million dollars)	470	550	619	661	684
	Apparent U.S. consumption (million dollars)	1,377	1,667	1,636	1,757	2,006
	Trade balance (million dollars)	-89	-172	-145	-199	-206
	Ratio of imports to apparent consumption (percent)	34.1	33.0	37.8	37.6	34.1
	Ratio of exports to shipments (percent)	29.6	25.3	31.8	29.7	26.6
MT034	Flashlights and other similar electric lights, light bulbs, etc.:					
	Number of establishments	125	125	125	125	127
	Employees (thousands)	25	25	26	25	26
	Capacity utilization (percent)	82	81	82	80	84
	U.S. shipments (million dollars)	2,950	3,200	3,330	3,300	3,400
	U.S. exports (million dollars)	671	712	811	786	833
	U.S. imports (million dollars)	882	965	1,030	1,097	1,153
	Apparent U.S. consumption (million dollars)	3,161	3,453	3,549	3,611	3,720
	Trade balance (million dollars)	-211	-253	-219	-311	-320
	Ratio of imports to apparent consumption (percent)	27.9	27.9	29.0	30.4	31.0
	Ratio of exports to shipments (percent)	22.7	22.3	24.4	23.8	24.5
MT035	Electric and gas welding and soldering equipment:					
	Number of establishments	186	178	183	225	250
	Employees (thousands)	22	18	19	22	21
	Capacity utilization (percent)	73	78	78	83	80
	U.S. shipments (million dollars)	2,391	2,717	3,043	3,301	3,565
	U.S. exports (million dollars)	406	405	460	507	534
	U.S. imports (million dollars)	345	502	486	596	683
	Apparent U.S. consumption (million dollars)	2,330	2,814	3,069	3,390	3,714
	Trade balance (million dollars)	61	-97	-26	-89	-149
	Ratio of imports to apparent consumption (percent)	14.8	17.8	15.8	17.6	18.4
	Ratio of exports to shipments (percent)	17.0	14.9	15.1	15.4	15.0
MT036	Insulated electrical wire and cable, and conduit, glass and ceramic insulators:					
	Number of establishments	530	525	535	540	535
	Employees (thousands)	78	75	83	87	90
	Capacity utilization (percent)	75	81	85	87	88
	U.S. shipments (million dollars)	12,250	13,200	15,210	16,565	17,200
	U.S. exports (million dollars)	2,567	2,991	3,289	3,566	3,936
	U.S. imports (million dollars)	3,154	3,564	4,810	5,398	5,935
	Apparent U.S. consumption (million dollars)	12,837	13,773	16,731	18,397	19,199
	Trade balance (million dollars)	-587	-573	-1,521	-1,832	-1,999
	Ratio of imports to apparent consumption (percent)	24.6	25.9	28.7	29.3	30.9
	Ratio of exports to shipments (percent)	21.0	22.7	21.6	21.5	22.9
MT045	Miscellaneous machinery:					
	Number of establishments	4,850	4,900	5,000	5,500	5,500
	Employees (thousands)	220	220	220	230	230
	Capacity utilization (percent)	70	72	78	95	95
	U.S. shipments (million dollars)	19,300	20,000	22,000	24,000	24,000
	U.S. exports (million dollars)	3,989	4,024	4,759	4,957	5,474
	U.S. imports (million dollars)	2,615	2,908	3,160	4,117	4,377
	Apparent U.S. consumption (million dollars)	17,926	18,884	20,401	23,160	22,903
	Trade balance (million dollars)	1,374	1,116	1,599	840	1,097
	Ratio of imports to apparent consumption (percent)	14.6	15.4	15.5	17.8	19.1
	Ratio of exports to shipments (percent)	20.7	20.1	21.6	20.7	22.8

See footnote at end of table.

Table B-7--Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT046	Molds and molding machinery:					
	Number of establishments .....	120	120	120	120	120
	Employees (thousands) .....	8	8	8	8	8
	Capacity utilization (percent) .....	70	70	70	70	70
	U.S. shipments (million dollars) .....	3,748	3,746	4,265	4,775	5,300
	U.S. exports (million dollars) .....	999	1,157	1,287	1,301	1,442
	U.S. imports (million dollars) .....	1,599	2,037	3,121	3,528	3,030
	Apparent U.S. consumption (million dollars) .....	4,348	4,626	6,099	7,002	6,888
	Trade balance (million dollars) .....	-600	-880	-1,834	-2,227	-1,588
	Ratio of imports to apparent consumption (percent) .....	36.8	44.0	51.2	50.4	44.0
	Ratio of exports to shipments (percent) .....	26.7	30.9	30.2	27.2	27.2

<sup>1</sup>Capacity utilization could not be meaningfully calculated for this industry.

Table B-8

## Transportation equipment sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT001	Aircraft engines and gas turbines:					
	Number of establishments	26	26	26	30	30
	Employees (thousands)	163	140	121	114	122
	Capacity utilization (percent)	98	88	80	80	85
	U.S. shipments (million dollars)	19,047	17,704	16,060	15,099	15,853
	U.S. exports (million dollars)	8,293	8,266	8,467	8,641	8,963
	U.S. imports (million dollars)	6,185	5,735	5,825	5,285	6,241
	Apparent U.S. consumption (million dollars)	16,939	15,173	13,418	11,743	13,131
	Trade balance (million dollars)	2,108	2,531	2,642	3,356	2,722
	Ratio of imports to apparent consumption (percent)	36.5	37.8	43.4	45.0	47.5
	Ratio of exports to shipments (percent)	43.5	46.7	52.7	57.2	56.5
MT002	Internal combustion piston engines, other than for aircraft:					
	Number of establishments	800	800	800	800	800
	Employees (thousands)	149	150	155	160	160
	Capacity utilization (percent)	75	76	80	82	85
	U.S. shipments (million dollars)	32,900	36,900	41,400	43,600	46,900
	U.S. exports (million dollars)	6,640	7,450	8,288	8,772	9,021
	U.S. imports (million dollars)	5,618	6,340	7,424	8,389	9,403
	Apparent U.S. consumption (million dollars)	31,878	35,790	40,536	43,217	47,282
	Trade balance (million dollars)	1,022	1,110	864	383	-382
	Ratio of imports to apparent consumption (percent)	17.6	17.7	18.3	19.4	19.9
	Ratio of exports to shipments (percent)	20.2	20.2	20.0	20.1	19.2
MT011	Forklift trucks and similar industrial vehicles:					
	Number of establishments	432	432	432	435	435
	Employees (thousands)	17	17	18	20	20
	Capacity utilization (percent)	75	72	75	95	94
	U.S. shipments (million dollars)	2,757	2,900	3,440	4,600	4,590
	U.S. exports (million dollars)	570	566	691	928	920
	U.S. imports (million dollars)	712	721	955	1,136	1,007
	Apparent U.S. consumption (million dollars)	2,899	3,055	3,704	4,808	4,677
	Trade balance (million dollars)	-142	-155	-264	-208	-87
	Ratio of imports to apparent consumption (percent)	24.6	23.6	25.8	23.6	21.5
	Ratio of exports to shipments (percent)	20.7	19.5	20.1	20.2	20.0
MT012	Construction and mining equipment:					
	Number of establishments	1,600	1,600	1,600	1,600	1,600
	Employees (thousands)	79	79	80	78	79
	Capacity utilization (percent)	70	71	73	75	77
	U.S. shipments (million dollars)	12,350	13,050	13,870	15,500	18,406
	U.S. exports (million dollars)	6,881	6,758	7,079	7,887	9,203
	U.S. imports (million dollars)	1,725	2,306	3,470	3,648	3,682
	Apparent U.S. consumption (million dollars)	7,194	8,598	10,261	11,261	12,855
	Trade balance (million dollars)	5,156	4,452	3,609	4,239	5,521
	Ratio of imports to apparent consumption (percent)	24.0	26.8	33.8	32.4	28.6
	Ratio of exports to shipments (percent)	55.7	51.8	51.0	50.9	50.0
MT025	Ball and roller bearings:					
	Number of establishments	140	143	140	145	146
	Employees (thousands)	35	37	37	38	39
	Capacity utilization (percent)	63	65	67	75	75
	U.S. shipments (million dollars)	4,011	4,278	4,470	5,400	5,600
	U.S. exports (million dollars)	713	719	801	967	1,008
	U.S. imports (million dollars)	990	1,114	1,302	1,520	1,526
	Apparent U.S. consumption (million dollars)	4,288	4,673	4,971	5,953	6,118
	Trade balance (million dollars)	-277	-395	-501	-553	-518
	Ratio of imports to apparent consumption (percent)	23.1	23.8	26.2	25.5	24.9
	Ratio of exports to shipments (percent)	17.8	16.8	17.9	17.9	18.0

Table B-8--Continued

## Transportation equipment sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT030	Primary cells and batteries and electric storage batteries:					
	Number of establishments .....	222	225	230	232	230
	Employees (thousands) .....	32	35	40	42	42
	Capacity utilization (percent) .....	83	85	87	87	85
	U.S. shipments (million dollars) .....	5,200	5,500	5,800	5,900	6,075
	U.S. exports (million dollars) .....	848	957	1,125	1,208	1,310
	U.S. imports (million dollars) .....	947	1,079	1,441	1,637	1,710
	Apparent U.S. consumption (million dollars) .....	5,299	5,622	6,116	6,329	6,475
	Trade balance (million dollars) .....	-99	-122	-316	-429	-400
	Ratio of imports to apparent consumption (percent) ...	17.9	19.2	23.6	25.9	26.4
	Ratio of exports to shipments (percent) .....	16.3	17.4	19.4	20.5	21.6
MT033	Ignition, starting, lighting, and other electrical equipment:					
	Number of establishments .....	525	523	523	520	520
	Employees (thousands) .....	64	65	70	71	71
	Capacity utilization (percent) .....	78	79	77	75	75
	U.S. shipments (million dollars) .....	7,250	8,200	9,000	8,500	8,500
	U.S. exports (million dollars) .....	1,122	1,432	1,409	1,336	1,404
	U.S. imports (million dollars) .....	1,296	1,495	1,699	1,833	2,032
	Apparent U.S. consumption (million dollars) .....	7,424	8,263	9,290	8,997	9,128
	Trade balance (million dollars) .....	-174	-63	-290	-497	-628
	Ratio of imports to apparent consumption (percent) ...	17.5	18.1	18.3	20.4	22.3
	Ratio of exports to shipments (percent) .....	15.5	17.5	15.7	15.7	16.5
MT037	Rail locomotive and rolling stock:					
	Number of establishments .....	130	135	140	140	140
	Employees (thousands) .....	25	25	25	24	24
	Capacity utilization (percent) .....	66	75	90	95	93
	U.S. shipments (million dollars) .....	4,494	4,703	4,913	5,623	5,305
	U.S. exports (million dollars) .....	580	574	750	877	851
	U.S. imports (million dollars) .....	744	729	1,161	1,292	1,312
	Apparent U.S. consumption (million dollars) .....	4,658	4,858	5,324	6,038	5,766
	Trade balance (million dollars) .....	-164	-155	-411	-415	-461
	Ratio of imports to apparent consumption (percent) ...	16.0	15.0	21.8	21.4	22.8
	Ratio of exports to shipments (percent) .....	12.9	12.2	15.3	15.6	16.0
MT038	Automobiles, trucks, buses, and bodies and chassis of the foregoing:					
	Number of establishments .....	1,020	1,025	1,125	1,125	1,125
	Employees (thousands) .....	314	328	338	335	355
	Capacity utilization (percent) .....	71	77	87	85	85
	U.S. shipments (million dollars) .....	139,800	161,500	175,800	170,500	160,270
	U.S. exports (million dollars) .....	17,679	18,555	21,365	21,899	23,466
	U.S. imports (million dollars) .....	60,376	68,607	79,240	84,384	87,367
	Apparent U.S. consumption (million dollars) .....	182,497	211,552	233,675	232,985	224,171
	Trade balance (million dollars) .....	-42,697	-50,052	-57,875	-62,4855	-63,901
	Ratio of imports to apparent consumption (percent) ...	33.1	32.4	33.9	36.2	39.0
	Ratio of exports to shipments (percent) .....	12.6	11.5	12.2	12.8	14.6
MT039	Certain motor vehicle parts:					
	Number of establishments .....	5,825	5,910	5,900	5,895	5,900
	Employees (thousands) .....	408	404	396	385	400
	Capacity utilization (percent) .....	79	81	81	81	78
	U.S. shipments (million dollars) .....	66,500	73,300	79,000	85,000	92,400
	U.S. exports (million dollars) .....	16,046	18,469	20,685	22,265	22,793
	U.S. imports (million dollars) .....	13,304	14,646	16,085	16,298	16,867
	Apparent U.S. consumption (million dollars) .....	63,758	69,477	74,400	79,033	86,474
	Trade balance (million dollars) .....	2,742	3,823	4,600	5,967	5,926
	Ratio of imports to apparent consumption (percent) ...	20.9	21.1	21.6	20.6	19.5
	Ratio of exports to shipments (percent) .....	24.1	25.2	26.2	26.2	24.7

Table B-8—Continued

## Transportation equipment sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC code	Industry/commodity group	1992	1993	1994	1995	1996
MT040	Motorcycles, mopeds, and parts:					
	Number of establishments . . . . .	58	58	58	60	65
	Employees (thousands) . . . . .	7	8	8	8	8
	Capacity utilization (percent) . . . . .	79	80	81	85	85
	U.S. shipments (million dollars) . . . . .	1,080	1,200	1,370	1,500	1,700
	U.S. exports (million dollars) . . . . .	497	506	511	593	638
	U.S. imports (million dollars) . . . . .	803	877	937	1,162	1,137
	Apparent U.S. consumption (million dollars) . . . . .	1,386	1,571	1,796	2,069	2,199
	Trade balance (million dollars) . . . . .	-306	-371	-426	-569	-499
	Ratio of imports to apparent consumption (percent) . . . . .	57.9	55.8	52.2	56.2	51.8
Ratio of exports to shipments (percent) . . . . .	46.0	42.2	37.3	39.5	37.5	
MT041	Miscellaneous vehicles and transportation-related equipment:					
	Number of establishments . . . . .	1,205	1,200	1,200	1,200	1,200
	Employees (thousands) . . . . .	38	36	35	36	36
	Capacity utilization (percent) . . . . .	60	60	60	62	64
	U.S. shipments (million dollars) . . . . .	5,800	5,750	5,500	5,900	7,216
	U.S. exports (million dollars) . . . . .	2,701	2,441	3,156	3,390	3,969
	U.S. imports (million dollars) . . . . .	1,153	1,465	1,456	1,509	1,416
	Apparent U.S. consumption (million dollars) . . . . .	4,252	4,774	3,800	4,019	4,663
	Trade balance (million dollars) . . . . .	1,548	976	1,700	1,881	2,553
	Ratio of imports to apparent consumption (percent) . . . . .	27.1	30.7	38.3	37.5	30.4
Ratio of exports to shipments (percent) . . . . .	46.6	42.5	57.4	57.5	55.0	
MT042	Aircraft, spacecraft, and related equipment:					
	Number of establishments . . . . .	320	275	270	275	280
	Employees (thousands) . . . . .	522	464	413	386	476
	Capacity utilization (percent) . . . . .	98	87	78	80	85
	U.S. shipments (million dollars) . . . . .	55,775	50,748	47,918	45,816	47,513
	U.S. exports (million dollars) . . . . .	35,172	30,673	28,576	28,839	30,754
	U.S. imports (million dollars) . . . . .	7,262	6,255	6,431	6,135	7,353
	Apparent U.S. consumption (million dollars) . . . . .	27,865	26,330	25,773	23,112	24,112
	Trade balance (million dollars) . . . . .	27,910	24,418	22,145	22,704	23,401
	Ratio of imports to apparent consumption (percent) . . . . .	26.1	23.8	25.0	26.5	30.5
Ratio of exports to shipments (percent) . . . . .	63.1	60.4	59.6	62.9	64.7	
MT043	Ships, tugs, pleasure boats, and similar vessels:					
	Number of establishments . . . . .	2,350	2,350	2,200	2,200	2,100
	Employees (thousands) . . . . .	154	142	146	145	140
	Capacity utilization (percent) . . . . .	65	60	70	75	70
	U.S. shipments (million dollars) . . . . .	13,662	13,602	14,497	14,992	14,800
	U.S. exports (million dollars) . . . . .	1,441	1,002	1,203	1,220	1,058
	U.S. imports (million dollars) . . . . .	378	1,019	653	919	1,130
	Apparent U.S. consumption (million dollars) . . . . .	12,599	13,619	13,947	14,691	14,872
	Trade balance (million dollars) . . . . .	1,063	-17	550	301	-72
	Ratio of imports to apparent consumption (percent) . . . . .	3.0	7.5	4.7	6.3	7.6
Ratio of exports to shipments (percent) . . . . .	10.5	7.4	8.3	8.1	7.1	
MT044	Motors and engines, except internal combustion, aircraft, or electric:					
	Number of establishments . . . . .	45	45	45	45	45
	Employees (thousands) . . . . .	9	9	9	9	9
	Capacity utilization (percent) . . . . .	84	84	84	86	86
	U.S. shipments (million dollars) . . . . .	4,100	4,150	4,200	4,200	4,250
	U.S. exports (million dollars) . . . . .	231	244	275	315	335
	U.S. imports (million dollars) . . . . .	230	283	374	474	511
	Apparent U.S. consumption (million dollars) . . . . .	4,099	4,189	4,299	4,359	4,426
	Trade balance (million dollars) . . . . .	1	-39	-99	-159	-176
	Ratio of imports to apparent consumption (percent) . . . . .	5.6	6.8	8.7	10.9	11.6
Ratio of exports to shipments (percent) . . . . .	5.6	5.9	6.5	7.5	7.9	

Table B-9

## Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST001	Office machines:					
	Number of establishments	350	350	350	350	350
	Employees (thousands)	59	58	50	47	44
	Capacity utilization (percent)	72	72	74	75	75
	U.S. shipments (million dollars)	8,480	9,085	8,650	8,850	8,925
	U.S. exports (million dollars)	2,003	1,770	1,777	1,930	2,099
	U.S. imports (million dollars)	4,578	5,052	5,781	6,366	6,296
	Apparent U.S. consumption (million dollars)	11,055	12,367	12,654	13,286	13,122
	Trade balance (million dollars)	-2,575	-3,282	-4,004	-4,436	-4,197
	Ratio of imports to apparent consumption (percent)	41.4	40.9	45.7	47.9	48.0
	Ratio of exports to shipments (percent)	23.6	19.5	20.5	21.8	23.5
ST002	Telephone and telegraph apparatus:					
	Number of establishments	339	418	431	388	390
	Employees (thousands)	90	89	87	88	89
	Capacity utilization (percent)	68	72	74	75	77
	U.S. shipments (million dollars)	19,237	21,039	24,751	27,305	33,312
	U.S. exports (million dollars)	4,170	5,199	6,724	8,203	8,726
	U.S. imports (million dollars)	5,606	6,143	7,448	7,742	8,737
	Apparent U.S. consumption (million dollars)	20,673	21,983	25,475	26,844	33,323
	Trade balance (million dollars)	-1,436	-944	-724	461	-11
	Ratio of imports to apparent consumption (percent)	27.1	27.9	29.2	28.8	26.2
	Ratio of exports to shipments (percent)	21.7	24.7	27.2	30.0	26.2
ST003	Microphones, loudspeakers, audio amplifiers and combinations thereof:					
	Number of establishments	110	110	110	110	100
	Employees (thousands)	12	12	12	12	12
	Capacity utilization (percent)	74	75	75	75	75
	U.S. shipments (million dollars)	1,645	1,750	1,890	2,010	2,150
	U.S. exports (million dollars)	720	851	1,006	1,046	1,138
	U.S. imports (million dollars)	1,241	1,473	1,827	2,001	2,108
	Apparent U.S. consumption (million dollars)	2,166	2,372	2,711	2,965	3,120
	Trade balance (million dollars)	-521	-622	-821	-955	-970
	Ratio of imports to apparent consumption (percent)	57.3	62.1	67.4	67.5	67.6
	Ratio of exports to shipments (percent)	43.8	48.6	53.2	52.0	52.9
ST004	Tape recorders, tape players, video cassette recorders, turntables, and compact disc players:					
	Number of establishments	25	24	24	24	24
	Employees (thousands)	1	1	1	1	1
	Capacity utilization (percent)	75	75	75	75	75
	U.S. shipments (million dollars)	210	245	340	370	400
	U.S. exports (million dollars)	627	579	640	754	964
	U.S. imports (million dollars)	5,444	5,445	6,283	6,733	5,873
	Apparent U.S. consumption (million dollars)	5,027	5,111	5,983	6,349	5,309
	Trade balance (million dollars)	-4,817	-4,866	-5,643	-5,979	-4,909
	Ratio of imports to apparent consumption (percent)	108.3	106.5	106.3	106.1	110.6
	Ratio of exports to shipments (percent)	298.6	236.3	188.2	203.8	241.0
ST005	Unrecorded magnetic tapes, discs, and other media:					
	Number of establishments	58	58	55	55	59
	Employees (thousands)	25	25	25	25	17
	Capacity utilization (percent)	85	85	85	85	85
	U.S. shipments (million dollars)	4,335	4,485	4,780	5,000	4,900
	U.S. exports (million dollars)	1,743	1,675	1,736	2,030	2,670
	U.S. imports (million dollars)	1,729	1,928	1,943	1,936	2,072
	Apparent U.S. consumption (million dollars)	4,321	4,738	4,987	4,906	4,302
	Trade balance (million dollars)	14	-253	-207	94	598
	Ratio of imports to apparent consumption (percent)	40.0	40.7	39.0	39.5	48.2
	Ratio of exports to shipments (percent)	40.2	37.3	36.3	40.6	54.5

See footnote at end of table.



Table B-9—Continued

## Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST006	Records, tapes, compact discs, computer software, and other recorded media:					
	Number of establishments . . . . .	10,500	11,000	11,200	11,400	11,920
	Employees (thousands) . . . . .	167	175	180	185	225
	Capacity utilization (percent) . . . . .	90	90	90	90	90
	U.S. shipments (million dollars) . . . . .	22,232	24,838	27,000	30,800	60,000
	U.S. exports (million dollars) . . . . .	2,756	3,281	3,742	3,814	3,453
	U.S. imports (million dollars) . . . . .	522	616	755	916	994
	Apparent U.S. consumption (million dollars) . . . . .	19,998	22,173	24,013	27,902	57,541
	Trade balance (million dollars) . . . . .	2,234	2,665	2,987	2,898	2,459
	Ratio of imports to apparent consumption (percent) . . . . .	2.6	2.8	3.1	3.3	1.7
	Ratio of exports to shipments (percent) . . . . .	12.4	13.2	13.9	12.4	5.8
ST007	Radio transmission and reception apparatus, and combinations thereof:					
	Number of establishments . . . . .	300	330	381	350	350
	Employees (thousands) . . . . .	73	71	70	70	65
	Capacity utilization (percent) . . . . .	87	87	87	87	84
	U.S. shipments (million dollars) . . . . .	10,400	10,870	13,128	14,192	14,589
	U.S. exports (million dollars) . . . . .	3,528	4,283	5,166	6,604	6,404
	U.S. imports (million dollars) . . . . .	5,958	6,420	7,764	8,528	7,535
	Apparent U.S. consumption (million dollars) . . . . .	12,830	13,007	15,726	16,116	15,720
	Trade balance (million dollars) . . . . .	-2,430	-2,137	-2,598	-1,924	-1,131
	Ratio of imports to apparent consumption (percent) . . . . .	46.4	49.4	49.4	52.9	47.9
	Ratio of exports to shipments (percent) . . . . .	33.9	39.4	39.4	46.5	43.9
ST008	Radio navigational aid, radar, and remote control apparatus:					
	Number of establishments . . . . .	110	105	100	100	100
	Employees (thousands) . . . . .	125	116	108	105	105
	Capacity utilization (percent) . . . . .	72	72	72	72	72
	U.S. shipments (million dollars) . . . . .	15,140	13,500	13,170	13,565	13,972
	U.S. exports (million dollars) . . . . .	1,111	1,249	1,242	1,198	1,215
	U.S. imports (million dollars) . . . . .	446	408	438	522	594
	Apparent U.S. consumption (million dollars) . . . . .	14,475	12,659	12,366	12,889	13,351
	Trade balance (million dollars) . . . . .	665	841	804	676	621
	Ratio of imports to apparent consumption (percent) . . . . .	3.1	3.2	3.5	4.1	4.4
	Ratio of exports to shipments (percent) . . . . .	7.3	9.3	9.4	8.8	8.7
ST009	Television receivers and video monitors and combinations including television receivers:					
	Number of establishments . . . . .	30	28	26	25	23
	Employees (thousands) . . . . .	21	21	21	20	16
	Capacity utilization (percent) . . . . .	68	86	85	85	85
	U.S. shipments (million dollars) . . . . .	4,865	4,780	5,020	5,130	5,200
	U.S. exports (million dollars) . . . . .	1,224	1,199	1,302	1,331	1,268
	U.S. imports (million dollars) . . . . .	3,532	3,707	4,319	4,540	4,498
	Apparent U.S. consumption (million dollars) . . . . .	7,173	7,288	8,037	8,339	8,430
	Trade balance (million dollars) . . . . .	-2,308	-2,508	-3,017	-3,209	-3,230
	Ratio of imports to apparent consumption (percent) . . . . .	49.2	50.9	53.7	54.4	53.4
	Ratio of exports to shipments (percent) . . . . .	25.2	25.1	25.9	25.9	24.4

See footnote at end of table.

Table B-9--Continued

## Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST010	Television apparatus (except receivers and monitors), including cameras, camcorders, and cable apparatus:					
	Number of establishments	125	120	115	115	110
	Employees (thousands)	9	8	8	8	8
	Capacity utilization (percent)	72	72	72	72	70
	U.S. shipments (million dollars)	1,320	1,430	1,780	1,970	2,200
	U.S. exports (million dollars)	229	369	427	637	726
	U.S. imports (million dollars)	2,236	2,633	3,265	3,881	4,353
	Apparent U.S. consumption (million dollars)	3,327	3,694	4,618	5,214	5,827
	Trade balance (million dollars)	-2,007	-2,264	-2,838	-3,244	-3,627
	Ratio of imports to apparent consumption (percent)	67.2	71.3	70.7	74.4	74.7
	Ratio of exports to shipments (percent)	17.3	25.8	24.0	32.3	33.0
ST011	Electric sound and visual signaling apparatus:					
	Number of establishments	218	210	205	200	200
	Employees (thousands)	14	14	14	15	15
	Capacity utilization (percent)	87	85	85	85	85
	U.S. shipments (million dollars)	1,675	1,585	1,565	1,750	1,700
	U.S. exports (million dollars)	483	560	578	692	788
	U.S. imports (million dollars)	1,073	1,261	1,576	1,748	1,883
	Apparent U.S. consumption (million dollars)	2,265	2,286	2,563	2,806	2,795
	Trade balance (million dollars)	-590	-701	-998	-1,056	-1,095
	Ratio of imports to apparent consumption (percent)	47.4	55.2	61.5	62.3	67.4
	Ratio of exports to shipments (percent)	28.8	35.3	36.9	39.5	46.4
ST012	Electrical capacitors and resistors:					
	Number of establishments	222	230	240	230	225
	Employees (thousands)	29	30	30	32	29
	Capacity utilization (percent)	75	80	80	80	75
	U.S. shipments (million dollars)	2,457	2,633	2,678	2,820	2,600
	U.S. exports (million dollars)	898	960	1,186	1,571	1,807
	U.S. imports (million dollars)	1,022	1,181	1,475	1,879	1,691
	Apparent U.S. consumption (million dollars)	2,581	2,854	2,967	3,128	2,484
	Trade balance (million dollars)	-124	-221	-289	-308	116
	Ratio of imports to apparent consumption (percent)	39.6	41.4	49.7	60.1	68.1
	Ratio of exports to shipments (percent)	36.5	36.5	44.3	55.7	69.5
ST013	Apparatus for making, breaking, protecting, or connecting electrical circuits:					
	Number of establishments	1,790	1,800	1,825	1,820	1,820
	Employees (thousands)	173	174	176	179	180
	Capacity utilization (percent)	73	80	85	85	80
	U.S. shipments (million dollars)	23,170	26,252	28,900	30,400	32,000
	U.S. exports (million dollars)	4,924	5,224	6,471	7,502	8,200
	U.S. imports (million dollars)	5,445	6,254	7,380	8,528	8,829
	Apparent U.S. consumption (million dollars)	23,691	27,282	29,809	31,426	32,629
	Trade balance (million dollars)	-521	-1,030	-909	-1,026	-629
	Ratio of imports to apparent consumption (percent)	23.0	22.9	24.8	27.1	27.1
	Ratio of exports to shipments (percent)	21.3	19.9	22.4	24.7	25.6
ST014	Television picture tubes and other cathode ray tubes:					
	Number of establishments	19	19	19	19	18
	Employees (thousands)	20	21	22	22	22
	Capacity utilization (percent)	87	87	85	85	85
	U.S. shipments (million dollars)	2,320	2,460	3,070	3,280	3,500
	U.S. exports (million dollars)	602	769	1,061	1,391	1,566
	U.S. imports (million dollars)	758	822	1,003	1,116	987
	Apparent U.S. consumption (million dollars)	2,476	2,513	3,012	3,005	2,921
	Trade balance (million dollars)	-156	-53	58	275	579
	Ratio of imports to apparent consumption (percent)	30.6	32.7	33.3	37.1	33.8
	Ratio of exports to shipments (percent)	26.0	31.3	34.6	42.4	44.7

See footnote at end of table.

Table B-9—Continued

## Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST015	Special-purpose tubes:					
	Number of establishments . . . . .	40	40	40	38	38
	Employees (thousands) . . . . .	6	5	5	5	5
	Capacity utilization (percent) . . . . .	73	71	70	70	70
	U.S. shipments (million dollars) . . . . .	948	860	800	800	900
	U.S. exports (million dollars) . . . . .	169	159	171	150	153
	U.S. imports (million dollars) . . . . .	170	168	215	274	252
	Apparent U.S. consumption (million dollars) . . . . .	949	869	844	924	999
	Trade balance (million dollars) . . . . .	-1	-9	-44	-124	-99
	Ratio of imports to apparent consumption (percent) . . . . .	17.9	19.3	25.5	29.7	25.2
	Ratio of exports to shipments (percent) . . . . .	17.8	18.5	21.4	18.8	17.0
ST016	Diodes, transistors, integrated circuits and similar semiconductor solid-state devices:					
	Number of establishments . . . . .	500	500	500	500	500
	Employees (thousands) . . . . .	222	214	222	241	225
	Capacity utilization (percent) . . . . .	76	84	85	88	82
	U.S. shipments (million dollars) . . . . .	32,157	35,152	38,500	51,000	48,000
	U.S. exports (million dollars) . . . . .	11,527	13,813	18,098	23,317	24,135
	U.S. imports (million dollars) . . . . .	15,449	19,466	26,020	39,168	36,771
	Apparent U.S. consumption (million dollars) . . . . .	36,079	40,805	46,422	66,851	60,636
	Trade balance (million dollars) . . . . .	-3,922	-5,653	-7,922	-15,851	-12,636
	Ratio of imports to apparent consumption (percent) . . . . .	42.8	47.7	56.1	58.6	60.6
	Ratio of exports to shipments (percent) . . . . .	35.8	39.3	47.0	45.7	50.3
ST017	Electrical and electronic articles, apparatus, and parts not elsewhere provided for:					
	Number of establishments . . . . .	661	660	640	640	650
	Employees (thousands) . . . . .	23	24	23	23	24
	Capacity utilization (percent) . . . . .	70	70	75	78	78
	U.S. shipments (million dollars) . . . . .	3,500	3,700	3,700	3,800	3,800
	U.S. exports (million dollars) . . . . .	1,682	1,871	2,117	2,814	2,904
	U.S. imports (million dollars) . . . . .	928	987	1,137	1,463	1,472
	Apparent U.S. consumption (million dollars) . . . . .	2,746	2,816	2,720	2,449	2,368
	Trade balance (million dollars) . . . . .	754	884	980	1,351	1,432
	Ratio of imports to apparent consumption (percent) . . . . .	33.8	35.1	41.8	59.7	62.2
	Ratio of exports to shipments (percent) . . . . .	48.1	50.6	57.2	74.1	76.4
ST018	Automatic data processing machines:					
	Number of establishments . . . . .	732	754	770	785	795
	Employees (thousands) . . . . .	203	189	180	190	202
	Capacity utilization (percent) . . . . .	78	85	87	89	91
	U.S. shipments (million dollars) . . . . .	52,024	55,053	62,353	73,150	78,850
	U.S. exports (million dollars) . . . . .	24,985	25,397	29,102	34,476	37,567
	U.S. imports (million dollars) . . . . .	31,564	37,906	46,161	56,308	60,193
	Apparent U.S. consumption (million dollars) . . . . .	58,603	67,562	79,412	94,982	101,476
	Trade balance (million dollars) . . . . .	-6,579	-12,509	-17,059	-21,832	-22,626
	Ratio of imports to apparent consumption (percent) . . . . .	53.9	56.1	58.1	59.3	59.3
	Ratio of exports to shipments (percent) . . . . .	48.0	46.1	46.7	47.1	47.6
ST019	Photographic supplies:					
	Number of establishments . . . . .	112	112	112	110	110
	Employees (thousands) . . . . .	35	34	34	33	32
	Capacity utilization (percent) . . . . .	88	85	85	85	83
	U.S. shipments (million dollars) . . . . .	9,200	9,500	9,500	9,750	9,950
	U.S. exports (million dollars) . . . . .	1,669	1,636	1,621	1,780	2,148
	U.S. imports (million dollars) . . . . .	1,610	1,702	1,675	1,754	1,702
	Apparent U.S. consumption (million dollars) . . . . .	9,141	9,566	9,554	9,724	9,504
	Trade balance (million dollars) . . . . .	59	-66	-54	26	446
	Ratio of imports to apparent consumption (percent) . . . . .	17.6	17.8	17.5	18.0	17.9
	Ratio of exports to shipments (percent) . . . . .	18.1	17.2	17.1	18.3	21.6

See footnote at end of table.

Table B-9--Continued

## Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST020	Exposed photographic plates, film, and paper:					
	Number of establishments	200	200	200	200	200
	Employees (thousands)	230	230	230	230	230
	Capacity utilization (percent)	88	85	85	85	85
	U.S. shipments (million dollars)	5,100	5,500	6,290	6,440	6,600
	U.S. exports (million dollars)	102	100	110	98	101
	U.S. imports (million dollars)	124	156	107	85	150
	Apparent U.S. consumption (million dollars)	5,122	5,556	6,287	6,427	6,649
	Trade balance (million dollars)	-22	-56	3	13	-49
	Ratio of imports to apparent consumption (percent)	2.4	2.8	1.7	1.3	2.3
	Ratio of exports to shipments (percent)	2.0	1.8	1.7	1.5	1.5
ST021	Optical fibers, optical fiber bundles and cables:					
	Number of establishments	55	56	58	60	62
	Employees (thousands)	7	7	8	9	10
	Capacity utilization (percent)	90	90	90	90	92
	U.S. shipments (million dollars)	1,602	1,829	2,290	2,750	3,300
	U.S. exports (million dollars)	293	325	418	475	646
	U.S. imports (million dollars)	85	90	104	154	216
	Apparent U.S. consumption (million dollars)	1,394	1,594	1,976	2,429	2,870
	Trade balance (million dollars)	208	235	314	321	430
	Ratio of imports to apparent consumption (percent)	6.1	5.6	5.3	6.3	7.5
	Ratio of exports to shipments (percent)	18.3	17.8	18.3	17.3	19.6
ST022	Optical goods, including ophthalmic goods:					
	Number of establishments	900	902	904	900	905
	Employees (thousands)	58	58	60	58	60
	Capacity utilization (percent)	88	78	80	78	82
	U.S. shipments (million dollars)	4,350	4,250	4,750	4,900	5,400
	U.S. exports (million dollars)	1,194	1,150	1,324	1,527	1,941
	U.S. imports (million dollars)	2,098	2,181	2,385	2,820	3,114
	Apparent U.S. consumption (million dollars)	5,254	5,281	5,811	6,193	6,573
	Trade balance (million dollars)	-904	-1,031	-1,061	-1,293	-1,173
	Ratio of imports to apparent consumption (percent)	39.9	41.3	41.0	45.5	47.4
	Ratio of exports to shipments (percent)	27.4	27.1	27.9	31.2	35.9
ST023	Photographic cameras and equipment:					
	Number of establishments	635	635	635	630	630
	Employees (thousands)	12	12	12	11	11
	Capacity utilization (percent)	88	85	85	85	85
	U.S. shipments (million dollars)	1,550	1,530	1,510	1,550	1,600
	U.S. exports (million dollars)	936	940	980	1,038	1,075
	U.S. imports (million dollars)	1,703	1,968	2,315	2,618	2,748
	Apparent U.S. consumption (million dollars)	2,317	2,558	2,845	3,130	3,273
	Trade balance (million dollars)	-767	-1,028	-1,335	-1,580	-1,673
	Ratio of imports to apparent consumption (percent)	73.5	76.9	81.4	83.6	84.0
	Ratio of exports to shipments (percent)	60.4	61.4	64.9	67.0	67.2
ST024	Medical goods:					
	Number of establishments	2,315	2,320	2,325	2,325	2,338
	Employees (thousands)	170	175	178	180	181
	Capacity utilization (percent)	84	85	87	88	90
	U.S. shipments (million dollars)	22,200	24,000	25,200	27,000	28,900
	U.S. exports (million dollars)	6,940	7,360	7,997	8,966	10,217
	U.S. imports (million dollars)	3,997	4,381	4,405	4,951	5,368
	Apparent U.S. consumption (million dollars)	19,257	21,021	21,608	22,985	24,051
	Trade balance (million dollars)	2,943	2,979	3,592	4,015	4,849
	Ratio of imports to apparent consumption (percent)	20.8	20.8	20.4	21.5	22.3
	Ratio of exports to shipments (percent)	31.3	30.7	31.7	33.2	35.4

See footnote at end of table.

Table B-9--Continued

## Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST025	Surveying and navigational instruments:					
	Number of establishments	366	360	356	355	355
	Employees (thousands)	47	45	42	41	41
	Capacity utilization (percent)	66	65	63	63	63
	U.S. shipments (million dollars)	6,937	6,700	6,435	6,762	6,965
	U.S. exports (million dollars)	1,709	1,556	1,470	1,511	1,547
	U.S. imports (million dollars)	562	477	461	556	571
	Apparent U.S. consumption (million dollars)	5,790	5,621	5,426	5,807	5,989
	Trade balance (million dollars)	1,147	1,079	1,009	955	976
	Ratio of imports to apparent consumption (percent)	9.7	8.5	8.5	9.6	9.5
	Ratio of exports to shipments (percent)	24.6	23.2	22.8	22.3	22.2
ST026	Watches:					
	Number of establishments	20	20	20	20	20
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	60	61	61	60	59
	U.S. shipments (million dollars)	210	230	250	240	250
	U.S. exports (million dollars)	117	138	163	139	154
	U.S. imports (million dollars)	1,869	2,048	2,127	2,243	2,268
	Apparent U.S. consumption (million dollars)	1,962	2,140	2,214	2,344	2,364
	Trade balance (million dollars)	-1,752	-1,910	-1,964	-2,104	-2,114
	Ratio of imports to apparent consumption (percent)	95.3	95.7	96.1	95.7	95.9
	Ratio of exports to shipments (percent)	55.7	60.0	65.2	57.9	61.6
ST027	Clocks and timing devices:					
	Number of establishments	49	49	47	46	42
	Employees (thousands)	5	5	4	4	3
	Capacity utilization (percent)	67	68	67	65	64
	U.S. shipments (million dollars)	520	535	520	510	490
	U.S. exports (million dollars)	90	97	113	108	123
	U.S. imports (million dollars)	350	400	424	430	447
	Apparent U.S. consumption (million dollars)	780	838	831	832	814
	Trade balance (million dollars)	-260	-303	-311	-322	-324
	Ratio of imports to apparent consumption (percent)	44.9	47.7	51.0	51.7	54.9
	Ratio of exports to shipments (percent)	17.3	18.1	21.7	21.2	25.1
ST028	Balances of a sensitivity of 5 cg or better:					
	Number of establishments	10	10	10	10	10
	Employees (thousands)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent)	65	60	61	61	65
	U.S. shipments (million dollars)	33	30	34	32	35
	U.S. exports (million dollars)	16	18	18	21	23
	U.S. imports (million dollars)	41	38	37	35	36
	Apparent U.S. consumption (million dollars)	58	50	53	46	48
	Trade balance (million dollars)	-25	-20	-19	-14	-13
	Ratio of imports to apparent consumption (percent)	70.7	76.0	69.8	76.1	75.0
	Ratio of exports to shipments (percent)	48.5	60.0	52.9	65.6	65.7
ST029	Drawing and mathematical calculating or measuring instruments:					
	Number of establishments	175	175	175	175	175
	Employees (thousands)	6	6	6	6	6
	Capacity utilization (percent)	67	65	64	64	65
	U.S. shipments (million dollars)	542	545	543	545	550
	U.S. exports (million dollars)	166	162	145	172	275
	U.S. imports (million dollars)	231	235	322	401	385
	Apparent U.S. consumption (million dollars)	607	618	720	774	660
	Trade balance (million dollars)	-65	-73	-177	-229	-110
	Ratio of imports to apparent consumption (percent)	38.1	38.0	44.7	51.8	58.3
	Ratio of exports to shipments (percent)	30.6	29.7	26.7	31.6	50.0

See footnote at end of table.

**Table B-9--Continued**

**Electronic products sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96**

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
ST030	Measuring, testing, controlling, and analyzing instruments:					
	Number of establishments .....	3,215	3,215	3,210	3,210	3,210
	Employees (thousands) .....	220	222	225	225	225
	Capacity utilization (percent) .....	71	72	74	74	75
	U.S. shipments (million dollars) .....	23,700	24,400	25,800	27,090	29,257
	U.S. exports (million dollars) .....	8,185	9,026	10,060	11,572	12,578
	U.S. imports (million dollars) .....	4,014	4,553	5,727	6,665	7,136
	Apparent U.S. consumption (million dollars) .....	19,529	19,927	21,467	22,183	23,815
	Trade balance (million dollars) .....	4,171	4,473	4,333	4,907	5,442
	Ratio of imports to apparent consumption (percent) . . .	20.6	22.8	26.7	30.0	30.0
	Ratio of exports to shipments (percent) .....	34.5	37.0	39.0	42.7	43.0

<sup>1</sup>Not available

Table B-10

## Miscellaneous manufactures sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC						
code	Industry/commodity group	1992	1993	1994	1995	1996
MM046	Luggage, handbags, and flat goods:					
	Number of establishments	701	655	655	565	525
	Employees (thousands)	22	20	19	19	18
	Capacity utilization (percent)	83	73	74	70	70
	U.S. shipments (million dollars)	1,797	1,683	1,712	1,458	1,360
	U.S. exports (million dollars)	194	199	233	253	306
	U.S. imports (million dollars)	2,437	2,584	3,008	3,332	3,512
	Apparent U.S. consumption (million dollars)	4,040	4,068	4,487	4,537	4,566
	Trade balance (million dollars)	-2,243	-2,385	-2,775	-3,079	-3,206
	Ratio of imports to apparent consumption (percent)	60.3	63.5	67.0	73.4	76.9
	Ratio of exports to shipments (percent)	10.8	11.8	13.6	17.4	22.5
MM047	Certain other leather goods:					
	Number of establishments	441	450	450	445	440
	Employees (thousands)	8	8	7	7	6
	Capacity utilization (percent)	85	77	77	75	70
	U.S. shipments (million dollars)	498	568	543	508	480
	U.S. exports (million dollars)	74	79	88	93	80
	U.S. imports (million dollars)	158	168	196	229	239
	Apparent U.S. consumption (million dollars)	582	657	651	644	639
	Trade balance (million dollars)	-84	-89	-108	-136	-159
	Ratio of imports to apparent consumption (percent)	27.1	25.6	30.1	35.6	37.4
	Ratio of exports to shipments (percent)	14.9	13.9	16.2	18.3	16.7
MM048	Musical instruments and accessories:					
	Firms (number)	470	468	470	470	470
	Employees (thousands)	12	12	12	12	12
	Capacity utilization (percent)	60	59	60	61	65
	U.S. shipments (million dollars)	902	965	977	1,066	1,162
	U.S. exports (million dollars)	341	354	389	418	432
	U.S. imports (million dollars)	824	861	883	1,015	995
	Apparent U.S. consumption (million dollars)	1,385	1,472	1,471	1,663	1,725
	Trade balance (million dollars)	-483	-507	-494	-597	-563
	Ratio of imports to apparent consumption (percent)	59.5	58.5	60.0	61.0	57.7
	Ratio of exports to shipments (percent)	37.8	36.7	39.8	39.2	37.2
MM049	Umbrellas, whips, riding crops, and canes:					
	Number of establishments	15	15	15	17	17
	Employees (number)	400	405	400	405	405
	Capacity utilization (percent)	78	78	78	78	78
	U.S. shipments (million dollars)	60	61	62	64	66
	U.S. exports (million dollars)	11	9	8	10	9
	U.S. imports (million dollars)	173	180	188	198	196
	Apparent U.S. consumption (million dollars)	222	232	242	252	253
	Trade balance (million dollars)	-162	-171	-180	-188	-187
	Ratio of imports to apparent consumption (percent)	77.9	77.6	77.7	78.6	77.5
	Ratio of exports to shipments (percent)	18.3	14.8	12.9	15.6	13.6
MM050	Silverware and certain other articles of precious metal:					
	Number of establishments	45	45	44	44	42
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	75	78	75	80	80
	U.S. shipments (million dollars)	180	185	180	185	205
	U.S. exports (million dollars)	138	87	89	74	103
	U.S. imports (million dollars)	64	109	317	139	83
	Apparent U.S. consumption (million dollars)	106	207	408	250	185
	Trade balance (million dollars)	74	-22	-228	-65	20
	Ratio of imports to apparent consumption (percent)	60.4	52.7	77.7	55.6	44.9
	Ratio of exports to shipments (percent)	76.7	47.0	49.4	40.0	50.2

Table B-10—Continued

## Miscellaneous manufactures sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
MM051	Precious jewelry and related articles:					
	Firms (number) .....	2,216	2,200	2,210	2,212	2,214
	Employees (thousands) .....	33	39	38	38	37
	Capacity utilization (percent) .....	68	80	80	75	75
	U.S. shipments (million dollars) .....	3,658	4,006	4,062	4,002	4,009
	U.S. exports (million dollars) .....	495	407	381	386	402
	U.S. imports (million dollars) .....	2,795	3,232	3,525	3,642	3,790
	Apparent U.S. consumption (million dollars) .....	5,958	6,831	7,206	7,258	7,397
	Trade balance (million dollars) .....	-2,300	-2,825	-3,144	-3,256	-3,388
	Ratio of imports to apparent consumption (percent) ...	46.9	47.3	48.9	50.2	51.2
	Ratio of exports to shipments (percent) .....	13.5	10.2	9.4	9.6	10.0
MM052	Costume jewelry and related articles:					
	Firms (number) .....	904	910	908	908	910
	Employees (thousands) .....	18	19	19	16	16
	Capacity utilization (percent) .....	70	61	64	70	70
	U.S. shipments (million dollars) .....	1,509	1,556	1,679	1,771	1,600
	U.S. exports (million dollars) .....	114	120	126	124	113
	U.S. imports (million dollars) .....	532	544	567	493	462
	Apparent U.S. consumption (million dollars) .....	1,927	1,980	2,120	2,140	1,949
	Trade balance (million dollars) .....	-418	-424	-441	-369	-349
	Ratio of imports to apparent consumption (percent) ...	27.6	27.5	26.7	23.0	23.7
	Ratio of exports to shipments (percent) .....	7.6	7.7	7.5	7.0	7.1
MM053	Bicycles and certain parts:					
	Number of establishments .....	30	30	30	30	30
	Employees (thousands) .....	6	7	7	7	6
	Capacity utilization (percent) .....	91	88	75	67	70
	U.S. shipments (million dollars) .....	1,105	1,210	1,200	1,100	1,000
	U.S. exports (million dollars) .....	175	197	200	257	268
	U.S. imports (million dollars) .....	734	841	825	968	878
	Apparent U.S. consumption (million dollars) .....	1,664	1,854	1,825	1,811	1,610
	Trade balance (million dollars) .....	-559	-644	-625	-711	-610
	Ratio of imports to apparent consumption (percent) ...	44.1	45.4	45.2	53.5	54.5
	Ratio of exports to shipments (percent) .....	15.8	16.3	16.7	23.4	26.8
MM054	Furniture and selected furnishings:					
	Number of establishments .....	14,500	14,500	14,600	14,600	14,600
	Employees (thousands) .....	475	480	485	495	510
	Capacity utilization (percent) .....	77	81	81	82	82
	U.S. shipments (million dollars) .....	46,300	50,300	54,800	57,500	62,000
	U.S. exports (million dollars) .....	2,700	2,941	3,300	3,302	3,519
	U.S. imports (million dollars) .....	5,555	6,298	7,638	8,423	9,497
	Apparent U.S. consumption (million dollars) .....	49,155	53,657	59,138	62,621	67,978
	Trade balance (million dollars) .....	-2,855	-3,357	-4,338	-5,121	-5,978
	Ratio of imports to apparent consumption (percent) ...	11.3	11.7	12.9	13.5	14.0
	Ratio of exports to shipments (percent) .....	5.8	5.8	6.0	5.7	5.7
MM055	Writing instruments and related articles:					
	Number of establishments .....	200	200	200	200	200
	Employees (thousands) .....	12	13	12	12	12
	Capacity utilization (percent) .....	77	62	65	65	70
	U.S. shipments (million dollars) .....	1,605	1,600	1,650	1,690	1,750
	U.S. exports (million dollars) .....	258	242	233	264	304
	U.S. imports (million dollars) .....	513	568	611	668	719
	Apparent U.S. consumption (million dollars) .....	1,860	1,926	2,028	2,094	2,165
	Trade balance (million dollars) .....	-255	-326	-378	-404	-415
	Ratio of imports to apparent consumption (percent) ...	27.6	29.5	30.1	31.9	33.2
	Ratio of exports to shipments (percent) .....	16.1	15.1	14.1	15.6	17.4



Table B-10—Continued

## Miscellaneous manufactures sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
MM056	Lamps and lighting fittings:					
	Number of establishments	1,550	1,570	1,560	1,560	1,550
	Employees (thousands)	61	63	62	62	60
	Capacity utilization (percent)	73	73	75	80	80
	U.S. shipments (million dollars)	7,100	7,500	8,100	8,400	8,650
	U.S. exports (million dollars)	449	472	519	543	529
	U.S. imports (million dollars)	1,499	1,712	1,956	2,198	2,422
	Apparent U.S. consumption (million dollars)	8,150	8,740	9,537	10,055	10,543
	Trade balance (million dollars)	-1,050	-1,240	-1,437	-1,655	-1,893
	Ratio of imports to apparent consumption (percent)	18.4	19.6	20.5	21.9	23.0
	Ratio of exports to shipments (percent)	6.3	6.3	6.4	6.5	6.1
MM057	Prefabricated buildings:					
	Number of establishments	1,100	1,100	1,200	1,300	1,300
	Employees (thousands)	74	79	86	94	100
	Capacity utilization (percent)	78	79	79	80	80
	U.S. shipments (million dollars)	9,100	11,128	13,341	15,210	16,900
	U.S. exports (million dollars)	273	329	415	409	465
	U.S. imports (million dollars)	64	71	48	67	92
	Apparent U.S. consumption (million dollars)	8,891	10,870	12,974	14,868	16,527
	Trade balance (million dollars)	209	258	367	342	373
	Ratio of imports to apparent consumption (percent)	0.7	0.7	0.4	0.5	0.6
	Ratio of exports to shipments (percent)	3.0	3.0	3.1	2.7	2.8
MM058	Children's vehicles:					
	Number of establishments	45	45	45	45	43
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	80	85	85	90	88
	U.S. shipments (million dollars)	497	548	544	471	475
	U.S. exports (million dollars)	30	34	44	44	36
	U.S. imports (million dollars)	194	228	248	266	293
	Apparent U.S. consumption (million dollars)	661	742	748	693	732
	Trade balance (million dollars)	-164	-194	-204	-222	-257
	Ratio of imports to apparent consumption (percent)	29.3	30.7	33.2	38.4	40.0
	Ratio of exports to shipments (percent)	6.0	6.2	8.1	9.3	7.6
MM059	Dolls:					
	Number of establishments	170	165	165	160	158
	Employees (thousands)	3	3	3	3	3
	Capacity utilization (percent)	65	70	65	65	68
	U.S. shipments (million dollars)	116	117	116	87	86
	U.S. exports (million dollars)	29	27	29	28	26
	U.S. imports (million dollars)	901	885	934	1,167	1,356
	Apparent U.S. consumption (million dollars)	988	975	1,021	1,226	1,416
	Trade balance (million dollars)	-872	-858	-905	-1,139	-1,330
	Ratio of imports to apparent consumption (percent)	91.2	90.8	91.5	95.2	95.8
	Ratio of exports to shipments (percent)	25.0	23.1	25.0	32.2	30.2
MM060	Toys and models:					
	Number of establishments	315	315	312	312	312
	Employees (thousands)	12	12	11	11	11
	Capacity utilization (percent)	80	85	86	90	93
	U.S. shipments (million dollars)	1,913	2,250	2,311	2,605	2,698
	U.S. exports (million dollars)	427	468	528	581	597
	U.S. imports (million dollars)	3,597	3,666	4,010	4,526	5,481
	Apparent U.S. consumption (million dollars)	5,083	5,448	5,793	6,550	7,582
	Trade balance (million dollars)	-3,170	-3,198	-3,482	-3,945	-4,884
	Ratio of imports to apparent consumption (percent)	70.8	67.3	69.2	69.1	72.3
	Ratio of exports to shipments (percent)	22.3	20.8	22.8	22.3	22.1

Table B-10—Continued

## Miscellaneous manufactures sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC						
code	Industry/commodity group	1992	1993	1994	1995	1996
MM061	Games and fairground amusements:					
	Number of establishments .....	325	325	320	315	310
	Employees (thousands) .....	50	50	45	45	45
	Capacity utilization (percent) .....	79	85	89	98	96
	U.S. shipments (million dollars) .....	2,038	2,378	2,559	2,496	2,503
	U.S. exports (million dollars) .....	884	1,000	1,117	1,130	1,089
	U.S. imports (million dollars) .....	2,729	3,461	2,575	2,494	2,881
	Apparent U.S. consumption (million dollars) .....	3,883	4,839	4,017	3,860	4,295
	Trade balance (million dollars) .....	-1,845	-2,461	-1,458	-1,364	-1,792
	Ratio of imports to apparent consumption (percent) ...	70.3	71.5	64.1	64.6	67.1
	Ratio of exports to shipments (percent) .....	43.4	42.1	43.7	45.3	43.5
MM062	Sporting goods:					
	Number of establishments .....	2,123	2,125	2,130	2,135	2,138
	Employees (thousands) .....	61	62	65	66	66
	Capacity utilization (percent) .....	80	80	80	80	75
	U.S. shipments (million dollars) .....	6,504	7,239	7,928	8,014	8,415
	U.S. exports (million dollars) .....	1,024	1,140	1,326	1,731	1,900
	U.S. imports (million dollars) .....	2,148	2,159	2,699	2,956	3,068
	Apparent U.S. consumption (million dollars) .....	7,628	8,258	9,301	9,239	9,583
	Trade balance (million dollars) .....	-1,124	-1,019	-1,373	-1,225	-1,168
	Ratio of imports to apparent consumption (percent) ...	28.2	26.1	29.0	32.0	32.0
	Ratio of exports to shipments (percent) .....	15.7	15.7	16.7	21.6	22.6
MM063	Smokers' articles:					
	Number of establishments .....	15	15	12	10	10
	Employees (thousands) .....	1	1	1	1	1
	Capacity utilization (percent) .....	65	65	65	70	75
	U.S. shipments (million dollars) .....	165	168	165	170	195
	U.S. exports (million dollars) .....	73	74	75	85	97
	U.S. imports (million dollars) .....	148	137	145	153	149
	Apparent U.S. consumption (million dollars) .....	240	231	235	238	247
	Trade balance (million dollars) .....	-75	-63	-70	-68	-52
	Ratio of imports to apparent consumption (percent) ...	61.7	59.3	61.7	64.3	60.3
	Ratio of exports to shipments (percent) .....	44.2	44.0	45.5	50.0	49.7
MM064	Brooms, brushes, and hair grooming articles:					
	Number of establishments .....	290	285	280	280	280
	Employees (thousands) .....	12	11	10	10	10
	Capacity utilization (percent) .....	64	65	70	75	75
	U.S. shipments (million dollars) .....	1,500	1,700	1,650	1,700	1,900
	U.S. exports (million dollars) .....	110	143	148	149	163
	U.S. imports (million dollars) .....	468	491	525	610	625
	Apparent U.S. consumption (million dollars) .....	1,858	2,048	2,027	2,161	2,362
	Trade balance (million dollars) .....	-358	-348	-377	-461	-462
	Ratio of imports to apparent consumption (percent) ...	25.2	24.0	25.9	28.2	26.5
	Ratio of exports to shipments (percent) .....	7.3	8.4	9.0	8.8	8.6
MM065	Miscellaneous articles:					
	Number of establishments .....	2,100	2,100	2,200	2,200	2,200
	Employees (thousands) .....	37	37	38	39	39
	Capacity utilization (percent) .....	60	60	60	62	62
	U.S. shipments (million dollars) .....	22,700	24,100	26,000	27,300	28,500
	U.S. exports (million dollars) .....	1,352	1,250	1,524	1,420	1,254
	U.S. imports (million dollars) .....	3,718	4,449	4,449	5,037	5,056
	Apparent U.S. consumption (million dollars) .....	25,066	27,299	28,925	30,917	32,302
	Trade balance (million dollars) .....	-2,366	-3,199	-2,925	-3,617	-3,802
	Ratio of imports to apparent consumption (percent) ...	14.8	16.3	15.4	16.3	15.7
	Ratio of exports to shipments (percent) .....	6.0	5.2	5.9	5.2	4.4

Table B-10--Continued

## Miscellaneous manufactures sector: Profile of U.S. industry and market, by industry/commodity groups, 1992-96

USITC		1992	1993	1994	1995	1996
code	Industry/commodity group					
MM066	Apparel fasteners:					
	Establishments (number) . . . . .	104	96	93	90	90
	Employees (thousands) . . . . .	6	5	5	5	5
	Capacity utilization (percent) . . . . .	85	86	87	85	90
	U.S. shipments (million dollars) . . . . .	421	475	425	500	515
	U.S. exports (million dollars) . . . . .	75	81	88	84	98
	U.S. imports (million dollars) . . . . .	120	122	122	127	123
	Apparent U.S. consumption (million dollars) . . . . .	466	516	459	543	540
	Trade balance (million dollars) . . . . .	-45	-41	-34	-43	-25
	Ratio of imports to apparent consumption (percent) . . . . .	25.8	23.6	26.6	23.4	22.8
	Ratio of exports to shipments (percent) . . . . .	17.8	17.1	20.7	16.8	19.0
MM067	Arms and ammunition:					
	Number of establishments . . . . .	287	283	279	275	271
	Employees (thousands) . . . . .	20	19	18	17	16
	Capacity utilization (percent) . . . . .	76	75	74	73	72
	U.S. shipments (million dollars) . . . . .	2,178	2,289	2,203	2,145	2,081
	U.S. exports (million dollars) . . . . .	2,534	2,372	2,212	2,662	2,606
	U.S. imports (million dollars) . . . . .	563	682	777	657	598
	Apparent U.S. consumption (million dollars) . . . . .	207	599	768	140	73
	Trade balance (million dollars) . . . . .	1,971	1,690	1,435	2,005	2,008
	Ratio of imports to apparent consumption (percent) . . . . .	272.0	113.9	101.2	469.3	819.2
	Ratio of exports to shipments (percent) . . . . .	116.3	103.6	100.4	124.1	125.2



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**APPENDIX C**  
**Political Entities Included in Selected**  
**Country Groupings**

**ASEAN<sup>1</sup>**

Brunei  
Indonesia  
Malaysia  
Philippines

Singapore  
Thailand  
Vietnam

**ASIAN PACIFIC RIM**

Australia  
Brunei  
Cambodia  
China  
Christmas Island  
Cocos Island  
Cook Islands  
Heard Island and McDonald Islands  
Hong Kong  
Indonesia  
Japan  
Korea  
Laos

Macao  
Malaysia  
New Zealand  
Niue  
Norfolk Island  
North Korea  
Papua New Guinea  
Philippines  
Singapore  
Taiwan  
Thailand  
Tokelau  
Vietnam

**CBERA<sup>2</sup>**

Antigua and Barbuda  
Aruba  
Bahamas  
Barbados  
Belize  
British Virgin Islands  
Costa Rica  
Dominica  
Dominican Republic  
El Salvador  
Grenada  
Guatemala

Guyana  
Haiti  
Honduras  
Jamaica  
Montserrat  
Netherlands Antilles  
Nicaragua  
Panama  
St. Kitts and Nevis  
St. Lucia  
St. Vincent and the Grenadines  
Trinidad and Tobago

**CENTRAL AND EASTERN EUROPE**

Albania  
Bosnia-Herzegovina

Montenegro  
Poland

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<sup>1</sup>Association of Southeast Asian Nations.

<sup>2</sup>Caribbean Basin Economic Recovery Act beneficiaries.

## **CENTRAL AND EASTERN EUROPE--Continued**

Bulgaria	Romania
Croatia	Serbia
Czech Republic	Slovakia
Hungary	Slovenia
Macedonia, The Former Yugoslavia Republic	

### **EU-15<sup>3</sup>**

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Portugal
France	Spain
Germany	Sweden
Greece	United Kingdom
Ireland	

## **LATIN AMERICA**

Anguilla	Guadeloupe
Antigua and Barbuda	Guatemala
Argentina	Guyana
Aruba	Haiti
Bahamas, The	Honduras
Barbados	Jamaica
Belize	Martinique
Bermuda	Mexico
Bolivia	Montserrat
Brazil	Netherlands
British Virgin Islands	Nicaragua
Cayman Islands	Panama
Chile	Paraguay
Colombia	Peru
Costa Rica	St. Kitts and Nevis
Cuba	St. Lucia
Dominica Island	St. Pierre and Miquelon
Dominican Republic	St. Vincent and the Grenadines
Ecuador	Suriname
El Salvador	Trinidad and Tobago
Falkland Islands	Turks and Caicos Islands

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<sup>3</sup>European Union.

**LATIN AMERICA--Continued**

French Guiana

Grenada

Uruguay

Venezuela

**OPEC<sup>4</sup>**

Algeria

Indonesia

Iran

Iraq

Kuwait

Libya

Nigeria

Qatar

Saudi Arabia

United Arab Emirates

Venezuela

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<sup>4</sup>Organization of Petroleum Exporting Countries. Gabon not included as a member of OPEC in 1995 and 1996.



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**APPENDIX D**  
**Effect of Exchange Rate Shifts On Trade**

Exchange rate shifts can significantly affect trade flows. This section describes the interactions between exchange rates and trade flows. It illustrates changes in the exchange rate of the U.S. dollar against currencies of certain major trading partners and groups of partners between 1995 and 1996 and includes references to changes in previous years. It explains how changes in exchange rates may lead to changes in trade flows, how trade changes may in turn affect exchange rates, and how other such factors as interest rates, national income, and Government intervention may affect the relationship. Some detailed technical explanations and theoretical arguments on the relationship among changes in these factors are included in the annex at the end of this appendix.

An exchange rate is the price of one currency in terms of another currency. Theoretically the market or "nominal" exchange rate between two freely convertible currencies is set by the interaction of supply and demand for each of the currencies in the foreign exchange market, which reflects supply of and demand for goods, services, and assets.<sup>1</sup> The "real" exchange rate is derived from the nominal rate, with an adjustment for inflation. Movements in exchange rates may affect trade between countries through their effects on relative prices that, in turn, will affect import demand and export supply.

In general, if nothing else changes in the marketplace, depreciation of the dollar will reduce the price that foreigners pay for U.S. exports and increase the price that U.S. consumers pay for imports.<sup>2</sup> As a result, the quantity of U.S. exports demanded throughout the world will increase and the quantity of imports demanded in the United States will drop, implying an improvement in the trade balance. This implicitly suggests that U.S. producers will pass decreases in the price, induced by an exchange-rate adjustment, to foreign consumers.<sup>3</sup> The effectiveness of an exchange-rate adjustment on a country's balance of bilateral trade varies, depending on the composition of its exports to, and imports from, its trade partners. Different commodities may have different supply and demand sensitivities to price changes induced by a change in exchange rates. The greater the sensitivity of a commodity to price changes, the more influence the exchange-rate adjustments exert on a country's balance of trade.

Changes in a country's income can also affect its import demand. In general, an increase in a country's gross domestic product (GDP) will result in an increase in its import demand. Growth in import demand, in turn, will affect the country's demand for foreign currencies. If domestic growth exceeds foreign growth, there will be downward pressure on the

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<sup>1</sup>The terms market rate and nominal rate are used interchangeably in this section. The term exchange rate generally refers to a nominal exchange rate, unless otherwise stated. Both the nominal exchange rate and the real exchange rate are used to evaluate the price competitiveness of countries in international markets. For definitions of various exchange rates, see the annex to this appendix on p. D-9.

<sup>2</sup>If the dollar is depreciated by 10 percent with respect to foreign currencies, the U.S. export price would be reduced by 10 percent in terms of foreign currencies compared with the prices that prevailed in foreign markets before devaluation. Meanwhile, the U.S. import price would increase by 10 percent in terms of the dollar. This implies that exporters passed on the increase in the price induced by depreciation to consumers. The changes in prices would result in quantities supplied and demanded of trading goods.

<sup>3</sup>For simplicity, it is assumed that exchange-rate changes directly affect the price of goods on the world market. However, producers may choose to change their export prices to absorb part or all of the effect of the price change induced by the exchange-rate change. Then, the effects of an exchange-rate adjustment will be significantly reduced.

domestic currency. One study contends that the key factor explaining year-to-year changes in the overall U.S. trade balance in recent years has been the relative rates of growth in real GDP in the United States, compared with the rates of growth of its major trading partners.<sup>4</sup> But, the same study found that, in the case of the United States, the dollar's value was kept from falling to the extent suggested by the level of the deficit because foreign investors were willing to continue investing in the United States. Usually, foreign investment tends to increase after depreciation since foreign investors find it cheaper to invest in the United States after depreciation.

In addition to the trade deficit, U.S. Federal budget deficits have had an adverse effect on the foreign-exchange value of the dollar.<sup>5</sup> The need of the Government to borrow dollars to finance the budget deficit drains savings capital from the economy that could otherwise be used by the private sector to finance investment and thereby increase the long-term potential for economic growth. Should foreigners hesitate to continue to finance U.S. budget deficits that might cause a negative effect on the value of the dollar. The monetary authorities may also affect exchange rates to some extent by undertaking intervention and other operations that can affect supply and demand of foreign-exchange markets directly.

Since 1982, the United States has had sizable deficits in both its overall current account and merchandise trade balances. Nevertheless, the foreign-exchange value of the U.S. dollar depreciated very gradually from 1985, relative to foreign currencies, reversing the sharp appreciation of the early 1980s. This happened because the continued willingness of foreigners to purchase and hold U.S. financial assets supported the dollar at a higher level than it would have reached without these capital flows. A change in the interest-rate level in the United States may also have changed foreign demand for U.S. financial assets.

In the long run, with all other factors unchanged, dollar appreciations should be expected to lead to a worsening of the U.S. trade balance, and dollar depreciations should lead to an improvement in the balance of trade. However, the short-run fluctuations in the exchange rate during the past few years are not likely to be reflected in significant changes in the trade balance. As noted, other factors may also affect the trade balance and the exchange rate, especially any major changes in income growth, budget deficits, or trade needs of major trading partners.

In 1996, U.S. monetary authorities continued to promote a strong dollar policy that was adopted in 1995, as Treasury Secretary Robert E. Rubin reaffirmed the general principles that guide U.S. exchange-rate policy: "A strong dollar is in America's economic interest. It improves the real income of American workers, sustains investment by keeping interest rates

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<sup>4</sup>The study shows that this relationship was strongest during the 1970s and the 1990s, when an index of real exchange rates with the U.S. dollar was relatively stable for certain developed and developing countries. The relationship was not nearly so strong during the 1980s, when large swings in the real foreign-exchange value of the dollar occurred, suggesting that the exchange rate played a larger role in explaining annual changes in the overall U.S. trade balance. For more details on this study, see Charles P. Thomas, "U.S. International Transactions in 1994," *Federal Reserve Bulletin*, vol. 81, No. 5 (May 1995), pp. 408-410.

<sup>5</sup>Federal Reserve Board Chairman Alan Greenspan expressed this view in a statement to Congress. For a more detailed discussion of Chairman Greenspan's statement before the Committee on the Budget, U.S. House of Representatives, Mar. 8, 1995, see USITC, *Shifts in U.S. Merchandise Trade in 1995*, USITC publication 2992, September 1996, p. 2-10.

low, and maintains confidence in the dollar's role as the world's principal reserve currency."<sup>6</sup> The stronger dollar has helped to keep down price pressures in the United States because the increased value of the dollar might lower the price of import goods. Although U.S. monetary authorities intervened in the foreign-exchange markets on eight occasions during 1995 in order to maintain the value of the overall real dollar at a desirable level,<sup>7</sup> no interventions occurred during 1996. The dollar was stronger during the entire year in spite of the large trade deficit in 1996. Chairman Greenspan of the Federal Reserve Board has linked this strength directly to the relatively strong U.S. economy.<sup>8</sup> In 1996, interest rates in the United States decreased slightly, but they were still much higher than for some major developed countries, such as Japan and Germany. Relatively higher U.S. interest rates contributed to increased foreign demand for U.S. financial assets and put upward pressures on the value of the dollar. The relatively good performance of the U.S. economy, confidence in the dollar, and relatively higher interest rates all contributed to a stronger dollar this past year, all of which have contributed, in turn, to the sustained demand for imported goods.

In 1996, the U.S. economy continued its gradual upturn as the real U.S. GDP growth rate rose from 2.0 percent in 1995 to 2.4 percent in 1996.<sup>9</sup> Although the 1996 growth rate was not as high as those in the newly industrialized countries (NICs) in Asia, it was still higher than those of several major U.S. trading partners.<sup>10</sup> This relatively higher growth rate in the U.S. economy resulted in an increased demand for imports while faster economic growth rates for certain major trading partners strengthened the overall demand in those markets, promoting U.S. export growth to Mexico, for example.<sup>11</sup> The merchandise trade deficit in 1996 amounted to \$208.3 billion, 7.8 percent higher than the 1995 deficit. The rising U.S. trade deficit increased the supply of dollars in the foreign-exchange market, leading to downward pressure on the U.S. dollar. However, the effects of the other factors mentioned above that are contributing to the continuing strong dollar have offset this downward pressure on the dollar caused by the trade deficit.

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<sup>6</sup>U.S. Department of the Treasury, *Annual Report to the Congress on International Economic and Exchange Rate Policy*, Feb. 1997, p. 10.

<sup>7</sup>Federal Reserve Bank of New York, *Annual Report, 1995* (New York, Apr. 1996), p. 33. The intervention operations were undertaken on Mar. 2, Mar 3, Apr. 3, April 5, May 31, July 7, Aug. 2, and Aug. 15.

<sup>8</sup>Chairman Greenspan's testimony to the House Banking Committee on July 18, 1996 states, "... the value of the dollar ... has appreciated significantly ... against the currencies of other industrial countries over the past year or so. This appreciation importantly reflects the market perception that the U.S. economy has been performing better than those of many of our major trading partners. The rise in the dollar helps to keep down price pressures, but it also tends to divert domestic demand toward imported goods and damp[en] exports some," p. 3.

<sup>9</sup>The 1995 and 1996 U.S. real GDP growth rates are from the news release of Mar. 28, 1997, No. BEA 97-07, from the U.S. Department of Commerce. Both are revised rates.

<sup>10</sup>According to the OECD estimates, the 1996 real GDP growth rates of Germany and Canada were 1.1 percent, and 1.5 percent, respectively. For the 1996 growth rates of other OECD member countries, see *OECD Economic Outlook, 60*, (Paris: Head of Publication Service, Organization for Economic Cooperation and Development, Dec. 1996), p. A4.

<sup>11</sup>In 1996, the U.S. bilateral trade deficit with Mexico increased to \$19.5 billion despite its relatively higher growth rate and the dollar depreciation in real terms.

The average value of the U.S. dollar showed a moderate appreciation against world currencies in 1996,<sup>12</sup> in terms of both the average nominal and real exchange rates, as expressed by the trade-weighted values of the dollar prepared by the Federal Reserve Bank of Dallas.<sup>13</sup> The average appreciation of the dollar is reflected in the moderate depreciations of the currencies of most major trading partners of the United States, except for Japan Germany, and Mexico. The average real value and the average nominal value of the dollar with respect to all foreign currencies in 1996 increased by 2.6 percent and 6.5 percent, respectively. The average real exchange rate is lower than the average nominal rate because of faster growth of inflation abroad as compared with the rate in the United States.

The value of the dollar against the currencies of individual U.S. major trading partners has shown a mixed pattern, as seen in table D-1. For example, in 1996, both the average annual nominal and real values of the dollar appreciated against the Japanese yen and the German mark. The nominal and real value of the dollar against the Japanese yen appreciated significantly, up by 15.7 percent and 18.8 percent, respectively. On a quarterly basis (not shown in the table), the average nominal rate between the dollar and the yen initially increased from 105.79 yen per dollar in the first quarter to 107.59 yen per dollar (by 1.7 percent) in the second quarter, and then it rose to 108.94 (by 1.3 percent) in the third quarter and to 112.79 (by 3.5 percent) in the fourth quarter.<sup>14</sup> In the same year, the annual average nominal and real values of the dollar against German mark experienced notable appreciations, up by 5.0 percent and 6.5 percent, respectively. The average nominal rate increased from 1.4685 marks per dollar in the first quarter to 1.5548 marks per dollar in the fourth quarter of the year. Since market forces acted to strengthen the dollar, U.S. monetary authorities did not undertake any intervention operations against either of these two major currencies in the foreign-exchange market during 1996.

In contrast with Japan and Germany, the market and real values of the U.S. dollar showed mixed results with respect to the currencies of two other major U.S. trade partners, the Canadian dollar and the Mexican peso. The average annual market value of the U.S. dollar against the Canadian dollar decreased slightly from 1.3724 Canadian dollars per U.S. dollar in 1995 to 1.3635 Canadian dollars per U.S. dollar in 1996, representing a 0.7-percent

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<sup>12</sup>Evaluating exchange-rate movements becomes more complex when one considers many exchange-rate shifts simultaneously. This discussion is generally focused on the exchange rate between the U.S. dollar and another foreign currency. Although an exchange rate exists between every pair of currencies traded in the world market, a weighted average of bilateral changes must be used to express the change in the value of a currency against more than one other currency. For more detailed explanations on average real exchange rates, see the annex to this appendix.

<sup>13</sup>The indexes of trade-weighted values of the dollar used in this section are provided by the Federal Reserve Bank of Dallas. These indexes are readily available, are more comprehensive than many other indexes, and include regional groupings. These trade-weighted indexes may differ from those published by other institutions. The Dallas Federal Reserve Bank's real and nominal exchange-rate indexes are revised and adjusted occasionally. For more details on the Dallas indexes, see the annex to this appendix.

<sup>14</sup>All percentage-change figures are calculated using the link relative formula: percentage change =  $\{[(\text{the second period figure}/\text{the first period figure}) - 1] \times 100\}$ . All quarterly data on nominal exchange rates used in this section are from the International Monetary Fund, *International Financial Statistics* (Washington, DC: IMF Publications Services, Sept. 1996 and Mar. 1997), country tables, except as noted.

Table D-1

Real exchange rates: Indexes of foreign currencies, or baskets of currencies, against the U.S. dollar, annual averages 1992-96, and average for the first 2 months of 1997

Year	World average <sup>1</sup>	Western hemisphere <sup>2</sup>	Canada	Mexico	Europe	Germany	Japan	NICs <sup>3</sup>	Taiwan	Korea
<i>Indexes (First quarter 1985=100)</i>										
1992 .....	75.14	97.07	87.32	87.50	55.20	54.96	57.46	88.71	70.43	80.66
1993 .....	77.44	94.44	94.21	82.62	61.91	57.55	51.30	89.87	74.11	81.48
1994 .....	77.97	87.55	102.14	85.80	61.26	56.28	48.04	92.68	73.25	78.75
1995 .....	76.66	76.13	103.28	124.93	56.23	50.21	45.50	88.36	72.74	74.40
1996 .....	78.64	77.91	103.99	113.04	57.89	53.48	54.06	88.51	75.30	76.07
1997 <sup>4</sup> .....	80.41	76.40	103.45	103.08	61.23	58.52	60.75	89.84	76.65	81.09
<i>Change (Percent)</i>										
1992 .....	-0.60	0.22	7.09	-8.60	-4.05	-6.77	-4.79	-1.53	-7.66	3.32
1993 .....	3.06	-2.71	7.89	-5.58	12.16	4.71	-10.72	1.31	5.23	1.02
1994 .....	0.68	-7.30	8.42	3.85	-1.05	-2.21	-6.35	3.13	-1.16	-3.35
1995 .....	-1.68	-13.04	1.12	45.61	-8.21	-10.79	-5.29	-4.66	-0.70	-5.52
1996 .....	2.58	2.34	0.69	-9.52	2.95	6.51	18.81	0.17	3.52	2.24
1997 <sup>4</sup> .....	2.25	-1.94	-0.52	-8.81	5.77	9.42	12.38	1.50	1.79	6.60

<sup>1</sup>The number of countries that the Federal Reserve Bank of Dallas used to weight the real exchange-rate indexes was 103 in 1996.

<sup>2</sup> Excluding Canada and Mexico.

<sup>3</sup> China, Hong Kong, Indonesia, Korea, Malaysia, Singapore, Taiwan, and Thailand.

<sup>4</sup> First two months.

Source: Federal Reserve Bank of Dallas.

depreciation of the U.S. dollar.<sup>15</sup> In 1996, the average annual real rate showed a 0.7-percent appreciation of the U.S. dollar. During the year, the average quarterly rates ranged from 1.3503 in the fourth quarter to 1.3700 in the third quarter. However, the changes in the exchange rates between the U.S. and the Canadian dollars were relatively small, compared with those of most other major U.S. trade partners. Both the market and real rates were stable over the year.

The average annual market value of the U.S. dollar against the Mexican peso increased substantially from 6.4194 pesos per dollar in 1995 to 7.6009 pesos per dollar in 1996, representing a 18.4-percent appreciation of the dollar according to International Monetary Fund statistics.<sup>16</sup> In 1996, however, the average annual real value of the dollar against the peso depreciated by 9.5 percent, compared with the 1995 value. This large difference between the changes in the real and the market values suggests that the inflation rate in Mexico was much higher, when compared with the U.S. inflation rate in 1996. The corresponding devaluation of the peso and the subsequent economic restructuring in Mexico have had adverse short-term effects on Mexico's economic growth and on the U.S. balance of trade with Mexico. However, the Mexican economy has recovered rapidly. Its real GDP growth rate grew from -6.9 percent in 1995 to 5.1 percent in 1996, according to International Monetary Fund.<sup>17</sup> The good performance in the economy contributed to the very notable appreciation of both the real and market values of the Mexican peso against the dollar.

In 1996, the average annual real value of the U.S. dollar appreciated slightly, by 0.17 percent in relation to the basket of currencies of the newly industrialized countries (NICs) of the Pacific. The trade weights for these currencies, used by the Federal Reserve Bank of Dallas to calculate its exchange rate indexes, have increased in recent years, except for 1996, because of the marked growth in trans-Pacific trade flows.<sup>18</sup> The market values of the dollar, with respect to currencies of individual NICs, also appreciated, except for the Chinese yuan and the Singapore dollar. The average annual market value of the dollar depreciated a little from 8.3514 Chinese yuan per U.S. dollar in 1995 to 8.3142 yuan per U.S. dollar in 1996. For the same period, the market value of the U.S. dollar depreciated slightly from 1.4174 Singapore dollars per U.S. dollar to 1.4100 Singapore dollars per U.S. dollar. Similarly, the real values of the currencies of these two NICs appreciated slightly against the U.S. dollar and caused no significant changes in their trade balances with the United States.

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<sup>15</sup>In 1996, the U.S. inflation and the Canadian inflation rates were different. For instance, the U.S. Consumer Price Index increased by 2.92 percent while the Canadian Consumer Price Index rose by 1.52.

<sup>16</sup>On Dec. 22, 1994, the Mexican Government decided to let the peso float freely, resulting in a large devaluation of the peso and prompting a financial crisis. For detailed discussion on the 1994 Mexican peso devaluation, see USITC, *Shifts in U.S. Merchandise Trade in 1994*, USITC publication 2924, Sept. 1995, pp. 2-10 and 2-12.

<sup>17</sup>*World Economic Outlook*, Advance Copy, (Washington, DC: International Monetary Fund, May 1997), p. 41.

<sup>18</sup>The Dallas' Pacific NIC Group included eight members, Taiwan, Hong Kong, Indonesia, Korea, Malaysia, Singapore, Thailand, and China. In 1995, four of the NICs (China, Taiwan, Korea, and Singapore) were on the list of the top-10 U.S. trade partners. Two-way trade volume between the United States and the four countries increased from \$154.6 billion in 1994 to \$184.5 billion in 1995, or by 19 percent, while their share of U.S. trade rose from 13.6 percent to 14.3 percent. In 1996, the two-way trade rose to \$192.6 billion, or by 4.4 percent. However, their share of total U.S. trade fell slightly from 14.3 percent to 14.0 percent. If the currencies in the NICs, relative to other countries, generally depreciated with respect to the dollar in 1996, the decreased trade-flow weights further lessened the appreciation of the dollar.

Exchange-rate changes may take some time to affect a country's balance of trade.<sup>19</sup> Also, the factors other than the exchange rates mentioned above affect a country's import demand. Although a depreciation of a country's currency may affect the country's balance of trade, this does not mean that the exchange-rate adjustment will always override these other factors and result in an improvement in the balance of trade. Among all the factors that can affect a country's balance of trade, some may operate in the same direction as the exchange rate while others may operate in the opposite direction. The net effect on trade balances may or may not be in agreement with the effect expected from the exchange-rate change alone.

Consistent with the above discussion, there was no simple, systematic relationship between the small year-to-year bilateral currency movements between 1995 and 1996 with major trading partners and the changes in U.S. bilateral trade balances during 1995-96.<sup>20</sup> In some cases, as would be expected, the U.S. trade balances grew worse or stabilized with countries against whose currencies the value of the U.S. dollar appreciated. For example, the U.S. trade deficit with Canada and the real value of the U.S. dollar against the Canadian dollar increased simultaneously during 1995-96. Similarly, the U.S. deficit with Germany increased as the U.S. dollar appreciated against the mark in 1996. In contrast, the trade deficit with Japan improved simultaneously with both real and nominal appreciations of the U.S. dollar against the yen in 1996.<sup>21</sup> In other cases, trade balances grew worse with countries against whose currencies the dollar depreciated in real terms. For example, the U.S. trade deficit with Mexico increased in 1996 when the real value of the dollar against the peso declined substantially. Also, the U.S. trade surplus with Mexico diminished during 1992-93, whereas, the real value of the U.S. dollar against the Mexican peso depreciated.

The relatively stronger dollar continued in the first two months of 1997, when the nominal and real values of the dollar against currencies of most major trade partners appreciated rapidly, except for Mexico and Canada. The market rate of the dollar reached a new high of 125.52 yen in the European exchange market on April 8, 1997, the highest level since August 1992.<sup>22</sup> On the same day, the market rate of the dollar against the German mark climbed to 1.7143 marks per dollar in the New York market. These increases tend to hamper U.S. export growth and increase U.S. imports because of their effects on prices. It is also possible that these effects may be offset by other factors that also influence U.S. trade flows.

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<sup>19</sup>Frequently, a country's current account worsens immediately after a currency depreciation, and only begins to improve some months later. The resulting path of the current account has an initial segment that looks like a "J." It is called the J-curve, which shows the time lag with which a real currency depreciation improves the current account. Exports and imports are two major components of the current account.

<sup>20</sup>Economists recognize that short-term trade balances are notoriously variable and difficult to interpret, and therefore should be largely ignored. Therefore, analysts should more appropriately be concerned with long term trends only.

<sup>21</sup>However, the improvement in the trade deficit with Japan may have occurred in part because of the time lag effect of the sustained depreciation of the real value of the U.S. dollar against the yen in earlier years (table D-1). The nominal value of the U.S. dollar reached a recent-year low of 80.63 yen on Apr. 18, 1995. Andrew Pollack, "A Weakened Yen Also Worries Japanese Industry," *New York Times*, Jan. 30, 1997, p. D7. The U.S. trade deficit with Japan also decreased by \$5.0 (7 percent) in 1995, compared with 1994.

<sup>22</sup>*The Washington Post*, "G-7 Faces Doubters as Dollar Rises," Apr. 9, 1997, p. C9.



## ANNEX TO APPENDIX D

The previous section of this appendix refers to three types of exchange rates--nominal, real, and world average. All of these three rates are based on spot rates. The nominal or current (or market) rate can be expressed in two ways. The first gives the number of units of foreign currency needed to buy one unit of domestic currency; the second gives the number of units of domestic currency needed to buy one unit of foreign currency. To prevent confusion, only the first method of reporting exchange rates is used in this report. This means that when the U.S. dollar appreciates, the exchange rate rises.<sup>23</sup>

A real exchange rate is based on the purchasing-power-parity (PPP) theory. It implies that a country with a relatively higher inflation rate than its trading partner, has to depreciate the value of its currency against the currency of its trading partner in order to maintain the PPP between the two currencies. For example, if country A has an inflation rate of 5 percent and country B has no inflation, market forces tend to lower the nominal value of country A's currency by 5 percent in order to maintain a constant real exchange rate. Although this is not a complete theory of exchange-rate determination, the PPP concept is one of the most popular and durable explanations of exchange-rate movement.

Real exchange rates can be expressed by an index that deflates changes in nominal exchange rates by changes in relative price levels. A real exchange rate index can be defined mathematically as:

$$\text{Real exchange-rate index} = \frac{\text{(nominal exchange-rate index)}}{\text{(domestic price index/foreign price index)}}$$

The foreign and domestic price indexes have the same base period as the exchange-rate index. Several price indexes have been used for deflating nominal exchange rates. These include producer price indexes (PPI), consumer price indexes (CPI), GNP deflators, export price indexes, and import price indexes. The real exchange rates of the Federal Reserve Bank of Dallas, which were cited in the section, were deflated by the CPI. The Dallas exchange rates are more readily available than any other published exchange rates. Conceptually, the real exchange rate can be also defined in other ways, for example as the relative price of tradable goods with respect to nontradable goods. Then the real exchange rate is equal to price of tradable goods/price of nontradable goods. Although this definition is theoretically plausible, it is difficult to define empirically.<sup>24</sup>

Evaluating exchange-rate movements becomes more complex when averaging many exchange-rate shifts at the same time. Values of a currency can move in different directions and move by different amounts against different currencies. For example, if the U.S. dollar were to appreciate by 25 percent against the Mexican peso, depreciate by 5 percent against the German

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<sup>23</sup>For more detailed background material on exchange rates, see USITC, *Floating Exchange Rates and U.S. Competitiveness*, USITC publication 1332, 1982, pp. 1-21.

<sup>24</sup>For more details on definitions of the real exchange rate, see Sebastian Edwards, "Alternative Definitions of the Real Exchange Rate" in *Exchange Rate Misalignment in Developing Countries*, New Series, No. 2 (Washington, DC: World Bank Occasional Papers, 1988), pp. 47-51.

mark, and depreciate by 10 percent against the Japanese yen, what would be the change in the overall value of the dollar? An average of bilateral exchange rates is used, in which the exchange rate with each partner is weighted by the share of trade with that partner or is weighted by another variable. The real average world exchange rate of the Federal Reserve Bank of Dallas cited in the section is weighted by shares of trade. The bank used the first quarter of 1985 as the base (100) of these nominal and real exchange-rate indexes. Like a bilateral exchange rate, the world average rate can be either in nominal or in real terms. The "real" average exchange-rate index is derived from the average nominal exchange rate, adjusting for inflation rates of trade partners. Real average exchange rates can vary in many ways, depending on the number of countries used to compute the averages, on the base year used to determine the weights, on price deflators or indexes, and on the transactions included in the trade definition (merchandise trade only or merchandise and services). Although exchange rates are not determined by trade flows alone, the shares of trade are usually used as weights. The world average exchange rate is also called an effective exchange rate. Both nominal and real effective exchange rates are useful for analyzing effects of exchange-rate adjustments.

Many variables may influence the size of the effect of an exchange-rate change. Two of them are the pass-through rate and the sensitivity to price change. Exchange rate changes, like other price changes, will affect industries differently. Those industries that require proportionately more imported inputs will probably need to adjust their pricing and production plans more quickly in response to an exchange rate change. Others may not be so responsive to an exchange rate change. Many exporters will reduce the effect of an exchange-rate change by absorbing a part of the induced price change. If an exportable product has a high foreign demand sensitivity to a price change, exporters have to lower the pass-through rate of the induced price change to importers to keep the shares of their products in international markets. The sensitivity to the price change is a key consideration for the pass-through rate.

In economics, the sensitivity of price and income changes can be measured by an "elasticity or elasticity coefficient." It is defined as the percentage change of one variable in response to a 1-percent change of another variable. For instance, if a 1-percent increase in the import price resulted in a 2-percent reduction in the quantity demanded of imports, the price elasticity of import demand is -2. Besides the price elasticity, income elasticity is also a factor affecting the effectiveness of an exchange-rate adjustment. Usually, a country would import more when its income or GDP increases and vice versa.<sup>25</sup> This is the reason why the relative economic growth rates of two trading countries may also affect an exchange-rate adjustment, as indicated in earlier in this section. Since different countries have different income elasticities of import demand, an exchange-rate change may affect their production and incomes differently. An exchange rate change may have a greater effect on a country that has a higher income elasticity than those of other countries. For years, these elasticities have played an important technical role in analyzing balance-of-trade adjustments with exchange rate changes.

Analyses of the process of exchange-rate adjustment to the trade balance of the international accounts differ extensively. Some believe that an exchange rate adjustment can definitely improve a country's trade deficit. Others think that an exchange rate adjustment alone cannot reduce a country's trade deficit. Many analysts take a position between these two extreme positions. One formula, for example, is the so-called Marshall-Lerner condition which

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<sup>25</sup>Unlike the price elasticity, the income elasticity generally has a positive sign.

must prevail if depreciation is to reduce the trade deficit, or improve the balance of payment position.<sup>26</sup> It requires that the sum of the price elasticities of the demand for imports and the demand for exports exceed 1 in absolute value. The Marshall-Lerner condition further assumes that the supply elasticities of imports and exports are infinite. Even if the condition is satisfied, it does not mean that a depreciation can definitely reduce the trade deficit.

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<sup>26</sup>For more detailed explanations for the Marshall-Lerner condition, see any International Economics textbook.

