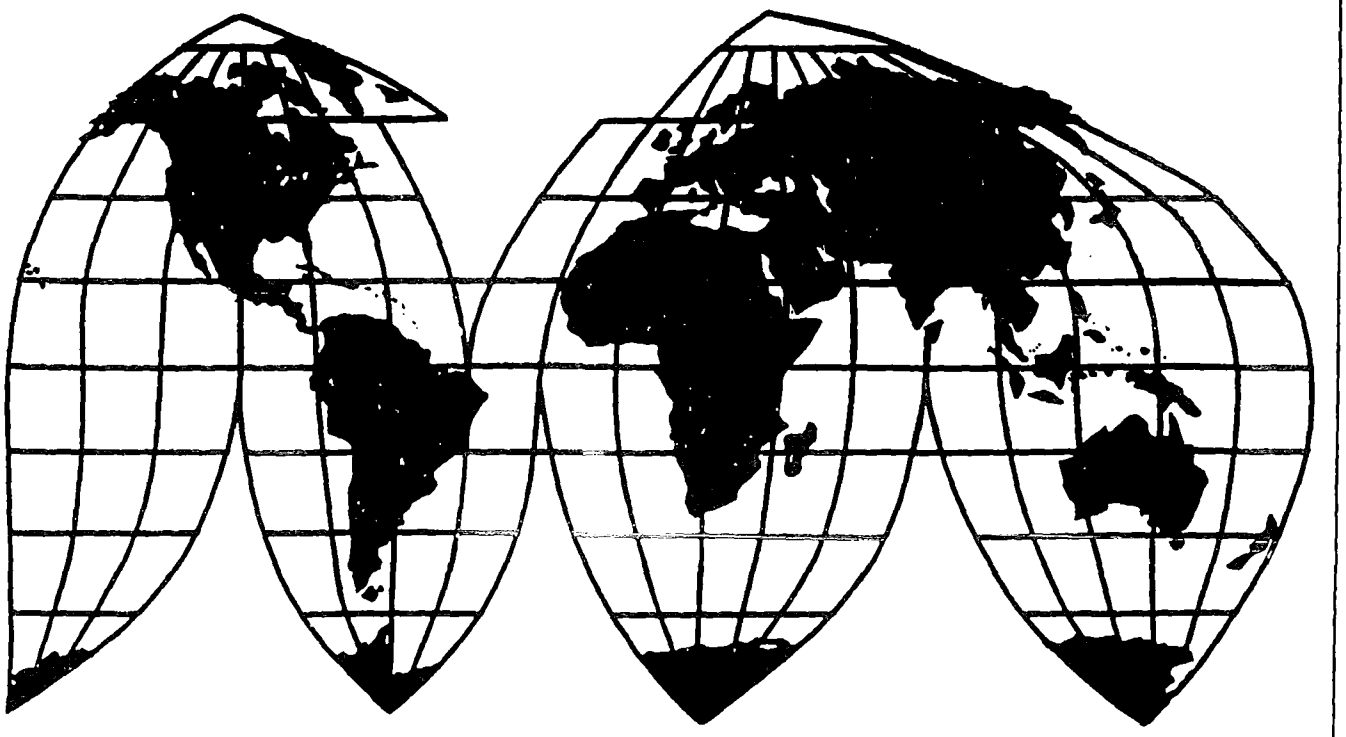
Steel Semiannual Monitoring Report

Special Focus: Steel Product Quality and Customer Service

Investigation No. 332-327

Publication 2807 **September 1994**

U.S. International Trade Commission



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This report was prepared principally by

Nancy Fulcher, Sharon Greenfield, and Charles Yost
Minerals, Metals, and Miscellaneous Manufactures Division

With assistance from

Diane Bennett, James Brandon, Stephanie Kaplan, and Joyce Prue
Minerals, Metals, and Miscellaneous Manufactures Division

Paul Daniels
Office of Information Services

Under the direction of

Mark A. Paulson, Chief
Iron and Steel Products Branch

Larry L. Brookhart, Chief
Minerals, Metals, and Miscellaneous Manufactures Division

Address all communications to
Secretary to the Commission
United States International Trade Commission
Washington, DC 20436

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NOTE

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 covering the same or similar matter.

CONTENTS

Appendixes

Figures

Page

Figures—Continued

Tables

Page

Tables—Continued

Page

Tables—Continued

Page

Tables—Continued

Page

Tables—Continued

Purpose and Scope of Report

On July 9, 1992, at the request of the Committee on Ways and Means, U.S. House of Representatives, the United States International Trade Commission (USITC) instituted investigation No. 332-327, *Steel Semiannual Monitoring Report*, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332 (g)). The purpose of this investigation is to provide semiannual monitoring reports to the House Committee on Ways and Means concerning the status of, and prospects for, the U.S. steel industry in the post-Voluntary-Restraint-Agreement (VRA) competitive environment, from January 1991 through December 1994.

The series of reports, to be submitted over a 3-year period beginning in September 1992, consist each year of two semiannual reports (to be submitted in April 1993, 1994, and 1995 and September 1992, 1993, and 1994) that analyze global industry trends and competitiveness issues and provide key product trade information. Each of the six reports contains detailed U.S. trade information (for instance, data by product and key country suppliers and/or markets), a summary of changes in U.S. trade flows, highlights of recent major developments in the U.S. steel industry, and selected international steel industry comparisons.

Each of the September issues of these reports contains a short analysis of country and regional industry developments and competitiveness issues, such as environmental regulations, technological developments, and globalization. Each of the April issues focuses primarily on developments and conditions in the U.S. industry and highlights significant developments in the industry's competitiveness during the post-VRA period. The calendar-year data that form the basis for this analysis are gathered by questionnaires requesting information on industry-operating performance and competitive factors (for instance, capacity, production, shipments, financial operations, capital expenditures and R&D, technology, and environmental expenditures) sent to all raw steel producers[1] as well as to selected steel processors.[2]

[1] Raw steel (or crude steel) is produced through the "integrated process" by refining iron (that has been produced in a blast furnace) together with coke (that has been produced in a coke oven) into steel; through the scrap-based process (melting steel scrap in an electric arc furnace); or through a hybrid of these processes. The April series of reports is based on data collected from *all* producers of raw steel, irrespective of process.

[2] Processors typically do not possess steel melting capacity, but may perform other functions such as heat-treating, rolling, or cutting to size.

Four reports have been transmitted to the Committee to date—in September 1992, June 1993,[3] September 1993, and April 1994. This report, the fifth in the series, focuses on steel consumers' assessments of steel product quality and of customer service provided by the domestic steel industry and major global competitors. The analysis is based on data developed from questionnaires received from 180 purchasers of steel products in major consuming industries. The report highlights increases in U.S. imports, investors' optimistic outlook for the steel industry, steel price increases negotiated with Chrysler, the U.S. Environmental Protection Agency's proposed new relationship with the steel industry, and South Africa's resurgence as a steel supplier to the United States. Finally, it provides detailed breakouts on U.S. shipments and U.S. trade for 20 major groups of steel mill products and for certain fabricated steel products, and information on other recent developments in the U.S. industry.

Appendix A contains a more detailed overview of the structure of this report and notes on its product coverage and methodology. Appendices B and C, respectively, contain the study request letter from the Chairman of the House Committee on Ways and Means and the notice of the Commission's investigation. Appendix D contains a description of the products subject to this investigation and definitions of certain terms. Appendix E provides the status of antidumping (AD) and countervailing duty (CVD) cases filed on imports of steel products and ferroalloys since late 1991. Appendix F provides data on quality and service rankings of the U.S. and Japanese steel industries. Appendix G provides detailed statistical tables on U.S. net open market shipments and steel trade.

Product Coverage and Trade Policy Perspective

The products covered in the Commission's semiannual reports were subject to import quotas under VRAs in effect from late 1984 through March 31, 1992.[4] The President undertook the VRA program

[3] The report transmitted in June 1993 was originally scheduled to be transmitted in April 1993, but was postponed to ensure that the study contained complete survey results.

[4] Products include carbon and certain alloy (other than stainless or tool) steel and specialty steel (stainless and alloy tool steel) semifinished, plate, sheet and strip, bars and light shapes, wire rod, wire, wire products, structural shapes and units, rails and related products, and pipe and tube product categories covered in appendix G, tables G-1 through G-37.

after the USITC made an affirmative determination in an investigation under section 201 of the Trade Act of 1974 (19 U.S.C. 2251) with respect to imports of certain carbon steel products.[5] After receiving the Commission's report on that investigation, the President announced that he was not taking action under section 203 of the Trade Act but instead would negotiate bilateral restraints with steel-exporting countries to limit U.S. imports of steel and would enforce more vigorously the laws against unfair trade practices.[6] Congress later passed the Steel Stabilization Act (title VII of the Trade and Tariff Act of 1984), which granted the President authority, for the 5-year period ending September 30, 1989, to enforce the terms of the bilateral steel arrangements. However, this legislation made continuation of such authority subject to the condition that the steel industry continue to modernize its plant and equipment and provide for appropriate worker retraining. Specifically, the President was required to make an annual affirmative determination that major steel companies were committing substantially all of their net cash flow from steel operations to reinvestment and modernization of their steel operations and that a certain amount of funds was committed to worker retraining.[7] In July 1989, the President proposed a 2-1/2 year extension of the program. Congress later passed the Steel Trade Liberalization Program Implementation Act, extending the President's enforcement authority through March 31, 1992.[8]

The Steel Trade Liberalization Program called upon the United States Trade Representative (USTR) to negotiate Bilateral Consensus Agreements (BCA).[9] Negotiations commenced during the Fall of 1989, resulting in the successful conclusion of 10 BCAs that covered a majority of U.S. imports of VRA-steel products.[10] As provided for in the BCAs, countries agreed to work toward a Multilateral Steel Agreement (MSA) that would address the underlying causes of unfair trade in steel by eliminating tariffs, such nontariff measures as quotas, and most subsidies in the steel sector. The United States and 34 other countries took part in negotiations for a MSA as part of the Uruguay Round negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT). The MSA negotiations were suspended on March 31, 1992, the same day that the VRA program expired. Negotiations, resumed in December 1992, reached no agreement in time to become part of the Uruguay Round package.[11] Since the end of the VRAs, the U.S. industry has filed petitions under the U.S. antidumping and countervailing duty law with respect to many imported steel products once covered by the VRAs, including wire rope, bar, steel rail, pipe and tube, flat-rolled products, and other steel products.

Improved competitiveness, a weaker dollar, and better access to foreign markets have enhanced the U.S. steel industry's export activities since the mid-1980s. These issues are discussed in this series of reports based on questionnaire responses and anecdotal information which suggest that U.S. steel producers have made a strong effort to develop new export markets. Steel firms responding to the Commission's annual survey (published in April 1994) reported viewpoints on the relative importance of nontariff barriers and government policy factors that may affect their ability to expand exports.[12]

Organization of Report

This introduction is followed by a series of figures and tables that provide highlights of U.S. and international steel industry consumption and trade. Within *U.S. Steel Industry Highlights*, table 1 presents key U.S. steel industry performance indicators for the 3 years ending in 1993 and the first 6 months of 1993-94, and figures 1 to 4 identify monthly trends in U.S. steel shipments, imports, exports, and import penetration. Within *International Production, Consumption, and Trade*, figures 5 and 6, and tables 2 through 5 highlight the geographic distribution of world steel production and apparent consumption; these tables are also provided to identify average annual import and export trends for various countries and country groups over a 20-year period. The section on *Recent Steel Industry Developments* highlights major events affecting both

[5] USITC, *Carbon and Certain Alloy Steel Products* (investigation No. TA-201-51), Publication 1553, July 1984.

[6] Executive Communication 4046, Sept. 18, 1984 (H. Doc. 98-263).

[7] Public Law 98-573, Oct. 30, 1984, (98 Stat. 3043).

[8] Public Law 101-221, Dec. 12, 1989, (103 Stat. 1886) (19 U.S.C. 2253 note).

[9] Such agreements were authorized consistent with section 803 of the Steel Import Stabilization Act, 19 U.S.C. sec. 2253 note, as amended by section 2(b) of the Steel Trade Liberalization Program Implementation Act, Pub. L. 101-221, 103 Stat. 1887.

[10] BCAs were concluded with Australia, Austria, Brazil, European Union (formerly known as the European Community), Finland, Japan, Korea, Mexico, Trinidad and Tobago, and Yugoslavia.

[11] The effect of the Uruguay Round on steel trade is addressed in USITC, *Steel Semiannual Monitoring Report*, Publication 2759, Apr. 1994, pp. 9-10.

[12] For a discussion of steel trade rules under the Uruguay Round, and for further explanation of barriers to expanding U.S. steel exports, see USITC, *Steel Semiannual Monitoring Report*, Publication 2759, Apr. 1994, pp. 9-10.

the U.S. and foreign steel industries. The *Special Focus* section examines customer assessments of current levels of steel product quality and service provided by the U.S. steel industry, and improvements in quality and service during 1990-94; this information is based primarily on data submitted by consuming industries in response to questionnaires of the USITC, and comparisons are provided with comparable customer assessments during 1985-90. These data are detailed in tables F-1 through F-26. The section on *Recent Trends in U.S. Trade* explains principal product category shifts in U.S. trade flows reflected by statistical tables contained in appendix G, tables G-1 through G-37. Wherever possible, separate data are presented for carbon and certain alloy steel and for stainless and alloy tool steel.[13]

[13] In general, stainless and alloy tool steels are higher valued products manufactured by firms that are small in comparison with the major carbon steel producers. The higher valued product is a function of higher raw material costs and of the relatively greater capital investment required for special plant and equipment used to refine and further process stainless and alloy tool steel products. In the past, producers of carbon steel have petitioned separately from producers of stainless steel for import relief under U.S. antidumping and countervailing duty laws.

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Table 1
Steel: U.S. raw steel production, capacity utilization, continuous casting ratio, employment, wages, shipments, imports, exports, apparent open market consumption, net sales, and net income, 1991-93, Jan.-June 1993, and Jan.-June 1994

	1991	1992	1993	Jan.-June 1993	Jan.-June 1994
Raw steel:					
Production (*1,000 short tons*)	87,896	91,601	97,877	47,828	48,429
Capacity utilization (*percent*)	74.2	81.0	89.1	82.9	90.3
Continuously cast (*percent*)	75.8	82.2	85.7	85.0	88.8
Employment:					
Total[1] (*1,000*)	262.7	250.1	238.8	239.5	[2]230.4
Production workers[1] (*1,000*)	199.6	188.7	182.0	182.4	[2]173.4
Hourly employment cost[3]	$27.64	29.57	31.89	31.63	31.37
Steel:					
Open market shipments[4] (*1,000 short tons*)	78,842	82,354	88,400	44,482	46,896
Imports (*1,000 short tons*)	16,381	17,781	20,394	8,610	14,231
Exports (*1,000 short tons*)	6,711	4,546	4,288	2,452	2,045
Apparent open market consumption[4] (*1,000 short tons*)	88,512	95,589	104,506	50,640	59,082
Ratio of imports to open market consumption (*percent*)	18.5	18.6	19.5	17.0	24.1
Export-shipment ratio (*percent*)	8.5	5.5	4.9	5.5	4.4
Steel financial operations:					
Net steel sales (*million dollars*)	27,447	26,900	30,700	7,220	7,949
Net operating income[5] (*million dollars*)	(2,072)	(3,838)	(111)	(119)	254
Ratio of income to net operating income (*percent*)	(7.5)	(14.3)	(0.4)	(1.6)	3.2

[1] These figures represent employment in Standard Industrial Code (SIC) 331. See Appendix A for further information on data coverage.
[2] Preliminary.
[3] Total employment costs (including benefits) of employees receiving wages.
[4] Data on captive consumption are not available. Apparent open market consumption is the sum of open market shipments plus imports minus exports.
[5] This represents operating income on steel operations. First quarter 1993 and 1994 are the most recent data available. Figures are for reporting companies only, which accounted for about 68 percent of the industry's total raw steel production in 1993.

Source: Compiled from data of the American Iron & Steel Institute and from official statistics of the U.S. Department of Commerce and the U.S. Department of Labor (Bureau of Labor Statistics).

Figure 1
U.S. average monthly open market steel shipments, 1989-93, and monthly open market steel shipments, July 1993-June 1994

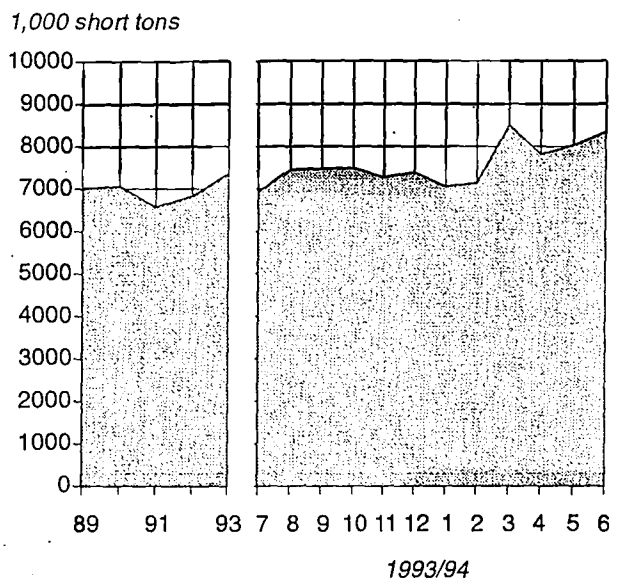


Figure 2
U.S. average monthly steel imports, 1989-93, and monthly steel imports, July 1993-June 1994

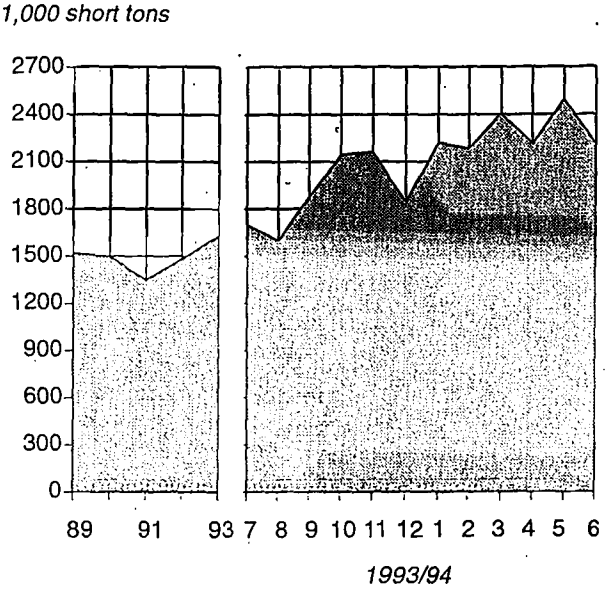


Figure 3
U.S. average monthly steel exports, 1989-93, and monthly steel exports, July 1993-June 1994

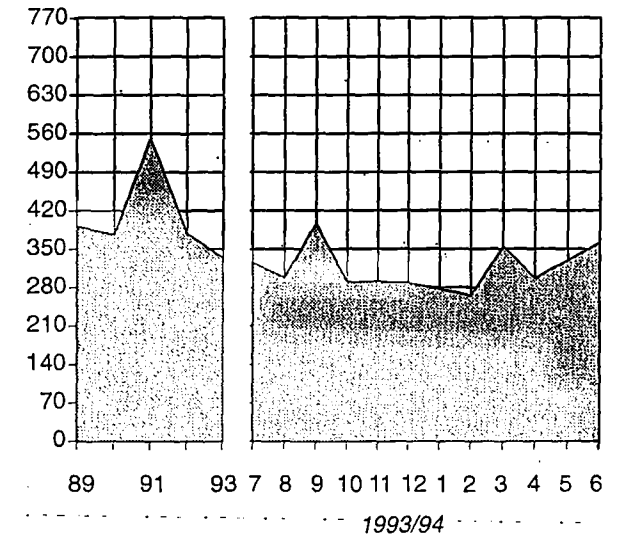
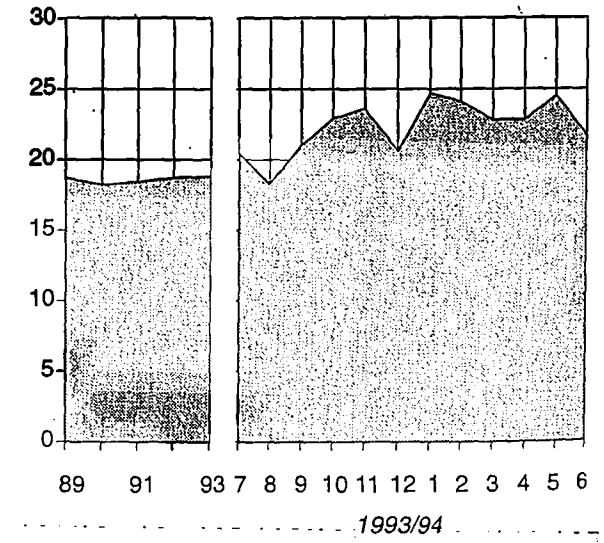


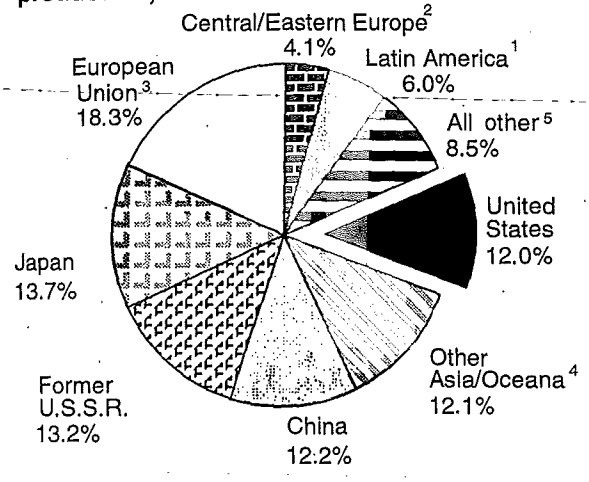
Figure 4
U.S. average monthly open market steel import penetration, 1989-93, and monthly open market steel import penetration,[1] July 1993-June 1994



[1] Import penetration is the ratio of imports to apparent open market consumption. Apparent open market consumption is the sum of net open market shipments (data for captive consumption are unavailable) plus imports minus exports.

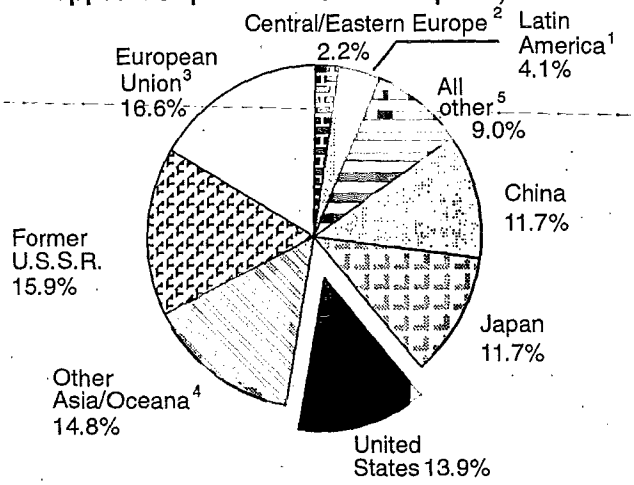
Source: Compiled from data of the AISI and from official statistics of the U.S. Department of Commerce.

Figure 5
Raw steel: Geographic distribution of world production, 1993



Total : 799.5 million short tons

Figure 6
Raw steel: Geographic distribution of world apparent open market consumption, 1992[6]



Total : 794.6 million short tons

[1] Includes Mexico, Central America, South America and the Caribbean (including Cuba).
[2] Includes Albania, Bulgaria, Czech Republic, Slovak Republic, Hungary, Poland, and Romania.
[3] Formerly known as European Community. Includes former German Democratic Republic.
[4] All Asian countries except Japan and China. Includes Australia and New Zealand.
[5] Includes Canada, other Western Europe, Africa, and Middle East.
[6] Data for 1992 are the most recent data available.

Note.—Data do not add to the total shown because of independent rounding.
Source: Calculated from statistics of the International Iron and Steel Institute.

Table 2
Raw steel: Production by regions and by selected countries, 1993, Jan.–June 1993, Jan.–June 1994, and percent change Jan.–June 1993–1994

Region/country	1993	Jan.-June[1] 1993	Jan.-June[1] 1994	Percent change Jan.-June 1993-1994
		1,000 short tons		
EU–12[2]	146,008	74,944	77,179	3.0
Japan	109,808	56,499	51,865	(8.2)
Former Soviet Union	105,477	56,458	42,005	(25.6)
China	97,748	48,371	51,247	5.9
Other Asia/Oceana[3]	96,450	38,851	39,909	2.7
United States[4]	95,890	47,758	48,487	1.5
Latin America[5]	37,699	18,413	19,378	5.2
Central/Eastern Europe[6]	32,771	15,070	16,326	8.3
Other Western Europe[7]	28,251	13,509	14,277	5.7
Africa/Middle East[8]	23,448	10,976	11,172	1.8
Canada[4]	15,903	7,923	7,653	(3.4)
Mexico[4]	10,070	4,946	5,412	9.4
Total	799,523	393,718	384,910	(2.2)

[1] Data cover only those countries for which mid–year production data were available. Regional mid-year totals may not be comparable with full year totals.
[2] Formerly known as European Community. Includes former German Democratic Republic.
[3] Excludes China and Japan.
[4] Member of North American Free Trade Agreement (NAFTA).
[5] Excludes Mexico. Includes Central America, South America, and Caribbean countries (including Cuba).
[6] Includes Bulgaria, Czech Republic, Hungary, Poland, Romania, and Slovak Republic.
[7] Includes Austria, Croatia, Finland, Macedonia, Montenegro, Norway, Slovenia, Sweden, Turkey, Serbia, and Switzerland.
[8] Includes Algeria, Egypt, Iran, Libya, Nigeria, Qatar, Saudi Arabia, South Africa, Tunisia, and Zimbabwe.

Source: Based on data supplied by the International Iron and Steel Institute.

Table 3
Raw steel: Average annual production, by specified countries/regions, by specified 5-year periods, 1959-93

Period	United States	European Union-12[1]	Japan	Principal steel-producing developing countries[2]	World total
	Quantity (million short tons)				
1959–63	99.67	106.17	27.80	22.43	384.95
1964–68	130.26	131.53	56.83	29.53	526.75
1969–73	135.45	162.24	105.88	43.63	677.36
1974–78	130.55	162.52	117.14	62.47	752.88
1979–83	105.55	150.81	114.98	94.10	766.75
1984–88	90.29	145.53	113.17	132.63	806.40
1989–93	94.49	150.31	115.86	180.76	823.34
	World production (percent)				
1959–63	25.89	27.58	7.22	5.83	100.00
1964–68	24.73	24.97	10.79	5.61	100.00
1969–73	20.00	23.95	15.63	6.44	100.00
1974–78	17.34	21.59	15.56	8.30	100.00
1979–83	13.77	19.67	15.00	12.27	100.00
1984–88	11.20	18.05	14.03	16.45	100.00
1989–93	11.48	18.26	14.07	21.95	100.00

[1] Formerly known as European Community. Includes former German Democratic Republic.
[2] Includes Brazil, People's Republic of China, India, Republic of Korea, Mexico, and Taiwan.

Source: Calculated from statistics of the International Iron and Steel Institute and from the United Kingdom Iron and Steel Statistics Bureau.

Table 4
Steel mill products: Average annual exports, by countries/regions of origin, by specified 5-year periods, 1973-92[1]

Period	United States	European Union-12[2]	Japan	Principal steel-producing developing countries[3]	Other	World total
	Quantity (1,000 short tons)					
1973–77	3,612	62,718	34,252	2,777	31,343	134,702
1978–82	2,886	70,775	32,695	8,427	39,589	154,372
1983–87	1,049	73,677	32,684	16,565	51,434	175,409
1988–92	4,317	80,287	21,199	26,612	55,923	188,388
	World exports (percent)					
1973–77	2.7	46.6	25.4	2.1	23.3	100.0
1978–82	1.9	45.8	21.2	5.5	25.6	100.0
1983–87	0.6	42.0	18.6	9.4	29.3	100.0
1988–92	2.3	42.6	11.3	14.1	29.7	100.0
	Exports' share of shipments (percent) [4]					
1973–77	3.7	47.9	33.7	6.6	([5])	23.1
1978–82	3.4	55.4	31.6	12.0	16.6	24.7
1983–87	1.5	61.5	31.5	17.0	19.6	26.9
1988–92	5.0	57.3	19.0	17.7	20.6	24.8

[1] Data for 1992 are the most recent data available.
[2] Formerly known as European Community. Includes all 12 countries for all years.
[3] Includes Brazil, People's Republic of China, India, Republic of Korea, Mexico, and Taiwan.
[4] Derived by the staff of the U.S. International Trade Commission.
[5] Not available.

Note.—Data may not add to the total shown because of independent rounding.

Source: Calculated from statistics of the International Iron and Steel Institute and from the United Kingdom Iron and Steel Statistics Bureau, except as noted.

Table 5
Steel mill products: Average annual imports, by countries/regions, by specified 5-year periods, 1973-92[1]

Period	United States	European Union-12[2]	Japan	Principal steel-producing developing countries[3]	Other	World total
			Quantity (1,000 short tons)			
1973–77	15,020	42,566	206	12,160	64,689	134,641
1978–82	17,860	45,450	1,446	16,357	73,936	155,049
1983–87	21,401	48,034	3,955	24,363	75,089	172,842
1988–92	17,733	66,518	8,069	24,418	73,219	189,957
			World imports (percent)			
1973-77	11.2	31.6	0.2	9.0	48.0	100.0
1978-82	11.5	29.3	0.9	10.5	47.7	100.0
1983-87	12.4	27.8	2.3	14.1	43.4	100.0
1988-92	9.3	35.0	4.2	12.9	38.5	100.0
			Imports' share of apparent consumption of finished steel (percent)			
1973-77	13.8	38.5	0.3	23.6	26.4	23.1
1978-82	17.7	44.4	2.0	20.9	27.1	24.7
1983-87	23.7	51.0	5.3	23.2	26.3	26.6
1988-92	17.7	52.6	8.2	16.5	25.4	25.0

[1] Data for 1992 are the most recent data available.
[2] Formerly known as European Community. Includes all 12 countries for all years. Includes intra-EU trade.
[3] Includes Brazil, People's Republic of China, India, Republic of Korea, Mexico, and Taiwan.

Note.—Data may not add to the total shown because of independent rounding.

Source: Calculated from statistics of the International Iron and Steel Institute.

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Steel Imports Show Strong Growth in First Six Months of 1994

Increased business activity and rising prices in the United States stimulated increased imports (up 65 percent to 14.2 million tons) during January-June 1994 compared with the same period in 1993. These imports accounted for 24.1 percent of U.S. apparent open market consumption[14] of steel during January-June 1994, a significant increase from their 17-percent share in the year earlier period. U.S. exports declined by 17 percent (to 2.0 million tons) between the year-to-date periods (the ratio of exports to shipments also declined, to 4.4 percent). Increased imports during 1994 represent a continuation of a rising trend that began in 1992 concurrent with increased business activity in the United States.

Most of the overall increase in U.S. imports was accounted for by increased imports of carbon and certain alloy steel semifinished and flat-rolled products, which together increased 82 percent to 9.8 million tons. Semifinished steel products are used by steelmakers to produce all downstream steel products; increased import demand for these products has been driven by domestic firms whose installed rolling and finishing capacity exceeds steel melting and casting capacity, or who wish to alleviate bottlenecks caused by planned equipment outages.[15] Improved business conditions in consuming industries also generated higher imports of flat-rolled steel products (consumed by producers of automobiles, machinery and equipment, and appliances), wire rods (automotive and construction), and pipe and tube (construction). For more detailed discussion of these trends and country sourcing patterns, see *Recent Trends in U.S. Trade* (page 31).■

Charles Yost
202-205-3432

Investors Turn Bullish on Steel Industry Performance

Cautious optimism, a marked improvement over previous years, describes current industry and investor perceptions of the financial health of the U.S. steel industry. According to business journal analysis and sentiments expressed at recent industry meetings, the "g"-word (for growth) has returned to steel's vocabulary following more than a decade of retrenchment and market difficulties.[16] Steel stocks outperformed the S&P industrials index by 25 percent during September 1992-April 1994, according to one Wall Street analyst, suggesting broader-based institutional and other investor interest in steel stocks; also, the number of institutional investors involved in the U.S. steel industry reportedly has approximately doubled to 50 in recent years.[17] Increased trading turnover on stock exchanges, and the demonstrated ability of companies to issue new debt and equity also reflect the confidence of investors. Since the beginning of 1993, over two dozen new issues (including private placements and initial public offerings, which usually signal new market entrants or successful restructuring) were floated, and more than $3.7 billion in new equity and $1.4 billion in new debt has been raised.[18] Steel companies have used the proceeds to fund pension plans and capital improvements, undergo restructuring, reduce debt and debt service, and in the case of one company, to pay judgements rendered against its former railroad subsidiary relating to antitrust litigation. Many of these developments are examined in greater detail in the most recent report covering the Commission's annual survey of steel producers.[19]

Investors cite as reasons for optimism revived demand from steel consuming industries, as shown in higher steel shipments, increased prices, recent improvement in profitability for most industry members,[20] and the restructuring and modernization of

[14] Apparent open market consumption is calculated as the sum of domestic net open market shipments (data on shipments for captive consumption are not available), plus imports minus exports.

[15] For further description of uses, see USITC, *Industry and Trade Summary: Semifinished Steel*, Publication 2758, Mar. 1994, pp. 11-12.

[16] Peter Scolieri, "AISI Gets Rosy Forecast for '95," *American Metal Market*, May 26, 1994, p. 3; also, Peter Scolieri, "In Steel, Growth's the Word," *American Metal Market*, May 26, 1994, p. 1.

[17] Mitchell Hecht, "Investment Banker Looks at Steel," *American Metal Market*, May 20, 1994, p. 14.

[18] Peter Scolieri, "Steel Stocks Bring in More Than $3.5 Billion," *American Metal Market*, May 2, 1994, p. 1.

[19] For further information, see USITC, *Steel Semiannual Monitoring Report*, Publication 2759, Apr. 1994.

[20] Data, based on reports from companies accounting for approximately 68 percent of U.S. raw steel production presented earlier in table 1, indicate net operating income improved significantly between 1992 and 1993, although it was still negative in 1993. This differs from more comprehensive data presented in USITC, *Steel Semiannual Monitoring Report*, Apr. 1994, pp. 31-32, which show that the integrated, minimill, and specialty steel segments of the domestic industry recorded a combined operating profit in 1993 of $1.7 billion, but confirms the 1992-93 improvement (these 3 segments recorded a loss of $205.6 million in 1992). Such improvement at the operating level reportedly has continued during the first half of 1994. See, George J. McManus, "Steelmakers Improve Profits

the industry. Capital investment reportedly exceeded $30 billion during 1980-92,[21] resulting in increased competitiveness in terms of streamlined production, reduced costs, and increased productivity, as well as improved product quality and mix for the industry. Most companies also reorganized business units resulting in increased accountability; the separate business units are responsible and accountable for their own marketing, production, and financial performance, and responsiveness to customer demands. Also, steel producers believe that improved product quality has allowed them to hold, expand, and recapture market share from competing materials.[22] Technological improvements have enabled the development of new steel alloys that weigh less and perform better than the grades they replace (one steel company executive estimated that 50 percent of the steel grades in common use today did not exist 5 years ago).[23] Recent marketing efforts made by U.S. steel producers have focused on expanding the use of steel framing in residential construction, supplanting prestressed concrete with steel in short-span bridges, meeting the competitive challenge of aluminum in automobiles, and reclaiming market share in beverage containers.

One industry analyst suggests that a cyclical improvement and secular recovery are underway in metals on a worldwide basis; this suggests rising overall demand and more intensive use of steel.[24] As a result of expanding consumption in the United States and abroad, market growth is mentioned as a possibility—following many years of retrenchment. Prices for steel products have increased since the beginning of 1993,[25] and apparent steel consumption increased by 17 percent during January-June 1994 compared with the same period in 1993 (table 1, presented earlier).

There are, however, several factors that reflect the cyclical[26] and mature characteristics of the steel industry, and, generally, might mitigate the optimistic outlook for the industry. The return on capital is relatively low in the steel industry; during most of the past decade, the return on capital has been lower than the cost of funds and has been negative at times. Earnings, cash flow, and liquidity are volatile, reflecting, among other things, the business cycle, cost-push pressures of raw material inputs (particularly steel scrap), and high capitalization. For many steelmakers, residual amounts of debt remain relatively high in proportion to assets, despite significant debt reduction efforts by retaining earnings, roll over of debt to longer maturity, refinancing at lower interest rates, or repurchase.[27] Also, costs associated with postemployment retirement and health plans remain high for several steelmakers. These factors have contributed to bond rating services downgrading the senior debt of certain medium-sized steelmakers slightly between 1990 and 1993.■

Charles Yost
202-205-3432

Steelmakers Negotiate Higher Contract Prices in Negotiations With Chrysler

Statements by a number of steel mills, including Dofasco, LTV, and U.S. Steel, indicate that major North American mills have successfully negotiated higher contract prices with Chrysler for the model year beginning August 1, 1994. Chrysler has not specified the extent of the increase, but analysts estimate the range from 4 to 10 percent. While spot-market prices

20—*Continued*
Despite Bad Weather," *New Steel*, June 1994, p. 44; and, George McManus, "Integrated Producers Join Minimills in Making a Profit," *New Steel*, Sept. 1994, p. 64.

21 David H. Hoag, Chairman of the American Iron and Steel Institute and Chairman and Chief Executive Officer of LTV Corp., address to AISI's general meeting in New York, May 18, 1994.

22 The WEFA Group, *Steel Industry*, June 1994, p. 1; also, Salomon Brothers, "Renaissance in the Rust Bowl—A Guide to Steel Producers and Processors," May 1994, pp. 1-6.

23 David H. Hoag, "Steel Forges Ahead in Marketplace," speech, the annual meeting of the American Iron and Steel Institute, New York, May 19, 1994.

24 Steel intensity is a measure of steel's share of gross domestic product (GDP). "Only the Beginning: An Interview with Peter Marcus," *Barron's*, July 25, 1994, p. 21.

25 Spot prices of 8 carbon steel products surveyed rose, ranging from about 8 percent (wide-flange beams) to 18 percent (cold-rolled sheet), with a composite average

25—*Continued*
price increase of about 14 percent during January-June 1994 compared with January-June 1993, according to *Purchasing Magazine*.

26 Steel consumption varies with changes in domestic economic activity. A compilation of forecasts made by 18 steel industry analysts yields a consensus view that U.S. steel shipments are estimated to peak in 1995 at about 92.4 million tons, declining to about 87 million tons by 1998. *Locker Associates Update*, June 1994, p. 2.

27 For information on individual companies see PaineWebber, *Metal Stock Strategies*, various issues, and Salomon Brothers, "Renaissance in the Rust Bowl," May 1994.

for both domestic and imported flat-rolled steel have increased by up to 18 percent since early 1993, the Chrysler contract represents the first significant contract price increase borne by automakers.[28] Although U.S. and Canadian steelmakers garnered a 3-percent contract price increase in early 1993, the recent Chrysler increase is the largest since the late 1980s.[29] It is unclear if similar increases in automotive contract prices will be gained by mills outside North America.

The increases negotiated with Chrysler may indicate that negotiations later this year with General Motors (GM) and Ford[30] could also result in higher prices, which may foreshadow higher prices for appliance producers and for other long-term contract buyers. Higher steel prices may lead to small increases in automobile prices; steel industry sources estimate that the Chrysler increase will raise automotive production costs by an average of $51 per car.[31]

Higher prices are likely to improve major mills' profit outlook for 1995 and beyond; PaineWebber predicts an 8-percent increase in profits in 1995 and an additional 7-percent increase in 1996. Contract price increases won by producers of sheet largely reflect increased steel demand, and have been concluded at a time when unfavorable exchange rates and increasing foreign demand make U.S. automobile companies unlikely to significantly increase foreign purchases. Major European steel mills also raised prices to automotive customers earlier this year by approximately 10 percent.■

Stephanie A. Kaplan
202-205-3436

Steel Industry Joins in Environmental Initiative

The U.S. Environmental Protection Agency (EPA) announced in July[32] that the iron and steel industry is one of six industries that will participate in an effort to transform the current Federal environmental regulatory process. Through this "Common Sense Initiative" (CSI), EPA is seeking to significantly improve existing regulations and to develop proposals for legislative reform, where needed. Regulations and legislation covering air pollution, water pollution, and hazardous toxic waste are all included in this review. The CSI envisions a fundamentally different system that would replace the pollutant-by-pollutant approach with an industry-by-industry approach.

The EPA envisions that the new approach will allow companies and industries to create pollution control strategies that are "cleaner, cheaper, and smarter" than those that exist under the current regulatory framework. The plan for each industry is to be developed with six guiding components in mind:

- Review of every major rule and regulation affecting the industry;
- Focus on pollution prevention instead of remedial "end-of-pipe" approaches;
- Simplify the collection and dissemination of environmental data;
- Implement strong enforcement that rewards companies in compliance and puts non-compliant companies at a competitive disadvantage;
- Improve and streamline the permitting process to be more responsive to the public and industry;
- Encourage new technology through result-based regulation rather than technology-based regulation.

Through CSI, EPA seeks to replace the traditional adversarial approach with procedures based on consensus. EPA would utilize and expand on the regulatory negotiation format tested in establishing regulations for coke ovens under the 1990 Clean Air Act Amendments. Each industry team is to include high-level personnel from EPA and industry, as well as members of environmental groups, state and local governments, labor unions, and other interested Federal government agencies.

Time frames for the initiative are still unknown because the industry teams, scheduled to be in place by late September 1994, are still being established. Although the EPA has indicated that it plans to implement some of the CSI ideas over the next year, each industry team will set its own goals, priorities, work plan, and deadlines.

Steel industry officials, who consulted with the EPA prior to the announcement of the initiative, maintain a high level of interest and see it as an

[28] Peter Scolieri, "Chrysler Steel Deals Increase 7% to 10%," *American Metal Market*, Aug. 3, 1994, pp. 1, 16.
[29] Karlis Kirsis, World Steel Dynamics/PaineWebber executive, USITC staff interview on Sept. 26, 1994.
[30] Ford and GM negotiate on a calendar-year basis, in contrast to Chrysler, which negotiates on a model-year basis.
[31] PaineWebber, "Metal Stock Strategies," Aug. 9, 1994, pp. 1-3.
[32] United States Environmental Protection Agency, "Browner Names Six Industries in Plan to Improve Environmental Protection," Press Release, July 20, 1994.

opportunity for more creative and cost effective ways to meet their environmental challenges. The industry is hopeful that the initiative will deliver on its promise of greater regulatory flexibility and more streamlined administrative procedures.■

Mark Paulson
202-205-3429

The Resurgence of the Republic of South Africa as a Steel Supplier to the U.S. Market

The Republic of South Africa (South Africa) continues to be the largest producer of steel on the African continent, largely reflecting an abundance of relatively inexpensive steelmaking raw materials and competitive levels of manufacturing technology.[33] South Africa's annual steelmaking capacity of about 10.6 million metric tons in 1993[34] was more than double the combined production capacity of all other African steel-producing countries during the period. The steelmaking potential of South Africa stems primarily from the combined production capabilities of Iscor Ltd. (Iscor) and Highveld Steel and Vanadium Corporation, Ltd., (Highveld), both of which are integrated steel producers.[35] Moreover, unlike other African steelmakers, South Africa possesses stainless steelmaking capacity.

Iscor, the largest steel producer, accounted for 75 percent of South Africa's total steel production in 1993.[36] This company, which produces a wide range of carbon and alloy flat-rolled steel products (sheet, strip, and plate, including tin plate) and profile products (angles, shapes, and structurals) operates six production facilities in or within proximity of South Africa's largest cities. Highveld, whose product mix is essentially the same as Iscor and accounted for 10 percent of South Africa's total steel production in 1993, operates one production facility located in the city of Witbank.[37]

Before the imposition of the program of Voluntary Restraint Agreements (VRAs) in late 1984, U.S. imports from South Africa averaged around 570,000 tons annually (1983-84), representing about 2 to 3 percent of total U.S. imports. The VRA ceilings were based on historical import levels, but in the first 2 full years of the program (1985 and 1986), imports from South Africa fell to approximately 430,000 and 520,000 tons, respectively. However, the imposition of the Comprehensive Anti-Apartheid Act of 1986 (CAAA) cut off nearly the entire flow of steel imports from South Africa. While section 5070 of the CAAA prohibited importation of South African iron and steel, section 5053 prohibited the importation of products from parastatal organizations (including imports from Iscor). Although the CAAA prohibited importation of most steel products from South Africa, it did allow certain fabricated steel products, such as wire products, and fabricated structurals into the U.S. market.[38] Imports in 1987 fell to 30,000 tons, and, from 1988 to 1991, imports were less than 1,700 tons annually. The largest volume of these imports consisted of wire products, structurals, and railway-related products. In July 1991, President Bush lifted many of the provisions of the CAAA (Executive Order 12769), including the prohibition against steel imports.[39] U.S. imports of steel products from South Africa then increased dramatically—from 415 short tons in 1991 to 406,554 short tons in 1993; imports in 1994 are running close to last year's levels, down by only 1 percent during the first 6 months of the year. These imports comprise mostly carbon steel plates, sheet and strip, pipes and tubes, and stainless steel sheet and strip (see detailed trade tables in appendix G).

Since re-entering the U.S. market, Iscor reportedly is directing its marketing efforts toward product-specific and/or regional markets. In particular, the company is looking at a more favorable sales mix and is expanding production of value-added steel products for export purposes, including such high-tech products as tin plate, tin-free steel, high-grade railroad rails, seamless pipe, and wire products. These value-added

[33] Official of the U.S. Bureau of Mines, interview by USITC staff, Aug. 12, 1994.

[34] Based on information provided by the WEFA Group, 1990, Conquering World Steel Markets - vol. II.

[35] In 1993, 60.7 percent of South Africa's total crude steel output was produced by basic oxygen furnace; 39.3 percent was produced by electric furnace.

[36] Iscor was privatized in October 1989. Under the terms of the privatization, the South African Government retained 16.2 percent of the outstanding shares, limited foreign ownership to 15 percent, and single domestic ownership to 20 percent.

[37] Official of the U.S. Bureau of Mines, interview by USITC staff, Aug. 12, 1994.

[38] According to an industry official, fabricated structural steel from South Africa, having received an exemption, was used to construct a bridge in Houston, TX.

[39] The remaining economic sanctions were repealed on Nov. 23, 1993 (Public Law 103-149). Restrictions on the export of certain U.S. military and paramilitary products were removed in June 1994.

products should enhance Iscor's U.S. export potential. Highveld, which is exploring new marketing strategies, has also indicated its intentions to expand exports to the United States now that sanctions have ended.[40]

In addition, South Africa has the potential to become the world's fifth largest producer of stainless steel, after Japan, the United States, Germany, and France. Columbus Stainless, Ltd., which took over South Africa's only producer of stainless steel, Middleburg Steel and Alloy (MS&A), in September 1991, is expanding production capacity to 500,000 metric tons of hot- and cold-rolled stainless steel by 1996 (compared with MS&A's current capacity of 120,000 metric tons). Because South Africa's production exceeds domestic consumption, exports of stainless steel products to the U.S. market are expected to increase.■

James M. Brandon
202-205-3433

[40] Industry official interviewed by USITC staff, Aug. 17, 1994.

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Overview

Quality and customer service continue to be of increasing importance to most firms in the U.S. steel industry and to its customers in both the United States and abroad. Consistent improvement in quality has become essential to meet the needs of end-users because any defect in purchased steel can lower the efficiency of manufacturing operations or the quality of the final product. Customer requirements that steel have customized characteristics or properties have become more common and increasingly stringent. In addition, improved service, including development of closer working relationships with customers, is essential in supplying steel on a more competitive and timely basis. Many global steel producers have achieved a significant competitive advantage in certain market segments over other domestic and foreign producers by focusing on quality and service.[41]

A recently-completed Commission survey of consuming industries[42] indicates that U.S. producers have achieved sustained improvements in product quality and customer service over the past 4 years, but at a smaller rate of growth than during 1985-90. However, the survey indicates that Japanese producers remain the most highly rated. In spite of these favorable trends noting incremental quality and service improvement gains by U.S. steelmakers since 1990, the perceptions of U.S. purchasers indicate that U.S. steelmakers achieved more limited improvement since 1990 relative to Japan. Factors that may contribute to these perceptions are discussed in this report.

Reasons for Quality and Service Improvements

Several forces have acted simultaneously to bring about widespread efforts to improve product quality and service within the domestic steel industry. A primary factor has been the increase of worldwide competition within the steel industry and many of its consuming industries. In response, customers have tightened their specifications on the physical properties of steel, such as strength, formability and hardness, and dimensional tolerances. Consuming industries seek specialized grades of steel tailored to the manufacture of specific parts and products and demand steel of consistently high quality in order to maintain high productivity in their operations. This growing specialization has spurred a trend away from the mass production of steel having standard chemistries and coatings, toward the production of a wide variety of more technically exacting products for individual applications.

Steel consumers surveyed indicated their need for continuous improvement in the quality of steel products they purchase. In effect, "quality" is a moving target. Considerable progress in quality has been made during the past decade; steel mills, working with customers and equipment suppliers, have improved control of chemistry and microstructure, dimensional tolerances, straightness, flatness, and surface and mechanical properties. These enhancements in steel quality have come about partly because of improvements steel mills have made in controlling process variables in melt shops and rolling mills through automation, computerization and measurement, and heightened worker awareness of customer requirements.

In part, quality also measures the steel industry's ability to produce products of uniform (that is, less product variability) thickness and surface finish, dimensions, chemistry, and mechanical properties, thereby reducing customers' finishing and fabricating costs. Although only a few purchasers indicated that their formal specifications have been tightened in the past few years, in general, many indicated that the range of acceptable product quality has narrowed in terms of dimensional characteristics to at least one-half of current ASTM tolerances.[43] Several consumers indicated that they now insist on one-half tolerance, instead of accepting the mill's statement that it would "aim to" produce to such tolerance.[44]

[41] For a more detailed discussion of the elements that contribute to steel product quality and customer service, see USITC, *Steel Industry Annual Report on Competitive Conditions in the Steel Industry and Industry Efforts To Adjust and Modernize*, Publication 2316, Sept. 1990, pp. 36-38, and Publication 2436, Sept. 1991, p. 4-11.

[42] The USITC mailed 219 questionnaires on steel product quality and customer service and received 180 usable responses. The questionnaires were mailed to a sample population of major purchasers of steel developed on the basis of data provided by the U.S. Department of Commerce's Bureau of the Census. However, the lack of reliable data on the size of the universe of steel purchasers made it impracticable to generate a sample suitable for making statistical inferences applicable to the entire population.

[43] American Society for Testing and Materials specifications for dimensional tolerances (the range of permitted variation). Most steel rolling mills can produce to one-half of the permitted variation, and a few are able to produce to one-quarter.

[44] Increasingly, steel mills or their distributors are required to document the quality of the steel that they ship. Several steel consumers commented in the Commission's survey that, if the steel quality, as delivered, is cause for additional handling or manufacturing time, the cost is charged back to the producing mill.

The automobile industry has been a leader among steel consumers in tightening the quality standards for more durable and corrosion-resistant steel. Elements of steel quality specifically emphasized by auto producers include material thickness, coating weights, surface roughness, and mechanical properties. Pressure to improve product quality and customer service has come from both traditional domestic automakers as well as from Japanese automakers' demands for more sophisticated steel products to supply their manufacturing operations in the United States. The Japanese-owned automotive transplants (for instance, Nissan in Tennessee, and AutoAlliance[45] in Michigan) are reportedly seeking to buy most of their steel from U.S. mills, provided the U.S. steelmakers can supply them with consistently high-quality steel.[46] For example, to meet AutoAlliance's corrosion tests, LTV Steel, Bethlehem Steel, and Inland Steel all had to improve their steel's surface smoothness and the adherence of an organic coating to the steel.[47] Steelmakers have apparently been successful in their efforts to satisfy automobile producers; automakers' reject rate for steel has fallen to less than 0.5 percent from 8 percent a decade ago.[48]

Strong competition from alternative materials, such as plastics and aluminum, has also inspired improvements both in the quality of existing steel products and in the innovative development of new steel products. About half of the steel products specified for use in today's automobiles did not exist 5 years ago.[49] Steelmakers have also made considerable progress in reducing automobile weight through improved designs (for example, laser-welded tailored blanks)[50] that reduce the number of parts and lower their weight, reduce tooling and fabrication costs, and aid fuel economy. Moreover, automakers are making more efficient use of a new generation of lighter gauge medium strength steels, high-strength/low alloy steels, interstitial-free (ultralow levels of carbon and defects such as bubbles), and bake-hardenable steels.[51] Steelmakers have also improved coatings to enhance corrosion resistance, appearance, and weldability.[52] As a result, numerous auto parts previously made from such alternate materials as plastic and aluminum (for instance, certain roofs and hoods, fuel tanks, and fenders) have returned to steel in recent years.[53]

Quality and Service Themes for the 1990s

Steel end-users in many markets, such as the automobile and the appliance markets, continue to be pushed by their customers to meet more stringent product quality standards and to provide more attentive customer service. In response to these manufacturers' demands for higher quality products, as well as to the intense competition from global steelmakers, U.S. steel producers have initiated various new strategies or elaborated on existing strategies to improve their performance in the 1990s. Efforts have included extensive capital investment in new machinery and equipment and the implementation of statistical process control (SPC) systems and process analysis techniques. Efforts to improve product quality extend from the design stage of product development (based on close monitoring of customer needs) through the manufacture and shipment of final products in a timely manner.

There have been a growing number of customer/supplier partnerships that have resulted in customized products and more efficient product development. Improved ability to compete that can result from these partnerships and from the efforts underway to upgrade quality and service includes both product innovation and enhancement (based on advances in product design and technology), reduced product development time, and reduced overall product cost.[54] Furthermore, established systems, such as just-in-time (JIT) manufacturing, whereby steel producers and steel service centers supply customers

[45] AutoAlliance is the 50/50 joint venture of Mazda and Ford Motor Co.

[46] Honda of America Manufacturing currently purchases all of its automotive steel from U.S. producers. Official of Honda of America, interview by USITC staff, Sept. 26, 1994. Also, "Japanese autos: Bodies in Red, White and Blue," *Iron Age*, July 1993, p. 12.

[47] "Japanese autos: Bodies in Red, White and Blue," *Iron Age*, July 1993, p. 14.

[48] Reuben L. Perin, Jr., Executive Vice President - Commercial, U.S. Steel Group, remarks presented at Steel Survival Strategies VIII, June 22-23, 1993.

[49] "Steel - Back in the Driver's Seat," *Iron & Steelmaker*, Aug. 1993, pp. 5-6.

[50] Tailored blanks are patchworks of different types of sheet steel ready to be stamped into specific body parts and may include combinations of sheet steel of different thicknesses, strengths, or coatings.

[51] Wallace D. Huskonen, "Steel Finds a Way to Lighten up Cars," *33 Metal Producing*, Oct. 1993, p. 53.

[52] "Fine-tuning coatings and tolerances," *New Steel*, Jan. 1994, pp. 36-40.

[53] For example, Saturn Corp. recently announced plans to switch to steel from plastic composites for the roofs of its station wagons, beginning in 1995 when the 1996 models go into production. See "Saturn Switches Roof to Steel From Plastic," *American Metal Market*, Sept. 1, 1994.

[54] "Five Areas Where Suppliers Can Be Your Competitive Edge," *Purchasing*, Nov. 25, 1993, pp. 6-7.

with just enough product to meet current production needs, have been refined in the 1990s to bring greater benefits to customer-supplier partnering.[55] The nature of efforts to improve quality and service is increasingly regarded as a network (more far-reaching than a bilateral partnership) encompassing all aspects of steel production and distribution.

A leading customer/supplier partnership is the Auto/Steel Partnership (A/SP) formed in 1987 and consisting of representatives from the 3 major North American automobile producers and 11 North American steel producers.[56] The stated objective of the A/SP is to improve technology, quality, and reliability in the manufacture and application of automotive sheet steel to ensure continued leadership for both industries.[57] The closer coordination fostered by the A/SP better enables steelmakers to anticipate and meet the automobile industry's needs through future product and process development and JIT deliveries.[58]

Global emphasis on product and process quality has led to the establishment of international quality-assurance standards, which have become more prevalent during the 1990s. One of the leading international standards systems is the ISO 9000 series of standards, developed and implemented by the International Organization for Standardization. ISO 9000, a generic quality system applicable to most industries, establishes minimum product quality standards that can be expanded depending on customer requirements.[59] Certification under the ISO 9000 system connotes a strong commitment to continuous improvement in product quality, which in turn strengthens a company's perceived competitiveness in the international market.[60] Registration to the ISO 9000 system is costly, however. Reportedly, companies spend about $35,000 for basic ISO 9000 registration fees, exclusive of such other costs as the employee time necessary to comply with the many requirements of accreditation.[61]

Many integrated steelmakers have indicated that their products already surpass ISO standards as a result of their having implemented a total-quality-management (TQM) program, causing them to question the need for ISO 9000 certification. Among integrated steel producers, Bethlehem Steel (Sparrows Point, MD and Burns Harbor, IN facilities), LTV Steel (Cleveland Works and L-S Electro- Galvanizing Co.), and U.S. Steel (Mon Valley Works) are the only mills with an ISO 9000 certificate, although many of the other integrated steel producers reportedly have initiated certification efforts, largely in response to quality demands from the makers of automobiles and heavy equipment.[62]

ISO 9000's role as the ultimate authority on international quality-assurance standards is changing. Industry groups worldwide have proposed alterations in ISO 9000, including more industry-specific standards and guidelines, to reduce the possibility of producing poor-quality products, even with an ISO

[55] Steel service centers are holding increasing amounts of inventory as mills attempt to reduce their own inventory costs.

[56] The members of the A/SP are AK Steel Corp., Acme Steel Co., Bethlehem Steel Corp., Chrysler Corp., Dofasco Inc., Ford Motor Co., General Motors Corp., Inland Steel Flat Products Co., LTV Steel Co., National Steel Corp., Rouge Steel Co., Stelco Inc., US Steel Group, USX Corp., and Weirton Steel Corp.

[57] Auto/Steel Partnership, "Partnership for Excellence," Jan. 1994.

[58] "Fine-Tuning Coatings and Tolerances," *New Steel*, Jan. 1994, pp. 36-40.

[59] ISO 9000 and ISO 9004 are descriptive documents called guidance standards. Companies register to one of the conformance standards only, e.g., ISO 9001, ISO 9002, or ISO 9003, which are models for quality systems. For further information on ISO 9000, see USITC, *Industry, Trade, and Technology Review*, "Emerging Focus on Quality Systems Enhances Market Prospects for the U.S. Instruments Industry," Oct. 1994. Also see "ISO 9000 and the Metal Fabricating Industry," *The Fabricator*, Jan./Feb. 1993, p. 48.

[60] In general, companies seeking ISO 9000 certification hire registrars, outside quality auditors who review a manufacturing plant's quality standards. The certification is generally valid for 3 years. The outside auditors return every 6 months to re-evaluate the plant's quality standards. See "U.S. Steel Plants Meet Global Standards on Quality," *Pittsburgh Post-Gazette*, Jul. 16, 1994, p. 1. Registration to one or more of the standards in the series does not mean that a company's particular product is registered, but rather that a company's system of quality standards for its processes is registered. See "ISO 9000 - Another Fad? Or a Strategy for Success?" *33 Metal Producing*, Jan. 1994, pp. 40-43.

[61] "Mixed Reviews for ISO 9000," *New Steel*, Feb. 1994, pp. 40-43; and "U.S. Steel Plants Meet Global Standards on Quality," *Pittsburgh Post-Gazette*, July 16, 1994, p. 1. Among Japan's integrated steelmakers, long regarded as suppliers of high-quality steel, the following facilities are registered to ISO 9000: Asahi Industries (Saitama plant); Daido Steel (Hoshizaki, Kawasaki, and Shibukawa plants); Kawasaki Steel (Chiba, Chita, and Mizushima plants); Nippon Steel (Hikari, Kimitsu, Nagoya, Oita, Tokyo, and Yawata plants); Nisshin Steel (Hirohata and Sunan plants); NKK (Fukuyama and Keihin plants); Sanyo Special Steel (Honsha plant); and Sumitomo Metal (Kashima, Kokan, and Wakayama plants). Information (dated June 30, 1994) provided by Japan Steel Information Center, New York, New York to USITC staff.

[62] "Mixed Reviews for ISO 9000," New Steel, Feb. 1994, pp. 40-43. ISO 9000 certification indicates that a company consistently follows internationally recognized procedures for ensuring quality, but it does not absolutely ensure that a quality product will be produced.

9000 program in place.[63] Many of these proposed industry-specific systems base their requirements on the ISO 9000 series of standards. For example, Chrysler, Ford, and General Motors are releasing a single new set of requirements that define their quality system expectations for internal and external suppliers of parts, materials, and services. The program, known as "Quality System Requirements," is designed to be a harmonization of Chrysler's Supplier Quality Assurance Manual, Ford's Q-101 Quality System Standard, and General Motors' North American Operations Targets for Excellence and General Quality Standard for Purchased Materials in Europe. The new quality system will supercede the previous quality programs of each of the three companies. The conformance standards of ISO 9001 (one of the models for the quality systems under ISO 9000) constitute the foundation for the new standard with supplemental quality system requirements added by the three automobile producers.[64]

Recent refinements in quality-improvement efforts include the concept of "return on quality" (ROQ), developed to help companies ensure that the quality offered is the quality customers require and are willing to pay for, and that also yields positive financial results.[65] For the most part, efforts to improve steel product quality have resulted in more efficient production operations and improved profits. However, a lack of customer focus in determining quality needs may at times make the emphasis on quality, although well-intentioned, almost ineffective for customers and can fail to result in improved sales, improved margins, or increased market share. The push to meet increasingly demanding quality standards can detract from a company's ability to retain customers if the standards diverge from actual customer needs. ROQ focuses on quality efforts most likely to improve customer satisfaction at a reasonable cost.

U.S. Producers' Current Status

In order to evaluate the quality and customer service improvements made by domestic producers and the relative competitive position of the U.S. industry, the Commission surveyed different groups of steel purchasers.[66] The purchasers surveyed were essentially those who were canvassed in the Commission's previous surveys on steel quality and customer service.[67] Purchasers were asked to assess both *the degree of improvement* in overall U.S. quality and service since 1990, and *the level of existing quality and customer service* of U.S. steel producers in 1994. About 70 percent of steel purchasers responding to the Commission's questionnaire noted improvements in overall product quality and customer service by U.S. steel producers during 1990-94.

Evaluation by Type of Product

The extent of perceived improvements varied by product group, by quality factor, and by type of service provided. Steel purchasers reported that producers of carbon plates, sheets, and strip achieved the greatest degree of *improvement* in overall quality and service between 1990 and 1994 based on the high degree of perceived "limited-to-significant" rankings of quality improvement reported by 81 percent of purchasers and range of service improvement reported by 75 percent of purchasers (table 6).[68] Furthermore, indications by purchasers of little or no improvement in this product group were relatively low. Dimensional quality of these products, along with technical assistance service,

[63] "Mixed reviews for ISO 9000," *New Steel*, Feb. 1994, pp. 40-43.

[64] "Big Boost for ISO 9000," *33 Metal Producing*, Aug. 1994, p. 5.

[65] "Quality: How To Make It Pay," *Business Week*, Aug. 8, 1994, pp. 54-59.

[66] The principal consuming groups identified in the tables and figures throughout this section are categorized by standard industrial code (SIC) as follows: metal cans and containers (SICs 3411, 3412); fabricated structural metal products (SICs 3441-3449); metal forgings/stampings (SICs 3462-3469); nonelectrical machinery and equipment (SIC 35); appliances (SIC 363); electrical equipment (SICs 361, 362, 364, 365, 366, 367, 369); automotive (SICs 3711, 3713, 3714); other transportation (including aircraft and parts, shipbuilding, and railroad equipment) (SICs 3715-3799); steel service centers (SIC 5051); processors (SICs 3315, 3316, 3317).

[67] For further information on the results of the earlier Commission surveys on quality and service, see USITC, *Steel Industry Annual Report*, Publication 2316, Sept. 1990; and USITC, *Steel Industry Annual Report*, Publication 2436, Sept. 1991.

[68] Purchasers were requested to choose among the following possible assessments: "little or no improvement;" "limited improvement;" and "significant" improvement. Assessments for 1990-94 (table 6), compared with those for 1985-90, illustrate the lower rate of gain achieved by the industry during the 1990s. A perceived "significant" degree of improvement in quality and service reported by purchasers during 1985-90 ranged from 17 to 38 percent for each of the product categories rated; a perceived "limited-to-significant" range of improvement for each of the product categories rated during 1985-90 was indicated by 71 to 87 percent of purchasers for quality and by 73 to 83 percent of purchasers for customer service. See USITC, *Steel Industry Annual Report*, Publication 2316, Sept. 1990, pp. 40-41.

was perceived by purchasers as showing the greatest improvement (table F-1).

In addition, the largest percentage of purchasers reported significant improvement in quality (17 percent) and service (21 percent) by producers of stainless bars, rods, and shapes (table 6). Internal[69] and surface[70] qualities of these products, along with the delivery reliability aspects of service, were perceived by purchasers as showing the greatest improvement (table F-5).

Among all the quality and service factors identified by the Commission as most important, based on discussions with officials from consuming industries, the lowest ratings for degree of improvement among the six product categories between 1990 and 1994 were quality aspects of presentation (including packaging and marking) and financial terms of service (tables F-1 through F-6).

[69] Internal quality includes chemistry, microstructure, grain size, and inclusions (e.g., bubbles).

[70] Surface quality includes seams, smoothness, and shearing.

Purchasers' assessments of the *existing level* of quality and customer service among U.S steel producers, based on responses to Commission questionnaires, reveal that 46 to 64 percent of purchasers rated overall U.S. product quality as good-to-excellent, and 44 to 66 percent of purchasers rated overall customer service as good-to-excellent (table 7). Further, very few U.S. purchasers regard U.S. quality and service as less than satisfactory. Purchasers considered stainless pipes and tubes as having the highest overall quality and greatest share of excellent ratings. Purchasers assessed U.S. stainless and alloy tool steel products relatively higher on quality and customer service aspects than U.S. carbon steel products.

However, these evaluations are slightly lower than those reported in 1990,[71] despite limited-to-significant

[71] For a more detailed discussion of the elements that contribute to steel product quality and customer service, see USITC, *Steel Industry Annual Report*, Publication 2316, Sept. 1990, pp. 36-38.

Table 6
U.S. purchasers' assessments of the extent to which U.S. steel producers improved their overall product quality and customer service, for carbon and certain alloy steel[1] and stainless and alloy tool steel, from 1990 to 1994

Item	Little or none	Limited	Signif-icant	Combined limited-to-sig-nificant	No. of re-sponses
	Percent				
Product quality:[2]					
Carbon and certain alloy steel:					
Plates, sheets, and strip	19	66	15	81	117
Bars, rods, shapes, and rails	33	53	13	66	90
Pipes and tubes	34	55	10	65	67
Stainless and alloy tool steel:					
Plates, sheets, and strip	31	52	14	66	63
Bars, rods, and shapes	32	47	17	64	46
Pipes and tubes	32	58	8	66	34
Customer service:[3]					
Carbon and certain alloy steel:					
Plates, sheets, and strip	24	58	17	75	129
Bars, rods, shapes, and rails	28	53	18	71	98
Pipes and tubes	26	56	17	73	73
Stainless and alloy tool steel:					
Plates, sheets, and strip	30	56	12	68	72
Bars, rods, and shapes	28	50	21	71	52
Pipes and tubes	23	55	20	75	43

[1] Certain alloy steel refers to alloy steel other than stainless or tool steel.

[2] Product quality includes assessments as to internal, dimensional, and surface quality, properties, and presentation.

[3] Customer service includes assessments as to delivery reliability, pre- and post-sale technical assistance, responsiveness to complaints, and financial terms.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 7
U.S. purchasers' assessments of overall U.S. product quality and customer service for carbon and certain alloy steel[1] and stainless and alloy tool steel, 1994

Item	Less than satis-factory	Satis-factory	Good	Excel-lent	No. of res-ponses
		Percent			
Product quality:[2]					
Carbon and certain alloy steel:					
Plates, sheets, and strip	4	49	42	4	114
Bars, rods, shapes, and rails	2	47	46	3	84
Pipes and tubes	3	42	50	4	66
Stainless and alloy tool steel:					
Plates, sheets, and strip	1	37	51	8	58
Bars, rods, and shapes	2	34	52	11	44
Pipes and tubes	0	35	45	19	31
Customer service:[3]					
Carbon and certain alloy steel:					
Plates, sheets, and strip	11	43	36	8	126
Bars, rods, shapes, and rails	5	37	54	2	95
Pipes and tubes	3	32	62	1	80
Stainless and alloy tool steel:					
Plates, sheets, and strip	2	36	50	10	69
Bars, rods, and shapes	5	33	49	11	53
Pipes and tubes	4	35	50	9	42

[1] Certain alloy refers to alloy steel other than stainless or tool steel.
[2] Product quality includes assessments as to internal, dimensional, and surface quality, properties, and presentation.
[3] Customer service includes assessments as to delivery reliability, pre- and post-sale technical assistance, responsiveness to complaints, and financial terms.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

improvements in overall quality and service during 1990-94 reported by a majority of respondents. Purchasers' consistently rising expectations with regard to product quality and customer service combined with some reported concern about steel mills' price levels[72] may have contributed to their relatively lower evaluation of producers' performance in 1994 compared with that in 1990. Some respondents to the Commission's questionnaire noted that steel product quality and customer service deteriorated when steel demand rose.[73] In terms of the percentage of responding purchasers who rated quality as good-to-excellent, purchasers rated all three carbon steel product groups and stainless steel flat-rolled (that is, 4 of 6 product groups) lower by 4 to 7 percentage points in 1994 than they did in 1990. Purchasers' assessments of customer service are also lower in 1994 for each of the three carbon steel product groups and for stainless steel pipes and tubes.[74]

Evaluation by Type of Consumer

Satisfaction with the existing overall quality and service of U.S. steel producers varies by type of consumer. Nonelectrical machinery and equipment, appliances, and fabricated structural metal products are among the most satisfied customers (table 8), with more than 60 percent responding with good-to-excellent assessments of overall U.S. steel product quality, whereas customers in the metal cans and containers and service center industries appear to be among the least satisfied.

[72] Some questionnaire respondents commented that they have tightened their standards for acceptable steel quality and customer service while "also monitoring the pricing from the mills more closely."

[73] For example, one questionnaire respondent commented that "Service continued to improve through late 1993. However, as the domestic mills became busier in 1994 the service started to suffer... As economic conditions continue to improve, the service and quality at some plate and structural mills seems to falter. Hopefully, the problems are associated with performing at full capacity and not with a change in attitude."

[74] For further information, see USITC, *Steel Industry Annual Report*, Publication 2316, Sept. 1990, pp. 42-43.

Table 8
U.S. purchasers' assessments[1] of overall U.S. steel product quality,[2] by consuming group, 1994

Consuming group	Less than satis-factory	Satis-factory	Good	Excel-lent	Total number of responses[3]
			Percent		
Metal cans and containers	0	83	17	0	6
Fabricated structural metal products	3	38	58	3	40
Metal forgings and stampings	3	43	46	9	35
Nonelectrical machinery and equipment	1	31	58	9	86
Appliances	0	38	50	13	8
Electrical equipment	0	58	42	0	19
Automobiles	1	43	46	10	82
Other transportation	3	65	25	8	40
Service centers and processors	4	61	35	0	26

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Each questionnaire respondent was asked to provide evaluations on up to six product groups; however, few responded for all six.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Despite the apparent periodic problems encountered with steel product quality, as reported by the metal cans and containers industry, a comparison of these purchasers' assessments of quality levels in 1994 with those in 1990 reveals some notable improvements, with no respondents reporting less than satisfactory quality in 1994, compared with 22 percent in 1990.[75] This likely reflects U.S. tin mill producers' response to container producers' intensified quality and service demands.[76] Purchasers of steel for appliances also reported significant improvements in quality during the period, with their share of good-to-excellent assessments rising from 36 percent in 1990 to 63 percent in 1994.[77] Assessments by most other consuming groups reflected less marked improvement during 1990 to 1994, with a greater share of satisfactory rather than good or excellent assessments in 1994. Only purchasers of steel for appliances perceived greater improvements in steel quality during 1990-94 than during 1985-90 (figure 7).

These current assessments could reflect decreasing incremental improvements in quality over the past 4 years compared with levels that, for the most part, were already regarded as satisfactory-to-good in 1990. For example, assessments by the automobile industry, initially the most active consumer group demanding quality and service improvements, declined by 10 percentage points (from 66 percent good-to-excellent assessments of product quality in 1990[78] to 56 percent in 1994 (table 8)). Automobile customers' large-volume orders and historical customer relationships have been one of the strongest forces motivating U.S. steel producers to improve both product quality and customer service. Achievements that have resulted from steel producers' partnership with the automobile industry include the development of a variety of coated steels to meet corrosion warranties, high-strength steels for weight reduction and improved safety, and steels having higher levels of

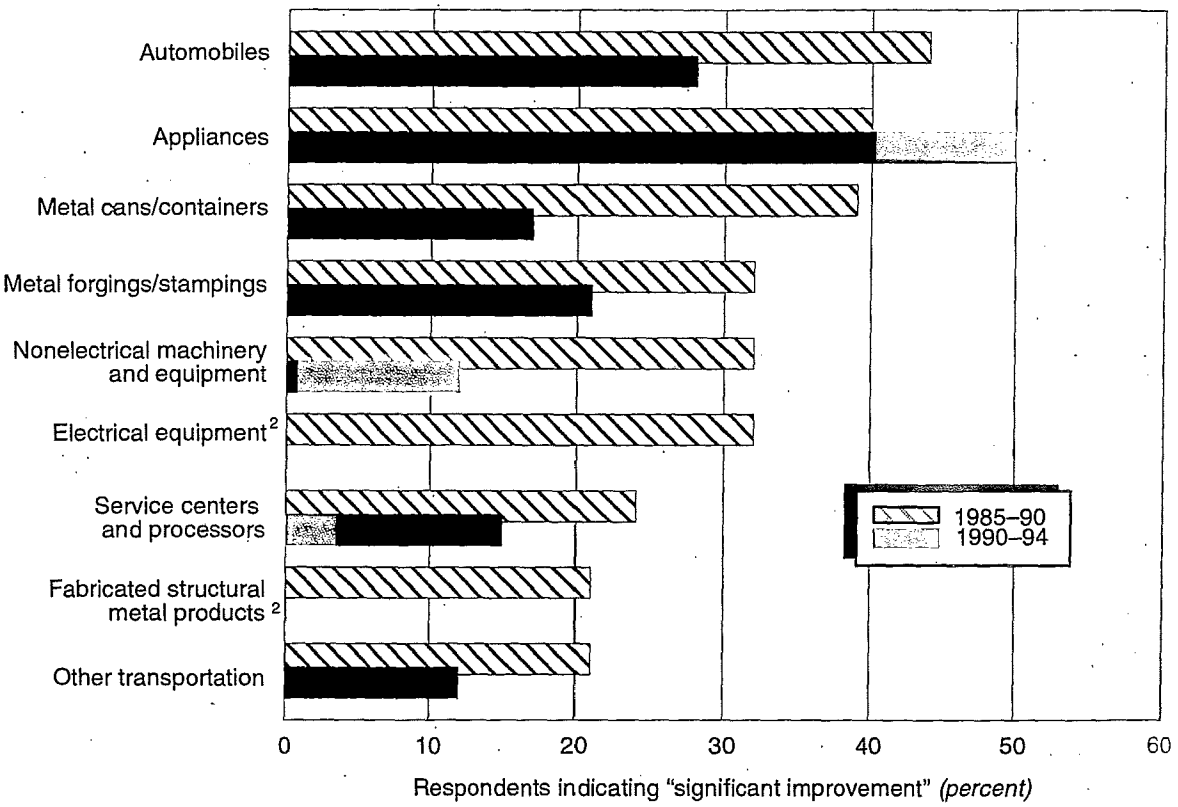
[75] For further information and data, see USITC, *Steel Industry Annual Report*, Publication 2435, September 1991, pp. 4-11 through 4-16.

[76] Steelmakers' improvements in strip mill design and operations have in part been in response to the domestic can industry's more stringent requirements regarding the can forming process, including improvements in the steel's yield strength, tin coating density, and surface finish. See "Steel mill technology evolves for ever tougher markets," *Metal Bulletin Monthly*, Oct. 1993, p. 15.

[77] Steel producers have worked with the appliance industry in recent years to develop new products, including sound dampening composites and improved enameling steels (*Appliance Manufacturer*, Nov. 1992).

[78] USITC, *Steel Industry Annual Report*, Publication 2436, Sept. 1991, pp. 4-13.

Figure 7
U.S. purchasers' assessments[1] of significant improvements in U.S. product quality, by consuming groups, 1985-90 and 1990-94



[1] U.S. steel purchasers were asked to provide an assessment of the change in performance of the U.S. steel producers with whom they conduct business. Possible assessments were "significant improvement," "limited improvement," or "little or no improvement."

[2] No respondents reported "significant improvements" in U.S. product quality during 1990-94.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

machinability, formability, and weldability, which contribute to the reduction of vehicle manufacturing costs.[79]

Because steel producers' earliest quality improvement efforts were directed toward the automobile industry, it is likely that the rate of quality improvements in steel for automobiles could have slowed in recent years and that steel producers' ability to achieve improvements could have carried over to the production of steel for other end uses. Although this is apparent in certain consuming groups, assessments by consumers in the steel service center industry showed a substantial decline during the period, falling from 55 percent good-to-excellent in 1990 to 35 percent in 1994. Because a substantial amount of steel (about 25 percent in 1993) is marketed through service centers, end users have also increased their quality and service demands of these distributors who, in turn, have raised their quality and service expectations of steel mills.[80]

[79] "Steel Meets Automotive Requirements," *Steel Times International*, July 1993, pp. 30-34.

[80] Several questionnaire respondents in the steel service center industry noted that they had tightened their standards regarding steel chemistry and dimensional tolerances (consequently raising their expectations of their steel suppliers), to respond to customer demand and to reduce the cost of finishing steel products.

With respect to customer service, consumers in the appliance and automobile industries appear to be the most satisfied with the current level of overall service provided by U.S. steelmakers, whereas consumers in the metal cans and containers and the electrical equipment industries appear to be the least satisfied (table 9). Consumers in the appliance industry reported one of the largest increases in customer satisfaction in 1994 (75 percent good-to-excellent assessments) compared with 1990 (36 percent). Purchasers' perceptions of the extent of improvements in customer service during 1990-94 were the greatest for the automobile, appliance, and nonelectrical machinery and equipment industries (the only consuming group assessing more significant service improvements during 1990-94 than during 1985-90) (figure 8). Consuming industries of which the majority of respondents assessed steel producers' quality as being good-to-excellent also assessed customer service as being good-to-excellent in a majority of their responses, indicative of a synergy between the two elements (tables 8 and 9). Exceptions to this include the metal forgings and stampings industry, the majority of which assessed steel quality, but not service, as good-to-excellent; the majority of respondents from the industry producing other transportation, and the service center industry, regarded service, but not steel quality, as good-to-excellent.

U.S. Versus Major Foreign Producers

Japanese producers[81] have long been regarded as the most consistent suppliers of the highest quality steel and as placing a great emphasis on customer service, as was confirmed by the findings of the Commission in its 1990 analysis of steel product quality and service. At that time, domestic producers had narrowed, but not closed, the perceived gap in quality and service relative to the Japanese steel industry. Japan has further improved its advantage in 1994 with regard to both elements (tables 8 and 9, figures 9 and 10, and tables F-13 through F-26). Questionnaire responses indicate that—

[81] In its questionnaires, the Commission attempted to collect data on purchasers' evaluations on quality and service for steel from several country suppliers, including Canada, France, Germany, Italy, Japan, Korea, Mexico, Sweden, Taiwan, and the United Kingdom. Only the data on Japan's steel product quality and customer service can be published; data on other countries' quality and service performance are confidential because their publication could divulge information on individual companies' operations.

Table 9
U.S. purchasers' assessments[1] of overall U.S. customer service,[2] by consuming group, 1994

Consuming group	Less than satis-factory	Satis-factory	Good	Excel-lent	Total number of responses[3]
			Percent		
Metal cans and containers	33	33	33	0	6
Fabricated structural metal products	12	30	49	9	43
Metal forgings and stampings	3	52	42	3	36
Nonelectrical machinery and equipment	13	28	50	9	86
Appliances	0	25	63	12	8
Electrical equipment	0	74	26	0	19
Automobiles	3	34	53	9	88
Other transportation	2	40	50	7	42
Service centers and processors	3	44	49	4	83

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

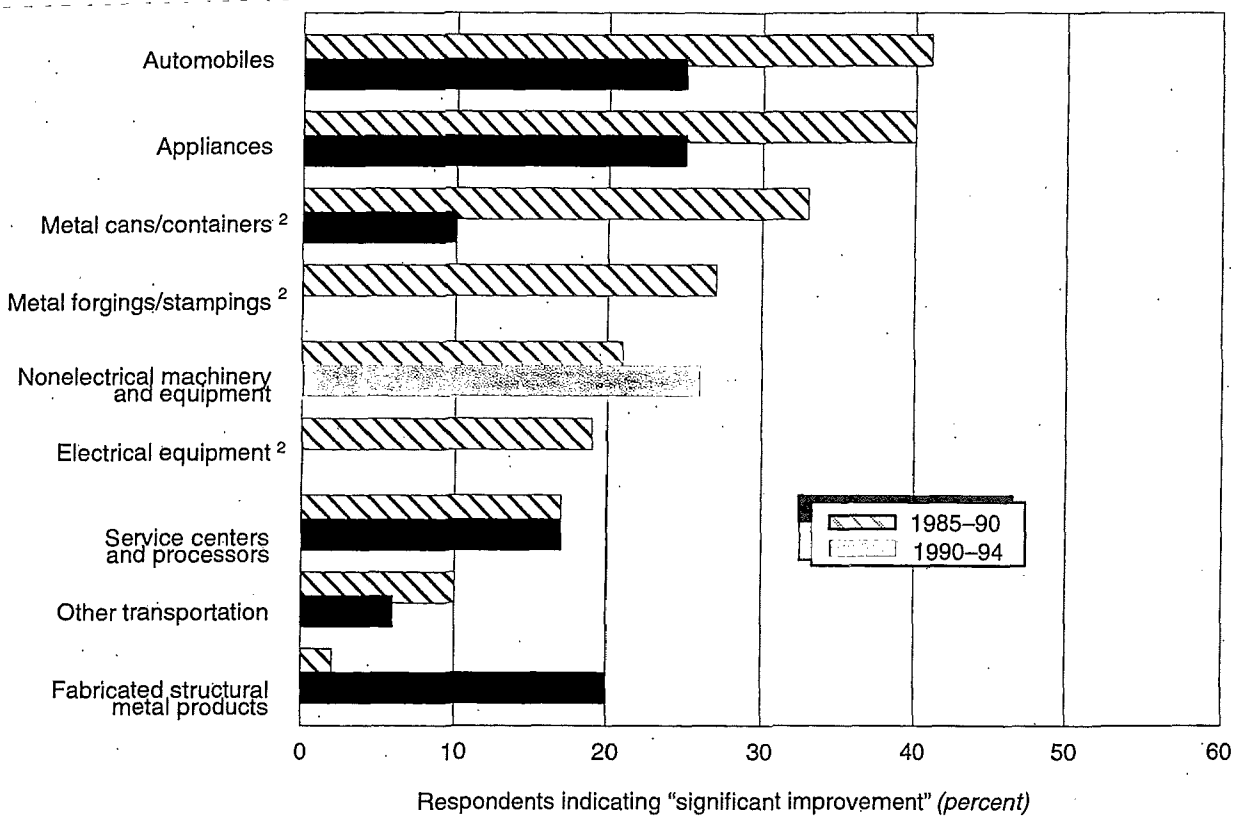
[2] The term "satisfactory" was defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] The number of responses exceeds the number of respondents, as respondents were asked to provide evaluations on up to six product groups.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 8
U.S. purchasers' assessments[1] of significant improvements in U.S. customer service, by consuming groups, 1985-90 and 1990-94



[1] U.S. steel purchasers were asked to provide an assessment of the change in performance of the U.S. steel producers with whom they conduct business. Possible assessments were "significant improvement," "limited improvement," or "little or no improvement."

[2] No respondents reported "significant improvements" in U.S. customer service during 1990-94.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

- Only Japanese companies were identified by a majority of steel purchasers in any consuming group as having excellent overall steel product quality. This assessment was made by purchasers in the following industries: fabricated structural metal products (56 percent); metal forgings and stampings (67 percent); and other transportation (100 percent).
- Japanese companies are credited with offering a higher-quality product more consistently when compared with the United States, although certain consuming groups' assessments of levels of Japanese quality declined from their levels in 1990 (e.g., metal cans and containers, fabricated structural metal products, and metal forgings and stampings).
- U.S. producers were reported by each consuming group as lagging behind Japanese producers in overall customer service, with one exception—steel service centers and processors. The extent of the lag was broader in 1994 than in 1990 for a number of consuming groups, such as, metal cans and containers, metal forgings and stampings, and automobiles, although U.S. producers maintained a rating of good-to-excellent by a majority of respondents in the consuming group producing automobiles. Consumers

producing automobiles tended to rate Japan higher than the United States in all facets of customer service, with U.S. service closest to that of Japan in delivery reliability.[82]

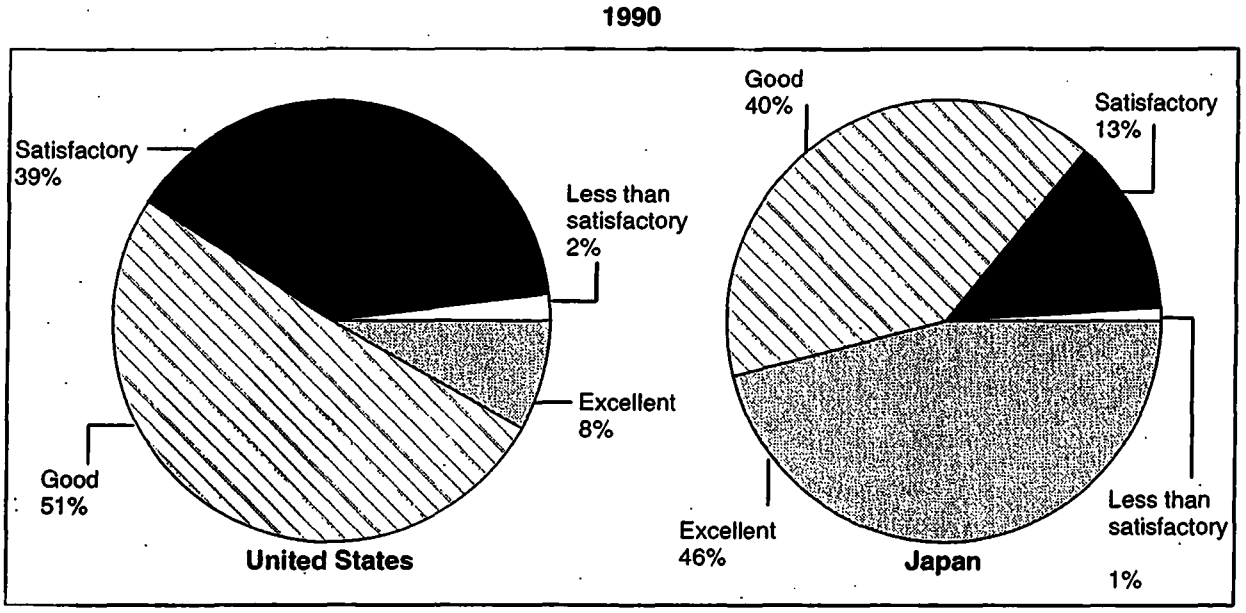
Purchasers' evaluations of overall levels of U.S. and Japanese steel quality and service in 1990 and in 1994 are illustrated in figures 9 and 10. Despite U.S. producers' reported efforts to improve quality, overall U.S. steel quality was perceived to have declined slightly in 1994 compared with 1990, whereas overall Japanese quality was regarded as having improved. Perceptions of U.S. customer service remained approximately the same in 1994 compared with 1990, whereas Japanese customer service increased its share of good-to-excellent evaluations, but decreased its share of strictly excellent evaluations.

[82] Individual purchaser opinions vary sharply on customer service. One questionnaire respondent noted that "in 1994, domestic steel suppliers have become more difficult to deal with on issues of quality claims, delivery, and cost." Another noted that "as the domestic mills became busier in 1994, the service started to suffer." In contrast, a respondent reported that "in general, the product quality and delivery performance of the domestic steel producers has improved dramatically in the past decade, to the point the U.S. steel industry has matched or surpassed imported steel." A fourth respondent noted that "U.S. producers maintain a significant edge in delivery, paperwork, language, and sales representatives."

The subjective findings with respect to customer perceptions of the relative quality of steel differ from objective measures developed by the Auto/Steel Partnership's Task Force on Uniformity of Material Properties in an ongoing study that statistically measures and characterizes the current levels of variability in mechanical properties of steel sheet. Sheets from several North American producers and from one producer in France, one producer in Germany, and three producers in Japan were evaluated. One of the report's findings is that certain steel parts sampled from North American sources exhibited excellent coating-weight uniformity, surpassing the best of the off-shore producers (including Japan). In addition, the report found that the majority of the North American producers are generally competitive in terms of quality with offshore sources.[83] This divergence between objective and subjective measures implies that historical perspectives regarding quality and service may have long-term impacts on consumers' perspectives.

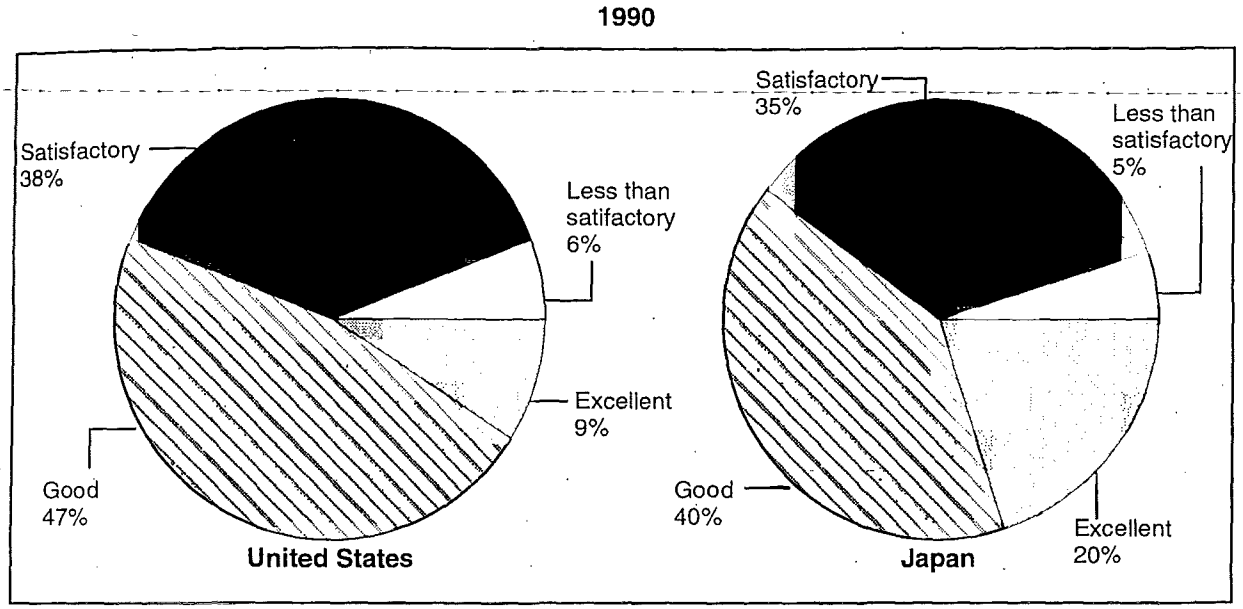
[83] Task Force on Uniformity of Material Properties, Auto/Steel Partnership, *An Update Report on Uniformity of Automotive Sheet Steels*, Sept. 1994.

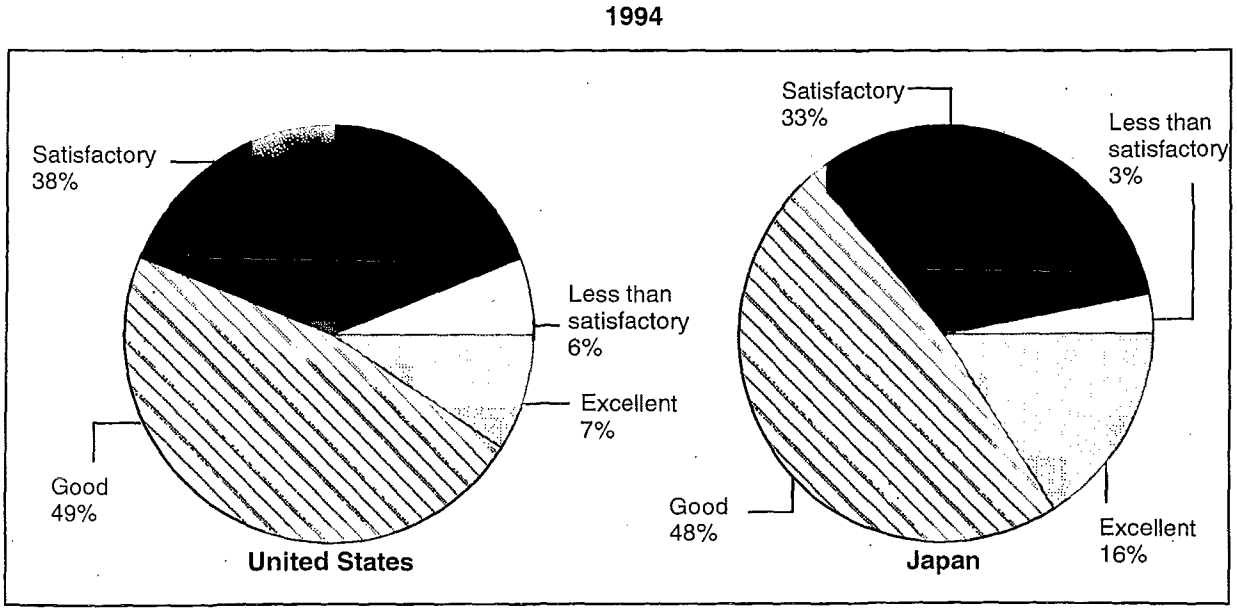
Figure 9
U.S. purchasers' perceptions of U.S. and Japanese steelmakers' overall product quality, 1990 and 1994



Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 10
U.S. purchasers' perceptions of U.S. and Japanese steelmakers' overall customer service, 1990 and 1994





Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

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Overview

In broad terms, U.S. imports and exports of steel mill products have followed two distinctly different trends since 1989: U.S. imports declined between 1989 and 1991, reaching a low of 16.4 million short tons in 1991;[84] thereafter, U.S. imports rose in 1992-93 as the U.S. economic recovery proceeded at a more robust pace compared with the economic recovery of most major trading partners of the United States, drawing imports into the U.S. market. On the other hand, U.S. exports rose from 1989 through 1991, reaching 6.7 million short tons in 1991, and then declined in 1992-93. Reflecting these trends, import penetration[85] in the U.S. market rose during 1991-93 to 19.5 percent, whereas U.S. exports' share of total shipments declined by 4 percentage points to 4.4 percent (in 1993). As a result, from 1991 to 1993, the deficit in steel trade increased by 65 percent in quantity (to 16.1 million tons) and 44 percent in value (to $6.2 billion). For the full period 1989 to 1993, the value of the trade deficit fell by $500 million, while it rose in terms of quantity from 13.4 to 16.1 million short tons.

Year-to-date comparisons (January-June 1993 and 1994) show a continuation of the 1991 to 1993 trends. During the first 6 months of 1994, U.S. imports of steel mill products totaled 14.2 million short tons (nearly the same amount as for full year 1991), an increase of 65 percent compared with the first 6 months of 1993; much of the increase was accounted for by increases in semifinished steel products (blooms, billets, and slab) which are used by U.S. steel producers to produce downstream steel mill products,[86] and in certain flat-rolled products. Reduced exports of semifinished and flat-rolled (down approximately 17 percent during January-June 1994 from the same period one year earlier) accounted for most of the overall decline in U.S. exports of steel mill products. Import penetration in the U.S. market in 1994 increased to 24 percent. As a result, the deficit in steel trade widened by nearly 75 percent to $4.4 billion during January-June 1994 compared with the same period in 1993 (table 10).

[84] See also, USITC, *Steel Semiannual Monitoring Report*, Publication 2682, Sept. 1993, p. 29.

[85] Import penetration is the ratio of imports to apparent open market steel consumption. Apparent open market steel consumption is calculated on the basis of open market shipments (data on captive consumption are not available) minus exports plus imports.

[86] Increased purchases of semifinished steel products are one indication that steelmakers are at or near melt capacity. As indicated later in this discussion, certain steelmakers have purchased semifinished to correct imbalances between their melt capacity and their installed finishing and rolling capacity. Steelmakers also purchase semifinished to supplement their production of specialized steel grades.

Imports

Carbon and Certain Alloy Steel

Imports have increased concurrent with a sharp rise in steel demand in the United States, particularly from automakers and several other market segments that use flat-rolled steel products (hot-rolled, cold-rolled, or coated plates, sheets, and strip). Uncertainty in alternative markets has also contributed to the availability of U.S. steel imports and the decline in U.S. exports. For example, Chinese purchases were a major factor in international steel trade during early 1993, but steel imports into China declined later in that year and during 1994, as Chinese authorities reportedly restricted imports to conserve hard currency. U.S. imports rose at a greater rate (up 65 percent to 14.2 million tons) during January-June 1994, compared with the same period of the previous year (table G-2), and imports' share of apparent U.S. open market consumption rose by 8 percentage points to 24 percent during January-June 1994 from the same period one year earlier, the highest level in recent years (table G-5).

Market strength and new sources of supply.— U.S. market strength is partly shown by the increase in year-to-date imports in nearly all categories of steel products (table G-3). Increased imports during 1994 represent a continuation of a rising trend that began in 1992 concurrent with increased business activity in the United States. Such increases, coupled with generally rising prices, also indicate that domestic steel producers are at or near capacity. The 122-percent increase (to 3.7 million tons) in imports of semifinished steel products, which are used almost exclusively by steelmakers, has been driven by domestic firms whose installed rolling and finishing capacity exceeds steel melting and casting capacity, who wish to alleviate bottlenecks caused by planned equipment outages, or who wish to supplement their own production by purchasing steel of specialized chemistry or metallurgy. During July 1993-June 1994, melt capacity utilization rose to over 90 percent, and capacity restraints developed at several companies because of ironmaking-blast furnace relines (e.g., Bethlehem Steel). Demand for imports also rose from steel processors that possess no steel melting capacity; imports increased despite improvements in overall U.S.

Table 10
Steel mill products and certain fabricated steel products: U.S. imports, U.S. exports, import penetration, exports as a percent of shipments, and trade balance, 1989-1993, and Jan.-June 1993 and 1994

Year	U.S. Imports	U.S. Exports	Import Penetration[1]	Exports/ Shipments	Trade balance	
					Volume	Value
	— Million short tons —		——— Percent ———		(Million short tons)	(Billion dollars)
1989	18.3	4.8	18.8	5.7	-13.4	-6.7
1990	18.1	4.8	18.5	5.7	-13.4	-5.9
1991	16.4	6.7	18.5	8.5	-9.7	-4.3
1992	17.8	4.5	18.6	5.5	-13.2	-5.2
1993	20.4	4.3	19.5	4.9	-16.1	-6.2
Jan.-June 1993	8.6	2.5	17.0	5.5	-6.2	-2.5
Jan.-June 1994	14.2	2.0	24.1	4.4	-12.2	-4.4

[1] Import penetration is the ratio of imports to apparent open market consumption. Apparent open market consumption is the sum of open market shipments (data on captive consumption are not available) minus exports plus imports.

Source: Compiled from data of the American Iron and Steel Institute and from official statistics of the U.S. Department of Commerce.

cost competitiveness and a decline of the dollar's exchange value against foreign currencies, and because domestic supplies became tight (e.g., domestic producers' shipments of semifinished rose only slightly between the two 6-month periods).

Approximately half of the increase in imports of semifinished steel during January-June 1994 was accounted for by imports from Brazil, Mexico, the Netherlands, and Japan. Although Brazil is a traditional supplier of semifinished steels, increases in U.S. imports of slab from Brazil were relatively constrained because of increased demand in Europe (reportedly, Brazilian steelmakers have become the largest single source of semifinished steel products in Europe). New sources of semifinished imports into the United States have also arisen in Central and Eastern Europe and the former republics of the Soviet Union where increased imports from these origins reflect in large part the relatively poorer market conditions in those countries. Imports of semifinished steels rose by about 2 million tons (122 percent) between January-June 1993 and the same period in 1994 (table G-7). Imports of carbon steel flat-rolled did not rise as rapidly as did imports of semifinished during the year-to-date periods. Imports of plate rose by 80 percent to 578,129 short tons, and imports of sheet and strip increased 65 percent to 5.3 million short tons between January-June 1993-94 (tables G-8 and G-9, respectively). Increased plate imports were accounted for by nontraditional origins, including Ukraine, Russia, and the Czech Republic as imports declined from many traditional sources that are subject to antidumping (AD) and/or countervailing duty (CVD) orders. Increased sheet and strip imports were supplied by traditional sources, except Canada (where one producer reduced steelmaking capacity in September 1993), and by such new sources as Russia.[87]

Major country and regional suppliers.—Canada continues to be the single largest country supplier of carbon and certain alloy steel imports, supplying nearly 18 percent of such U.S. imports on the basis of quantity in January-June 1994 (2.5 million short tons),

[87] During January-June 1993, imports of carbon steel plates, sheets, and strip were restrained partly because of preliminary affirmative determinations of the U.S. Department of Commerce and the USITC. Imports of plate increased from nonsubject countries following affirmative final determinations by the USITC in August 1993. Imports of corrosion-resistant coated flat-rolled carbon steel products from the subject countries generally declined following affirmative determinations in the cases, while imports of hot-rolled and cold-rolled carbon steel products generally increased following negative determinations. However, not all determinations of the USITC were affirmative with respect to the corrosion-resistant steel product, as likewise not all determinations were negative with respect to cold-rolled. See, USITC, *Certain Flat-Rolled Carbon Steel Products From Argentina, Australia, Austria, Belgium, Brazil, Canada, Finland, France, Germany, Italy, Japan, Korea, Mexico, the Netherlands, New Zealand, Poland, Romania, Spain, Sweden, and the United Kingdom*, Investigation Nos. 701-TA-319-332, 334, 336-342, and 347-353 (final) and Investigation Nos. 731-TA-573-579, 581-592, 594-597, 59-609, and 612-619 (final), Publication 2664, August 1993.

although this represented a decline of 9 percent compared with the same period during 1993. Much of this reduction was accounted for by reduced imports of carbon and certain alloy flat-rolled products (down 21 percent to 948,000 short tons, table G-9). Dofasco, Canada's second-largest steelmaker, reduced steelmaking and rolling capacity in 1993,[88] reportedly intending partially to supply its U.S. customers from a new mill under construction in Gallatin, TN.

On a regional basis, the EU, East Asia, and Latin America are the largest suppliers of U.S. imports of carbon and certain alloy steel, accounting for 33 percent, 19 percent, and 14 percent, respectively, of imports on the basis of quantity during January-June 1994 (table G-17); overall U.S. imports from the EU, East Asia, and Latin America rose by 111 percent to 4.7 million short tons, 69 percent to 2.7 million short tons, and 93 percent to 1.9 million short tons, respectively (table G-6) between January-June 1993 and January-June 1994. U.S. imports from Central and Eastern Europe rose at the fastest rate (487 percent to 315,989 short tons) between the year-to-date periods, accounted for by imports of flat-rolled, semifinished, and wire rod products.[89]

Stainless and Alloy Tool Steel

Despite the announcement by the domestic specialty steel industry that it was considering filing antidumping (AD) and countervailing duty (CVD) petitions,[90] imports of stainless and alloy tool steel rose 35 percent during January-June 1994 from the same period in 1993, continuing a trend evident over the last several years (table G-2). U.S. imports' share of apparent U.S. open market consumption rose to 36 percent during January-June 1994 (table G-5). Industry sources have attributed the sharp increase in imports in part to relatively higher U.S. prices for certain stainless steel products. In addition, the fact that some domestic producers are foreign owned or have set up joint ventures with producers in other countries has contributed to increased intra- and intercompany trade, and increased U.S. imports. For example, in 1990, France's Usinor Sacilor (Ugine stainless steel division) acquired J&L Specialty Products, a major U.S. producer of stainless steel flat-rolled products. Korea's Sammi Steel owns Al Tech Specialty Steel Corp., a major U.S. producer of stainless steel bars.

European Union paces import suppliers.—Increased U.S. purchases occurred in all product categories, with imports of stainless semifinished products (which are generally hot-rolled into sheet) rising 105 percent between January-June 1993 and January-June 1994 (table G-18); these imports accounted for 91 percent of apparent U.S. open market consumption in the latter period. The next largest increase occurred in imports of stainless sheet and strip, which rose by 27 percent to 221,412 short tons (table G-20) and accounted for 26 percent of apparent open market consumption during January-June 1994.

On a regional basis, the EU accounted for the largest share of the increase, supplying 43 percent of the imports of semifinished products and 42 percent of the imports of sheet and strip between the year-to-date periods. Industry sources have attributed the increase in imports from the EU to excess production capacity for stainless steel in Western Europe because of recessionary economic conditions and reduced demand for steel in the EU. The strengthening of the dollar against a number of European currencies during 1992-93 made European products more competitive in the United States, but that price competitiveness has been diminished by subsequent currency movements.

Exports

Carbon and Certain Alloy Steel

Reduced exports of semifinished, plate, sheets and strip, and bar and rod in the first 6 months of 1994 led to a decline in overall exports of 17 percent to 2.0 million short tons in January-June 1994, compared with the same period in 1993 (table G-3). The decrease reflects both a better domestic market and less favorable global economic conditions. Neighboring Canada and Mexico remained the primary export markets, together receiving 65 percent of U.S. exports in 1993 and 71 percent of U.S. exports during

[88] Dofasco official, telephone conversation with USITC staff, Sept. 14, 1994. Dofasco closed an ingot-based melt shop (considered to be obsolete technology) on Sept. 20, 1993, and a related hot-rolling mill in October 1993.

[89] Imports of wire rod rose by 66 percent to 874,312 short tons between the year-to-date periods in response to increased U.S. demand for wire and wire products and because the four primary sources of rod were subject to unfair trade cases during much of 1993. Purchasers of wire rod, subject to domestic allocation programs and rising prices, imported from nontraditional sources (table G-11).

[90] "Specialty Steel Imports Climbing," *American Metal Market*, Oct. 4, 1993. See also, appendix E, Status of recent AD and CVD investigations. The Commission made affirmative injury determinations during 1994 with respect to unfairly traded imports of stainless steel wire rod, bar, flanges, welded steel pipe, and electrical sheet.

January-June 1994 (table G-17). U.S. exports to Taiwan declined dramatically during the first 6 months of 1994 from a high level in 1993, reflecting the fluctuations in the Taiwan construction industry's demand for steel.[91] U.S. exports to Canada and Thailand rose sharply during January-June 1994 compared with the same 6-month period in 1993, reflecting the rise in construction in those countries and increased shipments to the automotive industry in Canada.

Sluggish economies and capacity expansion stem exports.—Overall, U.S. exports to East Asia fell by 48 percent to 227,152 short tons from January-June 1993 to January-June 1994, primarily because of much reduced shipments of semifinished and flat-rolled steel products to Taiwan, as noted earlier (tables G-6 through G-9). U.S. exports to Japan and Korea also fell, continuing a trend since 1992. The reduction in shipments to Japan can be attributed to falling demand from the engineering, construction, industrial machinery, and automotive sectors.[92] Steady capacity expansion in Korea has enabled that country to supply its steel needs better internally and to reduce its reliance on imports. Exports to Latin America, the United States' largest export market, declined by 19 percent to 543,943 short tons from January-June 1993 to January-June 1994. Mexico received 84 percent of these exports in the first 6 months of 1994 (accounting for 22 percent of total U.S. steel exports during the period); the decline in U.S. exports to Mexico may be explained partly by the increased demand in the United States for certain types of flat-rolled steel that had been exported to Mexico, and by antidumping duties that have been imposed on imports into Mexico from the United States of certain plates and corrosion-resistant coated sheets.[93] Exports to the EU declined by 14 percent to 66,012 short tons between January-June 1993 and January-June 1994, also continuing a trend that began in 1991. Recessionary conditions in the region and steelmaking/rolling overcapacity have contributed in part to lower foreign demand for U.S. steel.

[91] "Construction Tempts Taiwan's Minimills to Expand," *Metal Bulletin Monthly*, Nov. 1993.

[92] The WEFA Group, *U.S. & World Steel Executive Report*, Oct. 1992 and *Steel Market Outlook*, second quarter 1993.

[93] U.S. Department of State Telegram, 1994, Mexico City, Reference No. 18464.

Stainless and Alloy Tool Steel

The increasing globalization of the stainless steel industry, in terms of growth in U.S. ownership of foreign production facilities as well as of increased foreign ownership of U.S. facilities in recent years, has also generally helped to boost U.S. exports, according to an industry spokesperson. There was no ownership of foreign facilities by U.S. companies until 1993, when Carpenter Technology Corp. entered into a joint venture with Taiwan's Walsin Lihwa Corp., a wire and cable manufacturer, to produce stainless steel long products in southern Taiwan for distribution in China and other parts of the Pacific Rim. Demand for stainless bar, rod, and shapes is growing rapidly in this part of the world.[94] Carpenter's foreign venture could signal the beginning of a more international focus by the domestic stainless industry in its efforts to compete in the increasingly global stainless steel market.

Counter to the positive effects of these developments on exports, U.S. producers of stainless steel have indicated that exports declined by 16 percent to 56,621 short tons between January-June 1993 and January-June 1994 largely because of recessionary economies in major export markets. This decline in exports is similar to the trend begun in 1991 regarding carbon steels.

Mexico market leads export growth.—On a regional basis, shipments to Latin America, East Asia, and the EU accounted for 24 percent, 11 percent, and 9 percent, respectively, of exports during January-June 1994 (table G-26). U.S. exports to Canada (which declined by 9 percent between the year-to-date periods) accounted for 42 percent of total U.S. exports of specialty steels in the first 6 months of 1994. U.S. exports to Mexico increased 77 percent to 12,233 short tons to account for 22 percent of total U.S. exports of specialty steels during January-June 1994. Increases in exports were recorded in most product segments, including stainless flat-rolled. This higher level of U.S. exports to Mexico of stainless steel sheet may be temporary because stainless flat-rolled production capacity recently increased in Mexico, which will enable that country to supply more of its stainless steel needs internally.

[94] "Bar Makers Eye Many Paths to Buoy Bottom Line," *American Metal Market*, Stainless Steel Supplement, Aug. 18, 1993; and "Flush Times in Stainless," *New Steel*, Oct. 1993.

APPENDIX A
Structure of the Report and Notes on Product Coverage and Methodology

- Table 1 and figures 1 through 4, presented in *U.S. Steel Industry Highlights* show key performance and trade data for the U.S. steel industry covering the most recent 3 years and year-to-date periods.
- Figures 5 and 6 and table 2 present international production and consumption highlighting the geographic distribution of world production and apparent consumption.
- Tables 3 through 5 present average annual production, import, and export data for various countries/country groups over a 20-year time period.
- The section on recent steel industry developments highlights developments in both the U.S. and foreign steel industries.
- The special focus section examines steel product quality and customer service issues. Data on customer assessments of U.S producers' improvements in, and current levels of quality and customer service, compiled primarily from questionnaires, are provided in tables 6 through 9, and figures 7 through 10, and in appendix F, tables F-1 through F-26.
- The section on recent trends in U.S. trade summarizes changes in U.S. trade flows as presented in appendix G, tables G-1 through G-37, described below.
- Tables G-1 through G-5 show data on shipments, imports, exports, apparent consumption, and imports as a percent of apparent consumption by major product for all grades of steel, plus carbon and specialty products separately.
- Tables G-6 through G-26 show data on the quantity of major carbon and specialty steel imports and exports on a product-by-product basis. The top 15 country suppliers, the top 10 country markets, and major regional groupings are specified.
- Table G-27 shows data on the total value of carbon and specialty steel imports and exports on a product basis.
- Tables G-28 and G-29 show data on the unit values of selected imports and exports of carbon and specialty steel products.
- Tables G-30 and G-31 show data on imports and exports of selected carbon and specialty steel products. The tables also provide information that permits an examination of the extent to which shifts in product mix within major product categories occur.
- Tables G-32 through G-37 show data on imports of steel mill products and certain fabricated products, by U.S. customs area.

NOTES

Data on foreign trade and domestic shipments are compiled from official statistics of the U.S. Department of Commerce and from statistics of the American Iron and Steel Institute (AISI), respectively. Apparent consumption is calculated as the sum of open market shipments (data on captive consumption are not available) plus imports minus exports.

The products for which foreign trade data are collected generally correspond to those covered by the VRAs. Since the VRAs included certain fabricated products (defined as

wire strand, wire ropes, cables, cordage, and fabricated structural units), the data may exceed that compiled by other organizations such as the AISI. The additional tonnage, however, is relatively small. In 1993, AISI reported imports of 19.5 million tons, which compares to the 20.4 million tons indicated in this report. The product categories most affected are structural shapes and units (which include fabricated structurals in this report) and wire and wire products (which include wire rope and wire strand).

The source for the data on employment levels in table 1 is the U.S. Department of Labor, Bureau of Labor Statistics (BLS), rather than the American Iron and Steel Institute (AISI). AISI employment figures cover reporting companies only; these companies represent approximately 70 percent of total raw steel production. The BLS data cover the entire steel industry, as defined by Standard Industrial Code (SIC) 331, which includes the electrometallurgical products (or ferroalloy) industry. In the past, the ferroalloy industry, which is not generally defined as part of the steel industry, has represented less than 3 percent of total employment levels reporting under this SIC.

The regional groupings in tables G-6 through G-26 are defined as follows:

> East Asia includes Brunei, Burma, Cambodia, China, Hong Kong, Indonesia, Japan, South Korea, Laos, Macao, Malaysia, Philippines, Singapore, Taiwan, Thailand, and South Vietnam;
>
> EU12 (formerly the European Community) includes Belgium, Luxembourg, Denmark, France, Germany (beginning in 1992, including former East Germany), Greece, Ireland, Italy, Netherlands, Portugal, Spain, and the United Kingdom;
>
> Central and Eastern Europe includes Bulgaria, the Czech Republic (formerly part of Czechoslovakia), East Germany (included only through 1991), Hungary, Poland, Romania, and Slovak Republic (formerly part of Czechoslovakia);
>
> The Latin American Integration Association (LAIA) is the former Latin American Free Trade Area (LAFTA) and includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

Trade data include imports under sections 9802.0060 and 9802.0080 of the *Harmonized Tariff Schedule of the United States (HTS)*. These provisions apply to U.S. merchandise that is exported, processed, and reimported into the United States.

Data on tool steel imports exclude bearing steel products. This is consistent with industry practice and reports, which treat bearing steel as an alloy steel and categorize it according to its end form—either plate, sheet and strip, or rod. Unlike data on imports and shipments, available data on tool steel exports include some bearing steel products. As a result, apparent consumption calculations (see table G-4) are slightly understated in the case of tool steel, and slightly overstated in the case of plate, sheet and strip, and rod. The USITC staff estimates, however, that the degree of understatement/overstatement is minor, as exports of bearing steel products are believed to be relatively low.

Following consultation with the U.S. Department of Commerce and with AISI, the USITC staff made the following revision to certain trade data: 1,258 tons ($1,537,000) of February 1991 tool steel exports to Mexico were reclassified as alloy bar exports; and 19,920 tons ($3,443,000) of May 1993 carbon steel semifinished imports were reclassified as hot-rolled carbon steel plate.

The rails and related products category includes both new and used rails (see appendix D for complete definition). Of the 268,764 tons of rails and related products imported into the United States during 1993, 29 percent (or 77,272 tons) was used rails.

In tables G-28 and G-29, unit values are calculated using unrounded data. Import values are customs value, i.e., the data do not include insurance and freight charges from the country of origin to the United States.

To reflect industry terminology and operations more accurately, coiled plate products are included in the sheet and strip product category rather than the plate product category, effective with the June 1993 report. To adjust import data accordingly, *HTS* subheadings 7208.11.0000, 7208.12.0000, 7208.21.1000, 7208.21.5000, 7208.22.1000, 7208.22.5000, 7211.12.0000, 7211.22.0090, 7225.30.3000, 7225.30.3005, 7225.30.3050, and 7226.91.5000 were transferred from the carbon and certain alloy plate product categories to the hot-rolled carbon and certain alloy sheet categories, and *HTS* subheadings 7219.11.0000, 7219.12.0000, 7219.12.0005, 7219.12.0015, 7219.12.0030, 7219.12.0045, 7219.12.0060, 7219.12.0075, 7219.12.0080, and 7220.11.0000 were transferred from the stainless steel plate category to the stainless steel sheet and strip category. To adjust export data, *Schedule B* subheadings 7208.11.0000, 7208.12.0000, 7208.21.0000, 7208.22.0000, 7211.12.0000, 7211.22.0000, and 7225.30.0000 were reassigned from the carbon and certain alloy plate category to hot-rolled carbon and certain alloy sheet, and *Schedule B* subheadings 7219.11.0000, 7219.12.0000, and 7220.11.0000 were transferred from stainless steel plate to stainless steel sheet and strip.

APPENDIX B
Request Letter from the Honorable Dan Rostenkowski, Chairman of the Committee on Ways and Means, U.S. House of Representatives

COMMITTEE ON WAYS AND MEANS

U.S. HOUSE OF REPRESENTATIVES

WASHINGTON, DC 20515-6348

June 11, 1992

The Honorable Donald Newquist
Chairman
U.S. International Trade Commission
500 E Street, S.W.
Washington, D.C. 20436

Dear Mr. Chairman:

The recent expiration of the Voluntary Restraint Agreements (VRAs), the apparent collapse of the negotiations for a Multilateral Steel Agreement (MSA) and the filing of trade cases by the U.S. industry have combined to create an uncertain future for U.S. steel trade that is a source of continued concern to the Committee on Ways and Means. In light of this, the Committee hereby requests the U.S. International Trade Commission to provide it with semi-annual monitoring reports, under Section 332 of the Tariff Act of 1930, on the the status of, and prospects for, the U.S. steel industry for the period from January 1992 through December 1994.

This series of reports should combine concise analysis of global industry trends and competitiveness issues with key product trade information. They should generally follow the format of, and contain trade data and information similar to that provided in, the reports on all carbon and alloy (including stainless steel) mill products which the Commission has been providing under investigation No. 332-226. In addition, each year one of the reports should contain an annual review focusing primarily on developments and conditions in the U.S. industry and should highlight significant developments in the industry's competitiveness since 1990 (e.g. operating performance, capital expenditures and R&D, technology, and environmental expenditures). Finally, the Committee recognizes that limited primary data gathering, particularly the use of questionnaires, is necessary to examine these developments.

As you know, the Commission's current series of quarterly reports on the steel industry will be completed in June 1992, and will contain data through March 1992, when the recent VRAs expired. The first report under the new series should be published in September 1992 (covering data from January through

June 1992). Subsequent reports should then appear in April and September, with the April report containing an annual review of the domestic industry. I request that the Commission provide the Committee with these semiannual reports through April 1995, at which time the Committee will reevaluate the Commission's monitoring efforts in terms of their relevance to the global steel trade environment.

Thank you for your cooperation in this matter.

Sincerely yours,

Dan Rostenkowski
Chairman

APPENDIX C
Notice of the Commission's Investigation

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC

(332-327)

Steel: Semiannual Monitoring Report

AGENCY: United States International Trade Commission

ACTION: Institution of investigation.

EFFECTIVE DATE: July 9, 1992

FOR FURTHER INFORMATION CONTACT: Ms. Nancy Fulcher, Office of Industries/Minerals and Metals Division (202-205-3434), or Mr. Mark Paulson, Office of Industries/Minerals and Metals Division (202-205-3429), U.S. International Trade Commission, Washington, D.C. 20436. Hearing-impaired persons are advised that information on this investigation can be obtained by contacting the Commission's TDD terminal on 202-205-2648.

BACKGROUND AND SCOPE OF INVESTIGATION: Following receipt on June 11, 1992, of a request from the Committee on Ways and Means of the U.S. House of Representatives, the Commission on July 9, 1992, instituted investigation No. 332-327, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) concerning the status of, and prospects for, the U.S. steel industry for the period from January 1991 through December 1994.

As requested by the Committee, the Commission will provide semiannual reports in which it will seek to combine concise analysis of global industry trends and competitiveness issues with key product trade information. The reports will generally follow the format of, and contain trade data and information similar to that provided in, the reports on all carbon and alloy (including stainless steel) mill products which the Commission provided under investigation No. 332-226: Quarterly Report on the Status of the Steel Industry. In addition, each year one of the reports will contain an annual review focusing primarily on developments and conditions in the U.S. industry and will highlight significant developments in the industry's competitiveness since 1990 (e.g., operating performance, capital expenditures and R&D, technology, and environmental expenditures).

As requested by the Committee, the Commission intends to submit its first report under the new series no later than September 1992 (covering data from January through June 1992). Subsequent reports will be submitted in April and September, with the April report containing the annual review of the domestic industry. Reports will be provided through April 1995.

WRITTEN SUBMISSIONS: Interested persons are invited to submit written statements concerning the matters to be addressed in the report containing the Commission's annual review of the domestic industry. Commercial or financial information that a party desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. (Generally, submission of separate confidential and public versions of the submission would be appropriate.) All

submissions requesting confidential treatment must conform with the requirements of § 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). All written submissions, except for confidential business information, will be made available in the Office of the Secretary of the Commission for inspection by interested persons. To be assured of consideration by the Commission, written statements should be submitted to the Commission at the earliest practical date and should be received no later than February 26, 1993; February 25, 1994; and February 24, 1995. All submissions should be addressed to the Secretary to the Commission at the Commission's Office in Washington, DC.

By order of the Commission.

Paul R. Bardos
Acting Secretary

Issued: July 10, 1992

APPENDIX D
Definitions of Certain Terms and Descriptions of the Products Subject to the Investigation

1. *Steel.*—An alloy of iron and carbon that is malleable as first cast and which contains by weight 2 percent or less of carbon. Steel may contain other elements, but iron must predominate, by weight, over each of the other elements.

2. *Carbon steel.*—Steel, other than chromium, that by weight contains 2 percent or less of carbon, and in which none of the elements listed below meets or exceeds the quantity, by weight, respectively indicated:

1.65 percent of manganese; or
0.25 percent of phosphorus; or
0.35 percent of sulphur; or
0.60 percent of silicon; or
0.40 percent of copper; or
0.30 percent of aluminum; or
0.30 percent of chromium; or
0.30 percent of cobalt; or
0.40 percent of lead; or
0.30 percent of nickel; or
0.30 percent of tungsten; or
0.10 percent of any other metallic element.

3. Alloy steel.—Steel that contains any of the elements listed in definition 2 (above) in excess of its specified quantity.

(i) Stainless steel.—Any alloy steel that contains by weight 1.2 percent or less of carbon and 10.5 percent or more of chromium, with or without other elements.

(ii) Tool steel.—Alloy steels that contain the following combinations of elements in the quantity, by weight, respectively indicated:

More than 1.2 percent carbon and more than 10.5 percent chromium; or
Not less than 0.3 percent carbon and 1.25 percent or more but less than 10.5 percent chromium; or
Not less than 0.85 percent carbon and 1 percent to 1.8 percent, inclusive, manganese; or
0.9 percent to 1.2 percent, inclusive, chromium and 0.9 percent to 1.4 percent, inclusive, molybdenum; or
Not less than 0.5 percent carbon and not less than 3.5 percent molybdenum; or
Not less than 0.5 percent carbon and not less than 5.5 percent tungsten

(iii) *Certain alloy steel.*—Alloy steel not covered under 3.(i) "Stainless steel" or 3.(ii) "Tool steel."

4. *Galvanized.*—Steel which has been coated or plated with zinc.

5. *Hot-rolled.*—Steel reduced to its final thickness by heating and rolling the product at elevated temperature (usually above 2,200 degrees F).

6. *Cold-rolled.*—Steel reduced to its final thickness by rolling the product without heating it immediately prior to the rolling operation.

7. *Continuous strand casting.*—The method of producing semifinished products in which molten steel flows evenly into a caster where it is rapidly cooled, causing it to solidify directly into semifinished products such as slabs, blooms, and billets.

8. *Short ton.*—Two thousand (2,000) pounds.

Unlike the system of classification under the *Tariff Schedules of the United States Annotated (TSUSA)*, the *Harmonized Tariff Schedule of the United States (HTS)* does not differentiate by dimension those steel products formerly referred to as blooms and billets, slabs and sheet bars, plate, sheet, and strip. Instead, these products are included in two

larger categories: flat-rolled and semifinished (described below). However, for purposes of data comparability with previous Commission reports under investigation No. 332-226 *(Monthly and Quarterly Reports on the Status of the Steel Industry),* and in the interest of providing useful information and coverage of the steel industry, this report will continue to designate such product categories (e.g., blooms and billets, slabs and sheet bars, plate, hot-rolled and cold-rolled sheet, and strip). A partial basis for classification are those definitions found in *Federal Register* notice 52897, December 29, 1988.

For certain products, export categories under the *Schedule B* classification system are broader than import product categories under the *HTS*; therefore, there is no overall one-to-one correspondence between the two classification systems. For this reason, export classifications are listed separately from import classifications in the following definitions.

9. *Semifinished products* include—

Continuous cast products of solid section, not presented in coils, whether or not subjected to primary hot-rolling.

Other products of solid section that have not been further worked than subjected to primary hot-rolling or roughly shaped by forging, including blanks, angles, shapes, or sections.

For the purposes of this investigation, semifinished products are classified as follows:

(i) *Ingots.*—Castings resulting from the solidification of molten steel and having a columnar form suitable for working by rolling or forging. Ingots are included in AISI (American Iron and Steel Institute) product group No. 1A.

(A) *Carbon and certain alloy ingots;* provided for in subheadings 7206.10.0000, 7206.90.0000, 7224.10.0005, 7224.10.0075 of the *HTS*.

(B) *Stainless steel ingots;* provided for in subheading 7218.10.0000 of the HTS.

(ii) *Blooms, billets, slabs, and sheet bars.*—Other continuous cast products of solid cross section, which have not been further worked than subjected to primary hot-rolling or roughly shaped by forging including blanks for angles, shapes or sections. These products are not presented in coils and are included in AISI product group No. 1B.

(A) *Carbon and certain alloy blooms and billets;* provided for in subheadings 7207.11.0000, 7207.12.0010, 7207.19.0030, 7207.19.0090, 7207.20.0025, 7207.20.0075, 7207.20.0090, 7224.90.0005, 7224.90.0045, 7224.90.0065, 7224.90.0075 of the *HTS*.

(B) *Carbon and certain alloy slabs and sheet bars;* provided for in subheadings 7207.12.0050, 7207.20.0045, 7224.90.0055 of the *HTS*.

(C) *Stainless steel blooms and billets;* provided for in subheadings 7218.90.0005, 7218.90.0015, 7218.90.0025, 7218.90.0032, 7218.90.0040, 7218.90.0050, 7218.90.0060, 7218.90.0075, 7218.90.0085, 7218.90.0095 of the *HTS*.

(D) *Stainless steel slabs and sheet bars;* provided for in subheading 7218.90.0038 of the *HTS*.

Exports of carbon and certain alloy semifinished products are provided for in *Schedule B* subheadings 7206.10.0000, 7206.90.0000, 7207.11.0000, 7207.12.0000, 7207.19.0000, 7207.20.0000, 7224.10.0000, 7224.90.0000.

Exports of stainless steel semifinished products are provided for in *Schedule B* subheadings 7218.10.0000, 7218.90.0000.

10. *Flat-rolled products.*—Rolled products of solid rectangular (other than square) cross section, whether perforated, corrugated, polished, or with a pattern derived from

rolling, which do not conform to the definition of semifinished products above in the form of:

- Coils of successively superimposed layers; or
- Straight lengths, which, if of a thickness less than 4.75 mm, are of a width measuring at least 10 times the thickness, or, if of a thickness of 4.75 mm or more, are of a width exceeding 150 mm and measuring at least twice the thickness. Also those products of a shape other than rectangular or square of a width of 600 mm or more, not elsewhere specified.

(i) *Plates (cut-to-length).*—Flat-rolled products with a thickness equal to or exceeding 4.75 mm, not in coils. Plates are included in AISI product group No. 6A.

(A) *Carbon plate;* provided for in subheadings 7208.31.0000, 7208.32.0000, 7208.33.1000, 7208.33.5000, 7208.41.0000, 7208.42.0000, 7208.43.0000, 7210.90.1000, 7211.11.0000, 7211.21.0000, 7211.22.0045 of the *HTS.*

Exports of carbon plates are provided for in *Schedule B* subheadings 7208.31.0000, 7208.32.0000, 7208.33.0000, 7208.41.0000, 7208.42.0000, 7208.43.0000, 7210.90.1000, 7211.11.0000, 7211.21.0000.

(B) Certain alloy plate; provided for in subheadings 7225.40.1015, 7225.40.3005, 7225.40.3050, 7225.50.6000 of the *HTS.*

Exports of certain alloy plates are provided for in *Schedule B* subheadings 7225.30.0000, 7225.40.0000.

(C) Stainless steel plate; provided for in subheadings 7219.21.0005, 7219.21.0050, 7219.22.0005, 7219.22.0050, 7219.31.0010, 7219.31.0050 of the *HTS.*

Exports of stainless steel plates are provided for in *Schedule B* subheadings 7219.21.0000, 7219.22.0000, 7219.31.0000.

(ii) Sheets and strip (including coiled plate).—Flat-rolled products in either coils or straight lengths. Sheet has a width equal to or exceeding 600 mm; strip width is less than 600 mm (but at least 10 times the thickness). Sheets and strip are included in AISI product group Nos. 6B, 28, 29, 29A, 30, 31, 32, 33A, 33B, 34, 35, 36, and 37. For the purposes of this investigation, sheets and strip are classified as follows:

(A) Hot-rolled carbon and certain alloy sheet; provided for in subheadings 7208.11.0000, 7208.12.0000, 7208.13.1000, 7208.13.5000, 7208.14.1000, 7208.14.5000, 7208.21.1000, 7208.21.5000, 7208.22.1000, 7208.22.5000, 7208.23.1000, 7208.23.5030, 7208.23.5090, 7208.24.1000, 7208.24.5030, 7208.24.5090, 7208.34.1000, 7208.34.5000, 7208.35.1000, 7208.35.5000, 7208.44.0000, 7208.45.0000, 7208.90.0000, 7211.12.0000, 7211.22.0090, 7225.30.3000, 7225.30.3005, 7225.30.3050, 7225.30.5030, 7225.30.7000, 7225.40.5030, 7225.40.7000, 7226.91.1530, 7226.91.5000 of the *HTS.*

Exports of hot-rolled carbon and certain alloy sheet are provided for in *Schedule B* subheadings 7208.11.0000, 7208.12.0000, 7208.13.0000, 7208.14.0000, 7208.21.0000, 7208.22.0000, 7208.23.0000, 7208.24.0000, 7208.34.0000, 7208.35.0000, 7208.44.0000, 7208.45.0000, 7208.90.0000, 7211.12.0000, 7211.22.0000, 7225.30.0000.

(B) *Hot-rolled carbon and certain alloy strip;* provided for in subheadings 7211.19.1000, 7211.19.5000, 7211.29.1000, 7211.29.3000, 7211.29.5000, 7211.29.7030, 7211.29.7060, 7211.29.7090, 7226.91.2530, 7226.91.7000, 7226.91.8000 of the *HTS.*

Exports of hot-rolled carbon and certain alloy strip are provided for in *Schedule B* subheadings 7211.19.0000, 7211.29.0000, 7226.91.0000.

(C) *Cold-rolled carbon and certain alloy sheet and strip:*

(a) *Black plate;* provided for in subheading 7209.24.1000 of the *HTS.*

Exports of black plate are provided for in Schedule B subheading 7209.24.1000.

(b) *Electrical sheet and strip*; provided for in subheadings 7225.10.0030, 7225.10.0060, 7226.10.1030, 7226.10.1060, 7226.10.5015, 7226.10.5020, 7226.10.5065, and 7226.10.5070 of the *HTS*.

Exports of electrical sheet and strip are provided for in *Schedule B* subheadings 7225.10.0000, 7226.10.0000.

(c) *Other sheet;* provided for in subheadings 7209.11.0000, 7209.12.0030, 7209.12.0090, 7209.13.0030, 7209.13.0090, 7209.14.0030, 7209.14.0090, 7209.21.0000, 7209.22.0000, 7209.23.0000, 7209.24.5000, 7209.31.0000, 7209.32.0000, 7209.33.0000, 7209.34.0000, 7209.41.0000, 7209.42.0000, 7209.43.0000, 7209.44.0000, 7209.90.0000, 7210.70.3000, 7225.50.1030, 7225.50.7000, 7225.50.8000, 7225.90.0000 of the *HTS*.

Exports of other cold-rolled sheet are provided for in *Schedule B* subheadings 7209.11.0000, 7209.12.0000, 7209.13.0000, 7209.14.0000, 7209.21.0000, 7209.22.0000, 7209.23.0000, 7209.24.0000, 7209.24.5000, 7209.31.0000, 7209.32.0000, 7209.33.0000, 7209.34.0000, 7209.41.0000, 7209.42.0000, 7209.43.0000, 7209.44.0000, 7209.90.0000, 7225.50.0000, 7225.90.0000.

(d) *Other strip;* provided for in subheadings 7211.30.1030, 7211.30.1090, 7211.30.3000, 7211.30.5000, 7211.41.1000, 7211.41.3030, 7211.41.3090, 7211.41.5000, 7211.41.7030, 7211.41.7060, 7211.41.7090, 7211.49.1030, 7211.49.1090, 7211.49.3000, 7211.49.5030, 7211.49.5060, 7211.49.5090, 7211.90.0000, 7212.40.1000, 7212.40.5000, 7226.92.1030, 7226.92.3030, 7226.92.5000, 7226.92.7005, 7226.92.7050, 7226.92.8005, 7226.92.8050, 7226.99.0000 of the *HTS*.

Exports of other cold-rolled strip are provided for in *Schedule B* subheadings 7210.70.0000, 7211.30.0000, 7211.41.0000, 7211.49.0000, 7211.90.0000, 7212.40.0000, 7226.92.4000, 7226.99.0000.

(D) *Galvanized sheet and strip;* provided for in subheadings 7210.31.0000, 7210.39.0000, 7210.41.0000, 7210.49.0030, 7210.49.0090, 7210.70.6030, 7210.70.6060, 7212.21.0000, 7212.29.0000, 7212.30.1030, 7212.30.1090, 7212.30.3000, 7212.30.5000 of the *HTS*.

Exports of galvanized sheet and strip are provided for in *Schedule B* subheadings 7210.31.0000, 7210.39.0000, 7210.41.0000, 7210.49.0000, 7212.21.0000, 7212.29.0000, 7212.30.0000.

(E) *Tin plate;* provided for in subheadings 7210.11.0000, 7210.12.0000, 7212.10.0000 of the *HTS*.

Exports of tin plate are provided for in *Schedule B* subheadings 7210.11.0000, 7210.12.0000, 7212.10.0000.

(F) *Tin free;* provided for in subheading 7210.50.0000 of the *HTS*.

Exports of tin free sheets are provided for in *Schedule B* subheading 7210.50.0000.

(G) *Other metallic coated sheet and strip;* provided for in subheadings 7210.20.0000, 7210.60.0000, 7210.70.6090, 7210.90.6000, 7210.90.90000, 7212.50.0000, 7212.60.0000 of the *HTS*.

Exports of other metallic coated sheet and strip are provided for in *Schedule B* subheadings 7210.20.0000, 7210.60.0000, 7210.90.5000, 7212.50.0000, 7212.60.0000.

(H) *Stainless steel hot-rolled sheet;* provided for in subheadings 7219.11.0000, 7219.12.0000, 7219.12.0005, 7219.12.0015, 7219.12.0030, 7219.12.0045, 7219.12.0060, 7219.12.0075, 7219.12.0080, 7219.13.0030, 7219.13.0060, 7219.14.0030, 7219.14.0060, 7219.23.0030, 7219.23.0060, 7219.24.0030, 7219.24.0060, 7220.11.0000 of the *HTS*.

Exports of stainless steel hot-rolled sheet are provided for in *Schedule B* subheadings 7219.11.0000, 7219.12.0000, 7219.13.0000, 7219.14.0000, 7219.23.0000, 7219.24.0000, 7220.11.0000.

(I) Stainless steel cold-rolled sheet; provided for in subheadings 7219.32.0015, 7219.32.0030, 7219.32.0045, 7219.32.0060, 7219.33.0015, 7219.33.0030, 7219.33.0045, 7219.33.0060, 7219.34.0010, 7219.34.0050, 7219.35.0010, 7219.35.0050, 7219.90.0000 of the *HTS*.

Exports of stainless steel cold-rolled sheet are provided for in *Schedule B* subheadings 7219.32.0000, 7219.33.0000, 7219.34.0000, 7219.35.0000, 7219.90.0000.

(J) Stainless steel strip; provided for in subheadings 7220.12.1000, 7220.12.5000, 7220.20.1000, 7220.20.6005, 7220.20.6050, 7220.20.7005, 7220.20.7050, 7220.20.8000, 7220.20.9000, 7220.90.0000 of the *HTS*.

Exports of stainless steel strip are provided for in *Schedule B* subheadings 7220.12.0000, 7220.20.0000, 7220.90.0000.

11. *Bars.*— Hot-rolled products, over 0.55 inches (14mm) in diameter, whether or not in irregularly wound coils, which have a solid cross-section along their length in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles, or other convex polygons. Such products may—

- Have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods);
- Be twisted after rolling.

For purposes of this investigation the term "bars" also includes hollow drill steel, which is a hollow product suitable for making mining drills or mining drill rods, of which the greatest external dimension of the cross-section exceeds 15 mm but does not exceed 52 mm, and of which the greatest internal dimension does not exceed one-half of the greatest external dimension. Bars and hollow drill steel are found in AISI product groups Nos. 14, 14A, 15, and 16.

For the purposes of this investigation, bars and light structural shapes are classified as follows:

(i) *Hot-rolled carbon bars.*—Provided for in subheadings 7213.39.0060, 7213.49.0060, 7213.50.0060, 7214.10.0000, 7214.30.0000, 7214.40.0010, 7214.40.0030, 7214.40.0050, 7214.50.0010, 7214.50.0030, 7214.50.0050, 7214.60.0010, 7214.60.0030, 7214.60.0050, 7215.90.1000 of the *HTS*, and included in AISI product group No. 14.

Exports of hot-rolled carbon bars are provided for in *Schedule B* subheadings 7213.20.0000, 7214.10.0000, 7214.30.0000, 7214.40.0000, 7214.50.0000, 7214.60.0000.

(ii) *Hot-rolled certain alloy bars.*—Provided for in subheadings 7227.20.0000, 7227.90.6005, 7227.90.6050, 7228.20.1000, 7228.30.8005, 7228.30.8050, 7228.40.0000, 7228.60.6000, 7228.80.0000 of the *HTS*, and included in AISI product group No. 14.

Exports of hot-rolled alloy bars are provided for in *Schedule B* subheadings 7227.20.0000, 7228.20.0000, 7228.30.8000, 7228.40.0000, 7228.60.5000, 7228.80.0000.

(iii) *Cold-formed carbon bars.*—Provided for in subheadings 7215.10.0000, 7215.20.0000, 7215.30.0000, 7215.40.0000, 7215.90.3000, 7215.90.5000 of the *HTS*, and included in AISI product group No. 16.

Exports of cold-formed carbon bars are provided for in *Schedule B* subheadings 7215.10.0000, 7215.20.0000, 7215.30.0000, 7215.40.0000, 7215.90.0000.

(iv) *Cold-formed certain alloy bars.*—Provided for in subheadings 7228.20.5000, 7228.50.5005, 7228.50.5050, 7228.60.8000 of the *HTS*, and included in AISI product group No. 16.

Exports of cold-formed certain alloy bars are provided for in *Schedule B* subheading 7228.50.5000.

(v) *Reinforcing carbon and certain alloy steel bars.*—Hot-rolled steel bars, of solid cross section, having deformations of various patterns on their surfaces; provided for in subheadings 7213.10.0000, 7214.20.0000 of the *HTS*, and included in AISI product group No. 15.

Exports of reinforcing carbon and certain alloy steel bars are provided for in *Schedule B* subheadings 7213.10.0000, 7214.20.0000.

(vi) *Light structural shapes.*—Bar-size light shapes having a cross-sectional dimension of less than 7.62 cm provided for in subheadings 7216.10.0010, 7216.10.0050, 7216.21.0000, 7216.22.0000, 7228.70.3060, 7228.70.3080 of the *HTS*, and included in AISI product group No. 14A.

Exports of light structural shapes are provided for in *Schedule B* subheadings 7216.10.0000, 7216.21.0000, 7216.22.0000.

(vii) *Stainless steel bars and shapes.*—Provided for in subheadings 7221.00.0005, 7221.00.0045, 7221.00.0075, 7222.10.0005, 7222.10.0050, 7222.20.0005, 7222.20.0045, 7222.20.0075, 7222.30.0000, 7222.40.3060, 7222.40.3080 of the *HTS* and included in AISI product group Nos. 14, 15, and 16.

Exports of stainless steel bars and shapes are provided for in *Schedule B* subheadings 7222.10.0000, 7222.20.0000, 7222.30.0000, 7222.40.0000.

12. *Wire rods and related products—*

(i) *Wire rods.*—Coiled, semifinished, hot-rolled products of solid cross section, approximately round in cross section, not over 19mm in diameter. Wire rods are included in AISI product group No. 3.

For the purposes of this investigation, wire rods are classified as follows:

(A) *Carbon steel wire rods;* provided for in subheadings 7213.31.3000, 7213.31.6000, 7213.39.0030, 7213.39.0090, 7213.41.3000, 7213.41.6000, 7213.49.0030, 7213.49.0090, 7213.50.0020, 7213.50.0040, 7213.50.0080 of the *HTS*.

Exports of carbon steel wire rods are provided for in *Schedule B* subheadings 7213.31.0000, 7213.39.0000, 7213.41.0000, 7213.49.0000, 7213.50.0000.

(B) *Certain alloy steel wire rods;* provided for in subheadings 7227.90.1030, 7227.90.2030, 7228.30.2000, 7228.50.1010, 7228.60.1030 of the *HTS*.

Exports of certain alloy steel wire rods are provided for in *Schedule B* subheading 7227.90.0000.

(C) *Stainless steel wire rods;* provided for in subheadings 7221.00.0015, 7221.00.0030 of the *HTS*.

Exports of stainless steel wire rods are provided for in *Schedule B* subheading 7221.00.0000.

(ii) *Steel wire.*—Cold-formed products in coils, of any uniform solid cross section along their whole length, which do not conform to the definition of flat-rolled products. Steel wire is included in AISI product group No. 23.

For the purpose of this investigation, steel wire is classified as follows:

(A) *Carbon steel wire;* provided for in subheadings 7217.11.1000, 7217.11.2000, 7217.11.3000, 7217.11.5020, 7217.11.5040, 7217.11.5060, 7217.11.5080, 7217.11.7030, 7217.11.7090, 7217.11.9000, 7217.12.1000, 7217.12.3030, 7217.12.3060, 7217.12.5000, 7217.12.7000, 7217.13.1000, 7217.13.3030, 7217.13.3060, 7217.13.5000, 7217.13.7000,

7217.19.5000, 7217.21.1000, 7217.21.3015, 7217.21.3030, 7217.21.3045, 7217.21.3060, 7217.21.3075, 7217.21.3090, 7217.21.5000, 7217.22.1015, 7217.22.1030, 7217.22.1050, 7217.22.5000, 7217.23.1015, 7217.23.1030, 7217.23.1050, 7217.23.5000, 7217.29.5000, 7217.31.1000, 7217.31.3015, 7217.31.3030, 7217.31.3045, 7217.31.3060, 7217.31.3075, 7217.31.3090, 7217.31.5000, 7217.32.1015, 7217.32.1030, 7217.32.1050, 7217.32.5000, 7217.33.1015, 7217.33.1030, 7217.33.1050, 7217.33.5000, 7217.39.5000 of the *HTS*.

Exports of carbon steel wire are provided for in *Schedule B* subheadings 7217.11.0000, 7217.12.0000, 7217.13.0000, 7217.19.0000, 7217.21.0000, 7217.22.0000, 7217.23.0000, 7217.29.0000, 7217.31.0000, 7217.32.0000, 7217.33.0000, 7217.39.0000.

(B) *Certain alloy steel wire;* provided for in subheadings 7229.20.0000, 7229.90.1000, 7229.90.5015, 7229.90.5030, 7229.90.5050, 7229.90.9000 of the *HTS*.

Exports of certain alloy steel wire are provided for in *Schedule B* subheadings 7229.20.0000, 7229.90.0000.

(C) *Stainless steel wire;* provided for in subheadings 7223.00.1015, 7223.00.1030, 7223.00.1045, 7223.00.1060, 7223.00.1075, 7223.00.5000, 7223.00.9000 of the *HTS*.

Exports of stainless steel wire are provided for in *Schedule B* subheading 7223.00.0000.

(iii) Carbon and certain alloy steel wire products—

(A) *Nails and brads, spikes, staples, and tacks;* fasteners, of one piece construction, made of round wire, and not including thumb tacks, staples in strip form, corrugated fasteners, glaziers' points, hook nails, ring nails, or fasteners suitable for use in power-actuated hand tools; as provided for in subheadings 7317.00.1000, 7317.00.5505, 7317.00.5510, 7317.00.5520, 7317.00.5530, 7317.00.5540, 7317.00.5550, 7317.00.5560, 7317.00.5570, 7317.00.5580, 7317.00.5590, 7317.00.7500, 8305.20.0000 of the *HTS*. Nails and staples are included in AISI product group No. 51 (pt.).

Exports of nails and brads, spikes, staples, and tacks are provided for in *Schedule B* subheadings 7317.00.1000, 7317.00.9000, 8305.20.0000.

(B) *Barbed wire;* a wire, or strand of twisted wires, armed with barbs or sharp points; as provided for in subheading 7313.00.0000 of the *HTS*. Barbed wire is included in AISI product group No. 52.

Exports of barbed wire are provided for in *Schedule B* subheading 7313.00.0000.

(C) *Wire expanded metal, grill and fencing;* products, whether or not galvanized, wholly of round wire with a maximum cross-sectional diameter of 3 mm or more, having a mesh size of 100 cm^2 or more, whether or not such wire is covered with plastics; as provided for in subheadings 7314.20.0000, 7314.30.1000, 7314.30.5000, 7314.41.0030, 7314.41.0060, 7314.42.0030, 7314.42.0060, 7314.49.3000, 7314.49.6000 of the *HTS*. The products are included in AISI product group No. 50.

Exports of wire expanded metal, grill and fencing are provided for in *Schedule B* subheadings 7314.20.0000, 7314.30.0000, 7314.41.0000, 7314.42.0000, 7314.49.0000.

(D) *Baling wire and ties;* with or without buckles or fastenings and whether or not coated with paint or other substance; as provided for in subheading 7326.20.0010 of the *HTS* and included in AISI product group No. 53.

(E) *Wire strand;* two or more wires that together constitute one of the parts which are twisted together to form rope, cord, or cordage, suitable for fencing purposes, not fitted with fittings, not made up into articles, not of brass plated wire, as provided for in subheadings 7312.10.1030, 7312.10.1050, 7312.10.1070, 7312.10.3005, 7312.10.3010, 7312.10.3012, 7312.10.3020, 7312.10.3065, 7312.10.3070, 7312.10.3074, 7312.10.3080 of the *HTS*. Wire strand is included in AISI product group No. 47.

Exports of wire strand are provided for in *Schedule B* subheadings 7312.10.3015, 7312.10.3500.

(F) *Wire ropes, cables, and cordage;* products made by the twisting of a number of wire strands and are not covered with nonmetallic material, not fitted with fittings, not made up into articles, and, if valued 13 cents or more per pound, not of brass plated wire; as provided for in subheadings 7312.10.6000, 7312.10.9030, 7312.10.9060, 7312.10.9090 of the *HTS*. Wire ropes, cables, and cordage are included in AISI product group No. 46.

Exports of wire ropes, cables, and cordage are provided for in *Schedule B* subheading 7312.10.8500.

13. *Structurals.*—Nontubular products not conforming completely to the respective specifications set forth in the *HTS* for semifinished, flat-rolled, bars and rod or wire.

(i) *Heavy structural shapes.*—Products having a maximum cross-sectional dimension of 7.62 cm or more, and *sheet piling;* as provided for in subheadings 7216.31.0000, 7216.32.0000, 7216.33.0030, 7216.33.0060, 7216.33.0090, 7216.40.0010, 7216.40.0050, 7216.50.0000, 7222.40.3020, 7222.40.3040, 7228.70.3020, 7228.70.3040, 7301.10.0000 of the *HTS*. These products are included in AISI product group Nos. 4 and 5.

Exports of heavy structural shapes and sheet piling are provided for in *Schedule B* subheadings 7216.31.0000, 7216.32.0000, 7216.33.0000, 7216.40.0000, 7216.50.0000, 7216.60.0000, 7216.90.0000, 7301.10.0000.

(ii) *Fabricated structural units.*—Columns, pillars, posts, beams, girders, and similar structural units; as provided for in subheadings 7216.60.0000, 7216.90.0000, 7222.40.6000, 7228.70.6000, 7301.20.1000, 7301.20.5000, 7308.10.0000, 7308.20.0000, 7308.40.0000, 7308.90.3000, 7308.90.6000, 7308.90.9030, 7308.90.9090, 8430.49.4000 of the *HTS*. These products are included in AISI product group Nos. 38 and 39.

Exports of fabricated structural units are provided for in *Schedule B* subheadings 7228.70.0000, 7301.20.1000, 7301.20.5000, 7308.10.0000, 7308.20.0000, 7308.40.0000, 7308.90.1000, 7308.90.9030, 7308.90.9090, 8430.49.4000.

14. *Rails and related railway products—*

(i) *Rails.*— Hot-rolled steel products, whether punched or not punched, weighing not less than 8 pounds per yard, with cross-sectional shapes intended for carrying wheel loads in railroad, railway, and crane runway applications; as provided for in subheadings 7302.10.1010, 7302.10.1015, 7302.10.1025, 7302.10.1035, 7302.10.1045, 7302.10.1055, 7302.10.1065, 7302.10.1075, 7302.10.5020, 7302.10.5040, 7302.10.5060 of the *HTS*. Rails are included in AISI product group Nos. 7, 8, and 41.

Exports of rails are provided for in *Schedule B* subheadings 7302.10.1020, 7302.10.1030, 7302.10.1080, 7302.10.5000.

(ii) *Joint bars.*—Hot-rolled steel products, usually punched or slotted, designed to connect the ends of adjacent rails in track; tie plates are hot-rolled steel products which are punched to provide holes for spikes and have one or two shoulder sections as rail guides and are used to support rails in track, to maintain track gauge, and to protect the ties; all the foregoing, as provided for in subheadings 7302.20.0000, 7302.30.0000, 7302.40.0000, 7302.90.0000 of the *HTS*. Joint bars and tie plates are included in AISI product group Nos. 9 and 42.

Exports of joint bars, tie plates, and other railway track material are provided for in *Schedule B* subheadings 7302.20.0000, 7302.30.0000, 7302.40.0000, 7302.90.0000.

(iii) *Railway track spikes.*—Products of one-piece construction, used to secure tie plates or ties; as provided for in subheadings 7317.00.6530, 7317.00.6560 of the *HTS*. Railway track spikes are included in AISI product group No. 42 (pt.).

(iv) *Railroad and railway axles and wheels, parts thereof, and axle bars.*—Provided for in subheadings 8607.19.1000, 8607.19.2000 of the *HTS*. These articles are included in AISI product group No. 43.

Exports of railroad and railway axles and wheels, parts thereof, and axle bars are provided for in *Schedule B* subheadings 8607.19.1000 and 8607.19.2000.

15. *Pipes and tubes and blanks therefor.*—Tubular products, including hollow bars and hollow billets but not including hollow drill steel, of any cross-sectional configuration, by whatever process made, whether seamless, brazed, or welded and whether with an open or lock seam or joint. For the purposes of this investigation, pipes and tubes and blanks therefor are classified as follows:

(i) *Oil country tubular goods.*—Provided for in subheadings 7304.20.1000, 7304.20.1010, 7304.20.1020, 7304.20.1030, 7304.20.1040, 7304.20.1050, 7304.20.1060, 7304.20.1080, 7304.20.2000, 7304.20.2010, 7304.20.2020, 7304.20.2030, 7304.20.2040, 7304.20.2050, 7304.20.2060, 7304.20.2080, 7304.20.3000, 7304.20.3010, 7304.20.3020, 7304.20.3030, 7304.20.3040, 7304.20.3050, 7304.20.3060, 7304.20.3080, 7304.20.4010, 7304.20.4020, 7304.20.4030, 7304.20.4040, 7304.20.4050, 7304.20.4060, 7304.20.4080, 7304.20.5015, 7304.20.5030, 7304.20.5045, 7304.20.5060, 7304.20.5075, 7304.20.6015, 7304.20.6030, 7304.20.6045, 7304.20.6060, 7304.20.6075, 7304.20.7000, 7304.20.8030, 7304.20.8045, 7304.20.8060, 7305.20.2000, 7305.20.4000, 7305.20.6000, 7305.20.8000, 7306.20.1030, 7306.20.1090, 7306.20.2000, 7306.20.3000, 7306.20.4000, 7306.20.6010, 7306.20.6050, 7306.20.8010, 7306.20.8050 of the *HTS*. Oil country tubular goods are included in AISI product group No. 19.

Exports of oil country tubular goods are provided for in *Schedule B* subheadings 7304.20.1500, 7304.20.3500, 7304.20.5000, 7304.20.6000, 7304.20.7000, 7304.20.8000, 7305.20.3000, 7305.20.7000, 7306.20.1500, 7306.20.2500, 7306.20.6000, 7306.20.8000.

(ii) *Line pipe.*—Provided for in subheadings 7304.10.1020, 7304.10.1030, 7304.10.1045, 7304.10.1060, 7304.10.1080, 7304.10.5020, 7304.10.5050, 7304.10.5080, 7305.11.1030, 7305.11.1060, 7305.11.5000, 7305.12.1030, 7305.12.1060, 7305.12.5000, 7305.19.1030, 7305.19.1060, 7305.19.5000, 7306.10.1010, 7306.10.1050, 7306.10.5010, 7306.10.5050 of the *HTS*. Line pipe is included in AISI product group No. 20.

Exports of line pipe are provided for in *Schedule B* subheadings 7304.10.1020, 7304.10.1050, 7304.10.1080, 7304.10.5020, 7304.10.5050, 7304.10.5080, 7305.11.1000, 7305.11.5000, 7305.12.1000, 7305.12.5000, 7305.19.1000, 7305.19.5000, 7306.10.1000, 7306.10.5000.

(iii) *Mechanical pipe.*—Provided for in subheadings 7304.31.3000, 7304.31.6050, 7304.39.0028, 7304.39.0032, 7304.39.0040, 7304.39.0044, 7304.39.0052, 7304.39.0056, 7304.39.0068, 7304.39.0072, 7304.51.1000, 7304.51.5060, 7304.59.1000, 7304.59.6000, 7304.59.8020, 7304.59.8025, 7304.59.8035, 7304.59.8040, 7304.59.8050, 7304.59.8055, 7304.59.8065, 7304.59.8070, 7304.90.5000, 7304.90.7000, 7306.30.1000, 7306.30.5015, 7306.30.5020, 7306.30.5035, 7306.50.1000, 7306.50.5030, 7306.50.5050, 7306.50.5070, 7306.60.5000, 7306.60.7000 of the *HTS*. Mechanical pipe is included in AISI product group No. 21A.

(iv) *Structural pipe.*—Provided for in subheadings 7304.90.1000, 7304.90.3000, 7305.31.2000, 7305.31.4000, 7305.31.6000, 7306.30.3000, 7306.50.3000, 7306.60.1000, 7306.60.3000 of the *HTS*. Structural pipe is included in AISI product group No. 22A.

(v) *Pressure tubing.*—Provided for in subheadings 7304.31.6010, 7304.39.0002, 7304.39.0004, 7304.39.0006, 7304.39.0008, 7304.51.5015, 7304.51.5045, 7304.59.2030, 7304.59.2040, 7304.59.2045, 7304.59.2055, 7304.59.2060, 7304.59.2070, 7304.59.2080, 7306.30.5010, 7306.50.5010 of the *HTS*. Pressure tubing is included in AISI product group No. 21B.

(vi) *Stainless steel pipes and tubes.*—Provided for in subheadings 7304.41.0005, 7304.41.0015, 7304.41.0045, 7304.41.3005, 7304.41.3015, 7304.41.3045, 7304.41.6005, 7304.41.6015, 7304.41.6045, 7304.49.0005, 7304.49.0015, 7304.49.0045, 7304.49.0060, 7306.40.1000, 7306.40.5005, 7306.40.5015, 7306.40.5045, 7306.40.5060, 7306.40.5075 of the *HTS*. Stainless steel pipes and tubes are included in AISI product group Nos. 21C and 21D.

tExports of stainless steel pipes and tubes are provided for in *Schedule B* subheadings 7304.41.0000, 7304.49.0010, 7304.49.0040, 7306.40.1000, 7306.40.5000.

(vii) *Other, including standard.*—Provided for in subheadings 7304.39.0016, 7304.39.0020, 7304.39.0024, 7304.39.0036, 7304.39.0048, 7304.39.0062, 7304.39.0076, 7304.39.0080, 7304.39.0090, 7304.51.5005, 7304.59.8010, 7304.59.8015, 7304.59.8030, 7304.59.8045, 7304.59.8060, 7304.59.8080, 7305.39.1000, 7305.39.5000, 7305.90.1000, 7305.90.5000, 7306.30.5025, 7306.30.5028, 7306.30.5032, 7306.30.5040, 7306.30.5055, 7306.30.5085, 7306.30.5090, 7306.90.1000, 7306.90.5000 of the *HTS*. Other, including standard pipe is included in AISI product group Nos. 18, 21E, and 22B.

Exports of other pipes and tubes, including mechanical, structural, pressure, and standard are provided for in *Schedule B* subheadings 7304.31.0000, 7304.39.0000, 7304.51.0000, 7304.59.0000, 7304.90.4000, 7304.90.6000, 7305.31.2000, 7305.31.4000, 7305.31.6000, 7305.39.1000, 7305.39.5000, 7305.90.1000, 7305.90.5000, 7306.30.1000, 7306.30.1500, 7306.50.1000, 7306.50.4500, 7306.60.2500, 7306.60.6500, 7306.90.1000, 7306.90.5000.

16. *Alloy tool steel* (all forms).—Provided for in subheadings 7224.10.0045, 7224.90.0015, 7224.90.0025, 7224.90.0035, 7225.20.0000, 7225.30.1000, 7225.30.5060, 7225.40.1090, 7225.40.5060, 7225.50.1060, 7226.20.0000, 7226.91.0500, 7226.91.1560, 7226.91.2560, 7226.92.1060, 7226.92.3060, 7227.10.0000, 7227.90.1060, 7227.90.2060, 7228.10.0010, 7228.10.0030, 7228.10.0060, 7228.30.4000, 7228.30.6000, 7228.50.1020, 7228.50.1040, 7228.50.1060, 7228.50.1080, 7228.60.1060, 7229.10.0000 of the *HTS*. Alloy tool steel is included in AISI product group No. 17.

Exports of alloy tool steel (all forms) are provided for in *Schedule B* subheadings 7225.20.0000, 7226.20.0000, 7226.92.2000, 7227.10.0000, 7228.10.0000, 7228.30.5000, 7228.50.1000, 7228.60.1000, 7229.10.0000.

Please refer to appendix A, Notes on Product Coverage and Methodology, for further explanation.

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APPENDIX E
Status of Recent AD and CVD Investigations on Steel Products and Ferroalloys

Table E-1
Status of recent AD and CVD investigations on steel products and ferroalloys

Product description	Country	AD (731-TA)	CVD (701-TA)	USITC[1] preliminary determination Date[2]	Outcome	USITC[1] final determination Date[2]	Outcome
Certain carbon steel buttweld pipe fittings	China	520		7–8–91	A	6–24–92	A
	Thailand	521		7–8–91	A	6–24–92	A
Certain circular, welded nonalloy steel pipes and tubes	Brazil	532		11–8–91	A	10–26–92	A
	Korea	533		11–8–91	A	10–26–92	A
	Mexico	534		11–8–91	A	10–26–92	A
	Romania	535		11–8–91	A	10–26–92	N
	Taiwan	536		11–8–91	A	10–26–92	A
	Venezuela	537		11–8–91	A	10–26–92	A
Certain welded stainless steel pipes	Korea	540		1–2–92	A	12–18–92	A
	Taiwan	541		1–2–92	A	12–18–92	A
Steel wire rope	Korea	546		5–26–92	A	3–15–93	A
	Mexico	547		5–26–92	A	3–15–93	A
Certain hot–rolled lead and bismuth carbon steel products	Brazil	552	314	5–28–92	A	3–10–93	A
	France	553	315	5–28–92	A	3–10–93	A
	Germany	554	316	5–28–92	A	3–10–93	A
	United Kingdom	555	317	5–28–92	A	3–10–93	A
New steel rails	Japan	557		6–15–92	N		
	Luxembourg	558		6–15–92	N		
	United Kingdom	559		6–15–92	A	3–26–93	N
Certain stainless steel buttweld pipe fittings	Korea	563		7–6–92	A	2–16–93	A
	Taiwan	564		7–6–92	A	6–3–93	A
Ferrosilicon	Argentina	565		7–6–92	A	([3])	
	Kazakhstan	566		7–6–92	A	3–23–93	A
	China	567		7–6–92	A	3–4–93	A
	Russia	568		7–6–92	A	6–16–93	A
	Ukraine	569		7–6–92	A	3–23–93	A
	Venezuela	570		7–6–92	A	6–16–93	A
	Brazil	641		2–23–93	A	1–24–94	A
	Egypt	642		2–23–93	A	10–22–93	N
Special quality carbon and certain alloy hot–rolled steel bars and rods and semi–finished products	Brazil	572		7–24–92	A	7–9–93	N
Certain hot–rolled carbon steel flat products	Belgium	588	329	8–14–92	A	8–9–93	N
	Brazil	589	330	8–14–92	A	8–9–93	N
	Canada	590		8–14–92	A	8–9–93	N
	France	591	331	8–14–92	A	8–9–93	N
	Germany	592	332	8–14–92	A	8–9–93	N
	Italy	593	333	8–14–92	N		
	Japan	594		8–14–92	A	8–9–93	N
	Korea	595	334	8–14–92	A	8–9–93	N
	Netherlands	596		8–14–92	A	8–9–93	N
	New Zealand	335		8–14–92	N		

See footnotes at end of table.

Table E-1—*Continued*
Status of recent AD and CVD investigations on steel products and ferroalloys

Product description	Country	AD (731-TA)	CVD (701-TA)	USITC[1] preliminary determination		USITC[1] final determination	
				Date[2]	Outcome	Date[2]	Outcome
Cold-rolled carbon steel flat products	Argentina	597		8-14-92	A	8-9-93	N
	Australia	598		8-14-92	N		
	Austria	599	336	8-14-92	A	8-9-93	N
	Belgium	600	337	8-14-92	A	8-9-93	N
	Brazil	601	338	8-14-92	A	8-9-93	N
	Canada	602		8-14-92	A	8-9-93	N
	France	603	339	8-14-92	A	8-9-93	N
	Germany	604	340	8-14-92	A	8-9-93	A
	Italy	605	341	8-14-92	A	8-9-93	N
	Japan	606		8-14-92	A	8-9-93	N
	Korea	607	342	8-14-92	A	8-9-93	A
	Netherlands	608		8-14-92	A	8-9-93	A
	New Zealand		343	8-14-92	N		
	Spain	609	344	8-14-92	A	8-9-93	N
	Taiwan	610	345	8-14-92	N		
	United Kingdom	611	346	8-14-92	N		
Certain corrosion-resistant carbon steel flat products	Australia	612		8-14-92	A	8-9-93	A
	Brazil	613	347	8-14-92	A	8-9-93	N
	Canada	614		8-14-92	A	8-9-93	A
	France	615	348	8-14-92	A	8-9-93	A
	Germany	616	349	8-14-92	A	8-9-93	A
	Japan	617		8-14-92	A	8-9-93	A
	Korea	618	350	8-14-92	A	8-9-93	A
	Mexico	619	351	8-14-92	A	8-9-93	N
	New Zealand		352	8-14-92	A	8-9-93	N
	Sweden		353	8-14-92	A	8-9-93	N
	Taiwan	620	354	8-14-92	N		
Cut-to-length carbon steel plate	Belgium	573	319	8-14-92	A	8-9-93	A
	Brazil	574	320	8-14-92	A	8-9-93	A
	Canada	575		8-14-92	A	8-9-93	A
	Finland	576		8-14-92	A	8-9-93	A
	France	577	321	8-14-92	A	8-9-93	N
	Germany	578	322	8-14-92	A	8-9-93	A
	Italy	579	323	8-14-92	A	8-9-93	N
	Japan	580		8-14-92	N		
	Korea	581	324	8-14-92	A	8-9-93	N
	Mexico	582	325	8-14-92	A	8-9-93	A
	Poland	583		8-14-92	A	8-9-93	A
	Romania	584		8-14-92	A	8-9-93	A
	Spain	585	326	8-14-92	A	8-9-93	A
	Sweden	586	327	8-14-92	A	8-9-93	A
	United Kingdom	587	328	8-14-92	A	8-9-93	A
Compact ductile iron waterworks fittings	China	621		8-24-92	A	8-19-93	A
Stainless steel wire rod	Brazil	636		2-16-93	A	1-21-94	A
	France	637		2-16-93	A	1-21-94	A
	India	638		2-16-93	A	11-23-93	A
Stainless steel flanges	India	639		2-16-93	A	2-2-94	A
	Taiwan	640		2-16-93	A	2-2-94	A
Welded stainless steel pipe	Malaysia	644		4-2-93	A	3-7-94	N
Carbon steel wire rod	Brazil	646		6-7-93	A	3-25-94	N
	Canada	647		6-7-93	A		(4)
	Japan	648		6-7-93	A	3-25-94	N
	Trinidad and Tobago	649		6-7-93	N		

See footnotes at end of table.

Table E-1—*Continued*

Status of recent AD and CVD investigations on steel products and ferroalloys

Product description	Country	AD (731-TA)	CVD (701-TA)	USITC[1] preliminary determination		USITC[1] final determination	
				Date[2]	Outcome	Date[2]	Outcome
Class 150 stainless steel threaded pipe fittings	Taiwan	658		9–16–93	A		(4)
Grain–oriented silicon electrical steel	Italy	659		10–12–93	A	8–8–94	A
	Italy		355	10–12–93	A	5–27–94	A
	Japan	660		10–12–93	A	5–27–94	A
Silicomanganese	Brazil	671		12–27–93	A		
	The People's Republic of China	672		12–27–93	A		
	Ukraine	673		12–27–93	A		
	Venezuela	674		12–27–93	A		
Stainless steel bar	Brazil	678		2–14–94	A		
	India	679		2–14–94	A		
	Italy	680		2–14–94	A		
	Japan	681		2–14–94	A		
	Spain	682		2–14–94	A		
Certain steel wire rod	Belgium	686		3–31–94	A		(4)
	Germany	687	359	3–31–94	N		
Certain carbon steel butt–weld pipe fittings	France	688		4–14–94	A		
	India	689	360	4–14–94	A		
	Israel	690	361	4–14–94	A		
	Malaysia	691		4–14–94	A		
	Korea	692		4–14–94	A		
	Thailand	693		4–14–94	A		
	United Kingdom	694		4–14–94	A		
	Venezuela	695		4–14–94	A		
Stainless steel angles	Japan	699		5–23–94	A		
Ferrovanadium	Russia	702		7–19–94	A		
Certain seamless pipe	Argentina	707		8–8–94	A		
	Brazil	708		8–8–94	A		
	Germany	709		8–8–94	A		
	Italy	710	362	8–8–94	A		
Oil country tubular goods	Argentina	711		8–15–94	A		
	Austria	712	362	8–15–94	A		
	Italy	713	364	8–15–94	A		
	Japan	714		8–15–94	A		
	Korea	715		8–15–95	A		
	Mexico	716		8–15–94	A		
	Spain	717		8–15–94	A		

[1] United States International Trade Commmission.

[2] Date that the Commission officially reports its determination to the U.S. Department of Commerce. Votes by the Commission take place approximately 1 week prior to the determination date. USITC final determinations may be awaiting Commerce's preliminary dumping/subsidy determination.

[3] The Department of Commerce reached negative preliminary and final determinations with respect to this case, resulting in its termination.

[4] Withdrawn by petitioner.

APPENDIX F
Quality and Service Rankings of the U.S. and Japanese Steel Industries

Table F-1
Carbon and certain alloy[1] steel plates, sheets, and strip: U.S. purchasers' assessment[2] of the extent to which U.S. steel producers improved steel product quality and customer service, 1990-94

Element	Degree of improvement			Number of responses
	Little or none	Limited	Significant	
	Percent[3]			
Quality:				
Overall[4]	19	66	13	117
Internal quality[5]	30	48	21	108
Dimensional quality[6]	21	60	17	114
Surface quality[7]	28	57	14	114
Properties[8]	33	51	14	109
Presentation[9]	37	49	13	107
Service:				
Overall[4]	24	58	17	129
Delivery reliability	32	44	22	125
Pre- and post-sale technical assistance	24	54	21	125
Responsiveness to complaints	28	52	18	125
Financial terms[10]	59	31	9	122

[1] "Certain alloy" refers to alloy steel other than stainless or tool steels.

[2] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[3] Percent of total number of responses.

[4] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[5] Includes chemistry, microstructure, grain size, and inclusions.

[6] Includes shape, size, length, straightness, and flatness.

[7] Includes seams, smoothness, and shearing.

[8] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[9] Includes packaging and marking.

[10] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-2
Carbon and certain alloy[1] steel bars, rods, shapes, and rails: U.S. purchasers' assessment[2] of the extent to which U.S. steel producers improved steel product quality and customer service, 1990-94

Element	Degree of improvement			Number of responses
	Little or none	Limited	Significant	
	Percent[3]			
Quality:				
Overall[4]	33	53	13	90
Internal quality[5]	32	50	16	83
Dimensional quality[6]	39	43	17	86
Surface quality[7]	40	44	14	87
Properties[8]	42	46	10	83
Presentation[9]	47	44	8	84
Service:				
Overall[4]	28	53	18	98
Delivery reliability	35	47	16	96
Pre- and post-sale technical assistance	36	43	19	96
Responsiveness to complaints	33	44	22	95
Financial terms[10]	66	21	12	90

[1] "Certain alloy" refers to alloy steel other than stainless or tool steels.

[2] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[3] Percent of total number of responses.

[4] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[5] Includes chemistry, microstructure, grain size, and inclusions.

[6] Includes shape, size, length, straightness, and flatness.

[7] Includes seams, smoothness, and shearing.

[8] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[9] Includes packaging and marking.

[10] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-3
Carbon and certain alloy[1] steel pipes and tubes: U.S. purchasers' assessment[2] of the extent to which U.S. steel producers improved steel product quality and customer service, 1990-94

Element	Degree of improvement			Number of responses
	Little or none	Limited	Significant	
	Percent[3]			
Quality:				
Overall[4]	34	55	10	67
Internal quality[5]	39	47	13	61
Dimensional quality[6]	35	51	12	64
Surface quality[7]	37	54	7	64
Properties[8]	37	53	9	62
Presentation[9]	39	50	9	63
Service:				
Overall[4]	26	56	17	73
Delivery reliability	32	45	21	70
Pre- and post-sale technical assistance	33	47	18	71
Responsiveness to complaints	34	45	20	70
Financial terms[10]	66	30	3	66

[1] "Certain alloy" refers to alloy steel other than stainless or tool steels.

[2] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[3] Percent of total number of responses.

[4] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[5] Includes chemistry, microstructure, grain size, and inclusions.

[6] Includes shape, size, length, straightness, and flatness.

[7] Includes seams, smoothness, and shearing.

[8] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[9] Includes packaging and marking.

[10] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-4
Stainless and alloy tool steel plates, sheets, and strip: U.S. purchasers' assessment[1] of the extent to which U.S. steel producers improved steel product quality and customer service, 1990-94

Element	Degree of improvement			Number of responses
	Little or none	Limited	Significant	
	Percent[2]			
Quality:				
Overall[3]	31	52	14	63
Internal quality[4]	31	56	10	57
Dimensional quality[5]	37	40	22	59
Surface quality[6]	36	40	21	60
Properties[7]	48	44	5	58
Presentation[8]	51	34	13	58
Service:				
Overall[3]	30	56	12	72
Delivery reliability	33	49	17	69
Pre- and post-sale technical assistance	40	42	17	69
Responsiveness to complaints	42	39	18	69
Financial terms[9]	63	28	7	66

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] Percent of total number of responses.

[3] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[4] Includes chemistry, microstructure, grain size, and inclusions.

[5] Includes shape, size, length, straightness, and flatness.

[6] Includes seams, smoothness, and shearing.

[7] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[8] Includes packaging and marking.

[9] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

which U.S. steel producers improved steel purchasers' quality and service[1]

Element	Degree of improvement: Little or none	Limited	Significant	Number of responses
	Percent[2]			
Quality:				
Overall[3]	32	47	17	46
Internal quality[4]	35	52	9	42
Dimensional quality[5]	41	37	20	43
Surface quality[6]	35	45	16	42
Properties[7]	40	42	14	42
Presentation[8]	47	45	7	42
Service:				
Overall[3]	28	50	21	52
Delivery reliability	24	55	20	49
Pre- and post-sale technical assistance	30	42	28	50
Responsiveness to complaints	37	45	16	48
Financial terms[9]	55	33	11	45

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] Percent of total number of responses.

[3] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[4] Includes chemistry, microstructure, grain size, and inclusions.

[5] Includes shape, size, length, straightness, and flatness.

[6] Includes seams, smoothness, and shearing.

[7] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[8] Includes packaging and marking.

[9] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-6
Stainless and alloy tool steel pipes and tubes: U.S. purchasers' assessment[1] of the extent to which U.S. steel producers improved steel product quality and customer service, 1990-94

Element	Degree of improvement			Number of responses
	Little or none	Limited	Significant	
	Percent[2]			
Quality:				
Overall[3]	32	58	8	34
Internal quality[4]	45	48	6	31
Dimensional quality[5]	35	48	16	31
Surface quality[6]	38	48	12	31
Properties[7]	35	61	3	31
Presentation[8]	46	50	3	30
Service:				
Overall[3]	23	55	20	43
Delivery reliability	25	52	22	40
Pre- and post-sale technical assistance	24	56	19	41
Responsiveness to complaints	30	42	27	40
Financial terms[9]	52	38	8	36

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] Percent of total number of responses.

[3] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[4] Includes chemistry, microstructure, grain size, and inclusions.

[5] Includes shape, size, length, straightness, and flatness.

[6] Includes seams, smoothness, and shearing.

[7] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[8] Includes packaging and marking.

[9] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-7

Carbon and certain alloy[1] steel plates, sheets, and strip: U.S. purchasers' assessment[2] of U.S. steel product quality and customer service,[3] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses
			Percent[4]		
Quality:					
Overall[5]	4	49	42	4	114
Internal quality[6]	7	36	48	7	111
Dimensional quality[7]	7	46	38	7	113
Surface quality[8]	7	51	33	7	113
Properties[9]	5	43	43	7	113
Presentation[10]	11	39	40	9	109
Service:					
Overall[5]	11	43	36	8	126
Delivery reliability	21	40	33	4	124
Pre- and post-sale technical assistance	8	39	43	8	123
Responsiveness to complaints	11	41	40	7	124
Financial terms[11]	17	47	27	6	119

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

[2] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[3] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-8
Carbon and certain alloy[1] steel bars, rods, shapes, and rails: U.S. purchasers' assessment[2] of U.S. steel product quality and customer service,[3] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses
	Percent[4]				
Quality:					
Overall[5]	2	47	46	3	84
Internal quality[6]	4	42	45	7	82
Dimensional quality[7]	4	40	45	9	82
Surface quality[8]	6	48	41	3	82
Properties[9]	2	46	43	7	82
Presentation[10]	11	36	45	7	80
Service:					
Overall[5]	5	37	54	2	95
Delivery reliability	12	41	41	3	93
Pre- and post-sale technical assistance	8	46	35	8	92
Responsiveness to complaints	10	40	41	6	93
Financial terms[11]	15	46	28	9	88

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

[2] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[3] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-9
Carbon and certain alloy[1] steel pipes and tubes: U.S. purchasers' assessment[2] of U.S. steel product quality and customer service,[3] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses
			Percent[4]		
Quality:					
Overall[5]	3	42	50	4	66
Internal quality[6]	4	34	55	4	63
Dimensional quality[7]	4	33	55	6	63
Surface quality[8]	7	37	51	3	64
Properties[9]	3	40	51	4	64
Presentation[10]	8	35	50	6	62
Service:					
Overall[5]	3	32	62	1	80
Delivery reliability	8	44	43	3	79
Pre- and post-sale technical assistance	6	37	48	7	77
Responsiveness to complaints	7	32	55	3	79
Financial terms[11]	18	44	30	6	72

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

[2] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[3] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-10
Stainless and alloy tool steel plates, sheets, and strip: U.S. purchasers' assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses
			Percent[3]		
Quality:					
Overall[4]	1	37	51	8	58
Internal quality[5]	1	43	47	7	55
Dimensional quality[6]	3	35	46	14	56
Surface quality[7]	3	44	42	8	56
Properties[8]	1	51	33	12	56
Presentation[9]	3	39	39	16	53
Service:					
Overall[4]	2	36	50	10	69
Delivery reliability	7	40	41	10	67
Pre- and post-sale technical assistance	5	35	41	16	67
Responsiveness to complaints	8	34	46	10	67
Financial terms[10]	12	43	34	9	64

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Percent of total number of responses.

[4] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[5] Includes chemistry, microstructure, grain size, and inclusions.

[6] Includes shape, size, length, straightness, and flatness.

[7] Includes seams, smoothness, and shearing.

[8] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[9] Includes packaging and marking.

[10] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-11
Stainless and alloy tool steel bars, rods, and shapes: U.S. purchasers' assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses
			Percent[3]		
Quality:					
Overall[4]	2	34	52	11	44
Internal quality[5]	2	36	48	12	41
Dimensional quality[6]	2	31	53	12	41
Surface quality[7]	2	42	40	15	40
Properties[8]	0	48	38	12	39
Presentation[9]	2	44	42	10	38
Service:					
Overall[4]	5	33	49	11	53
Delivery reliability	7	45	37	9	51
Pre- and post-sale technical assistance	2	38	44	16	50
Responsiveness to complaints	7	27	58	5	51
Financial terms[10]	8	41	34	15	46

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Percent of total number of responses.

[4] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[5] Includes chemistry, microstructure, grain size, and inclusions.

[6] Includes shape, size, length, straightness, and flatness.

[7] Includes seams, smoothness, and shearing.

[8] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[9] Includes packaging and marking.

[10] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-12
Stainless and alloy tool steel pipes and tubes: U.S. purchasers' assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses
			Percent[3]		
Quality:					
Overall[4]	0	35	45	19	31
Internal quality[5]	0	31	51	17	29
Dimensional quality[6]	3	31	48	17	29
Surface quality[7]	0	31	44	24	29
Properties[8]	0	44	33	22	27
Presentation[9]	3	37	44	14	27
Service:					
Overall[4]	4	35	50	9	42
Delivery reliability	7	41	41	9	41
Pre- and post-sale technical assistance	0	39	43	17	41
Responsiveness to complaints	4	39	43	12	41
Financial terms[10]	11	51	25	11	35

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Percent of total number of responses.

[4] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[5] Includes chemistry, microstructure, grain size, and inclusions.

[6] Includes shape, size, length, straightness, and flatness.

[7] Includes seams, smoothness, and shearing.

[8] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[9] Includes packaging and marking.

[10] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-13
Metal cans and shipping containers: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	0	83	17	0	6
Internal quality[6]	0	50	50	0	6
Dimensional quality[7]	17	67	17	0	6
Surface quality[8]	0	17	83	0	6
Properties[9]	17	67	17	0	6
Presentation[10]	0	83	17	0	6
Service:					
Overall[5]	33	33	33	0	6
Delivery reliability	33	33	33	0	6
Pre- and post-sale technical assistance	0	50	50	0	6
Responsiveness to complaints	0	67	33	0	6
Financial terms[11]	17	50	33	0	6

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-14
Fabricated structural metal products: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	3	38	58	3	40
Internal quality[6]	5	37	58	3	38
Dimensional quality[7]	3	45	45	8	40
Surface quality[8]	5	45	45	5	40
Properties[9]	0	35	57	8	37
Presentation[10]	10	33	54	3	39
Service:					
Overall[5]	12	30	49	9	43
Delivery reliability	14	49	35	2	43
Pre- and post-sale technical assistance	14	29	50	7	42
Responsiveness to complaints	16	37	40	7	43
Financial terms[11]	14	42	35	9	43

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-15
Metal forgings and stampings: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	3	43	46	9	35
Internal quality[6]	3	39	42	15	33
Dimensional quality[7]	6	33	42	19	36
Surface quality[8]	3	53	36	8	36
Properties[9]	3	43	49	6	35
Presentation[10]	3	40	46	11	35
Service:					
Overall[5]	3	53	42	3	36
Delivery reliability	25	36	36	3	36
Pre- and post-sale technical assistance	3	39	56	3	36
Responsiveness to complaints	3	50	39	8	36
Financial terms[11]	14	56	28	3	36

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-16
Nonelectrical machinery and equipment: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
	Percent[4]				
Quality:					
Overall[5]	1	31	58	9	86
Internal quality[6]	5	24	59	13	85
Dimensional quality[7]	1	32	56	10	87
Surface quality[8]	5	33	52	10	86
Properties[9]	0	40	47	13	77
Presentation[10]	1	45	42	12	74
Service:					
Overall[5]	13	28	50	9	86
Delivery reliability	15	42	33	9	85
Pre- and post-sale technical assistance	7	40	41	12	81
Responsiveness to complaints	19	20	49	11	79
Financial terms[11]	19	31	37	13	70

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-17
Appliances: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	0	38	50	13	8
Internal quality[6]	0	17	67	17	6
Dimensional quality[7]	0	0	83	17	6
Surface quality[8]	0	25	50	25	8
Properties[9]	0	25	25	50	8
Presentation[10]	13	13	38	38	8
Service:					
Overall[5]	0	25	63	13	8
Delivery reliability	0	25	63	13	8
Pre- and post-sale technical assistance	0	14	71	14	7
Responsiveness to complaints	0	25	63	13	8
Financial terms[11]	50	0	38	13	8

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-18
Electrical equipment: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	0	58	42	0	19
Internal quality[6]	0	50	50	0	18
Dimensional quality[7]	5	53	42	0	19
Surface quality[8]	5	53	42	0	19
Properties[9]	0	58	42	0	19
Presentation[10]	0	58	42	0	19
Service:					
Overall[5]	0	74	26	0	19
Delivery reliability	0	84	16	0	19
Pre- and post-sale technical assistance	6	94	0	0	18
Responsiveness to complaints	5	89	5	0	19
Financial terms[11]	0	95	5	0	19

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-19
Automobiles: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	1	43	46	10	82
Internal quality[6]	6	38	46	10	82
Dimensional quality[7]	6	40	40	13	82
Surface quality[8]	6	43	40	11	82
Properties[9]	4	41	43	12	82
Presentation[10]	16	24	44	16	80
Service:					
Overall[5]	3	34	53	9	88
Delivery reliability	5	39	52	5	87
Pre- and post-sale technical assistance	4	33	40	24	85
Responsiveness to complaints	7	30	56	8	88
Financial terms[11]	18	47	25	9	85

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-20
Other transportation: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
	Percent[4]				
Quality:					
Overall[5]	3	65	25	8	40
Internal quality[6]	3	50	40	8	40
Dimensional quality[7]	0	41	51	8	37
Surface quality[8]	0	51	38	11	37
Properties[9]	3	58	33	8	40
Presentation[10]	5	46	46	3	37
Service:					
Overall[5]	2	40	50	7	42
Delivery reliability	8	41	44	8	39
Pre- and post-sale technical assistance	0	53	45	3	40
Responsiveness to complaints	0	48	45	7	42
Financial terms[11]	0	56	38	5	39

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-21
Service centers and processors: Assessment[1] of U.S. steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
			Percent[4]		
Quality:					
Overall[5]	4	61	35	0	26
Internal quality[6]	4	61	35	0	26
Dimensional quality[7]	7	50	39	4	26
Surface quality[8]	0	80	20	0	25
Properties[9]	0	80	20	0	25
Presentation[10]	12	54	27	7	26
Service:					
Overall[5]	3	44	49	4	83
Delivery reliability	14	46	33	7	83
Pre- and post-sale technical assistance	6	42	41	11	83
Responsiveness to complaints		40	49	5	83
Financial terms[11]	15	49	22	13	70

[1] Assessments of U.S. performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-22
Purchasers' assessments[1] of overall Japanese steel product quality,[2] by consuming group, 1994

Consuming group	Less than satisfactory	Satis-factory	Good	Excellent	Number of responses
			Percent[3]		
Metal cans and containers	0	33	33	33	3
Fabricated structural metal products	0	11	33	56	9
Metal forgings and stampings	0	33	0	67	3
Nonelectrical machinery and equipment	(4)	(4)	(4)	(4)	(4)
Appliances	(4)	(4)	(4)	(4)	(4)
Electrical equipment	(4)	(4)	(4)	(4)	(4)
Automobiles	0	8	46	46	13
Other transportation	0	0	0	100	3
Service centers and processor	0	25	50	25	4

[1] Assessments of Japanese performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Percent of total number of responses.

[4] Insufficient response (less than 3) provided.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-20

Purchasers' assessments[1] of overall Japanese customer service[2] by selling group

Selling group	Less than satisfactory	Satisfactory	Good	Excellent	Number of responses
			Percent[3]		
Metal cans and containers	0	33	67	0	3
Fabricated structural metal products	22	0	44	33	9
Metal forgings and stampings	0	0	67	33	3
Nonelectrical machinery and equipment	(4)	(4)	(4)	(4)	(4)
Appliances	(4)	(4)	(4)	(4)	(4)
Electrical equipment	(4)	(4)	(4)	(4)	(4)
Automobiles	0	23	46	31	13
Other transportation	0	0	100	0	3
Service centers and processors	0	52	42	6	33

[1] Assessments of Japanese performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Percent of total number of responses.

[4] Insufficient response (less than 3) provided.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-24
Fabricated structural metal products: Assessment[1] of Japanese steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
	Percent[4]				
Quality:					
Overall[5]	0	11	33	56	9
Internal quality[6]	0	22	22	56	9
Dimensional quality[7]	0	11	22	67	9
Surface quality[8]	0	11	33	56	9
Properties[9]	2	20	22	56	9
Presentation[10]	0	11	33	56	9
Service:					
Overall[5]	22	0	44	33	9
Delivery reliability	22	22	33	22	9
Pre- and post-sale technical assistance	22	22	56	0	9
Responsiveness to complaints	22	11	67	0	9
Financial terms[11]	0	22	44	33	9

[1] Assessments of Japan's performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Automobiles: **Assessment**[1] of Japanese steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
	Percent[4]				
Quality:					
Overall[5]	0	8	46	46	13
Internal quality[6]	0	8	23	69	13
Dimensional quality[7]	0	8	38	54	13
Surface quality[8]	0	8	46	46	13
Properties[9]	0	8	46	46	13
Presentation[10]	0	15	46	38	13
Service:					
Overall[5]	0	23	46	31	13
Delivery reliability	0	46	15	38	13
Pre- and post-sale technical assistance	0	46	38	15	13
Responsiveness to complaints	0	23	31	46	13
Financial terms[11]	8	15	46	31	13

[1] Assessments of Japan's performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table F-26
Service centers and processors: Assessment[1] of Japanese steel product quality and customer service,[2] 1994

Element	Less than satis-factory	Satis-factory	Good	Excellent	Number of responses[3]
	Percent[4]				
Quality:					
Overall[5]	0	25	50	25	4
Internal quality[6]	0	75	25	0	4
Dimensional quality[7]	0	25	75	0	4
Surface quality[8]	0	25	75	0	4
Properties[9]	0	75	25	0	4
Presentation[10]	0	75	25	0	4
Service:					
Overall[5]	0	52	42	6	33
Delivery reliability	15	52	21	12	33
Pre- and post-sale technical assistance	22	38	25	16	32
Responsiveness to complaints	12	48	30	9	33
Financial terms[11]	9	38	44	9	32

[1] Assessments of Japan's performance were made by purchasers for companies with whom they conducted business.

[2] The term "satisfactory" was further defined in questionnaires as "periodic problems encountered, but problems are effectively resolved." "Good" was defined as "occasional minor problems encountered." "Excellent" was defined as "virtually no problems encountered."

[3] Respondents were requested to provide evaluations on up to six product groups; the request to provide multiple responses explains why the number of responses may exceed the number of respondents.

[4] Percent of total number of responses.

[5] Reflects an overall assessment of quality/customer service on the basis of the relative importance of each of the listed elements.

[6] Includes chemistry, microstructure, grain size, and inclusions.

[7] Includes shape, size, length, straightness, and flatness.

[8] Includes seams, smoothness, and shearing.

[9] Includes tensile strength, ductility, hardness, wear and corrosion resistance, and weldability.

[10] Includes packaging and marking.

[11] Includes credit terms, credit availability, and relative interest rates.

Note.—Totals may not add to 100 percent because of rounding.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

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APPENDIX G

Statistical Tables on U.S. Shipments (of) and U.S. Trade in Steel Mill Products and Certain Fabricated Steel Products, 1991-93, January-June 1993, and January-June 1994

Table G-1
Steel mill products:[1] U.S. producers' net open market shipments, by products and grades of steel, 1991-1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1991	1992	1993	Jan.-June— 1993	Jan.-June— 1994
All grades of steel:					
Semifinished	2,548,961	2,292,847	2,481,939	1,199,211	1,253,866
Plate	4,271,412	4,361,596	4,769,891	2,719,923	2,528,058
Sheet and strip	43,300,206	46,456,874	50,275,252	24,787,926	26,816,538
Bars & certain shapes[2]	12,840,512	13,435,487	14,305,414	7,415,249	7,757,367
Wire rod	4,365,595	4,486,926	4,875,336	2,409,241	2,372,710
Wire	865,092	880,710	792,182	437,799	395,601
Wire products	(3)	(3)	(3)	(3)	(3)
Structural shapes & units	5,675,786	5,716,306	5,808,514	2,863,985	2,941,886
Rails & related products	486,185	525,582	645,893	348,213	332,072
Pipe and tube	4,488,014	4,197,881	4,445,436	2,301,202	2,495,625
Total	78,841,763	82,354,209	88,399,857	44,482,749	46,893,723
Carbon & certain alloy[4] steel:					
Semifinished	2,469,217	2,226,029	2,436,843	1,163,095	1,241,557
Plate	4,174,312	4,266,415	4,664,022	2,655,440	2,468,678
Sheet and strip	42,254,291	45,325,716	49,104,314	24,191,008	26,168,713
Bars & certain shapes	12,654,917	13,236,284	14,100,686	7,312,037	7,640,213
Wire rod	4,331,673	4,457,404	4,850,148	2,395,219	2,355,996
Wire	841,602	856,252	767,983	423,937	381,553
Wire products	(3)	(3)	(3)	(3)	(3)
Structural shapes & units	5,675,786	5,716,306	5,808,514	2,863,985	2,941,886
Rails & related products	486,185	525,582	645,893	348,213	332,072
Pipe and tube	4,453,781	4,166,362	4,420,107	2,286,231	2,482,427
Total	77,341,764	80,776,350	86,798,510	43,639,165	46,013,095
Stainless & alloy tool steel:					
Stainless steel:					
Semifinished	79,744	66,818	45,096	36,116	12,309
Plate	97,100	95,181	105,869	64,483	59,380
Sheet and strip	1,045,915	1,131,158	1,170,938	596,918	647,825
Bars & certain shapes	134,405	135,293	137,184	71,076	83,516
Wire rod	33,922	29,522	25,188	14,022	16,714
Wire	23,490	24,458	24,199	13,862	14,048
Pipe and tube	34,233	31,519	25,329	14,971	13,198
Tool steel (all forms)	51,190	63,910	67,544	32,136	33,638
Total stainless and tool	1,499,999	1,577,859	1,601,347	843,584	880,628

[1] Shipment data compiled by AISI exclude certain fabricated products (wire strand, wire ropes, cables, cordage, and fabricated structural units).

[2] Includes tool steel.

[3] Not applicable. Shipment and apparent consumption data for wire and wire products have been combined and reported in the category designated "wire."

[4] "Certain alloy" refers to alloy steel other than stainless or tool steel.

Source: Compiled from data of the American Iron & Steel Institute (AISI).

Table G-2
Steel mill products and certain fabricated steel products: U.S. imports, by products and grades of steel, 1991-1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1991	1992	1993	Jan.-June— 1993	Jan.-June— 1994
All grades of steel:					
Semifinished	2,045,572	2,344,321	4,972,667	1,662,677	3,695,871
Plate	792,605	893,403	731,274	328,624	588,663
Sheet and strip	7,107,749	8,793,326	7,568,536	3,385,892	5,534,371
Bars & certain shapes[1]	1,041,496	1,152,617	1,514,351	647,006	885,484
Wire rod	846,923	1,146,420	1,397,196	548,715	898,034
Wire	391,804	430,981	528,192	256,824	300,345
Wire products	511,839	586,916	614,823	311,356	326,368
Structural shapes & units	604,361	589,613	742,074	377,822	498,172
Rails & related products	303,596	299,418	268,764	136,466	218,636
Pipe and tube	2,735,372	1,543,490	2,056,092	954,438	1,285,343
Total	16,381,316	17,780,504	20,393,968	8,609,820	14,231,288
Carbon & certain alloy[2] steel:					
Semifinished	1,996,610	2,307,144	4,859,205	1,617,141	3,602,368
Plate	779,002	878,172	712,211	320,226	578,129
Sheet and strip	6,930,919	8,567,140	7,208,481	3,211,973	5,312,960
Bars & certain shapes	943,845	1,057,195	1,393,135	590,509	812,353
Wire rod	821,026	1,106,805	1,356,489	526,203	874,312
Wire	374,750	411,892	506,223	245,234	286,883
Wire products	511,839	586,916	614,823	311,356	326,368
Structural shapes & units	604,361	589,613	742,074	377,822	498,172
Rails & related products	303,596	299,418	268,764	136,466	218,636
Pipe and tube	2,687,154	1,500,877	2,012,557	933,547	1,261,592
Total	15,953,102	17,305,171	19,673,962	8,270,478	13,771,772
Stainless & alloy tool steel:					
Stainless steel:					
Semifinished	48,962	37,177	113,462	45,536	93,503
Plate	13,602	15,231	19,063	8,399	10,535
Sheet and strip	176,830	226,186	360,054	173,919	221,412
Bars & certain shapes	52,493	57,499	70,067	34,692	41,015
Wire rod	25,897	39,616	40,707	22,512	23,723
Wire	17,054	19,089	21,969	11,590	13,463
Pipe and tube	48,218	42,612	43,535	20,891	23,751
Tool steel (all forms)	45,158	37,923	51,150	21,805	32,116
Total stainless and tool	428,214	475,333	720,007	339,343	459,516

[1] Includes tool steel.
[2] "Certain alloy" refers to alloy steel other than stainless or tool steel.

Note.—Imports of steel mill products only (excluding fabricated steel products): 15,748,077 short tons, 1991; 17,062,421 short tons, 1992; 19,580,163 short tons, 1993.

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

Table G-3

Steel mill products and certain fabricated steel products: U.S. exports of domestic merchandise, by products and grades of steel, 1991-1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1991	1992	1993	Jan.-June— 1993	Jan.-June— 1994
All grades of steel:					
Semifinished	699,080	422,911	537,030	314,198	86,584
Plate	245,035	172,083	173,292	110,479	58,955
Sheet and strip	3,355,880	1,996,522	1,526,290	975,622	741,859
Bars & certain shapes[1]	585,849	536,713	644,677	317,148	274,979
Wire rod	166,455	70,846	62,310	51,295	14,065
Wire	89,415	90,138	90,361	45,520	50,382
Wire products	51,552	56,573	71,370	34,277	37,018
Structural shapes & units	657,019	446,412	498,413	242,006	253,208
Rails & related products	108,056	74,208	115,447	61,933	63,203
Pipe and tube	753,109	679,283	568,414	299,939	464,893
Total	6,711,450	4,545,690	4,287,605	2,452,418	2,045,146
Carbon & certain alloy[2] steel:					
Semifinished	679,017	417,424	529,560	308,936	83,067
Plate	235,842	165,485	166,481	103,977	55,285
Sheet and strip	3,257,888	1,918,453	1,465,044	939,444	713,415
Bars & certain shapes	560,268	510,804	626,675	307,856	266,138
Wire rod	162,231	68,590	59,749	49,823	12,572
Wire	86,775	87,957	87,811	44,343	49,132
Wire products	51,552	56,573	71,370	34,277	37,018
Structural shapes & units	657,019	446,412	498,413	242,006	253,208
Rails & related products	108,056	74,208	115,447	61,933	63,203
Pipe and tube	738,176	664,582	554,303	292,283	455,488
Total	6,536,824	4,410,489	4,174,853	2,384,878	1,988,525
Stainless & alloy tool steel:					
Stainless steel:					
Semifinished	20,063	5,487	7,470	5,262	3,518
Plate	9,193	6,598	6,811	6,502	3,670
Sheet and strip	97,991	78,069	61,246	36,178	28,444
Bars & certain shapes	16,989	19,935	11,457	6,198	5,914
Wire rod	4,224	2,256	2,561	1,472	1,493
Wire	2,640	2,181	2,550	1,178	1,250
Pipe and tube	14,934	14,701	14,111	7,656	9,404
Tool steel (all forms)	8,592	5,974	6,545	3,095	2,927
Total stainless and tool	174,626	135,201	112,752	67,540	56,621

[1] Includes tool steel.

[2] "Certain alloy" refers to alloy steel other than stainless or tool steel.

Note.—Exports of steel mill products only (excluding fabricated steel products): 6,392,652 short tons, 1991; 4,304,215 short tons, 1992; 4,013,632 short tons, 1993.

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

Table G-4
Steel mill products and certain fabricated steel products: Apparent U.S. open market consumption, by products and grades of steel, 1991-1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1991	1992	1993	Jan.-June— 1993	Jan.-June— 1994
All grades of steel:					
Semifinished	3,895,453	4,214,257	6,917,576	2,547,690	4,863,153
Plate	4,818,982	5,082,916	5,327,873	2,938,068	3,057,766
Sheet and strip	47,052,075	53,253,678	56,317,498	27,198,196	31,609,050
Bars & certain shapes[1]	13,296,159	14,051,391	15,175,088	7,745,107	8,367,872
Wire rod	5,046,063	5,562,500	6,210,222	2,906,661	3,256,679
Wire	1,627,768	1,751,896	1,773,466	926,182	934,914
Wire products	(2)	(2)	(2)	(2)	(2)
Structural shapes & units	5,623,128	5,859,507	6,052,175	2,999,801	3,186,850
Rails & related products	681,725	750,792	799,210	422,746	487,505
Pipe and tube	6,470,277	5,062,088	5,933,114	2,955,701	3,316,075
Total	88,511,630	95,589,025	104,506,222	50,640,152	59,079,864
Carbon & certain alloy[3] steel:					
Semifinished	3,786,810	4,115,749	6,766,488	2,471,300	4,760,858
Plate	4,717,472	4,979,102	5,209,752	2,871,689	2,991,522
Sheet and strip	45,927,322	51,974,403	54,847,751	26,463,537	30,768,258
Bars & certain shapes	13,038,494	13,782,675	14,867,146	7,594,690	8,186,428
Wire rod	4,990,468	5,495,619	6,146,888	2,871,599	3,217,736
Wire	1,589,864	1,710,530	1,729,848	901,907	908,654
Wire products	(2)	(2)	(2)	(2)	(2)
Structural shapes & units	5,623,128	5,859,507	6,052,175	2,999,801	3,186,850
Rails & related products	681,725	750,792	799,210	422,746	487,505
Pipe and tube	6,402,759	5,002,657	5,878,361	2,927,495	3,288,531
Total	86,758,042	93,671,034	102,297,619	49,524,764	57,796,342
Stainless & alloy tool steel:					
Stainless steel:					
Semifinished	108,643	98,508	151,088	76,390	102,294
Plate	101,509	103,814	118,121	66,380	66,245
Sheet and strip	1,124,754	1,279,275	1,469,746	734,659	840,793
Bars & certain shapes	169,909	172,857	195,794	99,570	118,617
Wire rod	55,595	66,882	63,334	35,062	38,944
Wire	37,904	41,366	43,618	24,274	26,261
Pipe and tube	67,517	59,430	54,753	28,206	27,545
Tool steel (all forms)	87,756	95,859	112,149	50,846	62,827
Total stainless and tool	1,753,587	1,917,991	2,208,603	1,115,387	1,283,526

[1] Includes tool steel.

[2] Not applicable. Shipment and apparent consumption data for wire and wire products have been combined and reported in the category designated "wire."

[3] "Certain alloy" refers to alloy steel other than stainless or tool steel.

Note.—Apparent consumption of steel mill products only (excluding fabricated steel products): 88,201,112 short tons, 1991; 95,112,415 short tons, 1992; 104,347,921 short tons, 1993.

Source: Compiled from data of the American Iron & Steel Institute and from official statistics of the U.S. Department of Commerce.

Table G-5

Steel mill products and certain fabricated steel products: U.S. imports as a percent of apparent net open market consumption, by products and grades of steel, 1991-1993, Jan.-June 1993, and Jan.-June 1994

(Percent)

Item	1991	1992	1993	Jan.-June— 1993	Jan.-June— 1994
All grades of steel:					
Semifinished	52.5	55.6	71.9	65.3	76.0
Plate	16.4	17.6	13.7	11.2	19.3
Sheet and strip	15.1	16.5	13.4	12.4	17.5
Bars & certain shapes[1]	7.8	8.2	10.0	8.4	10.6
Wire rod	16.8	20.6	22.5	18.9	27.6
Wire	55.5	58.1	64.5	61.3	67.0
Wire products	(2)	(2)	(2)	(2)	(2)
Structural shapes & units	10.7	10.1	12.3	12.6	15.6
Rails & related products	44.5	39.9	33.6	32.3	44.8
Pipe and tube	42.3	30.5	34.7	32.3	38.8
Total	18.5	18.6	19.5	17.0	24.1
Carbon & certain alloy[3] steel:					
Semifinished	52.7	56.1	71.8	65.4	75.7
Plate	16.5	17.6	13.7	11.2	19.3
Sheet and strip	15.1	16.5	13.1	12.1	17.3
Bars & certain shapes	7.2	7.7	9.4	7.8	9.9
Wire rod	16.5	20.1	22.1	18.3	27.2
Wire	55.8	58.4	64.8	61.7	67.5
Wire products	(2)	(2)	(2)	(2)	(2)
Structural shapes & units	10.7	10.1	12.3	12.6	15.6
Rails & related products	44.5	39.9	33.6	32.3	44.8
Pipe and tube	42.0	30.0	34.2	31.9	38.4
Total	18.4	18.5	19.2	16.7	23.8
Stainless & alloy tool steel:					
Stainless steel:					
Semifinished	45.1	37.7	75.1	59.6	91.4
Plate	13.4	14.7	16.1	12.7	15.9
Sheet and strip	15.7	17.7	24.5	23.7	26.3
Bars & certain shapes	30.9	33.3	35.8	34.8	34.6
Wire rod	46.6	59.2	64.3	64.2	60.9
Wire	45.0	46.1	50.4	47.7	51.3
Pipe and tube	71.4	71.7	79.5	74.1	86.2
Tool steel (all forms)	51.5	39.6	45.6	42.9	51.1
Total stainless and tool	24.4	24.8	32.6	30.4	35.8

[1] Includes tool steel.

[2] Not applicable. Shipment and apparent consumption data for wire and wire products have been combined and reported in the category designated "wire."

[3] "Certain alloy" refers to alloy steel other than stainless or tool steel.

Note.—U.S. imports as a percent of apparent consumption of steel mill products only (excluding fabricated steel products): 17.9 percent, 1991; 17.9 percent, 1992; 19.1 percent, 1993.

Source: Compiled from data of the American Iron & Steel Institute and from official statistics of the U.S. Department of Commerce.

Table G-6
Steel mill products and certain fabricated steel products: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	4,493,860	5,093,245	2,700,986	2,483,056
Germany	1,383,401	1,920,246	566,737	1,117,478
Japan	2,716,559	1,852,809	943,685	1,586,425
Brazil	1,565,028	1,449,134	473,521	934,922
Korea	1,759,996	1,181,779	573,373	845,859
France	962,084	1,166,881	368,150	755,581
Italy	267,509	1,072,949	260,851	558,456
Mexico	456,236	893,621	392,769	797,281
Netherlands	563,949	742,267	264,177	678,935
Belgium	397,624	726,661	222,924	560,804
United Kingdom	619,573	707,917	290,930	555,773
Australia	369,910	439,439	212,597	231,741
Republic of South Africa	254,958	406,554	199,316	197,040
Sweden	343,420	279,663	171,507	167,651
Spain	212,128	275,161	109,323	274,637
All others	1,414,271	2,185,643	858,977	2,485,647
Total	17,780,504	20,393,968	8,609,820	14,231,288
East Asia	4,680,736	3,296,709	1,604,830	2,705,418
EU-12	4,627,807	6,930,701	2,234,794	4,716,509
Central/Eastern Europe	110,322	194,592	58,806	315,898
LAIA[1]	2,215,447	2,654,271	1,002,234	1,934,977
U.S. exports:				
Canada	1,481,796	1,762,054	862,927	995,471
Mexico	1,464,634	1,024,569	547,542	454,514
Taiwan	53,324	261,974	205,579	12,732
Ecuador	71,428	112,504	47,827	17,068
Japan	134,455	105,597	45,566	13,508
China	97,331	101,681	80,546	23,647
Hong Kong	61,192	68,246	48,056	18,792
Colombia	66,597	48,779	23,868	9,324
United Kingdom	66,152	44,954	19,754	22,066
Thailand	81,927	43,777	16,718	97,105
All others	966,854	713,469	360,376	380,919
Total	4,545,690	4,287,605	2,258,759	2,045,146
East Asia	643,201	683,868	437,732	227,152
EU-12	201,201	149,667	78,560	66,016
Central/Eastern Europe	3,672	4,439	2,633	6,444
LAIA[1]	1,735,554	1,294,449	664,500	543,943

[1] Latin American Integration Association.

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

Carbon and certain alloy[1] semifinished steel: U.S. imports for consumption, U.S. exports, by countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Brazil	967,561	1,083,108	338,852	539,552
Germany	282,030	654,325	207,446	332,155
Italy	6	646,301	96,626	234,755
France	39,083	537,021	141,836	285,814
Mexico	124,381	449,445	224,698	566,546
Belgium	97,312	349,205	98,492	152,707
Australia	149,901	314,715	150,006	187,451
Canada	177,583	220,378	134,855	128,703
Netherlands	69,044	181,419	57,609	333,499
United Kingdom	223,297	154,636	72,756	163,189
Sweden	76,174	76,814	59,862	8,342
Russia	0	59,495	0	104,598
Venezuela	44,130	44,372	16,447	5,280
Japan	21	27,974	52	395,292
Finland	31,939	23,832	16,377	29,870
All others	24,682	36,166	1,227	134,617
Total	2,307,144	4,859,205	1,617,141	3,602,368
East Asia	21,688	28,015	53	395,321
EU-12	710,791	2,545,334	674,775	1,502,118
Central/Eastern Europe	0	1,165	1,165	22,251
LAIA[2]	1,136,072	1,576,925	579,997	1,111,377
U.S. exports:				
Taiwan	23,917	165,432	133,250	461
Ecuador	58,739	101,016	40,905	11,172
Mexico	169,090	91,049	51,125	17,822
Canada	30,603	66,264	32,780	25,735
Japan	6,606	33,035	334	600
China	105	21,980	21,961	1,814
Panama	3,898	8,028	5,304	2,140
Philippines	149	7,922	7,658	47
Dominican Republic	3,722	7,031	4	11,682
Thailand	76	4,465	82	116
All others	120,520	23,339	10,166	11,477
Total	417,424	529,560	303,568	83,067
East Asia	75,978	234,236	163,723	3,681
EU-12	23,087	8,350	5,152	3,627
Central/Eastern Europe	14	0	0	0
LAIA[2]	252,335	194,739	92,656	29,942

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-8
Carbon and certain alloy[1] steel plate:[2] U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Ukraine	13,835	116,752	29,783	103,209
Republic of South Africa	79,295	102,752	57,555	55,320
India	18,124	97,460	47,549	44,980
Canada	202,904	83,566	44,777	39,308
Belgium	62,666	62,468	33,935	41,830
Sweden	113,894	36,958	21,223	41,006
Russia	0	31,515	7,603	77,594
The Czech Republic	0	26,711	9,220	28,181
Macedonia	18,115	26,061	8,792	6,357
Germany	31,478	23,520	9,758	10,968
Finland	47,579	23,200	14,555	14,348
Japan	10,656	15,231	8,940	16,590
France	14,696	13,028	4,676	22,174
Brazil	50,508	12,588	5,669	4,550
Denmark	3,217	11,498	3,844	4,377
All others	211,205	28,902	12,347	67,337
Total	878,172	712,211	320,226	578,129
East Asia	20,243	31,060	12,496	42,344
EU-12	193,350	115,694	55,344	98,778
Central/Eastern Europe	47,924	30,591	10,939	37,403
LAIA[3]	110,505	13,087	6,167	6,236
U.S. exports:				
Canada	54,275	61,349	38,253	25,040
Mexico	66,617	49,692	19,599	27,783
Japan	6,119	19,651	6,055	25
Taiwan	4,595	18,128	17,960	387
Korea	17,716	12,091	825	183
Turkey	115	628	390	103
Chile	242	497	262	319
Venezuela	10,885	403	12	20
Surinam	295	353	353	0
Guyana	354	351	351	9
All others	4,272	3,339	1,666	1,415
Total	165,485	166,481	85,725	55,285
East Asia	30,245	50,172	25,047	803
EU-12	263	458	218	48
Central/Eastern Europe	0	0	0	0
LAIA[3]	77,947	51,055	20,125	28,244

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Excluding coiled plate. See appendix A for details.
[3] Latin American Integration Association.

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

Table G-9

Certain and certain alloy[1] steel sheet and strip:[2] U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June 1993	Jan.-June 1994
U.S. imports for consumption:				
Canada	1,933,969	2,159,802	1,200,361	947,616
Japan	1,796,481	816,681	429,985	582,154
Germany	777,922	768,143	248,047	472,730
Korea	1,239,400	586,675	285,176	468,862
Netherlands	478,970	504,213	190,058	314,756
France	657,044	276,636	79,156	279,833
Italy	202,651	258,294	98,076	198,073
Republic of South Africa	130,982	219,125	110,536	92,495
Mexico	113,764	179,271	54,912	83,110
Belgium	143,226	168,243	26,916	218,033
Finland	94,010	138,453	61,683	73,646
United Kingdom	61,851	124,489	50,208	98,572
Australia	197,748	89,246	43,512	31,483
Russia	3,333	84,375	28,446	310,737
Brazil	313,010	80,779	16,096	266,411
All others	422,778	754,057	288,805	874,449
Total	8,567,140	7,208,481	3,211,973	5,312,960
East Asia	3,073,699	1,496,615	733,042	1,201,050
EU-12	2,429,159	2,334,209	784,507	1,849,129
Central/Eastern Europe	38,611	130,726	35,341	156,860
LAIA[3]	471,219	379,300	126,046	423,040
U.S. exports:				
Canada	650,698	706,579	353,776	402,054
Mexico	751,139	463,473	263,804	190,542
Japan	110,320	44,023	34,143	7,510
Taiwan	7,140	36,962	33,800	2,761
Italy	43,279	31,508	16,351	18,850
Hong Kong	40,091	29,505	17,579	16,335
India	17,332	21,331	9,636	12,404
Brazil	18,923	18,510	8,672	2,911
Pakistan	20,571	18,297	9,197	13,312
Argentina	14,349	9,388	5,246	1,417
All others	244,611	85,468	43,486	45,318
Total	1,918,453	1,465,044	795,691	713,415
East Asia	284,435	133,061	95,291	34,979
EU-12	62,669	49,387	27,293	24,802
Central/Eastern Europe	344	332	19	3,558
LAIA[3]	809,943	507,442	286,755	203,204

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

[2] Including coiled plate. See appendix A for details.

[3] Latin American Integration Association.

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

Table G-10
Carbon and certain alloy[1] steel bars and light shapes: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	512,747	732,079	361,257	419,298
United Kingdom	139,106	182,128	61,841	70,048
Brazil	55,550	85,535	16,536	67,560
Japan	86,218	75,714	34,772	28,738
France	60,035	60,077	21,518	29,443
Turkey	60,002	56,078	26,553	66,196
Germany	52,893	44,888	10,319	28,824
Mexico	7,254	26,103	6,675	20,277
Netherlands	3,010	22,106	5,434	6,220
Australia	3,802	18,315	9,596	7,151
India	10,687	13,928	8,335	5,941
Spain	9,598	12,823	5,049	12,523
Trinidad and Tobago	11,461	10,720	5,491	6,816
Sweden	5,472	9,982	4,015	4,939
Argentina	375	7,716	811	7,144
All others	38,987	34,942	12,307	31,235
Total	1,057,195	1,393,135	590,509	812,353
East Asia	99,060	83,312	39,305	42,461
EU-12	270,071	327,518	106,811	157,250
Central/Eastern Europe	344	3,585	21	1,388
LAIA[2]	80,836	126,197	27,405	97,803
U.S. exports:				
Canada	195,480	293,536	134,398	170,586
Mexico	158,183	127,117	66,727	65,293
China	11,220	44,844	44,714	18
Taiwan	7,879	34,464	16,891	2,132
Hong Kong	436	26,794	24,413	61
Thailand	24,259	22,526	11,424	53
Guatemala	16,113	9,081	7,845	1,226
Malaysia	7,324	8,134	3,492	2,287
United Arab Emirates	17	5,987	5,985	114
Korea	27,197	5,398	971	2,594
All others	62,695	48,795	27,161	21,775
Total	510,804	626,675	344,022	266,138
East Asia	79,835	143,972	102,972	12,304
EU-12	6,988	11,574	7,655	2,348
Central/Eastern Europe	61	552	2	264
LAIA[2]	178,583	134,521	71,223	69,188

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-11
Carbon and certain alloy[1] steel wire rod: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June 1993	Jan.-June 1994
U.S. imports for consumption:				
Canada	505,521	488,006	254,049	184,829
Japan	229,977	234,623	120,791	95,004
Germany	30,813	188,480	8,177	113,585
France	53,781	135,012	44,812	53,975
Trinidad and Tobago	80,986	93,648	51,333	77,539
Brazil	90,035	46,845	21,860	8,892
Belgium	1,357	41,277	11,194	58,900
United Kingdom	6,310	39,983	455	72,823
Turkey	52,693	21,459	55	39,479
Netherlands	613	17,177	3,979	4,792
Australia	11,128	9,891	4,438	2,207
Italy	1,226	8,056	1,227	19,277
Spain	2,578	7,628	585	17,699
Switzerland	50	7,348	0	197
The Czech Republic	0	4,924	0	19,383
All others	39,736	12,129	3,249	105,731
Total	1,106,805	1,356,489	526,203	874,312
East Asia	230,639	235,308	121,143	95,435
EU-12	115,422	439,255	72,069	341,051
Central/Eastern Europe	0	7,323	0	37,279
LAIA[2]	104,989	51,786	21,860	58,643
U.S. exports:				
Mexico	35,768	29,943	22,701	4,149
Canada	23,842	23,091	10,451	6,220
China	6	3,345	3,345	0
Guyana	0	810	145	239
Venezuela	1,270	739	326	955
Korea	94	460	408	39
Costa Rica	22	389	47	26
Peru	0	105	0	3
Argentina	381	82	63	144
Germany	11	74	50	12
All others	7,196	711	409	785
Total	68,590	59,749	37,945	12,572
East Asia	6,068	3,923	3,794	96
EU-12	214	239	173	78
Central/Eastern Europe	0	0	0	0
LAIA[2]	37,543	30,947	23,102	5,526

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-12
Carbon and certain alloy[1] steel wire: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	182,612	226,810	117,170	123,610
Japan	64,382	68,223	34,899	43,372
Belgium	36,734	43,482	20,234	22,218
France	28,062	30,787	15,366	18,253
United Kingdom	16,648	19,676	9,114	10,006
Brazil	9,962	13,760	6,080	7,961
Germany	11,905	10,897	5,151	5,334
Taiwan	11,835	10,890	5,421	8,733
Sweden	7,119	10,278	4,534	5,161
China	7,397	9,719	3,830	7,935
Turkey	20	8,607	0	0
Korea	3,525	7,680	3,742	4,145
Venezuela	6,645	7,607	3,069	4,321
India	5,300	5,584	3,651	2,088
Argentina	1,909	5,323	1,643	3,381
All others	17,838	26,901	11,330	20,365
Total	411,892	506,223	245,234	286,883
East Asia	87,910	98,041	48,390	64,802
EU-12	97,861	112,889	53,467	62,438
Central/Eastern Europe	223	385	194	564
LAIA[2]	21,997	30,690	12,896	18,512
U.S. exports:				
Canada	39,994	47,416	23,500	26,607
Mexico	25,919	26,893	14,095	17,127
Brazil	687	1,951	808	388
Philippines	229	1,032	589	226
Venezuela	331	990	923	31
Germany	867	835	603	308
United Kingdom	696	830	493	304
Costa Rica	594	721	418	408
Panama	94	642	353	56
Korea	114	605	175	202
All others	18,434	5,897	2,569	3,476
Total	87,957	87,811	44,524	49,132
East Asia	11,768	2,358	1,230	989
EU-12	2,391	2,363	1,410	1,107
Central/Eastern Europe	682	253	26	124
LAIA[2]	27,363	30,823	16,259	17,805

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-13
Carbon and certain alloy[1] steel wire products: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June 1993	Jan.-June 1994
U.S. imports for consumption:				
Korea	164,631	176,287	89,866	88,750
Canada	102,061	109,392	56,106	62,720
Japan	48,096	49,847	26,932	22,429
China	47,279	37,821	15,834	24,989
Spain	25,263	26,468	14,376	16,013
Mexico	27,825	23,660	13,075	14,507
Indonesia	26,684	20,670	9,246	8,634
Brazil	13,258	17,146	9,564	6,783
Italy	13,303	16,014	8,557	7,211
Taiwan	14,592	15,348	7,797	9,866
Belgium	12,905	14,531	8,462	4,609
Turkey	9,703	10,771	5,077	3,451
France	11,076	9,940	5,061	5,247
United Arab Emirates	6,659	8,622	3,599	5,635
Germany	7,899	7,069	3,291	3,785
All others	55,684	71,236	34,513	41,741
Total	586,916	614,823	311,356	326,368
East Asia	305,438	307,181	153,123	158,683
EU-12	79,239	82,825	44,634	41,938
Central/Eastern Europe	8,506	8,271	4,637	9,008
LAIA[2]	53,852	58,921	30,119	30,937
U.S. exports:				
Canada	28,376	36,253	17,230	22,477
Mexico	6,584	13,316	5,931	5,906
Panama	1,664	3,286	1,695	1,378
Russia	795	1,397	302	0
Dominican Republic	988	1,128	665	488
Australia	512	1,111	187	145
Bahamas	1,061	1,040	565	256
United Arab Emirates	85	798	792	40
Chile	935	792	434	170
Germany	725	566	244	223
All others	14,849	11,682	5,624	5,935
Total	56,573	71,370	33,668	37,018
East Asia	4,401	2,574	1,088	1,297
EU-12	2,086	1,918	985	787
Central/Eastern Europe	22	13	12	0
LAIA[2]	9,644	15,727	7,309	7,050

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-14
Carbon and certain alloy[1] steel structural shapes and units: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	233,622	275,218	137,661	158,751
United Kingdom	69,872	111,853	60,173	66,884
Luxembourg	101,856	102,884	58,245	61,562
Spain	19,445	52,765	21,691	24,051
Mexico	8,936	35,576	11,617	23,938
Japan	44,362	34,147	22,431	16,568
Germany	26,210	33,725	15,826	30,112
Belgium	32,745	26,837	16,106	51,672
Brazil	5,735	17,377	1,931	9,390
France	16,000	12,015	9,979	12,388
Russia	0	12,009	7,030	22,522
Republic of South Africa	15,266	7,143	5,603	63
Poland	3,231	6,929	4,178	8,807
Norway	105	2,581	111	3,714
Venezuela	152	1,681	577	227
All others	12,076	9,334	4,662	7,521
Total	589,613	742,074	377,822	498,172
East Asia	49,265	37,496	23,934	18,459
EU-12	267,931	342,570	183,400	249,329
Central/Eastern Europe	3,231	7,064	4,235	8,848
LAIA[2]	14,937	54,639	14,126	33,558
U.S. exports:				
Canada	139,901	160,709	71,843	95,073
Mexico	133,102	113,828	56,600	64,099
China	75	22,304	5,923	1,422
Guatemala	3,171	16,229	7,326	1,474
Venezuela	13,780	16,172	3,348	12,573
United Kingdom	27,140	14,839	6,201	5,620
Philippines	6,310	14,207	5,524	20,146
Trinidad and Tobago	1,174	13,384	9,007	1,185
Panama	7,313	10,083	5,570	3,449
Thailand	19,990	7,548	455	2,071
All others	94,456	109,110	52,138	46,097
Total	446,412	498,413	223,936	253,208
East Asia	50,577	76,719	24,475	38,024
EU-12	34,839	28,937	12,791	12,349
Central/Eastern Europe	68	52	34	74
LAIA[2]	152,611	151,944	71,649	83,196

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-15

Carbon and certain alloy[1] steel rails and related products: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	133,453	136,602	56,327	40,843
Japan	79,538	93,357	64,419	73,461
Luxembourg	23,979	12,686	6,343	14,233
Germany	7,069	10,589	1,892	10,375
Austria	7,505	3,761	1,204	3,211
Brazil	2,770	3,152	1,397	1
Korea	3,312	1,260	807	784
France	5,336	999	634	3,585
Argentina	173	984	984	0
Australia	1,769	940	371	879
Poland	454	832	400	27,242
United Kingdom	30,948	647	333	8,001
Belgium	321	533	335	107
Republic of South Africa	10	456	125	0
Italy	368	359	200	164
All others	2,414	1,608	697	35,750
Total	299,418	268,764	136,466	218,636
East Asia	83,125	95,065	65,392	74,442
EU-12	68,024	25,841	9,736	36,477
Central/Eastern Europe	455	869	400	27,312
LAIA[2]	3,230	4,371	2,504	259
U.S. exports:				
Canada	32,837	50,768	33,116	34,549
Mexico	29,051	45,965	14,801	20,154
Egypt	3,602	4,378	2,783	1,817
Peru	1,128	2,089	1,230	622
Taiwan	805	1,672	690	27
Australia	412	1,509	677	699
Belize	912	1,297	685	517
Chile	108	956	225	584
Panama	81	706	142	186
Korea	207	648	349	39
All others	5,064	5,457	3,447	4,007
Total	74,208	115,447	58,146	63,203
East Asia	1,506	2,645	1,225	1,779
EU-12	1,152	1,075	793	469
Central/Eastern Europe	8	0	0	0
LAIA[2]	31,731	50,465	16,955	22,326

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

[2] Latin American Integration Association.

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

Table G-16
Carbon and certain alloy[1] steel pipe and tube: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	459,583	576,166	295,008	317,115
Korea	287,013	361,099	170,408	225,384
Japan	263,132	329,051	152,832	255,701
Germany	120,549	121,661	36,268	91,358
Mexico	68,642	111,547	47,630	49,554
Italy	18,917	85,501	33,372	38,360
Argentina	45,992	82,782	40,657	44,402
Brazil	43,673	71,547	47,869	18,109
Republic of South Africa	20,059	44,111	16,430	28,362
France	30,827	40,783	16,832	19,460
Spain	11,398	32,592	11,703	19,172
Thailand	20,466	29,798	11,469	25,565
Turkey	5,950	15,092	2,182	29,353
United Kingdom	23,899	14,119	8,412	10,098
Netherlands	9,055	12,822	5,240	15,109
All others	71,723	83,884	37,235	74,491
Total	1,500,877	2,012,557	933,547	1,261,592
East Asia	581,110	728,032	336,681	520,192
EU-12	227,256	320,504	119,456	193,920
Central/Eastern Europe	10,840	4,155	1,703	14,376
LAIA[2]	162,346	276,122	140,979	114,419
U.S. exports:				
Canada	244,367	269,279	121,300	163,199
Mexico	42,937	47,478	25,266	29,406
Russia	34,342	35,361	23,012	3,778
Colombia	29,614	31,841	14,479	3,801
United Kingdom	13,154	15,521	5,167	8,248
Syria	3,044	14,080	12,653	284
Algeria	22,560	13,650	3,290	16,725
Venezuela	19,119	11,994	3,595	19,980
Trinidad and Tobago	11,457	11,930	4,165	3,258
Italy	9,170	6,037	3,978	1,150
All others	234,818	97,133	54,650	205,659
Total	664,582	554,303	271,556	455,488
East Asia	88,451	18,568	10,601	126,744
EU-12	46,958	30,948	14,015	15,234
Central/Eastern Europe	2,454	3,136	2,440	2,405
LAIA[2]	106,071	106,200	49,368	63,764

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-17
Total, carbon and certain alloy[1] steel products: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	4,444,054	5,008,020	2,657,568	2,422,793
Germany	1,348,768	1,863,298	546,176	1,099,227
Japan	2,622,861	1,744,848	896,053	1,529,309
Brazil	1,552,062	1,431,837	465,854	929,209
Korea	1,739,892	1,150,756	558,241	822,713
France	915,940	1,116,296	339,870	730,172
Italy	247,679	1,023,655	242,676	529,854
Mexico	413,781	828,755	360,302	762,890
Netherlands	563,182	740,411	263,472	677,957
Belgium	389,542	710,257	217,783	550,874
United Kingdom	597,606	654,591	266,570	503,602
Australia	369,906	439,397	212,581	231,593
Republic of South Africa	248,381	380,529	192,165	182,746
Sweden	303,499	228,728	145,639	131,785
Spain	174,899	219,557	75,982	225,931
All others	1,373,117	2,133,027	829,544	2,441,118
Total	17,305,171	19,673,962	8,270,478	13,771,772
East Asia	4,552,176	3,140,127	1,533,560	2,613,189
EU-12	4,459,103	6,646,640	2,104,199	4,532,427
Central/Eastern Europe	110,133	194,134	58,634	315,288
LAIA[2]	2,159,982	2,572,039	962,099	1,894,784
U.S. exports:				
Canada	1,440,372	1,715,244	836,647	971,540
Mexico	1,418,389	1,008,753	540,648	442,280
Taiwan	51,094	259,859	204,265	11,762
Ecuador	71,372	112,383	47,776	17,048
Japan	132,888	102,029	43,694	12,870
China	97,126	100,339	79,568	23,604
Hong Kong	59,549	64,668	46,330	17,478
Colombia	66,067	47,568	23,423	8,961
Thailand	81,640	43,512	16,553	96,989
Italy	55,465	43,154	24,655	20,636
All others	936,526	677,345	335,223	365,357
Total	4,410,489	4,174,853	2,198,782	1,988,525
East Asia	633,263	668,226	429,446	220,698
EU-12	180,649	135,248	70,484	60,850
Central/Eastern Europe	3,653	4,338	2,534	6,426
LAIA[2]	1,683,771	1,273,863	655,400	530,246

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Latin American Integration Association.

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

Table G-18
Stainless semifinished steel: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Canada	19,831	42,837	21,033	29,882
United Kingdom	157	26,935	10,308	37,199
Republic of South Africa	213	17,866	2,628	7,893
Sweden	11,385	16,819	8,233	13,067
Germany	2,783	4,564	1,966	370
Italy	1,840	2,234	777	900
Japan	654	997	554	2,020
Belgium	0	925	0	0
Spain	29	129	0	638
Mexico	107	95	29	0
Korea	0	54	0	0
Finland	0	4	4	0
France	117	2	2	1,416
China	0	1	1	0
Switzerland	0	0	0	0
All others	61	1	0	118
Total	37,177	113,462	45,536	93,503
East Asia	654	1,052	556	2,036
EU-12	4,927	34,788	13,054	40,523
Central/Eastern Europe	0	0	0	0
LAIA[1]	136	95	29	67
U.S. exports:				
Mexico	1,794	1,845	748	1,126
Dominican Republic	9	1,312	1,299	26
Canada	655	803	331	589
Jamaica	55	578	50	22
Korea	43	362	75	800
Japan	392	278	215	47
United Kingdom	275	246	154	115
Singapore	70	244	223	18
Hong Kong	248	214	196	122
China	24	174	66	1
All others	1,922	1,414	876	651
Total	5,487	7,470	4,233	3,518
East Asia	1,092	1,379	818	1,084
EU-12	542	696	347	242
Central/Eastern Europe	0	0	0	0
LAIA[1]	2,140	1,995	837	1,171

[1] Latin American Integration Association.

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

Table G-19
Stainless steel plate:[1] U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June 1993	Jan.-June 1994
U.S. imports for consumption:				
Belgium	3,358	5,863	1,518	2,531
Republic of South Africa	1,959	3,393	1,774	1,837
Germany	2,209	2,172	761	1,290
Japan	2,003	1,313	626	859
Finland	798	1,191	475	1,014
Ukraine	0	945	804	22
Sweden	673	859	576	314
Brazil	89	686	465	2
Canada	135	665	246	293
United Kingdom	2,845	625	461	773
France	679	483	251	175
Spain	212	386	154	947
Korea	0	267	121	339
Austria	259	175	157	63
India	0	19	0	0
All others	13	20	11	75
Total	15,231	19,063	8,399	10,535
East Asia	2,003	1,579	746	1,198
EU-12	9,316	9,538	3,145	5,753
Central/Eastern Europe	0	0	0	0
LAIA[2]	89	686	465	16
U.S. exports:				
Canada	5,307	5,061	2,609	1,928
Portugal	0	764	512	456
Mexico	811	493	206	525
Venezuela	0	126	0	0
Germany	93	50	32	0
Dominican Republic	18	47	0	0
Brazil	0	42	33	17
Australia	22	41	0	55
Trinidad and Tobago	0	38	38	0
Honduras	70	35	26	2
All others	277	114	82	686
Total	6,598	6,811	3,539	3,670
East Asia	174	78	55	558
EU-12	153	838	561	462
Central/Eastern Europe	0	0	0	0
LAIA[2]	813	669	246	559

[1] Excluding coiled plate. See appendix A for details.
[2] Latin American Integration Association.

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

Table G-20
Stainless steel sheet and strip:[1] U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Mexico	41,268	64,095	32,087	33,853
Japan	44,261	58,100	22,705	30,485
Spain	22,978	39,986	25,886	39,457
France	26,263	33,019	18,815	15,546
Germany	14,962	31,453	12,133	8,090
Italy	5,165	26,322	8,631	12,607
Korea	13,523	20,648	10,186	13,747
Canada	14,089	19,050	10,692	16,622
United Kingdom	11,974	17,157	8,563	9,651
Sweden	7,814	14,002	7,991	10,442
Finland	11,749	11,383	5,863	11,172
Belgium	4,167	8,856	3,296	7,013
Brazil	2,091	5,101	1,834	1,324
Republic of South Africa	4,406	4,574	2,624	4,391
India	1,145	4,361	2,156	2,688
All others	332	1,948	458	4,325
Total	226,186	360,054	173,919	221,412
East Asia	57,817	79,301	32,913	45,356
EU-12	85,568	157,297	77,461	92,871
Central/Eastern Europe	0	0	0	0
LAIA[2]	43,359	69,195	33,920	35,239
U.S. exports:				
Canada	22,131	27,750	16,303	14,320
Mexico	35,168	5,017	2,318	5,035
France	3,033	4,234	2,878	694
Hong Kong	918	3,181	1,420	1,152
United Kingdom	1,545	2,862	1,291	1,149
Germany	3,667	2,432	1,112	822
Japan	217	2,227	896	435
Australia	666	2,159	1,510	543
Taiwan	1,568	1,698	1,127	412
Korea	457	1,282	554	797
All others	8,698	8,405	3,918	3,087
Total	78,069	61,246	33,327	28,444
East Asia	4,053	9,548	4,716	3,388
EU-12	10,999	10,124	5,729	2,860
Central/Eastern Europe	9	98	97	0
LAIA[2]	37,446	7,338	3,025	6,044

[1] Including coiled plate. See appendix A for details.
[2] Latin American Integration Association.

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

Table G-21
Stainless steel bars and shapes: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Japan	19,742	20,965	10,218	8,912
Canada	5,762	8,466	3,920	5,327
Spain	5,971	7,773	3,515	4,547
Italy	4,537	7,556	3,425	5,626
Brazil	4,716	5,096	2,781	2,033
France	4,293	4,402	1,909	1,825
India	2,226	4,314	2,951	2,161
Korea	3,343	3,546	2,125	3,337
Sweden	3,379	2,221	1,035	1,779
Germany	1,308	2,045	628	2,424
United Kingdom	1,240	1,574	968	1,160
Slovenia	63	580	463	639
Poland	60	300	85	138
Switzerland	312	287	142	177
Taiwan	150	283	250	101
All others	395	659	278	829
Total	57,499	70,067	34,692	41,015
East Asia	23,275	25,037	12,707	12,518
EU-12	17,396	23,407	10,460	15,666
Central/Eastern Europe	132	300	85	266
LAIA[1]	4,723	5,183	2,783	2,072
U.S. exports:				
Canada	3,340	2,755	1,357	2,003
Mexico	1,695	2,181	1,045	1,360
Saudi Arabia	489	1,324	167	54
Dominican Republic	419	931	630	200
Japan	777	511	504	41
United Kingdom	6,334	509	271	783
Venezuela	1,255	507	340	48
Iceland	0	352	0	228
France	140	327	180	49
Switzerland	168	234	114	117
All others	5,318	1,825	807	1,032
Total	19,935	11,457	5,414	5,914
East Asia	1,835	920	660	342
EU-12	7,268	1,151	617	978
Central/Eastern Europe	1	2	0	17
LAIA[1]	3,227	2,922	1,469	1,462

[1] Latin American Integration Association.

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

Table G-22
Stainless steel wire rod: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Japan	7,356	6,559	3,785	3,259
France	10,475	6,205	3,936	2,968
Sweden	5,191	6,023	3,017	3,288
Taiwan	924	4,681	1,839	3,309
Spain	3,828	4,603	2,588	1,652
Italy	2,890	4,117	1,506	4,327
India	4,305	3,680	3,560	21
Korea	750	2,800	819	3,443
United Kingdom	523	1,131	653	506
Brazil	3,243	788	788	0
Germany	98	112	20	944
Netherlands	21	4	0	0
Mexico	0	1	1	0
Republic of South Africa	0	1	0	0
Austria	0	0	0	0
All others	10	0	0	5
Total	39,616	40,707	22,512	23,723
East Asia	9,030	14,040	6,443	10,011
EU-12	17,836	16,173	8,703	10,397
Central/Eastern Europe	0	0	0	0
LAIA[1]	3,243	789	789	0
U.S. exports:				
Canada	215	969	249	743
Japan	18	306	93	52
Venezuela	191	258	258	0
Germany	20	171	42	124
Mexico	156	143	84	85
Israel	45	100	51	83
United Kingdom	72	71	39	14
China	6	63	63	0
Argentina	65	58	0	1
Surinam	0	52	0	0
All others	1,467	370	175	392
Total	2,256	2,561	1,054	1,493
East Asia	593	519	210	116
EU-12	155	304	131	148
Central/Eastern Europe	0	0	0	1
LAIA[1]	1,076	478	346	88

[1] Latin American Integration Association.

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

Table G-23
Stainless steel wire: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Sweden	3,099	3,121	1,689	2,038
Canada	2,370	2,884	1,513	1,843
Italy	1,271	2,673	1,642	1,258
Japan	2,702	2,595	1,402	1,442
France	1,894	1,489	723	1,126
United Kingdom	1,560	1,446	734	781
Taiwan	2,090	1,420	713	1,113
Korea	905	1,313	515	1,145
India	341	1,124	881	271
Spain	677	1,005	488	766
Belgium	511	621	323	225
Switzerland	467	603	231	404
Thailand	191	600	314	230
Germany	646	495	234	471
Brazil	22	434	89	248
All others	342	146	100	102
Total	19,089	21,969	11,590	13,463
East Asia	5,904	5,945	2,945	3,966
EU-12	6,581	7,731	4,143	4,681
Central/Eastern Europe	0	0	0	0
LAIA[1]	162	455	111	248
U.S. exports:				
Canada	1,029	1,164	574	647
Mexico	356	453	217	257
Germany	74	116	68	27
United Kingdom	96	102	37	17
France	26	88	81	4
Korea	43	61	24	33
Dominican Republic	5	50	19	12
Sweden	17	43	13	30
Chile	2	39	17	1
Panama	1	32	5	1
All others	533	402	198	221
Total	2,181	2,550	1,254	1,250
East Asia	140	156	79	114
EU-12	285	349	203	75
Central/Eastern Europe	4	1	1	0
LAIA[1]	454	571	292	284

[1] Latin American Integration Association.

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

Table G-24
Stainless steel pipe and tube: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Japan	11,932	11,715	5,068	7,251
Canada	3,457	5,883	2,600	3,559
Italy	3,452	5,103	1,813	2,705
Taiwan	4,172	4,005	1,809	2,603
United Kingdom	2,409	3,302	2,003	1,418
Malaysia	3,573	2,449	2,145	34
Korea	1,445	1,701	936	688
France	1,504	1,675	972	740
Spain	3,400	1,612	634	673
Netherlands	675	1,225	484	445
Singapore	1,991	801	529	209
Thailand	871	657	271	84
Sweden	690	640	290	660
Germany	1,447	516	259	308
Mexico	607	493	250	511
All others	985	1,758	824	1,862
Total	42,612	43,535	20,891	23,751
East Asia	24,176	21,419	10,827	11,047
EU-12	12,904	13,440	6,173	6,356
Central/Eastern Europe	1	1	0	0
LAIA[1]	618	584	304	577
U.S. exports:				
Canada	6,386	5,739	3,468	2,590
Mexico	3,911	3,513	1,605	2,553
Korea	590	789	291	108
Singapore	731	752	318	383
Nigeria	0	342	273	632
Brazil	82	273	268	2
China	80	268	227	2
Egypt	295	268	176	96
Italy	10	208	14	17
Chile	67	176	48	5
All others	2,550	1,782	1,063	3,018
Total	14,701	14,111	7,751	9,404
East Asia	1,849	2,173	1,033	705
EU-12	380	575	235	200
Central/Eastern Europe	0	0	0	0
LAIA[1]	4,224	4,221	2,047	2,720

[1] Latin American Integration Association.

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

Table G-25
Alloy tool steel (all forms): U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June 1993	Jan.-June 1994
U.S. imports for consumption:				
Germany	11,179	15,592	4,560	4,355
Sweden	7,687	7,250	3,037	4,278
Japan	5,047	5,717	3,274	2,889
Canada	4,151	5,440	3,413	2,730
Brazil	2,770	5,104	1,657	1,973
France	919	3,309	1,670	1,613
Austria	3,013	3,079	1,910	1,461
Taiwan	324	1,299	331	1,048
Italy	674	1,291	381	1,142
United Kingdom	1,259	1,156	670	684
Korea	138	695	430	447
China	191	496	97	1,712
Poland	56	158	86	107
Mexico	326	141	77	1
Belgium	7	128	0	16
All others	180	293	211	7,662
Total	37,923	51,150	21,805	32,116
East Asia	5,701	8,208	4,132	6,096
EU-12	14,177	21,688	7,457	7,835
Central/Eastern Europe	56	158	86	344
LAIA[1]	3,134	5,245	1,735	1,973
U.S. exports:				
Canada	2,360	2,568	1,391	1,112
Mexico	2,355	2,170	670	1,292
China	1	700	593	0
Germany	338	229	170	109
Colombia	3	113	113	5
Taiwan	59	75	62	13
Trinidad and Tobago	0	72	72	1
Costa Rica	3	67	27	4
United Kingdom	159	53	19	38
Japan	33	49	28	12
All others	663	448	261	342
Total	5,974	6,545	3,406	2,927
East Asia	202	870	715	148
EU-12	769	381	255	202
Central/Eastern Europe	5	0	0	0
LAIA[1]	2,403	2,392	837	1,369

[1] Latin American Integration Association.

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

Table G-26
Total, **stainless and alloy tool steel products: U.S. imports for consumption, U.S. exports, by selected countries and country groups, 1992, 1993, Jan.-June 1993, and Jan.-June 1994**

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Japan	93,697	107,961	47,632	57,116
Canada	49,806	85,226	43,417	60,263
Mexico	42,455	64,865	32,467	34,391
Germany	34,633	56,948	20,561	18,251
Spain	37,230	55,604	33,341	48,706
United Kingdom	21,966	53,326	24,359	52,171
Sweden	39,920	50,936	25,868	35,867
France	46,144	50,584	28,279	25,409
Italy	19,830	49,295	18,176	28,602
Korea	20,104	31,023	15,131	23,146
Republic of South Africa	6,577	26,024	7,150	14,294
Brazil	12,966	17,297	7,667	5,713
Belgium	8,082	16,404	5,140	9,931
India	8,080	13,721	9,654	5,477
Finland	12,582	12,891	6,366	18,459
All others	21,262	27,901	14,133	21,721
Total	475,333	720,007	339,343	459,516
East Asia	128,560	156,582	71,270	92,229
EU-12	168,705	284,062	130,596	184,082
Central/Eastern Europe	189	459	172	610
LAIA[1]	55,465	82,232	40,136	40,193
U.S. exports:				
Canada	41,424	46,810	26,281	23,931
Mexico	46,245	15,816	6,893	12,233
France	3,293	4,815	3,227	818
United Kingdom	8,662	4,006	1,913	2,240
Hong Kong	1,643	3,578	1,726	1,314
Japan	1,567	3,568	1,872	638
Germany	4,628	3,284	1,517	1,139
Korea	1,589	2,598	970	2,041
Australia	881	2,504	1,630	840
Dominican Republic	583	2,475	2,051	383
All others	24,686	23,299	11,896	11,043
Total	135,201	112,752	59,977	56,621
East Asia	9,937	15,642	8,285	6,454
EU-12	20,552	14,419	8,076	5,166
Central/Eastern Europe	19	101	99	18
LAIA[1]	51,783	20,586	9,100	13,697

[1] Latin American Integration Association.

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

Table G-27

Steel mill products and certain fabricated steel products: Value of U.S. imports for consumption, U.S. exports, by products and grades of steel, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(1,000 dollars)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
U.S. imports for consumption:				
Carbon & certain alloy[1] steel:				
Semifinished	500,125	1,025,150	325,434	795,908
Plate	303,747	250,502	115,388	192,221
Sheet and strip	3,717,099	3,086,184	1,384,940	2,185,450
Bars & certain shapes	459,340	616,117	261,197	354,992
Wire rod	377,494	480,795	190,822	291,935
Wire	312,454	360,385	175,054	207,150
Wire products	604,201	646,520	332,892	332,826
Structural shapes & units	296,698	396,549	193,116	238,810
Rails & related products	146,054	140,226	74,432	89,955
Pipe and tube	894,401	1,143,233	528,683	705,566
Subtotal	7,611,614	8,145,661	3,581,958	5,394,814
Stainless & alloy tool steel:				
Stainless steel:				
Semifinished	55,367	129,127	53,164	100,480
Plate	33,566	36,872	17,126	18,481
Sheet and strip	423,746	633,706	312,928	362,369
Bars & certain shapes	133,954	149,893	75,052	84,481
Wire rod	78,746	77,044	42,605	42,971
Wire	73,179	78,583	41,213	48,343
Pipe and tube	173,769	161,252	78,637	84,850
Tool steel (all forms)	80,677	96,162	46,529	52,385
Subtotal	1,053,004	1,362,641	667,254	794,360
Total	8,664,618	9,508,302	4,249,212	6,189,174
U.S. exports:				
Carbon & certain alloy[1] steel:				
Semifinished	170,144	184,337	99,523	52,699
Plate	79,752	77,558	39,759	34,184
Sheet and strip	1,102,121	932,151	499,565	451,390
Bars & certain shapes	271,458	309,102	164,120	154,430
Wire rod	34,571	27,339	15,929	7,818
Wire	94,553	107,740	55,484	61,612
Wire products	115,954	132,016	60,249	63,886
Structural shapes & units	403,889	485,054	236,029	252,480
Rails & related products	64,789	89,498	46,552	53,433
Pipe and tube	726,230	616,680	303,384	456,101
Subtotal	3,063,460	2,961,475	1,520,594	1,588,034
Stainless & alloy tool steel:				
Stainless steel:				
Semifinished	30,847	28,953	15,713	17,930
Plate	19,747	17,838	9,728	9,585
Sheet and strip	195,163	153,601	83,589	71,137
Bars & certain shapes	41,667	33,809	18,331	17,721
Wire rod	7,044	7,820	3,411	3,658
Wire	12,317	16,273	8,849	6,675
Pipe and tube	67,284	62,713	33,271	31,293
Tool steel (all forms)	25,478	25,766	13,233	11,458
Subtotal	399,547	346,773	186,125	169,456
Total	3,463,008	3,308,248	1,706,719	1,757,490

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

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

Table G-28
Steel mill products and certain fabricated steel products: Unit value of U.S. imports for consumption, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Dollars per short ton)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	217	211	203	221
Plate	346	352	348	332
Sheet and strip:				
Hot rolled	299	306	301	307
Cold rolled	486	505	522	462
Galvanized	545	499	496	499
Tin plate	617	614	627	583
Tin free	614	611	622	576
Other coated	588	589	589	587
Average, sheet and strip	434	428	431	411
Bar:				
Hot finished	434	433	430	434
Cold finished	701	652	665	665
Reinforcing	258	259	237	258
Light shapes	321	322	317	346
Average, bar	434	442	444	437
Wire rod	341	354	362	334
Wire	759	712	718	722
Wire products	1,029	1,052	1,073	1,020
Structural shapes and units				
Heavy structurals	374	376	371	350
Fabricated structurals	1,255	1,176	1,290	1,045
Average, structurals	503	534	523	479
Rails and related products	488	522	535	411
Pipe and tube				
Oil country tubular goods	989	685	701	690
Line pipe	541	475	482	459
Mechanical pipe	886	814	834	844
Structural pipe	477	480	472	504
Pressure tubing	1,081	1,011	1,070	990
Other (incl. standard)	517	516	507	512
Average, pipe and tube	596	568	561	559
Average, all carbon and certain alloy[1] steel	440	414	430	392
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	1,489	1,138	1,140	1,075
Plate	2,204	1,934	2,020	1,754
Sheet and strip				
Sheet	1,712	1,647	1,676	1,530
Strip	3,304	3,020	3,050	2,711
Average, sheet and strip	1,873	1,760	1,795	1,637
Bars and shapes	2,330	2,139	2,176	2,060
Wire rod	1,988	1,893	1,889	1,811
Wire	3,834	3,577	3,546	3,591
Pipe and tube	4,078	3,704	3,748	3,572
Alloy tool steel (all forms)	2,127	1,880	2,103	1,631
Average, all stainless and alloy tool steel	2,215	1,893	1,941	1,729

[1] Includes alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.

Source: Compiled from data of the American Iron & Steel Institute and from official statistics of the U.S. Department of Commerce.

Table G-29
Steel mill products and certain fabricated steel products: Unit value of U.S. exports, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Dollars per short ton)

Item	1992	1993	Jan.-June— 1993	1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	408	348	303	678
Plate	482	466	455	618
Sheet and strip:				
Hot rolled	393	419	396	505
Cold rolled	697	713	734	666
Galvanized	671	693	694	698
Tin plate	527	515	525	482
Tin free	613	600	620	541
Other coated	1,051	964	983	993
Average, sheet and strip	574	636	633	633
Bar:				
Hot finished	660	581	578	576
Cold finished	830	890	908	920
Reinforcing	286	283	272	330
Light shapes	484	467	474	544
Average, bar	531	493	475	580
Wire rod	504	458	419	622
Wire	1,075	1,227	1,242	1,254
Wire products	2,050	1,850	1,801	1,726
Structural shapes and units:				
Heavy structurals	453	477	487	541
Fabricated structurals	1,675	1,845	1,919	1,782
Average, structurals	905	973	1,020	997
Rails and related products	873	775	795	845
Pipe and tube:				
Oil country tubular goods	1,082	1,080	1,137	997
Line pipe	925	950	934	864
Other[3]	1,228	1,214	1,210	1,164
Average, pipe and tube	1,093	1,113	1,127	1,001
Average, all carbon and certain alloy[1] steel	695	709	690	802
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	5,622	3,876	3,709	5,097
Plate	2,993	2,619	2,732	2,612
Sheet and strip:				
Sheet	2,604	2,350	2,280	2,457
Strip	2,426	2,622	2,652	2,524
Average, sheet and strip	2,500	2,508	2,473	2,501
Bars and shapes	2,090	2,951	3,406	2,996
Wire rod	3,122	3,054	3,181	2,450
Wire	5,648	6,382	6,931	5,340
Pipe and tube	4,577	4,444	4,347	3,328
Alloy tool steel (all forms)	4,265	3,937	3,888	3,915
Average, all stainless and alloy tool steel	2,955	3,076	3,091	2,993

[1] Includes alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.
[3] Includes mechanical, standard, structural, and pressure pipe and tube.

Source: Compiled from data of the American Iron & Steel Institute and official statistics of the U.S. Department of Commerce.

Table G-30
Steel mill products and certain fabricated steel products: U.S. imports for consumption of specified products and imports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
	Quantity *(short tons)*			
Carbon and certain alloy[1] steel::				
Semifinished:				
Ingots	4,922	17,795	12,104	82,618
Blooms and billets	680,504	838,106	329,822	690,517
Slabs and sheet bars	1,621,717	4,003,304	1,275,215	2,829,232
Total	2,307,144	4,859,205	1,617,141	3,602,368
Plate:				
Carbon	784,529	551,838	248,831	475,890
Alloy	93,643	160,373	71,395	102,238
Total	878,172	712,211	320,226	578,129
Sheet and strip:				
Hot rolled:				
Sheet	3,360,533	2,865,498	1,274,163	2,177,427
Strip	136,782	144,431	74,444	50,376
Cold rolled:				
Black plate	152,394	85,178	48,338	75,967
Electrical	81,842	114,857	51,774	45,584
Other sheet	1,954,906	1,849,048	665,224	1,642,580
Other strip	147,309	141,282	65,838	89,677
Galvanized	1,995,612	1,473,969	771,080	870,097
Tin plate	321,674	260,038	128,937	163,300
Tin free	132,334	127,086	66,132	77,550
Other coated	283,754	147,094	66,043	120,401
Total, sheet and strip	8,567,140	7,208,481	3,211,973	5,312,960
Bars:				
Hot rolled:				
Carbon	448,213	522,137	205,757	288,790
Alloy	290,495	418,563	199,353	220,146
Cold rolled:				
Carbon	84,107	156,047	71,727	85,802
Alloy	32,088	58,837	22,945	38,480
Reinforcing	119,273	120,665	40,385	120,039
Light structural shapes	83,021	116,886	50,343	59,096
Total, bars	1,057,195	1,393,135	590,509	812,353
Wire rod and related products:				
Wire rod:				
Carbon	1,078,013	1,319,508	509,791	845,397
Alloy	28,792	36,981	16,412	28,915
Wire:				
Carbon	373,587	462,777	225,211	254,887
Alloy	38,305	43,446	20,023	31,996
Wire products:				
Nails	339,944	353,957	176,428	191,703
Barbed wire	12,106	16,740	9,041	7,113
Wire fencing	38,382	38,813	20,150	26,439
Bale ties	558	896	395	599
Wire strand	122,722	133,926	71,434	65,276
Wire rope	73,204	70,491	33,909	35,239
Total, wire rod and related products	2,105,612	2,477,534	1,082,793	1,487,563

See footnotes at end of table.

Table G-30—Continued
Steel mill products and certain fabricated steel products: U.S. imports for consumption of specified products and imports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	1994
	Quantity *(short tons)*			
Structurals:				
Heavy	503,124	594,921	320,463	405,526
Fabricated	86,488	147,153	57,359	92,645
Total	589,613	742,074	377,822	498,172
Rails and related products:				
Rails	245,144	204,265	105,900	208,619
Joint bars and tie plates	9,596	12,670	7,138	8,877
Track spikes	3,094	2,985	1,519	1,139
Wheels and axles	41,586	48,844	21,910	0
Total	299,418	268,764	136,466	218,636
Pipes and tubes:				
Oil country tubular goods	100,646	353,300	121,265	170,527
Line pipe	404,234	514,241	272,723	361,387
Mechanical pipe	147,732	195,861	86,712	121,418
Structural pipe	227,314	288,680	143,325	168,332
Pressure tubing	27,536	37,351	16,587	19,585
Other (including standard)	593,415	623,125	292,936	420,343
Total	1,500,877	2,012,557	933,547	1,261,592
Stainless and alloy tool steel:				
Stainless:				
Semifinished:				
Ingots	340	987	609	1,124
Blooms and billets	26,317	59,432	26,897	43,537
Slabs and sheet bars	10,520	53,043	18,031	48,841
Total	37,177	113,462	45,536	93,503
Plate	15,231	19,063	8,399	10,535
Sheet and strip:				
Sheet:				
Hot rolled	29,254	60,122	31,522	60,142
Cold rolled	174,041	270,327	127,540	141,214
Strip	22,891	29,605	14,857	20,056
Total, sheet and strip	226,186	360,054	173,919	221,412
Bars and shapes	57,499	70,067	34,692	41,015
Wire rod	39,616	40,707	22,512	23,723
Wire	19,089	21,969	11,590	13,463
Pipe and tube	42,612	43,535	20,891	23,751
Alloy tool steel (all forms):				
Semifinished[2]	2,348	7,850	1,625	8,099
Bars	25,509	27,845	14,022	17,082
Other	10,066	15,454	6,158	6,935
Total, stainless and alloy tool steel	37,923	51,150	21,805	32,116

See footnotes at end of table.

Table G-30—Continued
Steel mill products and certain fabricated steel products: U.S. imports for consumption of specified products and imports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
	Share of product group total *(percent)*			
Carbon and certain alloy steel:				
Semifinished:				
Ingots	0.21	0.37	0.75	2.29
Blooms and billets	29.50	17.25	20.40	19.17
Slabs and sheet bars	70.29	82.39	78.86	78.54
Total	100.00	100.00	100.00	100.00
Plate:				
Carbon	89.34	77.48	77.70	82.32
Alloy	10.66	22.52	22.30	17.68
Total	100.00	100.00	100.00	100.00
Sheet and strip:				
Hot rolled:				
Sheet	39.23	39.75	39.67	40.98
Strip	1.60	2.00	2.32	0.95
Cold rolled:				
Black plate	1.78	1.18	1.50	1.43
Electrical	0.96	1.59	1.61	0.86
Other sheet	22.82	25.65	20.71	30.92
Other strip	1.72	1.96	2.05	1.69
Galvanized	23.29	20.45	24.01	16.38
Tin plate	3.75	3.61	4.01	3.07
Tin free	1.54	1.76	2.06	1.46
Other coated	3.31	2.04	2.06	2.27
Total, sheet and strip	100.00	100.00	100.00	100.00
Bars:				
Hot rolled:				
Carbon	42.40	37.48	34.84	35.55
Alloy	27.48	30.04	33.76	27.10
Cold rolled:				
Carbon	7.96	11.20	12.15	10.56
Alloy	3.04	4.22	3.89	4.74
Reinforcing	11.28	8.66	6.84	14.78
Light structural shapes	7.85	8.39	8.53	7.27
Total, bars	100.00	100.00	100.00	100.00
Wire rod and related products:				
Wire rod:				
Carbon	51.20	53.26	47.08	56.83
Alloy	1.37	1.49	1.52	1.94
Wire:				
Carbon	17.74	18.68	20.80	17.13
Alloy	1.82	1.75	1.85	2.15
Wire products:				
Nails	16.14	14.29	16.29	12.89
Barbed wire	0.57	0.68	0.83	0.48
Wire fencing	1.82	1.57	1.86	1.78
Bale ties	0.03	0.04	0.04	0.04
Wire strand	5.83	5.41	6.60	4.39
Wire rope	3.48	2.85	3.13	2.37
Total, wire rod and related products	100.00	100.00	100.00	100.00

See footnotes at end of table.

Table G-30—Continued
Steel mill products and certain fabricated steel products: U.S. imports for consumption of specified products and imports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	1994
	Share of product group total *(percent)*			
Structurals:				
Heavy	85.33	80.17	84.82	81.40
Fabricated	14.67	19.83	15.18	18.60
Total	100.00	100.00	100.00	100.00
Rails and related products:				
Rails	81.87	76.00	77.60	95.42
Joint bars and tie plates	3.20	4.71	5.23	4.06
Track spikes	1.03	1.11	1.11	0.52
Wheels and axles	13.89	18.17	16.05	0.00
Total	100.00	100.00	100.00	100.00
Pipes and tubes:				
Oil country tubular goods	6.71	17.55	12.99	13.52
Line pipe	26.93	25.55	29.21	28.65
Mechanical pipe	9.84	9.73	9.29	9.62
Structural pipe	15.15	14.34	15.35	13.34
Pressure tubing	1.83	1.86	1.78	1.55
Other (including standard)	39.54	30.96	31.38	33.32
Total	100.00	100.00	100.00	100.00
Stainless and alloy tool steel:				
Stainless:				
Semifinished:				
Ingots	0.91	0.87	1.34	1.20
Blooms and billets	70.79	52.38	59.07	46.56
Slabs and sheet bars	28.30	46.75	39.60	52.23
Total	100.00	100.00	100.00	100.00
Plate	100.00	100.00	99.99	100.00
Sheet and strip:				
Sheet:				
Hot rolled	12.93	16.70	18.12	27.16
Cold rolled	76.95	75.08	73.33	63.78
Strip	10.12	8.22	8.54	9.06
Total, sheet and strip	100.00	100.00	100.00	100.00
Bars and shapes	100.00	100.00	100.00	100.00
Wire rod	100.00	100.00	100.00	100.00
Wire	100.00	100.00	100.00	100.00
Pipe and tube	100.00	100.00	100.00	100.00
Alloy tool steel (all forms):				
Semifinished[2]	6.19	15.35	7.45	25.22
Bars	67.26	54.44	64.31	53.19
Other	26.54	30.21	28.24	21.59
Total, stainless and alloy tool steel	100.00	100.00	100.00	100.00

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.

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

Table G-31
Steel mill products and certain fabricated steel products: U.S. exports of specified products and exports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	1994
	Quantity *(short tons)*			
Carbon and certain alloy[1] steel:				
Semifinished[2]	417,424	529,560	303,568	83,067
Plate:				
Carbon	150,589	148,242	76,746	41,823
Alloy	14,895	18,239	8,979	13,462
Total	165,485	166,481	85,725	55,285
Sheet and strip:				
Hot rolled:				
Sheet	619,949	262,778	170,398	103,131
Strip	56,051	38,027	18,345	33,838
Cold rolled:				
Black plate	4,734	6,462	2,962	3,030
Electrical	47,875	52,226	26,456	24,739
Other sheet	338,486	343,143	152,083	226,784
Other strip	127,654	121,387	73,388	55,371
Galvanized	297,788	268,182	143,955	107,269
Tin plate	279,122	192,715	108,653	97,456
Tin free	59,805	70,921	43,475	16,517
Other coated	86,990	109,203	55,975	45,279
Total, sheet and strip	1,918,453	1,465,044	795,691	713,415
Bars:				
Hot rolled:				
Carbon	125,435	141,944	77,967	62,901
Alloy	91,015	127,628	63,385	67,909
Cold rolled:				
Carbon	51,764	49,970	24,296	32,587
Alloy	13,046	14,816	8,041	11,554
Reinforcing	183,557	227,254	137,268	52,021
Light structural shapes	45,987	65,063	33,065	39,167
Total, bars	510,804	626,675	344,022	266,138
Wire rod and related products:				
Wire rod:				
Carbon	58,416	47,786	29,618	10,147
Alloy	10,174	11,964	8,327	2,425
Wire:				
Carbon	76,421	72,473	37,017	40,206
Alloy	11,536	15,337	7,508	8,926
Wire products:				
Nails	17,143	17,819	8,948	11,362
Barbed wire	2,124	2,938	1,568	1,674
Wire fencing	14,209	20,667	9,533	7,513
Wire strand	18,170	21,485	9,964	13,408
Wire rope	4,927	8,461	3,655	3,060
Total, all wire rod and related products	213,121	218,930	116,138	98,721

See footnotes at end of table.

Table G-31—Continued

Steel mill products and certain fabricated steel products: U.S. exports of specified products and exports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
	Quantity *(short tons)*			
Structurals:				
Heavy	281,533	317,701	147,675	160,152
Fabricated	164,879	180,713	76,261	93,056
Total	446,412	498,413	223,936	253,208
Rails and related products:				
Rails	34,769	62,255	23,322	22,559
Joint bars and tie plates	19,416	31,302	23,162	23,732
Wheels and axles	20,023	21,890	11,661	16,912
Total	74,208	115,447	58,146	63,203
Pipes and tubes:				
Oil country tubular goods	227,245	171,759	86,950	109,292
Line pipe	187,652	125,818	60,920	186,244
Other[3]	249,684	256,725	123,686	159,953
Total	664,582	554,303	271,556	455,488
Stainless and alloy tool steel:				
Stainless:				
Semifinished[2]	5,487	7,470	4,233	3,518
Plate	6,598	6,811	3,539	3,670
Sheet and strip:				
Sheet:				
Hot rolled	9,239	3,781	2,599	1,133
Cold rolled	23,204	21,943	13,755	8,702
Strip	45,625	35,522	16,973	18,609
Total, sheet and strip	78,069	61,246	33,327	28,444
Bars and shapes	19,935	11,457	5,414	5,914
Wire rod	2,256	2,561	1,054	1,493
Wire	2,181	2,550	1,254	1,250
Pipe and tube	14,701	14,111	7,751	9,404
Alloy tool steel (all forms)	5,974	6,545	3,406	2,927
Total, stainless and alloy tool steel	135,201	112,752	59,977	56,621

See footnotes at end of table.

Table G-31—Continued
Steel mill products and certain fabricated steel products: U.S. exports of specified products and exports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	1994
	Share of product group total *(percent)*			
Carbon and certain alloy[1] steel:				
Semifinished[2]	100.00	100.00	100.00	100.00
Plate:				
Carbon	91.00	89.04	89.53	75.65
Alloy	9.00	10.96	10.47	24.35
Total	100.00	100.00	100.00	100.00
Sheet and strip:				
Hot rolled:				
Sheet	32.32	17.94	21.42	14.46
Strip	2.92	2.60	2.31	4.74
Cold rolled:				
Black plate	0.25	0.44	0.37	0.42
Electrical	2.50	3.56	3.32	3.47
Other sheet	17.64	23.42	19.11	31.79
Other strip	6.65	8.29	9.22	7.76
Galvanized	15.52	18.31	18.09	15.04
Tin plate	14.55	13.15	13.66	13.66
Tin free	3.12	4.84	5.46	2.32
Other coated	4.53	7.45	7.03	6.35
Total, sheet and strip	100.00	100.00	100.00	100.00
Bars:				
Hot rolled:				
Carbon	24.56	22.65	22.66	23.63
Alloy	17.82	20.37	18.42	25.52
Cold rolled:				
Carbon	10.13	7.97	7.06	12.24
Alloy	2.55	2.36	2.34	4.34
Reinforcing	35.93	36.26	39.90	19.55
Light structural shapes	9.00	10.38	9.61	14.72
Total, bars	100.00	100.00	100.00	100.00
Wire rod and related products:				
Wire rod:				
Carbon	27.41	21.83	25.50	10.28
Alloy	4.77	5.46	7.17	2.46
Wire:				
Carbon	35.86	33.10	31.87	40.73
Alloy	5.41	7.01	6.46	9.04
Wire products:				
Nails	8.04	8.14	7.71	11.51
Barbed wire	1.00	1.34	1.35	1.70
Wire fencing	6.67	9.44	8.21	7.61
Wire strand	8.53	9.81	8.58	13.58
Wire rope	2.31	3.86	3.15	3.10
Total, all wire rod and related products	100.00	100.00	100.00	100.00

See footnotes at end of table.

—Continued

Steel mill products and certain fabricated steel products: U.S. exports of specified products and exports as a percent of major product groupings, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

Item	1992	1993	Jan.-June— 1993	1994
	Share of product group total *(percent)*			
Structurals:				
Heavy	63.07	63.74	65.95	63.25
Fabricated	36.93	36.26	34.05	36.75
Total	100.00	100.00	100.00	100.00
Rails and related products:				
Rails	46.85	53.93	40.11	35.69
Joint bars and tie plates	26.16	27.11	39.83	37.55
Wheels and axles	26.98	18.96	20.05	26.76
Total	100.00	100.00	100.00	100.00
Pipes and tubes:				
Oil country tubular goods	34.19	30.99	32.02	23.99
Line pipe	28.24	22.70	22.43	40.89
Other[3]	37.57	46.31	45.55	35.12
Total	100.00	100.00	100.00	100.00
Stainless and alloy tool steel:				
Stainless:				
Semifinished[2]	100.00	100.00	100.00	100.00
Plate	100.00	100.00	99.99	100.00
Sheet and strip:				
Sheet:				
Hot rolled	11.83	6.17	7.80	3.98
Cold rolled	29.72	35.83	41.27	30.59
Strip	58.44	58.00	50.93	65.42
Total, sheet and strip	100.00	100.00	100.00	100.00
Bars and shapes	100.00	100.00	100.00	100.00
Wire rod	100.00	100.00	100.00	100.00
Wire	100.00	100.00	100.00	100.00
Pipe and tube	100.00	100.00	100.00	100.00
Alloy tool steel (all forms)	100.00	100.00	100.00	100.00
Total, stainless and alloy tool steel	100.00	100.00	100.00	100.00

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.
[3] Includes mechanical, standard, structural, and pressure pipe and tube.

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

Table G-32
Steel mill products and certain fabricated steel products: U.S. imports for consumption, by customs areas, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June—	
			1993	1994
Atlantic Coast	2,856,868	2,987,820	1,401,232	2,520,096
Great Lakes-Canadian border	6,788,052	8,602,841	3,578,365	3,972,086
Gulf Coast-Mexican border	4,051,683	5,107,798	2,033,620	5,025,857
Offshore	293,409	308,971	128,913	176,894
Pacific Coast	3,790,493	3,386,538	1,467,690	2,536,354
Total	17,780,504	20,393,968	8,609,820	14,231,288

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

Table G-33

Steel mill products and certain fabricated steel products: U.S. imports for consumption through the Atlantic Coast customs area, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	197,728	359,030	148,672	384,152
Plate	119,918	101,359	46,975	98,513
Sheet and strip	1,474,263	1,244,121	605,908	1,092,704
Bars and certain shapes	90,076	81,101	38,066	54,614
Wire rod	206,153	264,586	96,608	224,862
Wire	60,118	80,773	36,111	47,846
Wire products	180,784	197,623	98,967	98,684
Structural shapes and units	85,277	127,664	69,536	102,148
Rails and related products	22,651	15,049	10,912	9,586
Pipe and tube	216,592	177,944	82,745	164,649
Total	2,653,559	2,649,250	1,234,500	2,277,757
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	12,091	61,457	21,231	61,302
Plate	6,506	9,815	5,212	5,446
Sheet and strip	85,256	155,033	80,183	107,490
Bars and certain shapes	27,003	33,816	17,438	18,384
Wire rod	31,080	31,087	18,269	17,084
Wire	9,461	12,318	6,505	7,727
Pipe and tube	11,508	12,916	6,921	7,445
Tool steel (all forms)	20,405	22,127	10,974	17,462
Total, stainless and tool	203,309	338,570	166,733	242,340
Grand total	2,856,868	2,987,820	1,401,232	2,520,096

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.

[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.

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

Table G-34
Steel mill products and certain fabricated steel products: U.S. imports for consumption through the Great Lakes-Canadian border customs area, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	497,809	1,752,089	527,462	541,610
Plate	296,303	198,824	78,413	58,110
Sheet and strip	3,409,624	3,425,242	1,514,632	1,766,942
Bars and certain shapes	722,328	990,709	420,533	516,561
Wire rod	527,597	618,847	266,965	208,884
Wire	231,314	288,854	139,498	165,738
Wire products	100,003	104,274	54,832	56,944
Structural shapes and units	284,051	331,629	152,519	191,500
Rails and related products	128,874	119,670	48,499	36,516
Pipe and tube	481,639	604,683	302,088	328,449
Total	6,679,543	8,434,821	3,505,439	3,871,252
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	19,847	43,838	21,038	29,905
Plate	1,883	3,485	1,241	2,167
Sheet and strip	48,531	67,160	27,304	40,778
Bars and certain shapes	11,456	14,093	6,588	8,759
Wire rod	2,765	2,971	956	2,761
Wire	6,311	7,475	3,832	4,272
Pipe and tube	6,080	8,634	4,087	4,854
Tool steel (all forms)	11,637	20,364	7,880	7,338
Total, stainless and tool	108,509	168,020	72,925	100,834
Grand total	6,788,052	8,602,841	3,578,365	3,972,086

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.

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

Table G-36
Steel mill products and certain fabricated steel products: U.S. imports for consumption through the Offshore customs area, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	0	2	2	0
Plate	3,615	5,819	3,134	1,586
Sheet and strip	87,630	84,308	40,590	43,596
Bars and certain shapes	98,240	115,183	33,893	86,247
Wire rod	10,073	16,870	6,218	4,127
Wire	10,667	10,851	5,093	4,598
Wire products	5,300	6,199	2,779	1,997
Structural shapes and units	12,444	10,575	6,783	3,891
Rails and related products	1,040	1,061	889	47
Pipe and tube	63,428	58,092	29,522	30,796
Total	292,438	308,960	128,902	176,886
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	(3)	0	0	5
Plate	0	0	0	0
Sheet and strip	(3)	10	10	0
Bars and certain shapes	(3)	0	0	0
Wire rod	0	0	0	0
Wire	(3)	(3)	0	(3)
Pipe and tube	970	1	1	0
Tool steel (all forms)	0	0	0	4
Total, stainless and tool	971	11	11	9
Grand total	293,409	308,971	128,913	176,894

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.
[3] Less than 0.5 short tons.

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

Table C-35
Steel mill products and certain fabricated steel products: U.S. imports for consumption through the Gulf Coast-Mexican border customs area, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	576,719	1,500,259	483,858	1,814,356
Plate	418,292	352,910	169,212	363,878
Sheet and strip	1,646,240	1,259,810	511,584	1,359,081
Bars and certain shapes	100,628	153,957	71,507	118,140
Wire rod	302,093	398,005	134,484	383,272
Wire	48,401	53,152	27,446	26,761
Wire products	152,177	158,996	82,484	88,535
Structural shapes and units	124,448	190,693	97,145	142,095
Rails and related products	72,166	44,184	24,843	118,198
Pipe and tube	503,817	852,849	367,395	530,107
Total	3,944,981	4,964,815	1,969,959	4,944,422
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	5,145	7,629	3,196	2,045
Plate	4,933	4,147	1,347	1,979
Sheet and strip	62,099	94,195	43,484	52,398
Bars and certain shapes	10,128	11,626	5,594	8,110
Wire rod	1,769	2,188	1,104	2,011
Wire	2,224	1,326	847	902
Pipe and tube	16,738	15,456	6,270	8,405
Tool steel (all forms)	3,666	6,415	1,820	5,584
Total, stainless and tool	106,701	142,983	63,662	81,435
Grand total	4,051,683	5,107,798	2,033,620	5,025,857

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.

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

Table G-37
Steel mill products and certain fabricated steel products: U.S. imports for consumption through the Pacific Coast customs area, 1992, 1993, Jan.-June 1993, and Jan.-June 1994

(Short tons)

Item	1992	1993	Jan.-June— 1993	Jan.-June— 1994
Carbon and certain alloy[1] steel:				
Semifinished[2]	1,034,887	1,247,824	457,147	862,251
Plate	40,044	53,298	22,492	56,042
Sheet and strip	1,949,383	1,195,000	539,260	1,050,636
Bars and certain shapes	45,923	52,185	26,511	36,791
Wire rod	60,889	58,181	21,929	53,167
Wire	61,391	72,594	37,086	41,941
Wire products	148,652	147,730	72,294	80,208
Structural shapes and units	83,393	81,513	51,838	58,538
Rails and related products	74,687	88,801	51,323	54,290
Pipe and tube	235,402	318,989	151,798	207,590
Total	3,734,651	3,316,116	1,431,678	2,501,455
Stainless and alloy tool steel:				
Stainless steel:				
Semifinished[2]	94	538	71	246
Plate	1,910	1,615	598	943
Sheet and strip	30,299	43,657	22,938	20,746
Bars and certain shapes	8,912	10,532	5,072	5,762
Wire rod	4,002	4,461	2,183	1,866
Wire	1,094	849	407	561
Pipe and tube	7,315	6,527	3,611	3,047
Tool steel (all forms)	2,215	2,244	1,130	1,728
Total, stainless and tool	55,842	70,423	36,012	34,899
Grand total	3,790,493	3,386,538	1,467,690	2,536,354

[1] "Certain alloy" refers to alloy steel other than stainless or tool steel.
[2] Semifinished steel includes ingots, blooms, billets, slabs, and sheet bars.

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