IRON AND STEEL SCRAP

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Iron and steel scrap is a vital raw material for the production of new steel and cast-iron products. The steelmaking and foundry industries in the United States are highly dependent upon the ready availability of scrap from manufacturing operations and from the recovery of products that are no longer used or needed. The steel industry has been recycling steel scrap for more than 150 years. In 2004, about 105 minimills consuming ferrous scrap in electric arc furnaces (EAF) accounted for about 52% of the total raw steel produced. Consistent with international usage and Federal Government policy, the U.S. Geological Survey (USGS) reports all data on iron and steel in metric units, unless otherwise noted.

Steel scrap recycling conserves energy, landfill space, and raw materials. In 2004, the domestic steel industry recycled about 68 million metric tons (Mt) of appliances, automobiles, cans, construction materials, and other steel products. This resulted in an overall recycling rate of nearly 71% (Bill Heenan, President, Steel Recycling Institute, unpub. data, July 2005). The remelting of scrap requires much less energy than does the production of iron and steel products from iron ore. Each year, steel recycling saves the energy equivalent of the electrical power needed for 1 year by approximately one-fifth of the houses in the United States (about 18 million). Consumption of iron and steel scrap by remelting reduces the burden on landfill disposal facilities and prevents the accumulation of abandoned steel products in the environment. Every metric ton of steel recycled saves 1.134 kilograms (kg) of iron ore, 635 kg of coal, and 54 kg of limestone that would otherwise be consumed to make the iron used in that steel.

In the United States, the primary source of obsolete steel is the automobile (Rich Tavoletti, marketing manager, American Iron and Steel Institute, unpub. data, July 2002). Of the ferrous metals used to make a typical 2003 U.S. family vehicle, 44% was recycled metal. The steel industry recovered and recycled about 12.7 Mt of iron and steel automobile scrap in 2004 (Bill Heenan, President, Steel Recycling Institute, unpub. data, July 2005). The recycling rate of automobile scrap steel was nearly 102% in 2004 compared with 103% in 2003. A recycling rate greater than 100% is a result of the steel industry recycling more steel from automobiles than was used in the production of new vehicles.

The recycling rate of obsolete appliance scrap had increased to 81% in 1997 from 20% in 1988, decreased to 72% in 1998, and rebounded to 90% in 2003 and decreased slightly to 89% in 2004 (Bill Heenan, President, Steel Recycling Institute, unpub. data, July 2005). During 2004, about 2.6 Mt of steel was recovered from recycled appliances. The typical appliance consists of about 75% steel, and 25% to 100% of the steel used in appliances is recycled. The recycling rate of steel cans increased to 61% in 1997 from 15% in 1988, decreased to 56% in 1998, and rebounded to nearly 62% in 2004. The estimated rates of recycling of structural beams and plates in 2004 were up slightly to almost 98%, and that of reinforcement bar and other materials increased to 63% from 60% in 2003. In 2004, an estimated 5% of all new homes built in the United States were framed in recycled steel.

Minimills, in which EAFs are used, consumed greater quantities of direct-reduced iron (DRI) to improve steel quality, and integrated steelmakers continued to use small quantities of DRI in blast furnaces as a process coolant. Minimills often used a feed mix that has equal proportions of DRI, pig iron, and scrap. Raw steel production in the U.S. steel industry increased during 2003 by 6.4% (American Iron and Steel Institute, 2004, p. 76), and DRI production increased by 10% (Scrap, 2005).

Environment

International shipping regulations were ratified in 2002 by 134 countries in an effort to guard against the spread of destructive insects into unsuspecting countries (Kelly, 2005). Those countries not complying with the new regulations by September 2005 will have their steel shipments rejected by U.S. ports. Specific insects targeted are three beetles (the two-lined chestnut borer, the Asian long-horned beetle, and the Eurasian spruce bark beetle) and the Sirex wood wasp. Damage projections by the U.S. Department of Agriculture for the three beetles are $48 million, $208 million, and $607 million, respectively. These pests have been found in wood packaging material commonly used as a buffer in overseas shipments to prevent damage to steel coils and other products. The new standards require heat-treating or fumigation of the packaging material.

Mercury is a serious environmental pollutant because of its toxic and bioaccumulative properties. The automotive industry is a major contributor of mercury environmental contamination by using mercury in switches for active ride control systems, antilock braking systems, background lighting in displays, convenience lighting, and high-intensity discharge headlamps. U.S. automakers stopped installing mercury switches in 2003. State governments, such as Maine and Arkansas, have begun to impose regulations and pass legislation requiring the collection and safe disposal of mercury switches by auto scrap processors. Near the end of 2004, the New Jersey Department of Environmental Protection (DEP) was drafting regulations that would require auto dismantlers and scrap recycling facilities to remove mercury switches from vehicles prior to processing as scrap (Schaffer, 2004). Legislation was pending to require automobile manufactures to contribute to the cost of removing mercury switches. About 500,000 vehicles scrapped annually in New Jersey could contain as much as 1,000 pounds of mercury (Schaffer, 2005). Iron and steel mills are the largest sources of mercury emissions in New Jersey, and the DEP predicts that the new rules will reduce mercury pollution by 75% by the end of 2009 (Schaffer, 2004).

The New Jersey Attorney General joined the DEP in an attempt to close a South Plainfield, NJ, scrap metal recycler that has failed to meet State environmental compliance regulations since the 1980s (McCann, 2004). In Michigan, the city of River Rouge is suing U.S. Steel Corp. over alleged air pollution from the steelmaker's plant south of Detroit (Sacco, 2004a). The Great Lakes Works on the Detroit River has been cited by the Michigan Department of Environmental Quality at least seven times for environmental violations in 2004. Air testing found such pollutants as benzene, chromium, copper, lead, manganese, and zinc from the plant, according to the lawsuit. In Pennsylvania, the Allegheny Health Department issued three citations to the U.S. Steel's Edgar Thomson plant in Braddock for releasing ash containing oxides of aluminum, calcium, iron, and magnesium into the air when slag was dumped into quenching pools (Sacco, 2004b). The company was also cited for releasing soot into the air. The company agreed to install pollution abatement equipment.

Consumption

Domestic data for ferrous scrap were derived from voluntary monthly or annual surveys of U.S. scrap-consuming operations by the USGS. About 49% of the known manufacturers of pig iron and raw steel responded to the surveys. Their responses represented about 58% of estimated total scrap consumption by this class of consumers. The remaining 42% of scrap consumption was estimated on the basis of prior reports. Of the iron foundries, manufacturers of steel castings, and miscellaneous users, about 58% of the surveyed establishments responded to the annual survey, which represented about 50% of estimated scrap consumption. Total consumption for these two classes of consumers was estimated by using statistical methods and prior reports. Actual survey data accounted for about 48% of total estimated scrap consumption by all classes of scrap consumers.

In 2004, brokers, dealers, and other outside sources supplied domestic consumers with 54.4 Mt of all types of ferrous scrap at an estimated delivered value of more than $11.4 billion and exported 11.8 Mt (excluding used rails for rerolling and other uses and ships, boats, and other vessels for scrapping) valued at $2.5 billion (tables 1, 8, 11). In 2003, domestic consumers received 50.1 Mt of scrap steel at an estimated delivered value of more than $6.1 billion; exports totaled 10.8 Mt, valued at $1.3 billion. This represented a tonnage increase during 2004 of 9% for received quantities and a tonnage increase of 9% for exported quantities. The value of received scrap grades increased by 87% and that of exported scrap grades increased by more than 92% during 2004.

Raw steel production was 99.7 Mt in 2004 compared with 93.7 Mt in 2003 (American Iron and Steel Institute, 2004, p. 75). The share of raw steel produced by electric furnaces was 52% and by the basic oxygen furnaces was 48%. In 2004, continuous cast steel production represented 97% of total raw steel production; this was about the same as that of 2003. Raw steel production capability increased to 116 Mt, up from 110 Mt in 2003.

Steel mills accounted for 86% of all scrap received from brokers, dealers, and other outside sources; iron foundries and miscellaneous users received 12%; and steel foundries received 2% (table 1). Apparent total domestic consumption of ferrous scrap was 50 Mt of net receipts (total receipts minus shipments) and 14 Mt of home scrap (table 2). Stocks of ferrous scrap at consumer plants increased by 22% to 5.4 Mt (table 1). Total domestic consumption was more than 66 Mt, which was a 2% increase compared with that of 2003 (table 1). The total market for U.S.-produced scrap (net receipts plus exports minus imports) was 61.5 Mt, compared with 57.5 Mt in 2003. Feedstock used in electric furnaces by all iron and steel product manufacturers comprised scrap, 92%; pig iron, 6%; and DRI, 2% (table 4). Total consumption of DRI was 16% less than that of 2003 (table 1). Net shipments of all grades of steel mill products were 101 Mt, which was an increase of 5% from the 96.1 Mt shipped in 2003 (American Iron and Steel Institute, 2004, p. 27).

Prices

The average composite delivered price of No. 1 heavy-melting steel scrap, calculated from prices per long ton published monthly by American Metal Market, was $210.45 per metric ton. The price ranged from a low of $162.39 per ton in June to a high of $247.69 per ton in November (table 8). The average composite delivered price of No. 1 heavy-melting steel scrap, calculated from prices per long ton published weekly in Iron Age Scrap Price Bulletin, was $204.96 per metric ton; the price ranged from a low of $157.80 per ton in June to a high of $246.71 per ton in November.

Based on weekly quotations by Iron Age Scrap Price Bulletin for 18-8 (18% chromium, 8% nickel) stainless steel scrap (bundles and solids) delivered to consumers in the Pittsburgh, PA, area, the average price increased by 57% to $1,478 per ton from $942 per ton in 2003.

The unit value of total ferrous scrap exports (excluding used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping) increased by 38% to about $248 per ton compared with that of 2003 (table 11). The unit value of total imports, which was about $267 per ton, was about 77% more than that of 2003 (table 14).

Foreign Trade

Foreign trade valuation continued to be reported on a free-alongside-ship basis for exports and on a customs-value basis for imports. In 2004, the U.S. trade surplus for all classes of ferrous scrap (including used rails for rerolling and other uses and ships, boats, and other vessels for scrapping) was 7.0 Mt valued at $1,650 million (U.S. Census Bureau, unpub. data, 2004). This represented a decrease of 3% in quantity and an increase of 18% in value compared with the 2003 surplus of 7.2 Mt and $1,403 million.

Total U.S. exports of carbon steel and cast-iron scrap (excluding alloy steel; ships, boats, and other vessels for scrapping; stainless steel; and used rails for rerolling and other uses) went to 74 countries (10 more than in 2003) and totaled 9.6 Mt (a 2% increase) valued at $1,976 million (a 54% increase) for an average of $206 per ton (a 51% increase) (U.S. Census Bureau, unpub. data, 2004). The largest tonnages went to China, 2.5 Mt; the Republic of Korea, 1.8 Mt; Mexico, 1.4

Mt; and Canada, 1.1 Mt. These four countries received 71% of the total quantity valued at $1,208 million, which was 61% of the total value.

Total U.S. exports of stainless steel scrap went to 50 countries (6 more than in 2003) and consisted of 502,834 metric tons (t) (about the same as that in 2003) valued at $581 million (a 52% increase) for an average of $1,156 per ton (a 53% increase) (U.S. Census Bureau, unpub. data, 2004). The largest tonnages went to China, 158,347 t; Finland, 89,949 t; the Republic of Korea, 88,912 t; and Taiwan, 43,176t. These countries received 76% of the total quantity valued at $446 million, which was 77% of the total value.

U.S. exports of alloy steel scrap (excluding stainless steel) were shipped to 52 countries (8 less than in 2003) and consisted of 1.8 Mt (a 102% increase) valued at $398 million (a 42% increase) for an average of $221 per ton (a 30% decrease) (U.S. Census Bureau, unpub. data, 2004). The largest tonnages went to Canada, 1,004,852 t; China, 378,964 t; and Mexico, 161,504 t. These countries received 86% of the total quantity valued at $289 million, which was 73% of the total value.

World Review

Iron and steel scrap is an important raw material for the steel and foundry industries. Because scrap comes from such sources as discarded cars and consumer durables, industrial machinery, manufacturing operations, and old buildings, the relatively mature industrialized economies are generally the main exporters of scrap to lesser developed steelmaking countries.

The United States exported the most iron and steel scrap in 2003, followed by the United Kingdom, Russia, Germany, Japan, France, and the Netherlands (International Iron and Steel Institute, 2004, p. 102). The six most significant importing nations were, in decreasing order of importance, Turkey, China, Belgium and Luxembourg, Spain, the Republic of Korea, and Italy (International Iron and Steel Institute, 2004, p. 104).

Outlook

The U.S. gross domestic product (GDP) reported by the Bureau of Economic Analysis, U.S. Department of Commerce (2003§[1]) for 2003 and 2004—3.0% and 4.4%, respectively—did not meet the expectations of economists who predicted 4.0% and 5.5%, respectively (Federal Reserve Bank of Chicago, 2003). Nevertheless, economic growth remained strong in the first quarter of 2004, the 10th straight quarter of growth, and the Institute for Supply Management's index of manufacturing activity has been above 60 for 6 months, indicating vigorous expansion in the manufacturing sector (Gannon, 2004§). The economy is fundamentally strong and real GDP growth was projected to be 3.5% and 3.4% for 2005 and 2006, respectively (Office of Management and Budget, 2004§). Projected growth will then decline to 3.1% by 2009 and 2010.

Because of the close interdependence of the steelmaking and ferrous scrap industries, an examination and forecast of the global steel industry in the context of the global economy will serve as the bellwether of the scrap industry. As reported by the International Iron and Steel Institute (IISI), starting in late 2003, the global economy has gradually strengthened and has been growing at its fastest pace in 15 years (International Iron and Steel Institute, 2004b§). The IISI predicted that the world economy would expand by 4.7% in 2004 and 3.4% in 2005. World raw steel production also showed remarkable growth as it exceeded 1 billion metric tons (Gt) in 2004 for the first time in history. Global raw steelmaking capacity is expected to increase from 1,184 million metric tons per year (Mt/yr) in 2004 to more than 1,305 Mt/yr in 2006 (International Iron and Steel Institute, 2004b§). The steel market was strong in 2004 when global apparent steel consumption increased by 6% more than the 2003 level of 883 Mt to reach 935 Mt of finished products. The IISI forecast 988 to 998 Mt consumption for 2005, an increase of at least 6% more than that of 2004 (International Iron and Steel Institute, 2004a§). Current buoyant steel market conditions are expected to continue into 2006, but trade in steel is expected to start declining from that of 2005 because of capacity additions in China, India, and other Asian economies.

Economic activity in China continued to be an important influence on the world economy and steel markets (International Iron and Steel Institute, 2004a-c§). With a projected GDP growth in China far greater than that of all other world economies, China is by far the fastest growing global economy. The Organisation for Economic Co-operation and Development (OECD) and the IISI forecast China's 2004 GDP to be 8.3% (OECD) and 8.6% (IISI), and for 2005, 7.8% (OECD) and 8.0% (IISI). Other OECD projections for GDPs in 2004 and 2005 are the European Union (EU-25), 2.1% and 2.6%; Japan, 3.0% and 2.8%; India, 6.8% and 6.0%; the Republic of Korea, 5.6% and 5.9%; Russia, 7.0% and 5.6%; and Turkey, 5.2% and 5.2%, respectively. Other IISI projections for GDPs in 2004 and 2005 are EU-25, 2.3% and 2.4%; Japan, 4.4% and 2.0%; India, 7.5% and 8.0%; the Republic of Korea, 5.2% and 4.7%; Russia, 6.6% and 5.0%; and Turkey, 6.0% and 6.5%, respectively.

In 2004, China continued to lead global steel growth with production and consumption increasing. China's raw steel production in 2004 was 272 Mt, 23% above that of 2003 (China Metal Market, 2005). IISI expected China's steel production to reach 340 Mt, 30% of world production, in 2006 (International Iron and Steel Institute, 2004b§). Steel consumption in China was estimated to have increased to 263 Mt in 2004 from 232.4 Mt in 2003, a 13% increase, and is expected to increase to between 280 and 290 Mt in 2005 (International Iron and Steel Institute, 2004a§). China's share of global steel consumption for 2004 was 28%, up from 26% in 2003 and the same as that projected for 2005.

World Steel Dynamics (WSD) reported a global shortage of steelmaking metallics, with 2004 requirements up more than 200 Mt from those of 2000 to 1.3 Gt (American Metal Market, 2004). These metallics comprised pig iron, 713 Mt; obsolete scrap, 315 Mt; new and recirculated (revert) scrap, 263 Mt; and scrap substitutes, 58 Mt. During 2004, China's consumption of raw materials to supply its growing steelmaking industry remained strong. China Metal Market (2005) reported that China's steel scrap net imports in 2004 were 10.2 Mt, an

[1]References that include a section mark (§) are found in the Internet References Cited section.

increase of 10% above that of 2003. Although, the United States exported in 2004 almost 3.0 Mt of steel scrap to China, which was 25% of its total scrap exports, this was 5.7% less than that exported to China in 2003. WSD predicted that the global metallics requirement could grow to as much as 1.8 billion metric tons per year by 2015 based on an annual increase of 5.7% in China and 2.3% in the rest of the world. WSD also reported that recovery rates for obsolete scrap outside China were a record 95% in 2004. Thus, the obsolete scrap reservoir is likely to grow by only 1.6% per year to 2015. In the medium term, the scrap supply will rise as a result of new European Union regulations on the disposal of old vehicles, and Russia and Ukraine are long-term potential sources of industrial scrap (Buchner, 2005§).

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TABLE 1
SALIENT U.S. IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS[1]

(Thousand metric tons and thousand dollars)

	2000	2001	2002	2003	2004
Manufacturers of pig iron and raw steel and castings:[2]					
Ferrous scrap consumption	59,600 r	57,200 r	56,800 r	55,600 r	56,700
Pig iron consumption	49,200	46,900	42,500	39,700 r	38,000
Direct-reduced iron consumption	2,270	1,780	2,230	1,790 r	1,490
Net receipts of ferrous scrap[3]	45,600 r	43,200 r	44,000 r	43,100 r	47,000
Home scrap production[4]	13,900 r	13,600 r	12,800 r	12,700 r	11,500
Ending stocks of ferrous scrap, December 31	4,750 r	4,350 r	4,380 r	4,080 r	4,860
Manufacturers of steel castings:[5]					
Ferrous scrap consumption	1,840 r	1,580 r	1,920 r	1,150 r	1,330
Pig iron consumption	11	32	34	31 r	94
Net receipts of ferrous scrap[3]	1,120 r	934 r	1,080 r	678 r	969
Home scrap production[4]	715 r	627 r	825 r	468 r	433
Ending stocks of ferrous scrap, December 31	129 r	114 r	178 r	93 r	82
Iron foundries and miscellaneous users:[5]					
Ferrous scrap consumption	13,100	11,900 r	11,200 r	8,720 r	8,490
Pig iron consumption	1,360	1,120 r	1,280 r	1,030 r	1,020
Direct-reduced iron consumption	16	13	13	4	4
Net receipts of ferrous scrap[3]	7,810	7,640 r	7,270 r	6,300 r	6,400
Home scrap production[4]	4,820	4,250 r	3,760 r	2,430 r	2,370
Ending stocks of ferrous scrap, December 31	436	440	401 r	251 r	459
Totals, all manufacturing types:					
Ferrous scrap consumption	74,600 r	70,600 r	70,000 r	65,500 r	66,500
Pig iron consumption	50,600	48,000 r	43,800 r	40,800 r	39,100
Direct-reduced iron consumption	2,290	1,800	2,250	1,790 r	1,500
Net receipts of ferrous scrap[3]	54,500 r	51,800 r	52,300 r	50,100 r	54,400
Home scrap production[4]	19,500 r	18,400 r	17,400 r	15,600 r	14,300
Ending stocks, December 31:					
Ferrous scrap at consumer plants	5,320 r	4,910 r	4,960 r	4,430 r	5,410
Pig iron at consumer and supplier plants	930	787	754 r	381 r	722
Direct-reduced iron at consumer plants	291	318	269	345 r	136
Exports:[6]					
Ferrous scrap (includes tinplate and terneplate):[7]					
Quantity	5,230	7,440 r	8,950 r	10,800 r	11,800
Value	908,000	1,130,000 r	1,290,000 r	1,940,000 r	2,910,000
Pig iron, all grades:					
Quantity	57	44 r	34 r	86 r	48
Value	7,860	5,580 r	4,910 r	8,850 r	6,690
Direct-reduced iron, steelmaking grade:					
Quantity	7	1 r	1 r	5 r	13
Value	3,260	83 r	100 r	525 r	1,360
Imports for consumption:[6]					
Ferrous scrap (includes tinplate and terneplate):[7]					
Quantity	3,040	2,630 r	3,130 r	3,480 r	4,660
Value	349,000	274,000 r	37,600 r	511,000 r	1,230,000
Pig iron, all grades:					
Quantity	4,460	4,370 r	4,620 r	3,890 r	6,400
Value	540,000	479,000 r	527,000 r	571,000 r	1,360,000
Direct-reduced iron, steelmaking grade:					
Quantity	1,300	1,650 r	2,010 r	1,940 r	2,450
Value	143,000	145,000 r	195,000 r	242,000 r	463,000

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[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes manufacturers of raw steel that also produce steel castings.

[3]Net receipts of scrap is defined as receipts from brokers, dealers, and other outside sources plus receipts from other own-company plants minus shipments.

[4]Home scrap production includes recirculating scrap that results from current operations and obsolete home scrap.

[5]Some consumers in the "Manufacturers of steel castings" category also produce iron castings; some consumers in the "Iron foundries and miscellaneous users" category also produce steel castings.

[6]Data from U.S. Census Bureau. Export valuation is free alongside ship, and import valuation is customs value.

[7]Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping.

TABLE 2

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2004, BY GRADE[1]

(Thousand metric tons)

Grade	Receipts of scrap		Production of home scrap		Consumption of purchased and home scrap	Shipments of scrap	Ending stocks, December 31
	From brokers, dealers, and other outside sources	From other own-company plants	Recirculating scrap from current operations	Obsolete scrap[2]			
Manufacturers of pig iron and raw steel and castings:							
Carbon steel:							
Low-phosphorus plate and punchings	359	1	517	--	717	72	137
Cut structural and plate	4,570	131	704	80	5,180	110	318
No. 1 heavy-melting steel	4,540	197	1,950	40	6,460	141	554
No. 2 heavy-melting steel	5,730	83	386	--	6,240	1	442
No. 1 and electric furnace bundles	4,580	64	1,670	--	6,200	112	327
No. 2 and all other bundles	840	15	2	--	872	(3)	51
Electric furnace, 1 foot and under (not bundles)	143	--	123	--	229	40	2
Railroad rails	231	22	42	--	284	(3)	17
Turnings and borings	1,980	48	54	--	2,170	(3)	115
Slag scrap	814	79	1,530	--	2,050	533	135
Shredded or fragmentized	9,990	1,070	332	(3)	11,100	75	842
No. 1 busheling	5,230	97	181	--	5,240	(3)	412
Steel cans, post consumer	240	--	44	--	295	--	84
All other carbon steel scrap	1,710	185	2,080	3	3,940	114	295
Stainless steel scrap	795	56	232	--	1,140	1	29
Alloy steel (except stainless)	126	1	520	--	642	6	29
Ingot mold and stool scrap	1	--	80	79	56	80	16
Machinery and cupola cast iron	1	--	2	--	1	--	1
Cast-iron borings	298	--	(3)	--	279	(3)	30
Motor blocks	10	--	--	--	10	--	1
Other iron scrap	703	51	421	--	1,240	90	354
Other mixed scrap	1,950	74	437	--	2,340	40	672
Total	44,800	2,170	11,300	202	56,700	1,410	4,860
Manufacturers of steel castings:							
Carbon steel:							
Low-phosphorus plate and punchings	270	3	70	(3)	358	(3)	29
Cut structural and plate	101	(3)	4	10	103	10	3
No. 1 heavy-melting steel	34	--	5	--	37	--	5
No. 2 heavy-melting steel	14	--	--	--	14	--	(3)
No. 1 and electric furnace bundles	1	--	--	--	1	--	--
No. 2 and all other bundles	--	--	--	--	--	--	--
Electric furnace, 1 foot and under (not bundles)	5	--	3	--	8	--	(3)
Railroad rails	19	--	57	--	76	(3)	2
Turnings and borings	25	--	6	18	32	18	(3)
Slag scrap	1	--	4	--	5	--	(3)
Shredded or fragmentized	128	--	--	--	129	--	1
No. 1 busheling	231	--	--	--	230	--	2
Steel cans, post consumer	--	--	--	(3)	--	(3)	--
All other carbon steel scrap	56	--	96	10	151	9	4
Stainless steel scrap	13	(3)	28	28	45	29	22
Alloy steel (except stainless)	23	2	35	(3)	58	(3)	5
Ingot mold and stool scrap	--	--	43	(3)	24	19	5
Machinery and cupola cast iron	--	--	--	--	--	--	--
Cast-iron borings	8	--	(3)	--	8	--	(3)
Motor blocks	--	--	--	--	--	--	--
Other iron scrap	1	--	1	(3)	3	--	(3)
Other mixed scrap	33	--	1	14	46	1	3
Total	965	4	353	80	1,330	86	82

See footnotes at end of table.

TABLE 2—Continued

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2004, BY GRADE[1]

(Thousand metric tons)

Grade	Receipts of scrap		Production of home scrap		Consumption of purchased and home scrap	Shipments of scrap	Ending stocks, December 31
	From brokers, dealers, and other outside sources	From other own-company plants	Recirculating scrap from current operations	Obsolete scrap[2]			
Iron foundries and miscellaneous users:							
Carbon steel:							
Low-phosphorus plate and punchings	794	2	155	3	837	23	114
Cut structural and plate	1,110	32	40	(3)	1,180	3	41
No. 1 heavy-melting steel	259	2	16	--	277	(3)	2
No. 2 heavy-melting steel	217	1	--	--	219	(3)	2
No. 1 and electric furnace bundles	26	--	--	--	26	--	2
No. 2 and all other bundles	91	--	24	--	115	3	5
Electric furnace, 1 foot and under (not bundles)	91	--	1	--	92	--	1
Railroad rails	64	(3)	27	--	94	(3)	3
Turnings and borings	52	--	(3)	--	51	(3)	2
Slag scrap	--	--	14	--	10	3	1
Shredded or fragmentized	1,330	--	(3)	--	1,330	1	48
No. 1 busheling	471	(3)	36	(3)	507	1	10
Steel cans, post consumer	13	--	--	--	13	--	(3)
All other carbon steel scrap	48	(3)	3	(3)	50	(3)	3
Stainless steel scrap	1	--	(3)	--	1	(3)	(3)
Alloy steel (except stainless)	1	--	(3)	--	1	(3)	(3)
Ingot mold and stool scrap	54	--	3	--	56	--	9
Machinery and cupola cast iron	631	(3)	261	2	746	35	157
Cast-iron borings	83	31	11	--	124	2	2
Motor blocks	282	124	376	--	777	2	12
Other iron scrap	456	4	1,350	1	1,790	10	41
Other mixed scrap	122	19	49	(3)	192	1	4
Total	6,190	217	2,360	6	8,490	88	459
Totals for all manufacturing types:							
Carbon steel:							
Low-phosphorus plate and punchings	1,420	5	742	3	1,910	95	281
Cut structural and plate	5,780	164	748	89	6,470	124	362
No. 1 heavy-melting steel	4,830	199	1,970	40	6,780	141	561
No. 2 heavy-melting steel	5,960	84	386	--	6,480	1	444
No. 1 and electric furnace bundles	4,600	64	1,670	--	6,230	112	329
No. 2 and all other bundles	931	15	26	--	987	3	56
Electric furnace, 1 foot and under (not bundles)	239	--	127	--	328	40	3
Railroad rails	314	22	127	--	454	(3)	22
Turnings and borings	2,060	48	61	18	2,250	18	117
Slag scrap	815	79	1,550	--	2,070	536	136
Shredded or fragmentized	11,400	1,070	332	(3)	12,600	76	891
No. 1 busheling	5,930	97	217	(3)	5,980	1	424
Steel cans, post consumer	253	--	44	(3)	307	(3)	84
All other carbon steel scrap	1,810	186	2,180	14	4,140	123	302
Stainless steel scrap	810	56	260	28	1,180	30	51
Alloy steel (except stainless)	151	2	555	(3)	702	7	35
Ingot mold and stool scrap	54	--	126	79	137	99	30
Machinery and cupola cast iron	633	(3)	263	2	747	35	158
Cast-iron borings	389	31	11	--	412	3	32
Motor blocks	292	124	376	--	787	2	13
Other iron scrap	1,160	55	1,770	2	3,030	100	395
Other mixed scrap	2,110	93	487	14	2,570	42	679
Total	52,000	2,390	14,000	288	66,500	1,590	5,410

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Obsolete home scrap includes ingot molds, stools, and scrap from old equipment, buildings, etc.

[3]Less than ½ unit.

TABLE 3
U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND DIRECT-REDUCED IRON IN 2004[1]

(Thousand metric tons)

	Receipts	Production	Consumption	Shipments	Stocks, December 31
Manufacturers of pig iron, raw steel, and castings:					
Pig iron	8,350 [2]	30,900	38,000	439	677
Direct-reduced iron (DRI)	1,250 [3]	W	1,490	27	135
Manufacturers of steel castings:					
Pig iron	92	(4)	94	(5)	2
DRI	(5)	--	(5)	--	(5)
Iron foundries and miscellaneous users:					
Pig iron	994	(4)	1,020	61	43
DRI	4	1	4	--	1
Totals for all manufacturing types:					
Pig iron	9,440	30,900	39,100	501	722
DRI	1,260	W	1,500	27	136

W Withheld to avoid disclosing company proprietary data. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes 1,790,000 metric tons purchased by electric furnace steel producers.
[3]Includes 1,120,000 metric tons purchased by integrated steel producers.
[4]Withheld to avoid disclosing company proprietary data; included in "Totals for all manufacturing types."
[5]Less than ½ unit.

TABLE 4
U.S. CONSUMPTION OF IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON IN 2004, BY TYPE OF FURNACE OR OTHER USE[1]

(Thousand metric tons)

	Manufacturers of pig iron and raw steel and castings			Manufacturers of steel castings			Iron foundries and miscellaneous users			Totals for all manufacturing types		
	Scrap	Pig iron	Direct-reduced iron (DRI)	Scrap	Pig iron	DRI	Scrap	Pig iron	DRI	Scrap	Pig iron	DRI
Blast furnace	1,090	--	482	--	--	--	--	--	--	1,090	--	482
Basic oxygen process	13,000	35,700	69	--	--	--	--	--	--	13,000	35,700	69
Electric furnace	42,500	2,270	940	1,330	94	(4)	3,640	663	4	47,500	3,030	944
Cupola furnace	--	--	--	(4)	--	--	4,840	354	(4)	4,840	354	(4)
Other[2]	W	--	--	(4)	--	--	W	W	--	W	W	--
Direct castings[3]	--	36	--	--	--	--	--	--	--	--	36	--
Total	56,700	38,000	1,490	1,330	94	(4)	8,490	1,020	4	66,500	39,100	1,500

W Withheld to avoid disclosing company proprietary data; included with "Electric furnace." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes air furnaces.
[3]Includes ingot molds and stools.
[4] Less than ½ unit.

TABLE 5

IRON AND STEEL SCRAP SUPPLY AVAILABLE FOR CONSUMPTION IN 2004, BY REGION AND STATE[1, 2]

(Thousand metric tons)

Region and State	Receipts of scrap		Production of home scrap			
	From brokers, dealers, and other outside sources	From other own company plants	Recirculating scrap resulting from current operations	Obsolete scrap[3]	Shipments of scrap[4]	New supply available for consumption
New England and Middle Atlantic:						
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	29	--	10	(5)	(5)	40
New Jersey and New York	2,180	--	119	1	--	2,300
Pennsylvania	3,610	116	2,080	76	19	5,860
Total	5,820	116	2,210	77	19	8,200
North Central:						
Illinois	1,900	86	475	2	4	2,460
Indiana	3,580	161	3,700	33	497	6,970
Iowa, Nebraska, South Dakota	2,400	13	166	(5)	(6)	2,580
Kansas and Missouri	78	2	97	65	83	159
Michigan	2,730	15	1,320	(5)	490	3,580
Minnesota	444	142	38	--	1	623
Ohio	6,740	298	1,800	58	247	8,640
Wisconsin	1,640	123	670	1	6	2,430
Total	19,500	841	8,260	159	1,330	27,400
South Atlantic:						
Delaware and Maryland	855	21	455	29	13	1,350
Florida and Georgia	982	--	39	--	(5)	1,020
North Carolina and South Carolina	2,870	(6)	187	--	(6)	3,150
Virginia and West Virginia	2,150	(6)	401	(6)	(6)	2,580
Total	6,850	267	1,080	29	141	8,090
South Central:						
Alabama and Mississippi	4,850	(6)	744	(6)	21	5,580
Arkansas, Louisiana, Oklahoma	5,010	(6)	331	(6)	(6)	5,530
Kentucky and Tennessee	2,520	91	205	--	(6)	2,790
Texas	3,190	836	462	3	7	4,490
Total	15,600	1,110	1,740	15	45	18,400
Mountain and Pacific:						
Arizona, Colorado, Idaho, Utah	2,340	55	459	(6)	(6)	2,860
California, Oregon, Washington	1,900	W	270	(5)	(6)	2,120
Total	4,240	W	728	9	56	4,980
Grand total	52,000	2,390	14,000	288	1,590	67,100

W Withheld to avoid disclosing company proprietary data. -- Zero.

[1]Supply available for consumption is a net figure computed by adding production to receipts and deducting scrap shipped during the year. The difference in stock levels at the beginning and end of the year is not taken into consideration.

[2]Data are rounded to no more than three significant digits; may not add to totals shown.

[3]Obsolete scrap includes ingot molds, stools, and scrap from old equipment, buildings, etc.

[4]Includes scrap shipped, transferred, or otherwise disposed of during the year.

[5]Less than ½ unit.

[6]Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total."

TABLE 6

U.S. CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN 2004, BY REGION AND STATE[1, 2, 3]

(Thousand metric tons)

Region and State	Manufacturers of pig iron and raw steel and castings		Manufacturers of steel castings		Iron foundries and miscellaneous users		Totals for all manufacturing types	
	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron
New England and Middle Atlantic:								
Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont	1,780	22	11	--	653	155	2,440	177
Pennsylvania	5,540	2,960	149	(4)	353	31	6,040	2,990
Total	7,320	2,980	160	(4)	1,010	186	8,480	3,170
North Central:								
Illinois	2,040	2,200	68	1	437	15	2,550	2,210
Indiana	5,900	13,200	63	1	890	81	6,860	13,300
Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, Wisconsin	2,900	--	644	67	1,980	357	5,520	424
Michigan	2,750	4,460	26	--	955	93	3,730	4,550
Ohio	7,500	6,790	185	(4)	660	141	8,350	6,930
Total	21,100	26,700	987	69	4,920	686	27,000	27,400
South Atlantic:								
Delaware, Maryland, Virginia, West Virginia	3,600	W	W	W	318	17	3,920	1,520
Florida, Georgia, North Carolina, South Carolina	3,970	W	W	W	170	2	4,140	144
Total	7,570	1,640	2	(4)	489	19	8,060	1,660
South Central:								
Alabama, Kentucky, Mississippi, Tennessee	6,440	W	83	W	1,630	W	8,150	4,530
Arkansas, Louisiana, Oklahoma	5,310	W	12	W	18	W	5,340	736
Texas	4,330	40	11	W	196	22	4,540	86
Total	16,100	5,200	106	24	1,840	126	18,000	5,350
Mountain and Pacific:								
Arizona, Colorado, Idaho, Utah	2,770	W	4	(4)	107	W	2,880	1,500
California, Oregon, Washington	1,850	W	72	(4)	126	W	2,040	4
Total	4,620	1,500	75	(4)	233	5	4,930	1,510
Grand total	56,700	38,000	1,330	94	8,490	1,020	66,500	39,100

W Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total." -- Zero.

[1]Includes recirculating scrap resulting from current operations and home-generated obsolete scrap.

[2]Includes molten pig iron used for ingot molds and direct castings.

[3]Data are rounded to no more than three significant digits; may not add to totals shown.

[4]Less than ½ unit.

TABLE 7

U.S. CONSUMER STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, DECEMBER 31, 2004, BY REGION AND STATE[1]

(Thousand metric tons)

Region and State	Carbon steel[2]	Stainless steel	Alloy steel[3]	Cast iron[4]	Other grades of scrap	Total scrap	Pig iron
New England and Middle Atlantic:							
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	(5)	(5)	--	(5)	W	(5)	(5)
New Jersey and New York	56	1	1	2	W	59	(5)
Pennsylvania	247	14	17	15	5	297	7
Total	303	14	18	17	5	357	7
North Central:							
Illinois	100	(5)	W	3	2	106	10
Indiana	419	5	W	16	22	463	153
Iowa, Kansas, Missouri, Nebraska, South Dakota	102	(5)	(5)	11	--	114	5
Michigan	123	(5)	1	9	7	140	9
Minnesota and Wisconsin	49	2	3	7	--	62	5
Ohio	527	29	10	162	--	728	29
Total	1,320	37	15	209	31	1,610	211

See footnotes at end of table.

TABLE 7—Continued
U.S. CONSUMER STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, DECEMBER 31, 2004, BY REGION AND STATE[1]

(Thousand metric tons)

Region and State	Carbon steel[2]	Stainless steel	Alloy steel[3]	Cast iron[4]	Other grades of scrap	Total scrap	Pig iron
South Atlantic:							
Delaware, Maryland, Virginia, West Virginia	208	(5)	W	86	15	308	54
Florida, Georgia, North Carolina, South Carolina	318	(5)	W	19	5	342	28
Total	526	(5)	(5)	105	20	650	82
South Central:							
Alabama, Kentucky, Mississippi, Tennessee	805	W	W	275	W	1,580	233
Arkansas, Louisiana, Oklahoma	547	W	W	2	W	550	155
Texas	271	W	W	6	W	277	22
Total	1,620	(5)	1	283	503	2,410	410
Mountain and Pacific:							
Arizona, Colorado, Idaho, Utah	158	(5)	W	5	64	226	W
California, Oregon, Washington	83	(5)	W	10	56	151	W
Total	241	(5)	2	14	121	377	11
Grand total	4,010	51	35	628	679	5,410	722

W Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Excludes rerolling rails.
[3]Excludes stainless steel.
[4]Includes borings.
[5]Less than ½ unit.

TABLE 8
U.S. AVERAGE MONTHLY PRICE AND COMPOSITE PRICE FOR NO. 1 HEAVY-MELTING STEEL, WITH ANNUAL AVERAGES[1]

(Dollars per metric ton)

Period	Chicago, IL	Philadelphia, PA	Pittsburgh, PA	Composite price
2003, average	112.23	124.22	126.51	120.99
2004:				
January	184.78	160.08	184.05	176.30
February	216.45	210.88	234.32	220.55
March	246.89	233.51	257.90	246.10
April	221.00	184.77	210.66	205.48
May	179.03	160.80	163.75	167.86
June	177.16	148.62	161.41	162.39
July	218.99	194.87	221.85	211.90
August	245.38	214.82	249.55	236.58
September	213.95	183.06	208.79	201.93
October	233.87	228.43	238.55	233.62
November	244.08	240.39	258.60	247.69
December	220.04	204.02	220.75	214.93
Average	216.80	197.02	217.51	210.45

[1]Calculated by the U.S. Geological Survey from prices published in American Metal Market.

TABLE 9
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY COUNTRY[1, 2]

(Thousand metric tons and thousand dollars)

	2003		2004	
Country	Quantity	Value	Quantity	Value
Bahamas, The	(3)	55	2	387
Bangladesh	--	--	6	1,150
Belgium	8	2,580	23	3,020
Bermuda	8	59	(3)	20
Brazil	15	2,340	2	757
Canada	1,120	154,000	2,170	236,000
Chile	1	165	2	245
China	3,150	682,000	2,970	923,000
Colombia	(3)	87	4	463
Dominican Republic	1	158	2	1,370
Egypt	6	318	55	12,100
Finland	77	74,100	72	99,800
France	(3)	326	1	1,050
Germany	4	3,100	17	7,620
Guatemala	26	4,200	30	5,660
Hong Kong	37	11,900	72	41,400
India	69	20,800	295	90,800
Indonesia	8	2,510	41	11,700
Ireland	(3)	89	1	565
Italy	64	16,100	150	40,400
Japan	59	31,300	93	41,100
Kenya	18	4,890	59	24,700
Korea, Republic of	2,270	351,000	1,880	490,000
Malaysia	649	72,900	399	80,700
Mexico	1,330	172,000	1,510	305,000
Netherlands	18	11,800	15	16,100
Pakistan	8	1,590	4	770
Panama	(3)	163	3	789
Peru	63	7,850	186	39,500
Portugal	33	3,680	25	4,750
Singapore	37	4,880	15	4,610
Slovenia	(3)	22	21	5,160
South Africa	6	693	2	10
Spain	70	35,200	10	13,200
Sweden	3	848	1	2,280
Switzerland	30	955	3	1,120
Taiwan	371 r	99,700	191	93,700
Thailand	577	79,100	751	150,000
Turkey	570	71,400	631	136,000
Turks and Caicos Islands	4	527	7	780
United Arab Emirates	2	636	5	1,440
United Kingdom	19	8,420	24	8,240
Venezuela	6	1,010	4	694
Vietnam	7	2,340	13	3,830
Other	13 r	3,320 r	9	3,260
Total	10,800	1,940,000	11,800	2,910,000

rRevised. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is free alongside ship. The United States exported scrap to 79 countries in 2003 and 87 countries in 2004.

[3]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 10
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY CUSTOMS DISTRICT[1, 2]

(Thousand metric tons and thousand dollars)

Customs district	2003		2004	
	Quantity	Value	Quantity	Value
Baltimore, MD	34	9,360	18	9,430
Boston, MA	667	90,600	794	176,000
Buffalo, NY	133	28,400	111	29,700
Charleston, SC	16	8,410	83	22,200
Charlotte, NC	24	3,040	24	6,380
Chicago, IL	5	1,510	9	4,510
Cleveland, OH	1	507	1	713
Columbia-Snake River, OR/WA	383	58,100	403	98,200
Detroit, MI	246	37,100	329	61,000
Duluth, MN	67	8,050	44	8,650
El Paso, TX	1	269	3	691
Great Falls, MT	19	2,140	23	3,280
Honolulu, HI	119	22,200	125	29,300
Houston-Galveston, TX	88	63,800	127	83,600
Laredo, TX	354	51,100	417	88,700
Los Angeles, CA	2,070	409,000	2,100	653,000
Miami, FL	41	16,300	46	18,900
Mobile, AL	9	3,820	4	4,320
New Orleans, LA	281	118,000	69	97,800
New York, NY	2,020	366,000	1,730	480,000
Nogales, AZ	37	2,760	20	2,970
Norfolk, VA	219	37,200	137	41,500
Ogdensburg, NY	17	6,550	63	12,600
Pembina, ND	252	29,600	510	78,800
Philadelphia, PA	435	60,200	418	91,600
Portland, ME	198	29,400	288	61,000
Providence, RI	285	35,100	252	48,800
San Diego, CA	124	9,600	200	27,200
San Francisco, CA	1,110	189,000	1,220	306,000
San Juan, PR	79	9,440	80	15,300
Savannah, GA	37	13,300	66	36,400
Seattle, WA	577	120,000	632	192,000
Saint Albans, VT	16	5,210	51	9,840
Tampa, FL	398	53,400	321	65,400
Other	403 r	43,000 r	1,050	39,900
Total	10,800	1,940,000	11,800	2,910,000

rRevised.
[1]Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is free alongside ship.
[2]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 11
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY GRADE[1, 2]

(Thousand metric tons and thousand dollars)

Grade	2003		2004	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	1,950	259,000	1,970	406,000
No. 2 heavy-melting scrap	331	43,700	406	79,900
No. 1 bundles	190	24,200	301	38,100
No. 2 bundles	40	6,300	45	7,790
Shredded steel scrap	3,560	489,000	3,710	778,000
Borings, shovelings, and turnings	157	13,600	207	20,000
Cut plate and structural	685	96,400	547	115,000
Tinned iron or steel	188	29,000	82	19,200
Remelting scrap ingots	7	8,130	7	6,270
Stainless steel scrap	505	382,000	478	548,000
Other alloy steel scrap	890	280,000	1,740	387,000
Other steel scrap[3]	1,190	141,000	1,260	300,000
Iron scrap	1,080	167,000	1,030	201,000
Total	10,800	1,940,000	11,800	2,910,000
Ships, boats, and other vessels for scrapping	48	2,580	16	2,680
Used rails for rerolling and other uses[4]	49	16,100	42	18,100
Grand total	10,900	1,960,000	11,800	2,930,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Export valuation is free alongside ship.
[3]Includes tinplate and terneplate.
[4]Includes mixed (used plus new) rails. More information can be found in table 15.

Source: U.S. Census Bureau.

TABLE 12
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY COUNTRY[1, 2]

(Thousand metric tons and thousand dollars)

Country	2003		2004	
	Quantity	Value	Quantity	Value
Argentina	1	201	(3)	681
Aruba	6	671	7	1,610
Bahamas, The	4	415	5	275
Belgium	(3)	2	3	14,700
Brazil	45	5,910	5	1,540
Canada	2,310	305,000	2,550	591,000
China	(3)	182	2	1,100
Colombia	(3)	158	1	1,160
Denmark	--	--	138	31,600
Dominican Republic	55	6,310	76	16,400
Ecuador	(3)	106	1	712
Egypt	1	740	1	1,070
Finland	(3)	7	2	5,250
France	1	129	(3)	60
Germany	1	234	7	1,130
Italy	1	1,260	(3)	29
Japan	1	906	2	807
Mexico	81	42,800	126	57,700
Netherlands	12	2,050	247	79,100
Netherlands Antilles	1	13	17	1,630
Russia	126	16,700	86	30,700
South Africa	(3)	59	3	2,070
Suriname	(3)	21	3	445
Sweden	205	27,900	313	76,300

See footnotes at end of table.

TABLE 12—Continued
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY COUNTRY[1, 2]

(Thousand metric tons and thousand dollars)

Country	2003		2004	
	Quantity	Value	Quantity	Value
Taiwan	1	746	30	419
Trinidad and Tobago	(3)	667	10	2,630
United Arab Emirates	1	93	(3)	16
United Kingdom	630	95,500	1,020	300,000
Venezuela	(3)	492	9	8,360
Other	4 r	1,010 r	3	1,970
Total	3,480	511,000	4,660	1,230,000

[r]Revised. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Import valuation is customs value. The United States imported scrap from 46 countries in 2003 and 50 countries in 2004.
[3]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 13
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY CUSTOMS DISTRICT[1, 2]

(Thousand metric tons and thousand dollars)

Customs district	2003		2004	
	Quantity	Value	Quantity	Value
Baltimore, MD	(3)	16	1	365
Buffalo, NY	319	64,400	454	179,000
Charleston, SC	1,030	148,000	1,110	309,000
Charlotte, NC	64	7,880	21	5,500
Chicago, IL	98	4,190	45	2,720
Cleveland, OH	11	198	23	350
Detroit, MI	1,230	157,000	1,220	272,000
Duluth, MN	10	1,720	26	6,920
El Paso, TX	13	3,720	31	8,410
Great Falls, MT	23	3,000	18	3,350
Houston-Galveston, TX	7	6,690	27	18,500
Laredo, TX	39	25,600	34	27,400
Los Angeles, CA	1	1,030	2	1,770
Miami, FL	1	137	2	236
Mobile, AL	47	5,010	195	49,100
New Orleans, LA	111	16,100	741	229,000
New York, NY	(3)	730	3	1,500
Nogales, AZ	9	2,560	9	2,860
Ogdensburg, NY	20	6,990	28	15,100
Pembina, ND	26	8,640	78	23,300
Philadelphia, PA	(3)	106	(3)	86
Portland, OR	1	647	1	105
San Diego, CA	19	7,040	46	10,200
Savannah, GA	(3)	100	30	414
Seattle, WA	401	37,600	514	62,200
Tampa, FL	4	1,650	4	261
Other	3 r	701 r	1	1,020
Total	3,480	511,000	4,660	1,230,000

[r]Revised.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Import valuation is customs value.
[3]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 14
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY CLASS[1, 2]

(Thousand metric tons and thousand dollars)

Class	2003		2004	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	19	1,950	118	20,300
No. 2 heavy-melting scrap	3	250	27	3,880
No. 1 bundles	391	54,700	910	251,000
No. 2 bundles	(3)	39	1	105
Shredded steel scrap	819	107,000	1,340	299,000
Borings, shovelings, and turnings	18	1,510	58	5,680
Cut plate and structural	103	13,300	125	19,600
Tinned iron or steel	20	3,390	10	2,020
Remelting scrap ingots	1	750	31	1,230
Stainless steel scrap	89	70,200	146	160,000
Other alloy steel scrap	132	29,600	291	77,500
Other steel scrap[4]	1,580	198,000	1,270	327,000
Iron scrap	307	29,900	338	63,300
Total	3,480	511,000	4,660	1,230,000
Ships, boats, and other vessels for scrapping	3	583	(3)	128
Used rails for rerolling and other uses[5]	207	45,600	132	44,100
Grand total	3,690	557,000	4,790	1,280,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Import valuation is customs value.
[3]Less than ½ unit.
[4]Includes tinplate and terneplate.
[5]Includes mixed (used plus new) rails. More information can be found in table 16.

Source: U.S. Census Bureau.

TABLE 15
U.S. EXPORTS OF USED RAILS FOR REROLLING AND OTHER USES, BY COUNTRY[1, 2]

Country	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Argentina	8	$12	1	$13
Australia	1,270	1,320	559	859
Austria	4	20	12	61
Bahamas, The	6	6	24	98
Brazil	25	74	11	29
Canada	13,400	3,860	17,600	5,890
Cayman Islands	--	--	49	36
Chile	42	58	88	104
China	6,700	1,070	1,020	300
Colombia	186	70	192	74
Dominican Republic	448	150	472	256
El Salvador	--	--	5	8
France	--	--	28	114
Georgia	--	--	6	19
Germany	14	7	66	252
Grenada	--	--	41	59
Guatemala	91	28	--	--
Hong Kong	141	30	11	149
India	60	97	--	--
Israel	18	8	(3)	4
Italy	1	23	18	13
Japan	10	56	3	44
Korea, Republic of	19	10	77	69

See footnotes at end of table.

TABLE 15—Continued
U.S. EXPORTS OF USED RAILS FOR REROLLING AND OTHER USES, BY COUNTRY[1, 2]

Country	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Malaysia	--	--	23	41
Mexico	20,600	6,950	19,500	8,320
New Caledonia	--	--	10	15
Peru	1,030	756	10	3
Phillippines	--	--	1	4
Portugal	--	--	17	29
Saudi Arabia	4	12	36	99
Singapore	--	16	1	7
Spain	22	26	--	--
Sweden	33	21	2	14
Taiwan	4,960	1,110	1,750	552
Thailand	--	--	5	56
Trinidad and Tobago	27	14	--	--
Turks and Caicos Islands	--	--	11	163
United Arab Emirates	--	--	212	154
United Kingdom	27	52	59	118
Venezuela	129	169	7	30
Other	13 [r]	64 [r]	4	83
Total	49,300	16,100	41,900	18,100

[r]Revised. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Exports contain mixed (used plus new) rails totaling 12,800 metric tons (t) valued at $8,170,000 in 2003 and 13,500 t valued at $10,100,000 in 2004. Export valuation is free alongside ship value.
[3]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 16
U.S. IMPORTS FOR CONSUMPTION OF USED RAILS FOR REROLLING AND OTHER USES, BY COUNTRY[1, 2]

Country	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Austria	--	--	3	$3
Brazil	--	--	1,100	6
Canada	26,300	$3,830	29,000	7,210
Dominican Republic	27	6	--	--
Germany	514	375	341	455
Japan	62	44	2	4
Korea, Republic of	--	--	9	8
Malaysia	4	9	--	--
Mexico	--	--	2	5
Netherlands	--	--	17	22
Philippines	--	--	2	6
Poland	14	385	--	--
Russia	180,000	41,000	85,700	33,400
Spain	--	--	99	46
Taiwan	6	22	18	27
Ukraine	--	--	15,500	2,950
Other	1 [r]	2 [r]	--	--
Total	207,000	45,600	132,000	44,100

[r]Revised. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Import valuation is customs value.

Source: U.S. Census Bureau.

TABLE 17
U.S. EXPORTS OF DIRECT-REDUCED IRON, BY COUNTRY[1, 2]

Country	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Brazil	--	--	47	$5
Canada	--	--	116	13
China	--	--	12,000	1,280
Colombia	--	--	43	$4
Ireland	77	$8	--	--
Malaysia	167	26	--	--
Mexico	1,180	125	503	53
Peru	3,450	366	--	--
Spain	--	--	33	3
Turkey	--	--	36	4
Total	4,870	525	12,800	1,360

-- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Data are for steelmaking-grade direct-reduced iron only.

Source: U.S. Census Bureau.

TABLE 18
U.S. IMPORTS FOR CONSUMPTION OF DIRECT-REDUCED IRON, BY COUNTRY[1, 2]

Country	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Brazil	8,780	$448	--	--
Canada	19,900	2,130	435,000	$45,300
Italy	--	--	709	75
Russia	36,400	5,120	64,000	16,100
Sweden	40	7	--	--
Trinidad and Tobago	296,000	40,600	220,000	58,100
United Kingdom	--	--	62,500	15,600
Venezuela	1,580,000	194,000	1,670,000	328,000
Total	1,940,000	242,000	2,450,000	463,000

-- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Data are for steelmaking-grade direct-reduced iron only.

Source: U.S. Census Bureau.

TABLE 19
U.S. EXPORTS OF PIG IRON, BY COUNTRY[1, 2]

Country	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Belgium	110	$10	--	--
Canada	3,270	607	5,910	$1,240
China	132	32	479	48
Colombia	50,000	4,400	18,400	1,620
Czech Republic	--	--	47	4
Germany	96	84	36	17
Italy	--	--	77	19
Jamaica	--	--	270	24
Korea, Republic of	1,530	211	631	109
Mexico	24,000	2,460	15,200	1,800
Netherlands	--	--	30	3
Singapore	256	22	42	8
Taiwan	638	57	101	12
Tunisia	335	29	--	--
Turkey	5,050	860	6,690	1,780
United Kingdom	133	15	20	9
Other	133	53	15	7
Total	85,700	8,850	48,000	6,690

[r]Revised. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes the following grades of pig iron: less than or equal to 0.5% phosphorus content, greater than 0.5% phosphorus content, and alloy grade. Export valuation is free alongside ship value.

Source: U.S. Census Bureau.

TABLE 20
U.S. IMPORTS FOR CONSUMPTION OF PIG IRON, BY COUNTRY[1, 2]

Country	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Brazil	2,890,000	$418,000	4,770,000	$914,000
Canada	87,000	15,500	95,200	25,000
China	--	--	132,000	31,200
Colombia	188	128	--	--
Japan	--	--	1	3
Mexico	11	6	--	--
Russia	620,000	93,000	1,110,000	314,000
South Africa	106,000	14,300	118,000	23,900
Trinidad and Tobago	--	--	48,400	14,300
Ukraine	190,000	30,300	80,200	18,700
United Kingdom	12	13	15,300	4,520
Venezuela	--	--	28,300	10,100
Total	3,890,000	571,000	6,400,000	1,360,000

-- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes the following grades of pig iron: less than or equal to 0.5% phosphorus content, greater than 0.5% phosphorus content, and alloy grade. Import valuation is customs value.

Source: U.S. Census Bureau.