



U.S. Department of the Interior • Bureau of Mines



## MINERAL INDUSTRY SURVEYS

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### IRON AND STEEL SCRAP IN OCTOBER 1990

Returns from 31% of reporting consumers, representing 53% of total scrap consumption, indicated that consumption of iron and steel scrap on a daily average basis was about the same as that in September, according to the Bureau of Mines, U.S. Department of the Interior. Compared with September data, daily average production was down 3%, net receipts were up 5%, and stocks at the end of the month were up 2%.

Exports of ferrous scrap for the month of September 1990 were 23% lower than those for August 1990. Republic of Korea was the principal country of destination, accounting for 20% of the total exports in September 1990, followed by India with 17%, and Turkey with 17%.

Exports of ferrous scrap for the month of October 1990 were 56% higher than those for September 1990. Republic of Korea was the principal country of destination, accounting for 32% of the total exports in October 1990, followed by Turkey with 21%, and India with 9%.

On a daily average basis, pig iron production was slightly higher and consumption was down slightly, compared with that of the previous month. Stocks of pig iron at monthend were down 2%, compared with those at the end of September 1990.

Domestic raw steel production in October 1990, according to the American Iron and Steel Institute, amounted to 8,424,000 short tons, up 4% compared with 8,094,000 tons in September 1990 and up 3% compared with 8,175,000 tons in October 1989. Year-to-date production through October 1990 was 82,361,000 tons, down slightly compared with 82,868,000 tons for the same period in 1989. The electric furnace (EF) share of raw steel production was 38% for October 1990, 35% for September 1990, and 36% for October 1989. The EF share through October was 37% in 1990 and 36% in 1989. Raw steel capability utilization was 85% for October 1990, 85% for September 1990, and 83% for October 1989. Capability utilization through October was 85% in 1990 and 86% in 1989. Continuous cast steel production in the United States represented 66% of total raw steel production in October 1990, 67% in September 1990, and 66% in October 1989. Through October, continuous cast steel production was 66% of total raw steel production in 1990 compared with 64% in 1989.

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Prepared by the Branch of Ferrous Metals and Branch of Data Collection and Coordination, January 8, 1990.

An internal evaluation indicates that ferrous scrap consumption by electric furnace manufacturers of raw steel in 1990 was understated. This amounted to approximately 1.0 million short tons for October (preliminary), 810,000 short tons for September and 8.0 million short tons for year-to-date through October.

Table 14, which contains data on domestic raw steel production, net shipments of steel mill products, and iron and steel scrap consumption over a 20-year period, is being included in this issue as a further aid in assessing scrap consumption patterns. The data in table 14 show that two major factors have influenced scrap consumption by domestic steel mills over the past 20 years. Namely, these are the increased proportion of raw steel produced in electric furnaces, which resulted in a need for more scrap, and the increased adoption of continuous casters, which produced higher steel mill processing yields with a subsequent reduction in home scrap generation. The quantity of ferrous scrap consumed in the United States to produce a short ton of raw steel has increased from about 0.51 tons in 1970 to about 0.61 tons in 1990. Of the ferrous scrap consumed by U.S. steel mills, about 60% consisted of home scrap in 1970 compared with only about 27% in 1990.

Comparative monthly composite prices in dollars per long ton for No. 1 heavy melting steel scrap as quoted by two sources are shown:

Month	<u>American Metal Market</u>		<u>Iron Age</u>	
	1989	1990	1989	1990
January	113.90	102.74	115.03	104.10
February	116.07	102.96	116.08	102.58
March	112.52	100.02	113.17	100.50
April	112.20	106.05	113.33	108.37
May	113.09	110.93	113.30	112.17
June	111.67	107.65	111.92	109.50
July	107.33	105.70	107.36	107.76
August	104.86	114.33	104.50	114.17
September	102.62	112.59	103.25	111.75
October	99.58	110.63	99.83	109.90
November	96.67	107.33	97.17	104.42
December	97.05		97.00	103.24

TABLE 1. - U.S. RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, BY TYPE OF MANUFACTURER

(SHORT TONS)

	OCTOBER 1990 (PRELIMINARY) 1/				REVISED TOTAL FOR MONTH OF SEP 1990 4/	TOTAL YEAR THROUGH OCT 1990 5/
	MFRS. OF PIG IRON AND RAW STEEL & CASTINGS 2/	MFRS. OF STEEL CASTINGS 3/	IRON FOUNDRIES AND MISCEL- LANEOUS USERS	TOTAL FOR MONTH OF OCT 1990		
SCRAP:						
RECEIPTS FROM DEALERS AND OTHER SOURCES	2,942,172	179,036	877,359	3,998,567	3,671,606	37,476,607
RECEIPTS FROM OTHER OWN COMPANY PLANTS	90,737	3,921	101,027	195,685	182,312	2,106,208
PRODUCTION RECIRCULATING SCRAP	1,586,336	64,644	449,577	2,100,557	2,100,882	20,986,568
PRODUCTION OBSOLETE SCRAP	33,259	19	3,471	36,749	40,971	631,216
CONSUMPTION	4,288,667	244,601	1,462,594	5,995,862	5,796,869	59,546,918
SHIPMENTS	245,018	1,213	30,825	277,056	253,748	2,632,377
STOCKS END OF MONTH	3,284,239	214,932	744,734	4,243,905	4,170,856	--
PIG IRON:						
RECEIPTS	187,481	1,731	89,923	279,135	264,989	2,862,748
PRODUCTION	4,562,838	--	--	4,562,838	4,403,154	44,491,211
CONSUMPTION	4,659,961	1,608	83,941	4,745,510	4,629,784	46,398,827
SHIPMENTS	123,063	38	2,017	125,118	57,182	1,175,017
STOCKS END OF MONTH	116,599	3,095	75,019	194,713	197,864	--
DIRECT-REDUCED OR PREREDUCED IRON:						
RECEIPTS 6/	--	--	--	191,704	178,855	1,583,300
PRODUCTION	--	--	--	W	W	W
CONSUMPTION	--	--	--	162,707	164,572	1,493,211
SHIPMENTS	--	--	--	W	W	W
STOCKS END OF MONTH	--	--	--	80,283	59,554	--

W WITHHELD TO AVOID DISCLOSING INDIVIDUAL COMPANY PROPRIETARY DATA.

1/ BASED ON RETURNS FROM 31% OF REPORTING CONSUMERS, REPRESENTING 53% OF SCRAP CONSUMPTION.

2/ INCLUDES ONLY THOSE MANUFACTURERS OF STEEL CASTINGS THAT ALSO PRODUCE RAW STEEL.

3/ EXCLUDES COMPANIES THAT PRODUCE BOTH RAW STEEL AND CASTINGS.

4/ BASED ON RETURNS FROM 44% OF REPORTING CONSUMERS, REPRESENTING 64% OF SCRAP CONSUMPTION.

5/ CUMULATIVE TOTALS MAY NOT AGREE WITH SUM OF MONTHLY REPORTS BECAUSE OF ADDITION OF REPORTS FROM LATE RESPONDENTS.

6/ INCLUDES PRODUCTION.

TABLE 2.- MANUFACTURERS OF PIG IRON AND RAW STEEL AND CASTINGS 1/ RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, OCTOBER 1990 (PRELIMINARY) 2/

ITEM	(SHORT TONS)										ENDING STOCKS	
	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION OF BOTH PURCHASED AND HOME SCRAP (INCLUDES RE-CIRCULATING SCRAP)					
	FROM BROKERS, DEALERS AND OTHER	FROM OWN COMPANY PLANTS	RECIRCULATING SCRAP RESULTING FROM CURRENT OPERATIONS	OBsolete SCRAP (INCLUDES INGOT MOLDS, STTOOLS, AND SCRAP FROM OLD EQUIPMENT, BUILDINGS, ETC.)	CHASED AND HOME SCRAP	SHIPMENTS OF SCRAP	SHIPMENTS OF SCRAP	SHIPMENTS OF SCRAP	SHIPMENTS OF SCRAP	SHIPMENTS OF SCRAP	SHIPMENTS OF SCRAP	ENDING STOCKS
SCRAP												
CARBON STEEL												
LOW-PHOSPHORUS PLATE AND PUNCHINGS	44,828	2,761	43,217	--	93,207	--	93,207	--	93,207	--	35,337	
CUT STRUCTURAL AND PLATE	114,827	10,850	28,512	--	135,413	--	135,413	--	135,413	--	119,492	
NO. 1 HEAVY MELTING STEEL	704,298	-162,873	602,941	7,005	1,125,384	42,121	1,125,384	42,121	1,125,384	42,121	894,032	
NO. 2 HEAVY MELTING STEEL	280,403	12,365	63,537	167	366,433	1,174	366,433	1,174	366,433	1,174	284,816	
NO. 1 AND ELECTRIC FURNACE BUNDLES	581,113	26,739	82,116	3,629	510,530	63,809	510,530	63,809	510,530	63,809	519,604	
NO. 2 AND ALL OTHER BUNDLES	67,494	5,461	11,369	--	82,539	5,659	82,539	5,659	82,539	5,659	46,290	
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	1,826	20,202	19	--	21,597	--	21,597	--	21,597	--	11,720	
RAILROAD RAILS	17,824	1,468	1,635	--	22,174	--	22,174	--	22,174	--	10,722	
TURNINGS AND BORINGS	84,986	7,722	14,348	--	106,625	978	106,625	978	106,625	978	63,772	
SLAG SCRAP (FE CONTENT 79 PERCENT)	82,575	34,038	180,182	95	270,295	22,951	270,295	22,951	270,295	22,951	107,071	
SHREDDED AND FRAGMENTIZED	297,283	119,870	8,277	--	414,915	2,074	414,915	2,074	414,915	2,074	306,163	
NO. 1 BUSHING	144,143	7,770	8,441	9	154,038	5,585	154,038	5,585	154,038	5,585	98,395	
ALL OTHER CARBON STEEL SCRAP	338,449	-15,598	379,323	1,955	646,775	60,594	646,775	60,594	646,775	60,594	299,045	
STAINLESS STEEL SCRAP	48,576	1,515	39,579	--	87,353	1,586	87,353	1,586	87,353	1,586	46,788	
ALLOY STEEL (EXCEPT STAINLESS)	8,842	12,056	63,476	--	78,671	791	78,671	791	78,671	791	114,304	
INGOT MOLD AND STUOL SCRAP	28,147	10,693	22,756	20,312	55,382	20,533	55,382	20,533	55,382	20,533	135,839	
MACHINERY AND CUPOLA CAST IRON	--	-293	195	--	--	--	--	--	--	--	409	
CAST IRON BORINGS	13,502	5	67	23	10,449	1,986	10,449	1,986	10,449	1,986	6,926	
MOTOR BLOCKS	--	--	--	--	--	--	--	--	--	--	--	
OTHER IRON SCRAP	36,755	-10,459	31,594	42	44,786	12,414	44,786	12,414	44,786	12,414	130,217	
OTHER MIXED SCRAP	46,301	6,445	4,752	22	62,101	1,029	62,101	1,029	62,101	1,029	53,297	
TOTAL SCRAP	2,942,172	90,737	1,586,336	33,259	4,288,667	245,018	4,288,667	245,018	4,288,667	245,018	3,284,239	
TOTAL SCRAP THROUGH OCTOBER 1990	27,190,753	1,077,904	15,703,708	589,545	42,512,960	2,279,430	42,512,960	2,279,430	42,512,960	2,279,430	3,284,239	
PIG IRON												
		187,481		4,562,838	4,659,961	123,063	4,659,961	123,063	4,659,961	123,063	116,599	
PIG IRON THROUGH OCTOBER 1990		1,849,841		44,491,211	45,377,164	1,149,145	45,377,164	1,149,145	45,377,164	1,149,145	116,599	

1/ INCLUDES ONLY THOSE MANUFACTURERS OF STEEL CASTINGS THAT ALSO PRODUCE RAW STEEL  
2/ BASED ON RETURNS FROM 32% OF REPORTING CONSUMERS, REPRESENTING 59% OF SCRAP CONSUMPTION.

TABLE 3. - MANUFACTURERS OF STEEL CASTINGS 1/ - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, OCTOBER 1990 (PRELIMINARY) 2/

ITEM	RECEIPTS OF SCRAP					PRODUCTION OF HOME SCRAP			CONSUMPTION OF BOTH PURCHASED AND HOME SCRAP (INCLUDES RE-CIRCULATING SCRAP)		ENDING STOCKS
	FROM BROKERS AND OTHER DEALERS OUTSIDE SOURCES	FROM OTHER OWN COMPANY PLANTS	RECIRCULATING SCRAP RESULTING FROM CURRENT OPERATIONS	OBsolete SCRAP (INCLUDES INGOT MOLDS, STOOLES, AND SCRAP FROM OLD EQUIPMENT, BUILDINGS, ETC.)	2,958	10,667	12	69,360	SHIPMENTS OF SCRAP		
SCRAP											
CARBON STEEL											
LOW-PHOSPHORUS PLATE AND PUNCHINGS	54,872	2,958	10,667	12	2,958	10,667	12	69,360	--	37,376	
CUT STRUCTURAL AND PLATE	24,590	436	5,048	7	436	5,048	7	29,053	472	22,931	
NO. 1 HEAVY MELTING STEEL	15,729	--	11,322	--	--	11,322	--	25,744	--	24,877	
NO. 2 HEAVY MELTING STEEL	11,887	--	50	--	--	50	--	12,445	--	8,032	
NO. 1 AND ELECTRIC FURNACE BUNDLES	320	--	--	--	--	--	--	601	--	980	
NO. 2 AND ALL OTHER BUNDLES	--	--	--	--	--	--	--	--	--	--	
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	1,368	--	351	--	--	351	--	1,719	--	1,995	
RAILROAD RAILS	4,959	--	177	--	--	177	--	5,111	--	1,459	
TURNINGS AND BORINGS	1,129	--	160	--	--	160	--	1,048	177	2,152	
SLAG SCRAP (FE CONTENT 79 PERCENT)	--	--	--	--	--	--	--	--	--	--	
SHREDDED AND FRAGMENTIZED	5,453	--	--	--	--	--	--	5,734	--	285	
NO. 1 BUSHING	12,055	--	--	--	--	--	--	11,509	--	6,774	
ALL OTHER CARBON STEEL SCRAP	28,836	--	12,066	--	--	12,066	--	42,233	--	19,748	
STAINLESS STEEL SCRAP	1,605	2	2,001	--	2	2,001	--	3,662	--	5,524	
ALLOY STEEL (EXCEPT STAINLESS)	7,520	50	12,446	--	50	12,446	--	19,071	456	52,170	
INGOT MOLD AND STOOLE SCRAP	--	--	--	--	--	--	--	--	--	--	
MACHINERY AND CUPOLA CAST IRON	3,652	--	502	--	--	502	--	4,003	--	13,153	
CAST IRON BORINGS	3,051	--	1,627	--	--	1,627	--	3,582	--	2,848	
MOTOR BLOCKS	3	--	--	--	--	--	--	3	--	--	
OTHER IRON SCRAP	2,007	--	8,227	--	--	8,227	--	9,248	108	14,528	
OTHER MIXED SCRAP	--	475	--	--	475	--	--	475	--	100	
TOTAL SCRAP	179,036	3,921	64,644	19	3,921	64,644	19	244,601	1,213	214,932	
TOTAL SCRAP THROUGH OCTOBER 1990	1,668,461	40,232	610,670	176	40,232	610,670	176	2,279,141	13,123	214,932	
PIG IRON											
		1,731						1,608	38	3,095	
PIG IRON THROUGH OCTOBER 1990		16,934						16,007	380	3,095	

1/ EXCLUDES COMPANIES THAT PRODUCE BOTH RAW STEEL AND CASTINGS.

2/ BASED ON RETURNS FROM 26% OF REPORTING CONSUMERS, REPRESENTING 35% OF SCRAP CONSUMPTION.

TABLE 4.- IRON FOUNDRIES AND MISCELLANEOUS USERS - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND STEEL SCRAP, BY GRADE, OCTOBER 1990 (PRELIMINARY) 1/  
(SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP				CONSUMPTION		ENDING STOCKS
	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OWN COMPANY PLANTS	FROM OTHER	SCRAP RESULTING FROM CURRENT OPERATIONS	OBSOLETE SCRAP (INCLUDES INGOT AND SCRAP FROM OLD EQUIPMENT, BUILDINGS, ETC.)	CHASED AND HOME SCRAP (INCLUDES RE-CIRCULATING SCRAP)	OF BOTH PURCHASED AND RE-CIRCULATING SCRAP	SHIPMENTS OF SCRAP	STOCKS	
SCRAP										
CARBON STEEL										
LOW-PHOSPHORUS PLATE AND PUNCHINGS	110,129	2,824	26,949	490		142,505			70,226	
CUT STRUCTURAL AND PLATE	80,887	862	3,343			83,481			61,474	
NO. 1 HEAVY MELTING STEEL	13,001	8,451	16,772			37,697			13,285	
NO. 2 HEAVY MELTING STEEL	49,061		24,536			52,275		20,178	8,518	
NO. 1 AND ELECTRIC FURNACE BUNDLES	15,932	19,617	4,124			35,711			13,102	
NO. 2 AND ALL OTHER BUNDLES	19,797					13,506			20,461	
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	3,417	20,970	1,206			25,044			2,030	
RAILROAD RAILS	17,967		216			18,360		216	18,475	
TURNINGS AND BORINGS	27,815	62	1,811			34,573		296	35,143	
SLAG SCRAP (FE CONTENT 79 PERCENT)	7,122					6,412			3,191	
SHREDDED AND FRAGMENTIZED	94,233	3,240				158,775			49,754	
NO. 1 BUSHELING	41,000	3,168	492			51,494			15,281	
ALL OTHER CARBON STEEL SCRAP	59,832		1,669			67,169		32	38,088	
STAINLESS STEEL SCRAP										
ALLOY STEEL (EXCEPT STAINLESS)	1,001		165			991		45	2,960	
INGOT MOLD AND STUOL SCRAP	2,153		419			2,507		13	12,121	
MACHINERY AND CUPOLA CAST IRON	32,999	2,198	538	512		35,886		925	48,423	
CAST IRON BORINGS	108,129	6,250	32,726	2,379		147,249		838	126,356	
MOTOR BLOCKS	49,285	11,694	7,819			64,918		336	37,407	
OTHER IRON SCRAP	38,434	5,658	87,553			130,900		1,050	28,033	
OTHER MIXED SCRAP	47,992	2,739	218,828			266,193		2,719	73,914	
TOTAL SCRAP	57,173	13,314	20,411	90		86,948		3,588	66,492	
TOTAL SCRAP THROUGH OCTOBER 1990	877,359	101,027	449,577	3,471		1,462,594		30,825	744,734	
PIG IRON	8,617,393	988,072	4,672,190	41,495		14,754,817		339,824	744,734	
PIG IRON THROUGH OCTOBER 1990										
		89,923				83,941		2,017	75,019	
		995,973				1,005,656		25,492	75,019	

1/ BASED ON RETURNS FROM 30% OF REPORTING CONSUMERS, REPRESENTING 39% OF SCRAP CONSUMPTION.

TABLE 5. - CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN THE UNITED STATES  
IN OCTOBER 1990 (PRELIMINARY) BY TYPE OF CONSUMER AND TYPE OF FURNACE OR OTHER USE  
(SHORT TONS)

TYPE OF FURNACE OR OTHER USE	MANUFACTURERS OF PIG IRON AND RAW STEEL		MANUFACTURERS OF STEEL CASTINGS 2/		IRON FOUNDRIES AND MISCELLANEOUS USERS		TOTAL ALL TYPES	
	SCRAP	PIG IRON	SCRAP	PIG IRON	SCRAP	PIG IRON	SCRAP	PIG IRON
BLAST FURNACE 3/	243,216	--	--	--	--	--	243,216	--
BASIC OXYGEN PROCESS 4/	1,342,413	4,510,068	--	--	--	--	1,342,413	4,510,068
OPEN-HEARTH FURNACE	253,596	113,333	--	--	--	128	253,596	113,461
ELECTRIC FURNACE	2,401,426	1,401	230,975	1,606	590,661	58,240	3,223,063	61,247
CUPOLA FURNACE	3,392	4,073	13,626	2	864,972	24,737	881,990	28,812
OTHER (INCLUDING AIR FURNACE) 5/	44,624	25,219	--	--	6,961	836	51,585	26,055
DIRECT CASTINGS 6/	--	5,867	--	--	--	--	--	5,867
TOTAL	4,288,667	4,659,961	244,601	1,608	1,462,594	83,941	5,995,862	4,745,510

1/ INCLUDES ONLY THOSE CASTINGS MADE BY COMPANIES PRODUCING RAW STEEL.

2/ EXCLUDES COMPANIES THAT PRODUCE BOTH RAW STEEL AND STEEL CASTINGS.

3/ INCLUDES CONSUMPTION IN ALL BLAST FURNACES PRODUCING PIG IRON.

4/ INCLUDES SCRAP AND PIG IRON PROCESSED IN METALLURGICAL BLAST CUPOLAS AND USED IN OXYGEN CONVERTERS.

5/ INCLUDES VACUUM MELTING FURNACES AND MISCELLANEOUS USES.

6/ INCLUDES INGOT MOLDS AND STOOLS.

TABLE 6.- MANUFACTURERS OF PIG IRON AND RAW STEEL AND CASTINGS 1/ RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, SEPTEMBER 1990 (REVISED) 2/

ITEM	(SHORT TONS)										ENDING STOCKS	
	RECEIPTS OF SCRAP					PRODUCTION OF HOME SCRAP						
	FROM BROKERS, DEALERS AND OTHER	FROM OWN COMPANY	FROM OTHER PLANTS	RECYCLATING SCRAP RESULTING FROM CURRENT OPERATIONS	OBsolete SCRAP (INCLUDES INGOT MOLDS, STOOLES, AND SCRAP FROM OLD EQUIPMENT, BUILDINGS, ETC.)	CONSUMPTION OF BOTH PURCHASED AND HOME SCRAP (INCLUDES RE-CIRCULATING SCRAP)	SHIPMENTS OF SCRAP					
SCRAP												
CARBON STEEL												
LOW-PHOSPHORUS PLATE AND PUNCHINGS	44,209	2,297		43,217	--	92,525	--				37,656	
CUT STRUCTURAL AND PLATE	95,033	9,240		26,693	--	126,837	--				113,609	
NO. 1 HEAVY MELTING STEEL	686,465	-165,094		616,179	14,296	1,105,279	1,720				891,866	
NO. 2 HEAVY MELTING STEEL	294,604	12,277		77,073	167	393,504	34,046				299,935	
NO. 1 AND ELECTRIC FURNACE BUNDLES	463,816	15,318		99,455	285	490,160	1,371				409,276	
NO. 2 AND ALL OTHER BUNDLES	67,565	5,461		11,369	--	80,875	69,580				50,574	
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	877	20,247		-3	--	21,049	--				11,333	
RAILROAD RAILS	18,203	543		1,499	--	19,949	--				11,602	
TURNINGS AND BORINGS	80,382	7,848		12,560	--	103,960	799				62,843	
SLAG SCRAP (FE CONTENT 79 PERCENT)	78,028	29,857		151,497	95	248,781	19,976				134,322	
SHREDDED AND FRAGMENTIZED	271,805	120,046		8,277	--	375,787	--				293,713	
NO. 1 BUSHELING	111,884	8,729		8,267	9	130,063	3,727				95,653	
ALL OTHER CARBON STEEL SCRAP	328,777	-10,473		358,999	2,944	613,213	52,799				298,694	
STAINLESS STEEL SCRAP	47,567	1,240		38,888	--	87,801	1,331				46,287	
ALLOY STEEL (EXCEPT STAINLESS)	10,014	11,439		66,196	--	74,139	715				112,558	
INGOT MOLD AND STOOLE SCRAP	20,362	9,874		18,851	19,616	50,850	21,069				129,071	
MACHINERY AND CUPOLA CAST IRON	--	--		192	--	96	225				822	
CAST IRON BORINGS	8,537	73		67	7	8,235	920				5,881	
MOTOR BLOCKS	--	--		--	--	--	--				--	
OTHER IRON SCRAP	10,010	-645		30,939	42	40,394	7,573				130,195	
OTHER MIXED SCRAP	50,127	6,668		5,295	22	64,608	1,023				60,137	
TOTAL SCRAP	2,688,265	84,945		1,575,510	37,483	4,128,105	222,533				3,196,027	
TOTAL SCRAP THROUGH SEPTEMBER 1990	24,248,581	987,167		14,117,372	556,286	38,224,293	2,034,412				3,196,027	
PIG IRON		183,487			4,403,154	4,550,669	55,117				124,995	
PIG IRON THROUGH SEPTEMBER 1990		1,662,360			39,928,373	40,717,203	1,026,082				124,995	

1/ INCLUDES ONLY THOSE MANUFACTURERS OF STEEL CASTINGS THAT ALSO PRODUCE RAW STEEL

2/ BASED ON RETURNS FROM 44% OF REPORTING CONSUMERS, REPRESENTING 69% OF SCRAP CONSUMPTION.



TABLE 7.- MANUFACTURERS OF STEEL CASTINGS 1/ - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND IRON AND STEEL SCRAP, BY GRADE, SEPTEMBER 1990 (REVISED) 2/

ITEM	(SHORT TONS)						ENDING STOCKS
	RECEIPTS OF SCRAP		PRODUCTION OF HOME SCRAP		CONSUMPTION OF BOTH PURCHASED AND HOME SCRAP (INCLUDES RE-CIRCULATING SCRAP)		
	FROM BROKERS, DEALERS AND OTHER SOURCES	FROM OTHER OWN COMPANY PLANTS	RECIRCULATING SCRAP RESULTING FROM CURRENT OPERATIONS	OBsolete SCRAP (INCLUDES INGOT MOLDS, STOOLS, AND SCRAP FROM OLD EQUIPMENT, BUILDINGS, ETC.)	SHIPMENTS OF SCRAP		
<b>SCRAP</b>							
<b>CARBON STEEL</b>							
LOW-PHOSPHORUS PLATE AND PUNCHINGS	48,411	2,958	11,204	10	--	38,566	
CUT STRUCTURAL AND PLATE	27,576	436	5,048	7	38	22,599	
NO. 1 HEAVY MELTING STEEL	14,694	--	9,540	--	--	26,284	
NO. 2 HEAVY MELTING STEEL	11,887	--	50	--	--	8,032	
NO. 1 AND ELECTRIC FURNACE BUNDLES	320	--	--	--	--	1,261	
NO. 2 AND ALL OTHER BUNDLES	--	--	--	--	--	--	
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	1,448	--	351	--	--	1,995	
RAILROAD RAILS	910	--	--	--	--	1,283	
TURNINGS AND BORINGS	1,112	--	1,009	--	177	1,992	
SLAG SCRAP (FE CONTENT 79 PERCENT)	--	--	--	--	--	--	
SHREDDED AND FRAGMENTIZED	4,543	--	--	--	--	459	
NO. 1 BUSHING	8,760	--	--	--	--	5,072	
ALL OTHER CARBON STEEL SCRAP	23,781	--	11,473	--	--	20,222	
<b>STAINLESS STEEL SCRAP</b>							
ALLOY STEEL (EXCEPT STAINLESS)	1,813	2	2,001	--	--	5,587	
INGOT MOLD AND STOOL SCRAP	7,944	50	12,921	--	336	52,242	
MACHINERY AND CUPOLA CAST IRON	3,652	--	502	--	--	13,153	
CAST IRON BORINGS	3,051	--	1,369	--	--	2,848	
MOTOR BLOCKS	3	--	--	--	--	3	
OTHER IRON SCRAP	1,503	--	7,312	--	120	13,868	
OTHER MIXED SCRAP	--	475	--	--	--	100	
<b>TOTAL SCRAP</b>	<b>161,408</b>	<b>3,921</b>	<b>62,780</b>	<b>17</b>	<b>671</b>	<b>215,563</b>	
<b>TOTAL SCRAP THROUGH SEPTEMBER 1990</b>	<b>1,489,425</b>	<b>36,311</b>	<b>546,026</b>	<b>157</b>	<b>11,910</b>	<b>215,563</b>	
<b>PIG IRON</b>	<b>RECEIPTS</b>		<b>PRODUCTION</b>		<b>CONSUMPTION</b>		<b>SHIPMENTS</b>
		1,533	--	--	1,459	38	3,202
<b>PIG IRON THROUGH SEPTEMBER 1990</b>		15,203	--	--	14,399	342	3,202

1/ EXCLUDES COMPANIES THAT PRODUCE BOTH RAW STEEL AND CASTINGS.

2/ BASED ON RETURNS FROM 38% OF REPORTING CONSUMERS, REPRESENTING 39% OF SCRAP CONSUMPTION.

TABLE 8.- IRON FOUNDRIES AND MISCELLANEOUS USERS - RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND STEEL SCRAP, BY GRADE, SEPTEMBER 1990 (REVISED) 1/  
(SHORT TONS)

ITEM	RECEIPTS OF SCRAP			PRODUCTION OF HOME SCRAP			CONSUMPTION		
	FROM BROKERS, DEALERS AND OTHER OUTSIDE SOURCES	FROM OWN COMPANY PLANTS	FROM OTHER	RECIRCULATING SCRAP FROM CURRENT OPERATIONS	OBsolete SCRAP (INCLUDES INGOT AND SCRAP FROM OLD EQUIPMENT, BUILDINGS, ETC.)	CHASED AND HOME SCRAP (INCLUDES RE-CIRCULATING SCRAP)	SHIPMENTS OF SCRAP	ENDING STOCKS	
<b>SCRAP</b>									
<b>CARBON STEEL</b>									
LOW-PHOSPHORUS PLATE AND PUNCHINGS	106,528	1,767	26,799	490	139,440	--	69,081		
CUT STRUCTURAL AND PLATE	82,413	227	3,173	--	87,124	119	60,148		
NO. 1 HEAVY MELTING STEEL	10,782	8,451	15,022	--	33,679	470	13,415		
NO. 2 HEAVY MELTING STEEL	27,595	--	24,536	--	37,750	20,178	11,080		
NO. 1 AND ELECTRIC FURNACE BUNDLES	16,499	16,199	4,124	--	36,344	--	9,840		
NO. 2 AND ALL OTHER BUNDLES	16,440	--	--	--	14,085	--	18,994		
ELECTRIC FURNACE 1 FOOT AND UNDER (NOT BUNDLES)	2,753	20,781	936	--	24,027	--	1,901		
RAILROAD RAILS	17,197	--	216	--	17,545	216	18,378		
TURNINGS AND BORINGS	27,648	62	1,913	--	30,488	296	40,308		
SLAG SCRAP (FE CONTENT 79 PERCENT)	7,122	--	--	--	6,372	--	3,231		
SHREDDED AND FRAGMENTIZED	93,560	4,351	--	--	155,674	--	54,251		
NO. 1 BUSHING	39,116	4,132	492	--	50,408	--	15,590		
ALL OTHER CARBON STEEL SCRAP	59,768	--	1,369	--	66,843	32	38,040		
<b>STAINLESS STEEL SCRAP</b>									
ALLOY STEEL (EXCEPT STAINLESS)	1,001	--	165	--	1,007	45	2,960		
INGOT MOLD AND STOOL SCRAP	1,775	--	419	--	2,366	13	12,097		
MACHINERY AND CUPOLA CAST IRON	17,265	1,313	17,576	512	35,085	925	48,593		
CAST IRON BORINGS	109,929	6,250	32,447	2,379	153,057	838	135,703		
MOTOR BLOCKS	46,499	9,047	8,034	--	60,589	336	36,312		
OTHER IRON SCRAP	46,256	4,884	84,477	--	136,370	787	36,789		
OTHER MIXED SCRAP	45,657	2,668	204,971	--	248,583	2,701	71,796		
	46,130	13,314	35,923	90	108,152	3,588	60,759		
<b>TOTAL SCRAP</b>	<b>821,933</b>	<b>93,446</b>	<b>462,592</b>	<b>3,471</b>	<b>1,444,988</b>	<b>30,544</b>	<b>759,266</b>		
<b>TOTAL SCRAP THROUGH SEPTEMBER 1990</b>	<b>7,740,034</b>	<b>887,045</b>	<b>4,222,613</b>	<b>38,024</b>	<b>13,292,223</b>	<b>308,999</b>	<b>759,266</b>		
<b>PIG IRON</b>									
		79,969	--	--	77,656	2,027	69,667		
<b>PIG IRON THROUGH SEPTEMBER 1990</b>		906,050	--	--	921,715	23,475	69,667		

1/ BASED ON RETURNS FROM 44% OF REPORTING CONSUMERS, REPRESENTING 52% OF SCRAP CONSUMPTION.

TABLE 9. - CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN THE UNITED STATES  
IN SEPTEMBER 1990 (REVISED) BY TYPE OF CONSUMER AND TYPE OF FURNACE OR OTHER USE  
(SHORT TONS)

TYPE OF FURNACE OR OTHER USE	MANUFACTURERS OF PIG IRON AND RAW STEEL AND CASTINGS 1/						MANUFACTURERS OF STEEL CASTINGS 2/		IRON FOUNDRIES AND MISCELLANEOUS USERS		TOTAL ALL TYPES	
	SCRAP		PIG IRON		SCRAP		PIG IRON		SCRAP		PIG IRON	
BLAST FURNACE 3/	221,897	--	--	--	--	--	--	--	--	221,897	--	--
BASIC OXYGEN PROCESS 4/	1,330,688	4,409,619	--	--	--	--	--	--	--	1,330,688	4,409,619	--
OPEN-HEARTH FURNACE	229,443	113,333	--	--	--	--	--	--	--	229,443	113,333	--
ELECTRIC FURNACE	2,297,308	1,253	210,408	1,457	578,942	55,287	3,086,658	57,997	25,608	2,297,308	1,253	210,408
CUPOLA FURNACE	3,392	4,073	13,368	2	859,403	21,533	876,163	17,427	52,021	3,392	4,073	13,368
OTHER (INCLUDING AIR FURNACE) 5/	45,378	16,591	--	--	6,643	836	--	--	--	45,378	16,591	6,643
DIRECT CASTINGS 6/	--	5,800	--	--	--	--	--	--	--	--	5,800	--
TOTAL	4,128,106	4,550,669	223,776	1,459	1,444,988	77,656	5,796,870	4,629,784				

1/ INCLUDES ONLY THOSE CASTINGS MADE BY COMPANIES PRODUCING RAW STEEL.

2/ EXCLUDES COMPANIES THAT PRODUCE BOTH RAW STEEL AND STEEL CASTINGS.

3/ INCLUDES CONSUMPTION IN ALL BLAST FURNACES PRODUCING PIG IRON.

4/ INCLUDES SCRAP AND PIG IRON PROCESSED IN METALLURGICAL BLAST CUPOLAS AND USED IN OXYGEN CONVERTERS.

5/ INCLUDES VACUUM MELTING FURNACES AND MISCELLANEOUS USES.

6/ INCLUDES INGOT MOLDS AND STOOLES.

Table 10A.--U.S.exports of iron and steel scrap 1/, by country.

Country	September 1990		Year to date	
	Quantity (short tons)	Value (U.S. dollars)	Quantity (short tons)	Value (U.S. dollars)
Argentina-----	23	\$15,826	196	\$146,505
Australia-----	--	--	132	53,635
Austria-----	119	37,714	645	155,556
Bahamas-----	--	--	18	2,789
Belgium-----	3,295	3,556,114	9,093	7,082,004
Brazil-----	4,308	365,955	7,802	826,785
Canada-----	72,682	8,344,977	800,238	83,700,935
China-----	2,542	515,804	65,370	9,807,318
Colombia-----	15,519	1,197,000	30,557	2,802,021
Costa Rica-----	--	--	217	21,600
Dominican Rep.-----	--	--	1,508	486,214
Egypt-----	--	--	31,753	2,744,079
Finland-----	--	--	8	9,674
France-----	2	11,200	22,818	2,408,494
Germany, Fed. Rep. of--	4,332	551,319	9,597	3,773,693
Greece-----	--	--	29,082	3,217,608
Guatemala-----	1,366	191,045	3,479	777,256
Honduras-----	44	13,900	187	69,200
Hong Kong-----	2,758	777,876	23,732	9,481,950
India-----	133,978	16,567,139	1,596,259	195,705,333
Indonesia-----	--	--	70,470	8,389,384
Ireland-----	--	--	90	17,535
Israel-----	--	--	359	163,807
Italy-----	11,800	1,442,208	165,129	20,400,038
Japan-----	37,291	10,645,839	359,791	83,497,142
Korea, Rep. of-----	156,550	23,905,437	2,605,310	314,569,241
Malaysia-----	29,982	3,546,832	162,097	23,311,424
Mexico-----	51,157	5,844,405	489,981	57,645,448
Netherlands-----	4,361	3,719,773	12,161	9,921,100
Pakistan-----	435	265,212	95,005	13,040,824
Peru-----	--	--	48,464	5,087,580
Philippines-----	414	47,004	2,418	533,326
Saudi Arabia-----	45,527	5,174,650	153,551	16,983,572
Singapore-----	1,444	951,335	62,553	10,035,746
Spain-----	16,600	1,944,784	201,388	28,257,949
Sweden-----	322	264,212	1,810	1,439,723
Taiwan-----	61,842	8,370,339	320,297	45,595,156
Thailand-----	--	--	66,523	11,628,702
Turkey-----	132,354	15,069,631	2,302,228	256,635,579
United Kingdom-----	546	204,917	8,068	2,912,759
Uruguay-----	55	29,843	62	34,043
Venezuela-----	--	--	50,044	5,227,250
Other Countries-----	25	38,276	28,192	4,403,254
Grand Total 2/-----	791,674	113,610,566	9,838,621	1,243,003,231

1/ Excludes ships, boats and other vessels for breaking up (for scrapping) which were included in 1965-1970 figures.

2/ Data may not add to total shown because of independent rounding.

Source: Bureau of the Census.

Table 11A.--U.S.exports of iron and steel scrap and other ferrous products, by grade

Grade of scrap	September 1990		Year to date	
	Quantity (short tons)	Value (U.S. dollars)	Quantity (short tons)	Value (U.S. dollars)
No. 1 heavy melting steel scrap---	206,389	\$23,648,467	2,095,403	\$227,590,326
No. 2 heavy melting steel scrap---	58,226	6,023,542	714,483	73,758,566
No. 1 bundles-----	8,930	1,111,088	167,794	18,979,146
No. 2 bundles-----	31,133	3,054,329	321,726	27,724,752
Shredded steel scrap-----	226,614	27,372,448	3,181,491	378,755,009
Borings, shovelings and turnings--	11,526	781,432	228,445	17,114,546
Cut plate and structural-----	66,354	8,044,959	691,559	85,980,700
Tinned iron or steel-----	8,293	1,294,248	217,243	24,547,341
Remelting scrap ingots-----	6,085	741,734	54,389	6,440,557
Cast iron-----	63,329	7,160,766	877,224	104,926,205
Other iron and steel-----	58,088	5,368,816	808,180	82,705,526
<b>Total carbon steel and cast iron-----</b>	<b>744,967</b>	<b>84,601,829</b>	<b>9,357,937</b>	<b>1,048,522,674</b>
Stainless steel-----	25,231	24,469,339	179,689	144,444,603
Other alloy steel-----	21,477	4,539,398	300,997	50,035,954
<b>Total stainless and alloy steel-----</b>	<b>46,708</b>	<b>29,008,737</b>	<b>480,686</b>	<b>194,480,557</b>
<b>Total carbon, stainless, and alloy steel and cast iron 1/--</b>	<b>791,674</b>	<b>113,610,566</b>	<b>9,838,621</b>	<b>1,243,003,231</b>
Ships, boats, and other vessels for breaking up (for scrapping)--	133	20,000	24,950	3,802,183
Rerolling material-----	2,042	391,634	29,703	5,624,244
<b>Total scrap exports 1/-----</b>	<b>793,850</b>	<b>114,022,200</b>	<b>9,893,276</b>	<b>1,252,429,658</b>
EXPORTS OF MANUFACTURED FERROUS PRODUCTS:				
Pig iron < or = 0.5% phosphorus---	1,788	29,944	4,342	314,331
Pig iron > 0.5% phosphorus-----	--	--	526	60,270
Alloy pig iron-----	77	12,531	8,520	961,148
<b>Total pig iron-----</b>	<b>1,865</b>	<b>42,475</b>	<b>13,388</b>	<b>1,335,749</b>
Direct reduced iron (DRI)-----	434	282,560	4,992	4,360,525
Ferrous granules-----	2,323	1,030,190	20,353	9,179,848
Powders of alloy steel-----	113	241,781	14,912	2,761,452
Other ferrous powders-----	1,125	2,128,778	44,106	22,097,887
<b>Total DRI, granules, and powders-----</b>	<b>3,995</b>	<b>3,683,309</b>	<b>84,363</b>	<b>38,399,712</b>
<b>Grand total 1/-----</b>	<b>799,710</b>	<b>117,747,984</b>	<b>9,991,027</b>	<b>1,292,165,119</b>

1/ Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census.

Table 12A.--U.S. imports for consumption of iron and steel scrap 1/, by country.

Country	September 1990		Year to Date	
	Quantity (short tons)	Value (U.S. dollars)	Quantity (short tons)	Value (U.S. dollars)
Australia-----	--	--	22	\$8,924
Bahamas-----	161	\$8,000	2,264	203,025
Brazil-----	8	18,495	387	139,042
Canada-----	75,905	10,459,220	784,093	96,373,040
China-----	18	5,208	1,045	126,798
Colombia-----	86	80,732	124	107,160
Dominican Rep.-----	1	8,943	42	26,037
France-----	15	12,728	130	258,338
Germany, Fed. Rep. of-----	203	83,223	751	261,555
Hungary-----	--	--	2	3,843
Ireland-----	--	--	91	101,810
Israel-----	--	--	5,906	131,119
Jamaica-----	3	3,750	4	5,565
Japan-----	5,627	628,099	52,856	5,269,932
Korea, Rep. of-----	290	84,751	1,536	801,498
Mexico-----	5,426	1,652,271	51,848	13,993,680
Netherlands Antilles--	--	--	3	4,200
Netherlands-----	--	--	895	96,614
Panama-----	2	2,573	29	35,011
Philippines-----	--	--	1	1,290
Singapore-----	--	--	1	14,691
Sweden-----	--	--	9,731	42,536
Taiwan-----	--	--	1	18,041
Trinidad-----	--	--	141	37,259
U.S.S.R. 2/-----	--	--	289	2,740,648
United Kingdom-----	60	73,420	30,944	968,113
Venezuela-----	46	30,564	8,374	1,632,564
Grand Total 3/-----	87,851	13,151,977	951,508	123,402,333

1/ Includes tinplate and terneplate; Excludes ships, boats and other vessels for breaking up (for scrapping).

2/ Part being questioned.

3/ Data may not add to total shown because of independent rounding.

Source: Bureau of the Census.

Table 13A.--U.S. imports of iron and steel scrap and other ferrous products, by grade

Grade of scrap	September 1990		Year to date	
	Quantity (short tons)	Value (U.S.dollars)	Quantity (short tons)	Value (U.S.dollars)
No. 1 heavy melting steel scrap---	4,597	\$470,797	38,687	\$3,712,926
No. 2 heavy melting steel scrap---	1,354	126,858	8,016	732,922
No. 1 bundles-----	9,430	1,056,417	109,162	11,348,003
No. 2 bundles-----	432	45,002	10,212	1,060,640
Shredded steel scrap-----	5,727	759,870	33,217	4,056,003
Borings, shovelings and turnings--	2,113	206,208	24,482	2,214,573
Cut plate and structural-----	563	64,156	6,616	665,797
Tinned iron or steel-----	965	158,296	6,192	1,208,726
Remelting scrap ingots-----	225	109,267	4,308	740,672
Cast iron-----	6,425	1,003,403	112,729	15,480,314
Other iron and steel-----	44,430	5,166,765	419,550	48,594,668
<b>Total carbon steel and cast iron-----</b>	<b>76,261</b>	<b>9,167,039</b>	<b>773,171</b>	<b>89,815,244</b>
Stainless steel-----	4,290	2,873,566	37,146	24,530,825
Other alloy steel-----	7,301	1,111,372	141,195	9,056,264
<b>Total stainless and alloy steel-----</b>	<b>11,591</b>	<b>3,984,938</b>	<b>178,341</b>	<b>33,587,089</b>
<b>Total carbon, stainless, and alloy steel and cast iron 1/-</b>	<b>87,851</b>	<b>13,151,977</b>	<b>951,508</b>	<b>123,402,333</b>
Ships, boats, and other vessels for breaking up (for scrapping)--	--	--	--	--
Rerolling material-----	--	--	--	--
<b>Total scrap imports 1/-----</b>	<b>87,851</b>	<b>13,151,977</b>	<b>951,508</b>	<b>123,402,333</b>
<b>IMPORTS OF MANUFACTURED FERROUS PRODUCTS:</b>				
Pig iron < or = 0.5% phosphorus---	20,081	2,998,100	209,640	33,094,103
Pig iron > 0.5% phosphorus-----	--	--	--	--
Alloy pig iron-----	33	5,907	61,822	9,960,415
<b>Total pig iron-----</b>	<b>20,114</b>	<b>3,004,007</b>	<b>271,461</b>	<b>43,054,518</b>
Direct reduced iron (DRI)-----	36,891	3,391,342	221,247	26,052,620
Ferrous granules-----	882	523,890	6,348	4,068,169
Powders of alloy steel-----	186	547,267	1,184	7,545,606
Other ferrous powders-----	4,102	2,727,957	41,020	27,456,978
<b>Total DRI, granules, and powders-----</b>	<b>42,061</b>	<b>7,190,456</b>	<b>227,737</b>	<b>65,123,373</b>
<b>Grand total 1/-----</b>	<b>150,026</b>	<b>23,346,440</b>	<b>1,450,706</b>	<b>231,580,224</b>

1/ Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census.

Table 10B.--U.S. exports of iron and steel scrap 1/, by country.

Country	October 1990		Year to date	
	Quantity (short tons)	Value (U.S. dollars)	Quantity (short tons)	Value (U.S. dollars)
Argentina-----	45	\$24,284	241	\$170,789
Australia-----	--	--	132	53,635
Austria-----	--	--	645	155,556
Bahamas-----	--	--	18	2,789
Belgium-----	330	138,090	9,423	7,220,094
Brazil-----	--	--	7,802	826,785
Canada-----	96,363	10,759,619	896,600	94,460,554
China-----	3,217	678,318	68,586	10,485,636
Colombia-----	--	--	30,557	2,802,021
Costa Rica-----	--	--	217	21,600
Dominican Rep.-----	--	--	1,508	486,214
Egypt-----	--	--	31,753	2,744,079
Finland-----	--	--	8	9,674
France-----	18	6,258	22,835	2,414,752
Germany, Fed. Rep. of--	34,225	3,835,531	43,822	7,609,224
Greece-----	--	--	29,082	3,217,608
Guatemala-----	--	--	3,479	777,256
Honduras-----	60	20,785	247	89,985
Hong Kong-----	2,892	1,043,756	26,623	10,525,706
India-----	114,521	14,496,591	1,710,780	210,201,924
Indonesia-----	31,510	3,637,529	101,979	12,026,913
Ireland-----	--	--	90	17,535
Israel-----	25	13,615	385	177,422
Italy-----	17,142	2,338,372	182,271	22,738,410
Japan-----	56,889	13,424,407	416,680	96,921,549
Korea, Rep. of-----	397,602	57,995,097	3,002,912	372,564,338
Malaysia-----	197	45,235	162,294	23,356,659
Mexico-----	35,739	3,898,567	525,720	61,544,015
Netherlands-----	952	755,504	13,113	10,676,604
Pakistan-----	27,491	3,830,042	122,496	16,870,866
Peru-----	--	--	48,464	5,087,580
Philippines-----	25,996	2,987,200	28,414	3,520,526
Saudi Arabia-----	85,142	10,650,374	238,693	27,633,946
Singapore-----	23	25,276	62,576	10,061,022
Spain-----	14,434	1,245,962	215,821	29,503,911
Sweden-----	174	235,700	1,984	1,675,423
Taiwan-----	29,173	4,570,182	349,470	50,165,338
Thailand-----	3,564	785,576	70,087	12,414,278
Turkey-----	253,933	29,182,556	2,556,161	285,818,135
Uruguay-----	72	23,500	133	57,543
United Kingdom-----	248	80,896	8,316	2,993,655
Venezuela-----	--	--	50,044	5,227,250
Other Countries-----	35	11,823	28,166	4,449,120
Grand Total 2/-----	1,232,010	166,740,645	11,070,631	1,409,777,919

1/ Excludes ships, boats and other vessels for breaking up (for scrapping) which were included in 1965-1970 figures.

2/ Data may not add to total shown because of independent rounding.

Source: Bureau of the Census.



Table 11B.--U.S.exports of iron and steel scrap and other ferrous products, by grade

Grade of scrap	October 1990		Year to date	
	Quant (short tons)	Value (U.S. dollars)	Quantity (short tons)	Value (U.S. dollars)
No. 1 heavy melting steel scrap---	266,249	\$29,689,520	2,361,651	\$257,279,846
No. 2 heavy melting steel scrap---	85,618	9,095,976	800,101	82,854,542
No. 1 bundles-----	5,544	617,163	173,337	19,596,309
No. 2 bundles-----	31,783	3,080,338	353,509	30,805,090
Shredded steel scrap-----	354,299	43,993,267	3,535,790	422,748,276
Borings, shovelings and turnings--	6,230	421,724	234,675	17,536,270
Cut plate and structural-----	100,362	11,526,489	791,920	97,507,189
Tinned iron or steel-----	6,018	895,160	223,261	25,442,501
Remelting scrap ingots-----	5,077	615,269	59,465	7,055,826
Cast iron-----	225,900	26,134,698	1,103,124	131,060,903
Other iron and steel-----	104,580	10,133,724	912,760	92,839,250
<b>Total carbon steel and cast iron-----</b>	<b>1,191,660</b>	<b>136,203,328</b>	<b>10,549,593</b>	<b>1,184,726,002</b>
Stainless steel-----	27,716	26,920,431	207,405	171,365,034
Other alloy steel-----	12,635	3,616,886	313,633	53,652,840
<b>Total stainless and alloy steel-----</b>	<b>40,351</b>	<b>30,537,317</b>	<b>521,038</b>	<b>225,017,874</b>
<b>Total carbon, stainless, and alloy steel and cast iron 1/-</b>	<b>1,232,010</b>	<b>166,740,645</b>	<b>11,070,631</b>	<b>1,409,743,876</b>
Ships, boats, and other vessels for breaking up (for scrapping)--	133	19,987	25,084	3,822,170
Rerolling material-----	3,527	705,652	33,230	6,329,896
<b>Total scrap exports 1/-----</b>	<b>1,235,671</b>	<b>167,466,284</b>	<b>11,128,945</b>	<b>1,419,895,942</b>
<b>EXPORTS OF MANUFACTURED FERROUS PRODUCTS:</b>				
Pig iron < or = 0.5% phosphorus---	--	--	4,342	314,331
Pig iron > 0.5% phosphorus-----	--	--	526	60,270
Alloy pig iron-----	826	74,067	9,345	1,035,215
<b>Total pig iron-----</b>	<b>826</b>	<b>74,067</b>	<b>14,213</b>	<b>1,409,816</b>
Direct reduced iron (DRI)-----	409	314,533	5,400	4,675,058
Ferrous granules-----	2,766	1,215,508	23,119	10,395,356
Powders of alloy steel-----	156	571,631	15,068	3,333,083
Other ferrous powders-----	1,334	2,528,952	45,441	24,626,839
<b>Total DRI, granules, and powders-----</b>	<b>4,665</b>	<b>4,630,624</b>	<b>89,028</b>	<b>43,030,336</b>
<b>Grand total 1/-----</b>	<b>1,241,162</b>	<b>172,170,975</b>	<b>11,232,186</b>	<b>1,464,336,094</b>

1/ Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census.

Table 12B.--U.S. imports for consumption of iron and steel scrap 1/, by country.

Country	October 1990		Year to Date 2/	
	Quantity (short tons)	Value (U.S. dollars)	Quantity (short tons)	Value (U.S. dollars)
Australia-----	--	--	22	\$8,924
Bahamas-----	1,403	\$102,010	3,667	305,035
Brazil-----	--	--	387	139,042
Canada-----	121,130	12,518,902	905,222	108,891,942
China-----	88	81,150	1,132	207,948
Colombia-----	80	36,810	204	143,970
Dominican Rep.-----	30	54,200	72	80,237
France-----	--	--	130	258,338
Germany, Fed. Rep. of-----	182	181,904	933	443,459
Hungary-----	--	--	2	3,843
Ireland-----	--	--	91	101,810
Israel-----	--	--	5,906	131,119
Jamaica-----	133	16,451	138	22,016
Japan-----	6,299	665,488	59,154	5,935,420
Korea, Rep. of-----	181	107,618	1,716	909,116
Mexico-----	6,321	1,853,610	58,168	15,847,290
Netherlands Antilles--	--	--	3	4,200
Netherlands-----	--	--	895	96,614
Panama-----	1	2,020	30	37,031
Philippines-----	1	10,075	2	11,365
Singapore-----	30,179	57,588	30,180	72,279
Sweden-----	--	--	9,731	42,536
Taiwan-----	1	10,649	2	28,690
Trinidad-----	--	--	141	37,259
U.S.S.R.-----	--	--	289	2,740,648
United Kingdom-----	168	239,016	31,112	1,207,129
Venezuela-----	4,178	570,740	12,552	2,203,304
Other Countries-----	1	18,523	1	18,523
Grand Total 3/----	170,375	16,526,754	1,121,884	139,929,087

1/ Includes tinplate and terneplate; Excludes ships, boats and other vessels for breaking up (for scrapping).

2/ Part being questioned.

3/ Data may not add to total shown because of independent rounding.

Source: Bureau of the Census.

Table 13B.--U.S. imports of iron and steel scrap and other ferrous products, by grade

Grade of scrap	October 1990		Year to date	
	Quantity (short tons)	Value (U.S.dollars)	Quantity (short tons)	Value (U.S.dollars)
No. 1 heavy melting steel scrap---	7,363	682,968	46,050	4,395,894
No. 2 heavy melting steel scrap---	1,532	140,307	9,548	873,229
No. 1 bundles-----	12,643	1,378,728	121,805	12,726,731
No. 2 bundles-----	293	26,489	10,505	1,087,129
Shredded steel scrap-----	4,820	567,994	38,036	4,623,997
Borings, shovelings and turnings--	3,385	355,725	27,867	2,570,298
Cut plate and structural-----	1,763	197,247	8,380	863,044
Tinned iron or steel-----	1,219	196,905	7,411	1,405,631
Remelting scrap ingots-----	3,968	380,175	8,276	1,120,847
Cast iron-----	39,914	1,389,908	152,642	16,870,222
Other iron and steel-----	56,021	6,824,037	475,570	55,418,705
<b>Total carbon steel and cast iron-----</b>	<b>132,921</b>	<b>12,140,483</b>	<b>906,090</b>	<b>101,955,727</b>
Stainless steel-----	26,366	2,779,704	63,512	27,310,529
Other alloy steel-----	11,087	1,606,567	152,281	10,662,831
<b>Total stainless and alloy steel-----</b>	<b>37,453</b>	<b>4,386,271</b>	<b>215,793</b>	<b>37,973,360</b>
<b>Total carbon, stainless, and alloy steel and cast iron 1/--</b>	<b>170,375</b>	<b>16,526,754</b>	<b>1,121,884</b>	<b>139,929,087</b>
Ships, boats, and other vessels for breaking up (for scrapping)--	--	--	--	--
Rerolling material-----	--	--	--	--
<b>Total scrap imports 1/--</b>	<b>170,375</b>	<b>16,526,754</b>	<b>1,121,884</b>	<b>139,929,087</b>
<b>IMPORTS OF MANUFACTURED FERROUS PRODUCTS:</b>				
Pig iron < or = 0.5% phosphorus---	28,047	5,327,149	237,687	38,421,252
Pig iron > 0.5% phosphorus-----	--	--	--	--
Alloy pig iron-----	3,075	561,086	64,897	10,521,501
<b>Total pig iron-----</b>	<b>31,122</b>	<b>5,888,235</b>	<b>302,584</b>	<b>48,942,753</b>
Direct reduced iron (DRI)-----	49,700	4,913,810	270,947	30,966,430
Ferrous granules-----	442	180,371	6,790	4,248,540
Powders of alloy steel-----	184	706,433	1,367	8,252,039
Other ferrous powders-----	4,639	3,422,230	45,658	30,879,208
<b>Total DRI, granules, and powders-----</b>	<b>54,965</b>	<b>9,222,844</b>	<b>324,762</b>	<b>74,346,217</b>
<b>Grand total 1/--</b>	<b>256,462</b>	<b>31,637,833</b>	<b>1,749,230</b>	<b>263,218,057</b>

1/ Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census.

Table 14  
 U.S. Raw Steel Production, Net Shipments of Steel Mill Products, and  
 Iron and Steel Scrap Consumption Data  
 (Thousands of Short Tons 1/)

Year	Raw Steel Production by Type of Furnace					Raw Steel Production by Type of Cast						
	Quantity		Percent of Production			Quantity		Percent of Production				
	Open Hearth	Basic Oxygen	Electric Total 2/ Open Hearth	Basic Oxygen	Electric	Ingots Continuous Cast	Steel for Casting	Ingots Continuous Cast	Steel for Casting			
1970	48,022	63,330	20,162	131,514	36.5	48.2	15.3	NA	162	NA	NA	0.1
1971	35,559	63,943	20,941	120,443	29.5	53.1	17.4	NA	146	NA	NA	.1
1972	34,936	74,584	23,721	133,241	26.2	56.0	17.8	NA	136	NA	NA	.1
1973	39,780	83,260	27,759	150,799	26.4	55.2	18.4	NA	177	NA	NA	.1
1974	35,499	81,552	28,669	145,720	24.4	56.0	19.7	NA	200	NA	NA	.1
1975	22,161	71,801	22,680	116,642	19.0	61.6	19.4	105,794	10,593	90.7	9.1	.2
1976	23,470	79,918	24,612	128,000	18.3	62.4	19.2	114,268	13,529	89.3	10.6	.2
1977	20,043	77,408	27,882	125,333	16.0	61.8	22.2	109,416	15,728	87.3	12.5	.2
1978	21,310	83,484	32,237	137,031	15.6	60.9	23.5	115,984	20,837	84.6	15.2	.2
1979	19,158	83,256	33,927	136,341	14.1	61.1	24.9	113,084	23,043	82.9	16.9	.2
1980	13,054	67,615	31,166	111,835	11.7	60.5	27.9	88,937	22,720	79.5	20.3	.2
1981	13,452	73,231	34,145	120,828	11.1	60.6	28.3	94,516	26,138	78.2	21.6	.1
1982	6,110	45,309	23,158	74,577	8.2	60.8	31.1	52,875	21,628	70.9	29.0	.1
1983	5,951	52,050	26,615	84,615	7.0	61.5	31.5	57,385	27,174	67.8	32.1	.1
1984	8,336	52,822	31,369	92,528	9.0	57.1	33.9	55,787	36,669	60.3	39.6	.1
1985	6,428	51,885	29,946	88,259	7.3	58.8	33.9	49,035	39,161	55.6	44.4	.1
1986	3,330	47,885	30,390	81,606	4.1	58.7	37.2	36,487	45,064	44.7	55.2	.1
1987	2,666	52,496	33,989	89,151	3.0	58.9	38.1	35,802	53,284	40.2	59.8	.1
1988	5,118	57,960	36,846	99,924	5.1	58.0	36.9	38,615	61,232	38.6	61.3	.1
1989	4,442	58,348	35,154	97,943	4.5	59.6	35.9	34,412	63,454	35.1	64.8	.1
1990 e/	3,500	58,600	35,900	98,000	3.6	59.8	36.6	32,700	65,200	33.4	66.5	.1

See footnotes at end of table.

Table 14--Continued  
 U.S. Raw Steel Production, Net Shipments of Steel Mill Products, and  
 Iron and Steel Scrap Consumption Data  
 (Thousands of short tons 1/)

Year	Raw Steel			Scrap Consumption by Type of Furnace							
	Net Shipments of Steel Mill Products (Quantity)	Steel Mill Processing Yields (Percent 3/)	Percent of Capability	Quantity				Percent of Consumption			
				Open Hearth 4/	Basic Oxygen 5/	Electric 6/	Total 2/	Open Hearth	Basic Oxygen	Electric	
1970	90,798	69.0	NA	24,971	20,899	21,775	67,645	36.9	30.9	32.2	
1971	87,038	72.3	NA	18,491	21,101	22,616	62,208	29.7	33.9	36.4	
1972	91,805	68.9	NA	18,167	24,613	25,619	68,398	26.6	36.0	37.5	
1973	111,430	73.9	NA	20,686	27,476	29,980	78,141	26.5	35.2	38.4	
1974	109,472	75.1	NA	18,459	26,912	30,963	76,334	24.2	35.3	40.6	
1975	79,957	68.5	153,100	11,524	23,694	24,494	59,712	19.3	39.7	41.0	
1976	89,447	69.9	158,300	12,204	26,373	26,581	65,158	18.7	40.5	40.8	
1977	91,147	72.7	160,000	10,422	25,545	30,113	66,080	15.8	38.7	45.6	
1978	97,935	71.5	157,900	11,081	27,550	34,816	73,447	15.1	37.5	47.4	
1979	100,262	73.5	155,300	9,962	27,474	36,641	74,078	13.4	37.1	49.5	
1980	83,853	75.0	153,700	6,788	22,313	33,659	62,760	10.8	35.6	53.6	
1981	88,450	73.2	154,300	6,995	24,166	36,877	68,038	10.3	35.5	54.2	
1982	61,567	82.6	154,000	3,177	14,952	25,011	43,140	7.4	34.7	58.0	
1983	67,584	79.9	150,600	3,095	17,177	28,744	49,015	6.3	35.0	58.6	
1984	73,739	79.7	135,300	4,335	17,431	33,879	55,645	7.8	31.3	60.9	
1985	73,043	82.8	133,600	3,343	17,122	32,342	52,806	6.3	32.4	61.2	
1986	70,263	86.1	127,000	1,732	15,802	32,821	50,355	3.4	31.4	65.2	
1987	76,654	86.0	112,200	1,386	17,324	36,708	55,418	2.5	31.3	66.2	
1988	83,840	83.9	112,000	2,661	19,127	39,794	61,582	4.3	31.1	64.6	
1989	84,100	85.9	115,900	2,310	19,255	37,966	59,531	3.9	32.3	63.8	
1990 e/	85,000	86.8	116,000	1,800	19,300	38,800	59,900	3.0	32.2	64.8	

See footnotes at end of table.

Table 14.-Continued  
 U.S. Raw Steel Production, Net Shipments of Steel Mill Products, and  
 Iron and Steel Scrap Consumption Data  
 (Thousands of short tons 1/)

Year	Scrap Consumption by Category						Short Tons of Scrap Consumed Per Ton of Raw Steel Produced			
	Quantity		Percent of Consumption				Home	New	Old	Total 2/
	Home	New	Home	New	Old					
1970	40,587	10,823	16,235	60.0	16.0	24.0	0.309	0.082	0.123	0.514
1971	36,267	10,389	15,552	58.3	16.7	25.0	.301	.086	.129	.517
1972	38,782	11,833	17,784	56.7	17.3	26.0	.291	.089	.133	.513
1973	42,978	14,065	21,098	55.0	18.0	27.0	.285	.093	.140	.518
1974	40,762	14,198	21,374	53.4	18.6	28.0	.280	.097	.147	.524
1975	30,931	11,524	17,257	51.8	19.3	28.9	.265	.099	.148	.512
1976	32,644	13,032	19,482	50.1	20.0	29.9	.255	.102	.152	.509
1977	32,049	13,612	20,419	48.5	20.6	30.9	.256	.109	.163	.527
1978	34,373	15,644	23,430	46.8	21.3	31.9	.251	.114	.171	.536
1979	33,483	16,223	24,372	45.2	21.9	32.9	.246	.119	.179	.543
1980	27,301	14,184	21,276	43.5	22.6	33.9	.244	.127	.190	.561
1981	28,440	15,853	23,745	41.8	23.3	34.9	.235	.131	.197	.563
1982	17,342	10,310	15,487	40.2	23.9	35.9	.233	.138	.208	.578
1983	18,871	12,058	18,087	38.5	24.6	36.9	.223	.143	.214	.579
1984	20,533	14,023	21,089	36.9	25.2	37.9	.222	.152	.228	.601
1985	18,588	13,677	20,542	35.2	25.9	38.9	.211	.155	.233	.598
1986	16,919	13,394	20,041	33.6	26.6	39.8	.207	.164	.246	.617
1987	17,734	15,074	22,611	32.0	27.2	40.8	.199	.169	.254	.622
1988	18,659	17,181	25,741	30.3	27.9	41.8	.187	.172	.258	.616
1989	17,085	16,966	25,479	28.7	28.5	42.8	.174	.173	.260	.608
1990 e/	16,200	17,500	26,200	27.0	29.2	43.8	.165	.179	.267	.611

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e/ Estimated. NA Not Available.

1/ Unless otherwise noted.

2/ Data may not add to total shown because of independent rounding.

3/ (Total net shipments of steel mill products/Total raw steel production)x(100).

4/ (Raw steel production)x(0.52).

5/ (Raw steel production)x(0.33).

6/ (Raw steel production)x(1.08).

Source: Scrap consumption data were developed by the author. Steel industry data were obtained from the American Iron and Steel Institute.



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