

IRON AND STEEL¹

(Data in million metric tons of metal unless otherwise noted)

Domestic Production and Use: The iron and steel industry and ferrous foundries produced goods in 2015 with an estimated value of about \$103 billion. Pig iron was produced by four companies operating integrated steel mills in 11 locations. About 58 companies produce raw steel at about 110 minimills. Combined production capability was about 110 million tons. Indiana accounted for 27% of total raw steel production, followed by Ohio, 13%; Michigan, 6%; and Pennsylvania, 5%, with no other States having more than 5% of total domestic raw steel production. The distribution of steel shipments was estimated to be warehouses and steel service centers, 26%; construction, 17%; transportation (predominantly automotive), 19%; cans and containers, 2%; and other, 36%.

Salient Statistics—United States:	2011	2012	2013	2014	2015^e
Pig iron production ²	30.2	30.1	30.3	29.4	26
Steel production	86.4	88.7	86.9	88.2	81
Basic oxygen furnaces, percent	39.7	40.9	39.4	37.4	37
Electric arc furnaces, percent	60.3	59.1	60.6	62.6	63
Continuously cast steel, percent	98.0	98.6	98.8	98.5	99
Shipments:					
Steel mill products	83.3	87.0	86.6	89.1	89
Steel castings ^{e,3}	0.4	0.4	0.4	0.4	0.4
Iron castings ^{e,3}	4.0	4.0	4.0	4.0	4.0
Imports of steel mill products	25.9	30.4	29.2	40.2	39
Exports of steel mill products	12.2	12.5	11.5	10.9	11
Apparent steel consumption ⁴	90	98	100	107	110
Producer price index for steel mill products (1982=100) ⁵	216.2	208.0	195.0	200.2	200
Steel mill product stocks at service centers, yearend ⁶	7.6	7.8	7.6	9.0	9.0
Total employment, average, number:					
Blast furnaces and steel mills ³	142,021	148,688	147,418	149,000 ^e	149,000
Iron and steel foundries ³	68,456	70,506	67,566	69,000 ^e	69,000
Net import reliance ⁷ as a percentage of apparent consumption	7	11	12	26	25

Recycling: See Iron and Steel Scrap and Iron and Steel Slag.

Import Sources (2011–14): Canada, 14%; the Republic of Korea, 12%; Brazil, 11%; Russia, 11%; and other, 52%.

Tariff:	Item	Number	Normal Trade Relations 12–31–15
	Carbon steel:		
	Semifinished	7207.00.0000	Free.
	Sheets, hot-rolled	7208.10.0000	Free.
	Hot-rolled, pickled	7208.10.1500	Free.
	Cold-rolled	7209.00.0000	Free.
	Galvanized	7210.00.0000	Free.
	Bars, hot-rolled	7213.00.0000	Free.
	Structural shapes	7216.00.0000	Free.
	Stainless steel:		
	Semifinished	7218.00.0000	Free.
	Cold-rolled sheets	7219.31.0000	Free.
	Bars, cold-finished	7222.20.0000	Free.

Depletion Allowance: Not applicable.

Government Stockpile: None.

Events, Trends, and Issues: The expansion or contraction of gross domestic product (GDP) may be considered a predictor of the health of the steelmaking and steel manufacturing industries, worldwide and domestically. The World Bank's forecast of global GDP growth for 2015, 2016, and 2017 was 2.8%, 3.3%, and 3.2%, respectively. The U.S. Federal Reserve's projections, as of November 2015, for the U.S. 2016, 2017, and 2018 GDP growth rates were 2.3%, 2.2%, and 2.0%, respectively.

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Globally, China's slowing GDP growth and continued high production rates of crude steel contributed to a global glut of seaborne steel supply. In 2013, China was estimated to have 35% to 40% more steelmaking capacity than it needed for domestic consumption. In 2015, Chinese surplus steel sales continued to expand into other industrialized countries with steelmaking capability, such as the United States, reducing the consumption of U.S. domestic crude steel production. Declines in the consumption of tubular goods in the U.S. domestic energy sector, especially in the development of new oil and natural gas projects, also contributed to reduced demand. Domestic manufacturing growth in the U.S., as measured by the Institute of Supply Management's Purchasing Managers Index, has expanded continually for over 2 years and the overall economy has continued to grow for over 6 consecutive years, although at its lowest rate since May 2013.

The rise in imports from 2013 to 2014 was sustained through 2015, creating a difficult competitive market for domestic iron and steel products. Imported steel adversely affected domestic production in 2015, resulting in idled or permanently closed iron and steel operations, including a blast furnace in Alabama, a coke plant in Illinois, an electric arc furnace and bar mill in Indiana, and a tubular plant in Texas. One company continued construction on a new electric arc furnace in Alabama on the site of the recently closed blast furnace. This company also planned to shift approximately 15,000 tons per month of production from its operations in Canada to steel mills in the United States.

In June, the Trade Promotion Authority and the Trade Preferences Extension Act, which included Trade Adjustment Assistance, was signed into law. Representatives of the iron and steel industry described these laws as tools to assist U.S. companies and workers that were disproportionately affected by alleged dumping of iron and steel products and unfair trade practices. In July, the U.S. Department of Commerce imposed duties, ranging from 10% to 118%, on steel imports from nine countries, including India, the Republic of Korea, Taiwan, Turkey, and Vietnam. In November, the U.S. Department of Commerce released a preliminary ruling that established duties on corrosion-resistant steel from China of up to 236% for 5 years. This ruling went into effect immediately; however, the final ruling was scheduled to be made in January 2016.

World Production:

	Pig iron		Raw steel	
	2014	2015 ^e	2014	2015 ^e
United States	29	26	88	81
Brazil	27	30	34	34
China	712	710	823	822
France	11	11	16	17
Germany	27	28	43	44
India	55	54	87	83
Japan	84	84	111	111
Korea, Republic of	47	47	71	72
Russia	51	51	71	71
Ukraine	25	25	27	27
United Kingdom	10	9	12	12
Other countries	95	101	273	258
World total (rounded)	1,170	1,180	1,650	1,640

World Resources: Not applicable. See Iron Ore and Iron and Steel Scrap for steelmaking raw-material resources.

Substitutes: Iron is the least expensive and most widely used metal. In most applications, iron and steel compete either with less expensive nonmetallic materials or with more expensive materials that have a performance advantage. Iron and steel compete with lighter materials, such as aluminum and plastics, in the motor vehicle industry; aluminum, concrete, and wood in construction; and aluminum, glass, paper, and plastics in containers.

^eEstimated.

¹Production and shipments data source is the American Iron and Steel Institute; see also Iron Ore and Iron and Steel Scrap.

²More than 95% of iron made is transported in molten form to steelmaking furnaces located at the same site.

³U.S. Census Bureau.

⁴Defined as steel shipments + imports – exports + adjustments for industry stock changes – semifinished steel product imports.

⁵U.S. Department of Labor, Bureau of Labor Statistics.

⁶Metals Service Center Institute.

⁷Defined as imports – exports + adjustments for industry stock changes.