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## INDIA'S STEEL INDUSTRY: A BIRD'S VIEW

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### Abstract

*India is currently the world's third largest producer of crude steel and is expected to become the second largest producer of crude steel in the world soon. India is the largest producer of direct reduced iron (DRI) or sponge iron in the world. Steel is the backbone of any economy. The experience of the developed, as well as the developing countries, has shown the important role played by the iron and steel industry in the economic growth. It is a core industry. For many industries such as engineering, machine tools, ship buildings, railways, transport, and equipment's, electrical and many others, Iron and Steel Industry is a basic industry. There is a close correlation between the level of economic growth of GDP of a country and the quantum of steel consumption. It means a direct relationship between investment in the economy and the growth of steel industry. Therefore, rapid industrialization and economic development of a country depend on the development of iron and steel industry to a great extent. The steel sector contributes to over 2 percent of the country's GDP and employs around 25 lakhs people in steel/allied sectors. This paper presents the global scenario of the steel industry as well as production, consumption and growth of the steel industry in India.*

**Key Words:** *Steel Industry, Domestic Demand, Steel Production, Economic Development.*

### Introduction

The Indian steel industry has entered into a new development stage, post-deregulation, growing economy and rising demand for steel. A rapid rise in production has resulted in India becoming the third largest producer of crude steel in 2016 as well as in 2017. The country was the largest producer of sponge iron or DRI (direct reduced iron) in the world during the period 2003-2015 and emerged as the second largest global producer of DRI in 2016 (after Iran). India is also the

third largest finished steel consumer in the world and maintained this status in 2016. Such rankings are based on provisional data released by the World Steel Association for the above year.

In a deregulated, liberalized economic/market scenario like India, the Government's role is that of a facilitator which lays down the policy guidelines and establishes the institutional mechanism/structure for creating a conducive environment for improving efficiency and performance of the steel sector.

In this process, the Government has released the National Steel Policy 2017, which has laid down the broad roadmap for encouraging long-term growth for the Indian steel industry, both on demand and supply sides, by 2030-31. The said Policy is an updated version of National Steel Policy 2005 which was released earlier and which provided a long-term growth perspective for the domestic iron and steel industry by 2019-20.

The Government has also announced a policy for providing preference to domestically manufactured Iron & Steel products in Government procurement. This policy seeks to accomplish PM's vision of 'Make in India' with an objective of nation-building and encouraging domestic manufacturing and it is applicable on all government tenders where price bid is yet to be opened. Further, the Policy provides a minimum value addition of 15 percent in notified steel products which are covered under preferential procurement. In order to provide flexibility, Ministry of Steel may review specified steel products and the minimum value addition criterion.

**Objectives of the Present Study**

1. To present the global scenario of the steel industry as well as the production, consumption and growth of steel industry in India.

2. To study the trends in production of Crude Steel in private and public sector in India.
3. To highlight the Policy support driving investments of Indian Steel Industry.

**Methodology**

In this present study, the secondary data is the key source. The secondary data has been collected from various sources like internet, journals, books and reports. The following are a few of the sources of collecting information in this study.

- Obtaining material from the various reports available by the company specifically related to the Ministry of Steel, World Steel Association, Joint Plant Committee (JPC).
- Collecting material from the internet.
- Relevant books and business journals.

**Steel Industry: Global Scenario**

The current global steel industry is in its best position compared to its state in last decades. The demand expectations for steel products are rapidly growing. However steel production and consumption will be supported by continuous economic growth<sup>1</sup>. Details about the largest steel producing countries in the world are presented in table 1.

**The Largest Steel Producing Countries in the World**

Rank	Country	2017	2016	% Growth	% Share
1	China	831.700	786.900	5.69	49.18
2	Japan	104.700	104.800	-0.10	6.19
3	India	101.400	95.500	6.18	6.00
4	United States	81.600	78.500	3.95	4.82
5	Russia	71.300	70.500	1.13	4.22
6	South Korea	71.100	68.600	3.64	4.20
7	Germany	43.600	42.100	3.56	2.58
8	Turkey	37.500	33.200	12.95	2.22
9	Brazil	34.400	31.300	9.90	2.03
10	Italy	24.000	23.400	2.56	1.42
<b>Top 10 Countries</b>		<b>1632.909</b>	<b>1583.789</b>	<b>3.10</b>	<b>96.55</b>
<b>Total 66 Countries</b>		<b>1691.200</b>	<b>1606.300</b>	<b>5.29</b>	<b>100.00</b>

Source: World Steel Association, 2018

Table 1 explains how world crude steel production stood at 1691.2 million tonnes during January - December 2017. There was an increase of 5.29 percent over the same period of 2016 as per the data released by the World Steel Association. Chinese crude steel production reached 831.7 million tonnes during this period,

with a growth of 5.69 percent over the same period of 2016. China remained the largest crude steel producer in the world, accounting for 72 percent of Asian and 49 percent of world crude steel production during January - December 2017. India was the third largest crude steel producer during 2017 and recorded a production of 101.4 million tonnes with the

growth of 6.18 percent over 2016, accounting for 9 percent share of Asian and 6 percent of world crude steel production during January – December, 2017.

### Production, Consumption, and Growth of Steel Industry in India

India is also the third largest consumer of finished steel (83.5 million tonnes in 2016) in the world preceded by China (681.0 million tonnes in 2016) and the USA (91.6 million tonnes in 2016). Capacity for domestic crude steel production expanded from 97.024 million tonnes per annum (million tonnes) in 2012-13 to 128.277 million tonnes per annum in 2016-17 recording a CAGR (Compound Annual Growth Rate) growth of 7 percent during this

five year period. Crude steel production grew at 5.71 percent annually (CAGR) from 78.415 million tonnes in 2012-13 to 97.936 million tonnes in 2016-17. During January-December 2017, the country's crude steel production crossed the 100 million tonnes (million tonnes) mark for the first time in history, reaching 101.371 million tonnes, registering a growth of 6.18 percent over the same period of 2016. The steel sector contributed to over 2 percent of the country's GDP and employed around 25 lakhs people in steel/allied sectors during April-December, 2017-18<sup>2</sup>. Particulars about the production of finished steel and crude steel for the last five years are presented in table 2.

**Production of Finished Steel (alloy/stainless +non-alloy) and Crude Steel**

Item	2012-13	2013-14	2014-15	2015-16	2016-17	2017 -18
<b>Finished Steel</b>	<b>89.621</b>	<b>95.577</b>	<b>100.681</b>	<b>102.904</b>	<b>115.91</b>	<b>86.699</b>
Imports	7.925	5.45	9.32	11.712	7.227	6.097
Exports	5.368	5.985	5.596	4.079	8.243	7.606
<b>Consumption</b>	<b>73.483</b>	<b>74.096</b>	<b>76.992</b>	<b>81.525</b>	<b>84.042</b>	<b>64.868</b>
<b>Crude Steel</b>	<b>78.415</b>	<b>81.694</b>	<b>88.98</b>	<b>89.791</b>	<b>97.936</b>	<b>75.642</b>

Source: Joint Plant Committee (JPC)

Production of crude steel was at 75.642 million tonnes, with a growth of 4.8 percent compared to 2017-18 (April to December) to 2016-17 (April to December). SAIL, RINL, TSL, ESSAR, and JSWL & JSPL produced 43.534 million tonnes during this period, which had a growth of 6.8 percent compared to the previous year. The rest amounting 32.108 million tonnes was the contribution of the Other Producers, which recorded a growth of 2.1 percent, compared to the previous year. Pig iron production for sale was 6.934 million tonnes (which recorded a decline of 0.5 percent compared to that of the previous year), after accounting for own consumption/IPT (Inter-Plant Transfer). The Private Sector accounted for 96 percent of the same and the rest 4 percent was the share of the Public Sector. In the case of total finished steel (non-alloy + alloy/stainless):

- Exports stood at 7.606 million tonnes, with a growth of 52.9 percent compared to the previous year.
- Imports stood at 6.097 million tonnes, with a growth of 10.9 percent compared to the previous year.
- India was a net exporter of total finished steel.
- Consumption stood at 64.867 million tonnes, with a growth of 5.2 percent compared to the previous year.

Indian Steel Sector has brought a new hope in Indian economy considering the production of steel product & as well as employment generation. Vast productions of steel products lead to an expansion of export of steel products reducing import dependence which made India a net exporter in the current period. Trend of finished steel for the last five years is presented in table 3.

**Trend of Finished Steel (alloy/stainless +non-alloy) in Last Five Years from 2012-13 to 2017-18**

Item	2012-13	2013-14	2014-15	2015-16	2016-17	2017 -18
<b>Production for sale</b>	<b>81.681</b>	<b>87.675</b>	<b>92.156</b>	<b>90.981</b>	<b>101.81</b>	<b>79.049</b>
Imports	7.925	5.45	9.32	11.712	7.227	6.097
Exports	5.368	5.985	5.596	4.079	8.243	7.606
<b>Actual Consumption</b>	<b>73.483</b>	<b>74.096</b>	<b>76.992</b>	<b>81.525</b>	<b>84.042</b>	<b>64.868</b>

Source: Joint Plant Committee (JPC)

- Production for sale of total finished steel (alloy /stainless+ non-alloy) stood at 101.805 million tonnes during 2016-17, as against 81.681 million tonnes in 2012-13, with an average annual (CAGR) growth rate of 6 percent.
- Export of total finished steel (alloy/stainless + non-alloy) during 2016-17 stood at 8.243 million tonnes against 5.368 million tonnes in 2012-13.
- Import of total finished steel (alloy /stainless + non-alloy) during 2016-17 stood at 7.227 million tonnes as against 7.925 million tonnes in 2012-13.
- Domestic actual consumption of total finished steel (alloy /stainless + non-alloy) stood at 84.042 million tonnes in 2016-17 as against 73.483 million tonnes in 2012-13, growing at a CAGR of 3.4 percent during the last five years, i.e. from 2012 to 2017-18.
- India became a net exporter of total finished steel in 2016-17 as well as during April-December 2017-18.

**Trend of Pig Iron Production in Last Five Years from 2012-13 to 2017-18**

Description	2012-13	2013-14	2014-15	2015-16	2016-17	2017 -18
Production for sale	6.870	7.950	9.694	9.228	9.388	6.934
Imports	0.021	0.034	0.023	0.022	0.034	0.012
Exports	0.414	0.540	0.540	0.297	0.387	0.427
Actual Consumption	6.500	7.110	9.057	9.021	9.040	6.524

Source: Joint Plant Committee (JPC)

- Production for sale of Pig iron stood at 9.388 million tonnes during 2016-17, as against 6.870 million tonnes in 2012-13 with an average annual (CAGR) growth rate of 6 percent.
- Export of total Pig iron during 2016-17 stood at 0.387 million tonnes against 0.414 million tonnes in 2012-13.
- Import of total Pig iron during 2016-17 stood at 0.034 million tonnes against 0.021 million tonnes in 2012-13.
- Domestic actual consumption of total Pig iron stood at 9.040 million tonnes in 2016-17 as against 6.500 million tonnes in 2012-13, growing at a CAGR of 9 percent during the last five years.
- India was a net Exporter of Pig iron during the last 5 years.

**Performance of Public & Private Sector in Crude Steel Production**

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	2017 -18
Public Sector	16.482	16.777	17.205	17.92	18.456	14.387
Private Sector	61.933	64.917	71.755	71.871	79.48	61.255
<b>Total</b>	78.415	81.694	88.98	89.791	97.936	75.642
% Share of Public Sector	21%	21%	19%	20%	19%	19%

Source: Joint Plant Committee (JPC)

Expansion of private sector in steel making industry increases the contribution of private sector gradually in crude steel making. The public sector is contributed to the tune of 19 per cent both in 2016-17 and April-December 2017-18.

**Strong Demand and Policy Support Driving Investments - National Steel Policy 2017**

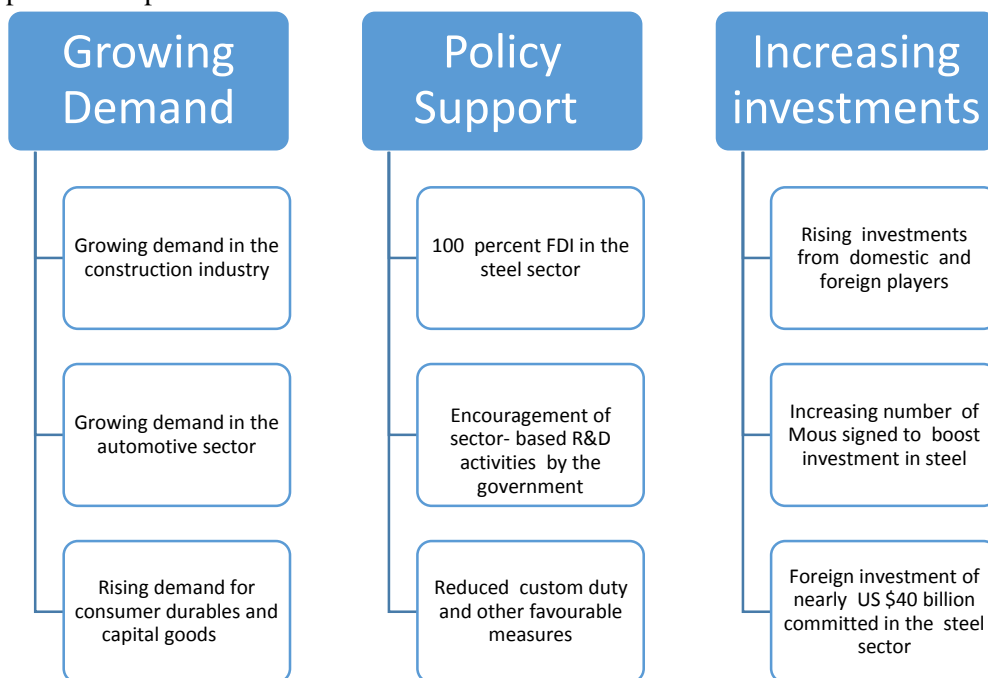
NSP 2017 aims to increase focus on the expansion of MSME sector, to improve raw material security, enhance R&D activities, reduce import dependency and cost of production, and thus develop a "technologically advanced and globally competitive steel industry that promotes economic growth"

observing self-sufficiency in production, developing globally economical steel manufacturing capabilities by facilitating investments and cost-efficient productions with adequate availability of raw materials. With the focus on R&D through establishment like Steel Research Technology Mission of India (SRTMI), the technology would be of utmost focus over the next decade and MSME steel plants would be the key drivers to achieve the additional capacity required for India's consumption-led growth and improvement in the overall productivity and quality.

**New Industrial Policy:** The New Industrial Policy opened up the Indian iron and steel industry for private investment by (a) removing

it from the list of industries reserved for public sector and (b) exempting it from compulsory licensing. Imports of foreign technology, as well as a foreign direct investment, are now freely permitted up to certain limits under an

automatic route. Ministry of Steel plays the role of a facilitator, providing broad directions and assistance to new and existing steel plants, in the liberalized scenario.



Source: Ministry of Steel

India's comparatively low per capita steel consumption and expected growth in consumption due to growing infrastructure construction, automobile and railways sectors have offered scope for growth. National Mineral Development Corporation is expected to increase the iron ore production of 75 million tonnes per annum (MTPA) until 2021 indicating new opportunities in the sector. Domestic players' investments in expanding and upgrading manufacturing facilities are expected to reduce reliance on imports. In addition, the entry of international players would provide benefits in terms of capital resources, technical know-how and more competitive industry dynamics.

**Conclusion**

Indian steel companies have now started benchmarking their facilities and processes against global standards, to enhance productivity. These steps are expected to help Indian companies improve raw material and

energy consumption as well as improve compliance with environmental and pollution yardsticks. Companies are attempting coal gasification and gas-based Direct-Reduced Iron (DRI) production. Other alternative technologies such as Hismelt, Finex, and ITmk3 are being adopted to produce hot metal. Ministry of Steel has issued necessary direction to the steel companies to frame a strategy for taking up more R&D projects by spending at least 1 percent of their sales turnover on R&D to facilitate technological innovations in the steel sector. Ministry of steel has established a task force to identify the need for technology development and R&D, Ministry of Steel has adopted energy efficiency improvement projects for mills operating with obsolete technologies.

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