

# Business Process Reengineering on Production and Export of Steel Products in India

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## Abstract

Steel has considered as a tool for development of any modern economy Steel is a product of a large and technologically complex industry having strong forward and backward linkages in terms of material flows and income generation. Steel is basically a mixture of iron, carbon and other alloy elements steel widely used in construction of plant & machineries, roads, skyscrapers, bridges, railways, other infrastructure, appliances, and buildings steel's high tensile strengths and low costs, The Production Categories of Steel in India are as Bars and Rods (BR), Structural, Plates, Hot Rolling Sheets and Coils, CR Sheets and Coils, Galvanized Plain and Corrugated Coils Sheets (GP IGC), Alloy steels and tool steels. Thus, the study helps to know about the Production and Export Performance o Steel Industry in India.

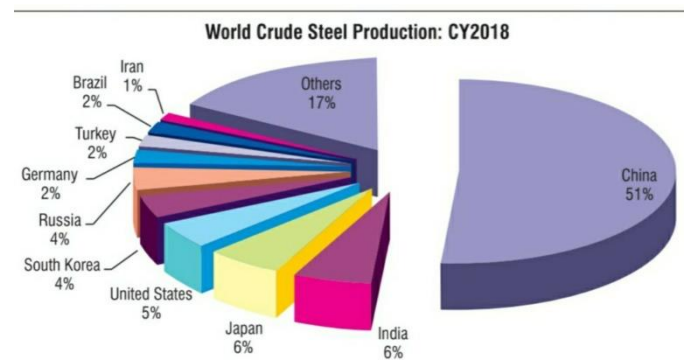
## INTRODUCTION

Steel is one of the most important products of the modern world and is of strategic importance for any industrial nation, steel has considered as a tool for development of any modern economy, Historically, every nation's during industrialization phase have been supported by a strong steel industry. From construction, industrial machinery to consumer products, steel finds a wide variety of applications. The steel industry is characterized by high capital intensity, high dependence on bulk raw materials, cyclical growth trends, perpetual over capacity and relatively low profitability. The steel industry requires larger governmental and social interventions for its sustainable growth.

## Steel Industry in India

The Indian steel industry started in 1907 and at the time of independence there were only three steel plants producing about 1. Million metric tones of steel in 1948 ie., Tata Iron and Steel Company Limited (TISCO) and Viswerya Iron And Steel Limited at Jamshedpur, Burnpur and Bhadravati, Tata Steel was established in 1907 as Asia's first and India's largest integrated private sector steel company, IISCO's Burnpur steel plant initially set up in 1918, began production in India was

33.91 million metric tones and India become one of the 10 largest steel producing countries of the world, The modern iron and steel industry in India owes steel origin to the grand vision and perseverance of Jamsetji Nusserwanji Tata. The Tata Iron and Steel Company Limited (Tata steel) was registered in Bombay on 26'h August 1907, The construction of the steel plant was then taken up in earnest with the first stake being driven in February 1908, At present RINL, SAIL, JSW, TATA, ESSAR, MISCO, SUN FLAG steel companies play a vital role in steel industries in India.



## Categories of Steel in India

**Bars and Rods (BR):-** Rods and Bars is produced by several different processes namely extrusion, rolling and coiling, The processes elongate the Bar shaped pieces that can be machined into all kinds of applications. Many machine and equipment parts, such as rivets, nails, screws and bolts are made from rod and bar. Everyday products produced from rod and bar include chain-link fence material.

1. **Structural:** The Steel Structural steel products continue to deliver in an industry where speed of construction and cost are critical factors.
2. **Plates:** Steel plate use to welded, cut, heat treated and subject to other processes. The properties make it a valuable manufacturing item used in many industries. Steel supplies one of the world's widest ranges of plate products to a large number of markets. These include lifting and excavating, energy and power, shipbuilding and construction.

3. Hot Rolling Sheets and Coils: The Hot Rolled Coil and sheet steels in a wide variety of specifications, manufactured to meet International standards and a wide range of market requirements like forming, bending, deep drawing. Laser cutting and welding.
4. CR Sheets and Coils: CR Sheets and Coils constitute 8.55 per cent of Total Finished Steel (non-alloy) production. There are two main producers namely TSL and SAIL of CR coil/sheets. Market of CR Sheets and Coils is oligopolistic in nature.
5. Galvanised Plain and Corrugated Coils Sheets (GP/GC): The Galvanized steel sheets are then surface treated using specially formulated chromatin solution to retain their shine and brightness and avoid any corrosion white rust formation. The coil are then slitted / cut or automatic slitting / cut to length Lines and also corrugated as customer's requirements.
6. Alloy steel & Tool steels: Alloy steels, tool steels and die steels also produced to make dies for every engineering products, mainly automobile sectors. The latest technology and updating process helps the growth on production and export of steel products in India.

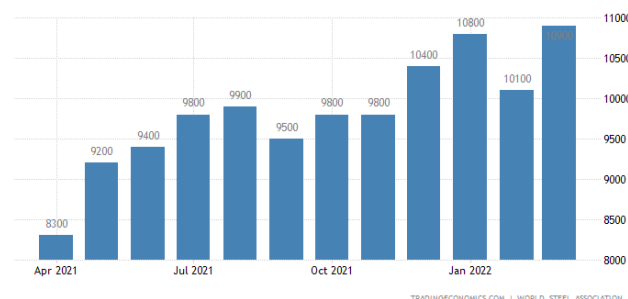
#### **Production of Steel in India: Category wise**

India is also a leading producer of Sponge Iron with a host of coal-based units, located in the mineral-rich States of the country. Over the years, the coal-based route has emerged as a key contributor and accounted for 82% of total sponge iron production in the country in 2020. Capacity in sponge iron making has also increased over the years and stood at 48.01 million tonne in 2020. India has been the world's largest sponge iron producer every year since 2003. The table below shows the total production of sponge iron in the country, indicating the break-up of the share of coal and gas-based route of production for the last five.

#### **Impact of Covid-19 Pandemic and Recovery**

Following the Covid pandemic and the lockdown across the country to curtail the spread of Covid-19, Indian finished steel consumption reduced by 22% in March, 2020 and by 91% in April compared to the corresponding period in the last year (CPLY). Indian crude steel production reduced by 20% in March, 2020 and by 69% in April, 2020 compared to CPLY. All major ISPs had to reduce their production substantially with JSW, TSL, AMNS and SAIL reducing their production by around 50%. SAIL alone had inventory accumulation of 3 lakh tonnes. The secondary steel players also faced issues regarding labour and working capital. During this period, Imports reduced by 35% while Exports went down by 17%. Supply chains and availability of service providers and labour were also impacted. The finished steel consumption has also

recovered and come back to normalcy after October, 2020. Export of finished steel which had increased during lockdown period in view of lack of domestic demand, it has started declining from September, 2020 with the increasing domestic demand following gradual unlocking of the economy.



#### **Export of Steel in India: Category wise**

India's exports of iron and steel rose by more than 100% in June 2020, when India went into Coronavirus Unlock 1.0. After going through complete Covid-19 lockdown for more than two months, Indian companies started doing business from June. According to India export data, India's exports of iron and steel products valued USD 9,773 million, which recorded similar value as compared to the last year. Let's have a proper analysis of Indian export market of iron and steel from India export statistics.

Iron and Steel Exports from India Rose by More Than 100% in June 2020

India's exports of iron and steel products recorded a sharp rise of more than 100% in June 2020 with shipments of USD 1.32 billion against USD 653.52 million in the same month last year, even as export of engineering goods from the country registered a decline of 7.24%.

According to export promotion council of India, out of 33 engineering export commodities, 27 recorded negative year-on-year growth in June, while all the six positive entries related to metals, with iron and steel being on top of the table. A drop in domestic demand, disruption in supply chain and acute shortage of construction labour led several top steelmakers to export more than 50-60% of their sales volume during May-June period.

#### **India's Exports of Iron and Steel from 2010 to 2019**

According to India customs data, since 2010, India recorded a rise in value of iron and steel exports till year 2013. Thereafter, the value declined for three consecutive years. India recorded a rise in export value of iron and steel products in 2017, then figures declined in 2018 and 2019. Below given chart and table shows dollar amount of India's exports of iron and steel recorded in the last 10 years

## INDIA IRON & STEEL EXPORTS FROM 2010 - 2019



## CONCLUSIONS

The IHS Market India Manufacturing PMI increased to 54.9 in February 2022 from a four-month low of 54.0 in the previous month. The latest print also pointed to the eighth straight month of growth in factory activity, as output and new orders expanded at stronger rates, demand from international clients rose the most in three months, and buying activity continued to expand. At the same time, there were some signs of capacity pressures, with backlogs rising marginally, amid a fractional drop in employment. Delivery times lengthened again, linked to pandemic curbs and persistent supply issues. On inflation, input cost rose the least in six months while selling charges went up modestly as parts of additional cost burdens were passed into customers. Finally, confidence strengthened sharply, underpinned by business expansion plans, a return to normality, and hopes for fruitful marketing.

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