"A STUDY ON EXPORT & IMPORT OF STEEL TRADE IN INDIA"

Project Report submitted in partial fulfillment for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION (MBA)

In

INTERNATIONAL TRANSPORTATION AND LOGISTICS MANAGEMENT

By

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MAY 2024

DECLARATION

I, **Shaikh Shah Faisal** bearing Register Number: **2203305034**, student of MBA – International Transportation & Logistics Management, at School of Maritime Management, Indian Maritime University, Chennai Campus, hereby declare that the project report titled **"A STUDY ON EXPORT & IMPORT OF STEEL TRADE IN INDIA"** is my original work. This report is being submitted in partial fulfillment of the requirement for the award of the degree of Master of Business Administration (MBA) In International Transportation and Logistics Management (ITLM). The project report is the output of my learnings and observations of my research under the guidanceof **Dr. Emil Mathew** Assistant professor School of Maritime Management, Indian Maritime University, Chennai Campus.

I declare that the information submitted is true and original to the best of my knowledge.

Signature: 

Place: Chennai

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CERTIFICATE

This is to certify that this project report entitled **"A STUDY ON EXPORT & IMPORT OF STEEL TRADE IN INDIA"** submitted to the School of Maritime Management, Indian Maritime University, Chennai Campus in partial fulfillment of the requirement for awarding the degree, MBA in International Transport and Logistics Management is a work of **SHAIKH SHAH FAISAL (Reg No. 2203305034)**.

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ACKNOWLEDGEMENT

I extend my heartfelt thanks to **Dr. Swaminathan**, Associate Professor and Head, SMM, Chennai Campus for providing me the facilities to carry out the project successfully.

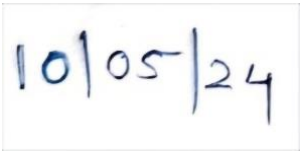
With great pleasure, I express my sincere gratitude to **Dr. Emil Mathew**, Assistant Professor, School of Maritime Management, Indian Maritime University, Chennai Campus for thevaluable guidance and suggestions that enabled me to complete this report successfully.

In a special way, I submit my grateful thanks to my family who motivated and encouraged me throughout the internship period. I would like to profoundly thank all respondents who helpedme in collecting the necessary information for the completion of this internship.

Last but the least my prayers and thanks to the “almighty” without whom the work would not have materialized.

Place: Chennai **Shaikh Shah Faisal**

Date:



EXECUTIVE SUMMARY

India is one of the fastest-growing economies in the world, and the steel industry is a vital part of the country's economic growth. India's steel production has been steadily increasing over the years, and it is now the world's second-largest producer of steel. The Indian government has also been promoting the steel industry by providing various incentives and subsidies to the industry players.

The EXIM of steel trade in India is a critical part of the steel industry, and it has been growing rapidly in recent years. India's steel exports have increased significantly, making the country a net exporter of steel. The demand for Indian steel has been on the rise in the international market, especially in countries like the Middle East, South East Asia, and Africa.

The Indian government has also been promoting the steel industry's exports by offering various incentives and subsidies to the exporters. The government has also taken several measures to reduce the cost of production of steel, which has made the Indian steel industry more competitive in the international market.

The import of steel in India has also been increasing, and the country has become a major importer of steel in recent years. The import of steel in India is mainly for meeting the domestic demand for high-quality steel, which is not available in the domestic market.

However, the Indian steel industry is facing several challenges, such as increasing competition from other steel-producing countries, rising input costs, and the threat of dumping of steel by other countries. The Indian government has been taking measures to address these challenges and provide support to the steel industry.

In conclusion, the EXIM of steel trade in India is a critical part of the country's steel industry and has been growing rapidly in recent years. The Indian government's support and initiatives have been instrumental in promoting the exports of Indian steel and making the industry more competitive in the international market. Despite the challenges faced by the industry, the future of the Indian steel industry looks promising, and it is expected to continue to grow in the coming years.

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CHAPTER 1

INTRODUCTION

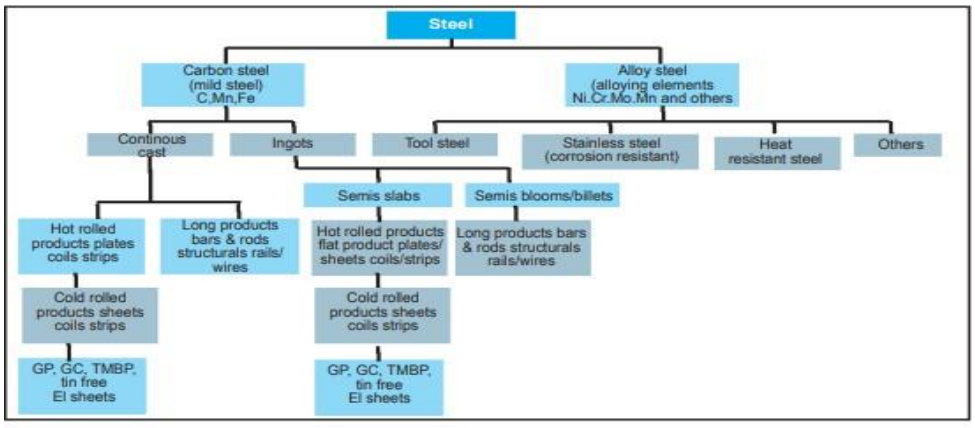
1.1 ABOUT THE STEEL INDUSTRY

Metals have consistently played a pivotal role in the process of industrialization, with steel often being the most prominent among them. The manufacturing and utilization of steel, both as a raw material and an intermediate product, are generally viewed as measures of economic prosperity. Hence, it's fair to say that the steel industry forms the bedrock of any economy and has consistently been at the helm of industrial advancement.

The steel industry serves as a barometer for an economy's overall direction and functions as its heartbeat. The industry primarily assesses the economic triumph of a country or region. This is due to its extensive application across numerous end-user industries, especially infrastructure, which is a major consumer of steel.

1.1.1 **Classification of Steel**

Steel is an alloy of iron and carbon, with minute quantities of silicon, phosphorus, sulfur, and oxygen. It comprises less than 2% carbon and 1% manganese. Steel manufacturers typically produce three varieties: flat steel, long steel, and alloy steel.



HR : Hot Rolled
CR : Cold Rolled
GP : Galvanised Plain
GC : Galvanised Coil
TMBP : Tin Mill Black Plate

Figure 1: Various types of Steel[1]

[1] Source: eximbankindia.in

Typically, a series of rollers are employed to roll flat steel until it achieves the desired thickness. Flat rollers in rolling mills are used to create final flat steel products from steel slabs. There are variations in forms such as hot rolled (HR), cold rolled (CR), and coated.

• Plate products: These vary in thickness from 10 to 200 mm and are essential for boiler applications, large-diameter welded pipes, shipbuilding, and construction. • Strip products: These can be either hot- or cold-rolled and come in a variety of thicknesses from 1 to 10 mm. Strip products find use in a range of items, including office furniture, cardiac pacemakers, home appliances, steel (or tin) cans, and automotive body panels.

Long products are predominantly used in the construction industry. Long items like steel bars exit the mill in considerable lengths. Long steel is available in various shapes and sizes. These can have cross-sections in the H or I shape (joists, beams, and columns), the U shape (channels), or the T shape (tubes). Examples of long products include a segment, a rod, or a bar. Long products are typically rolled using blooms and billets, which are semi-finished products. Billets, being smaller than blooms, are used to make shorter items. Gears, tools, and rods for concrete reinforcement are some examples of typical rod products.

• Typical cross-sections for bar products include squares, rectangles, circles, hexagons, and other shapes.

There are numerous grades of alloy steel, each with a different amount of carbon and other elements. These elements determine the properties of the steel. Different alloy steels are used for different applications. Industrial tools are made of strong abrasion-resistant steel, heat-resistant steel is used in high-temperature applications, and fatigue-resistant steel is used in mechanical applications. Since the composition of alloy steel varies depending on its intended use, it’s not possible to generalize alloy steel as a single commodity, similar to HR and CR sheets. Even though this category includes high-value steel alloys, the numbers are relatively small compared to items made of carbon steel. Stainless steel is the most commonly used alloy steel. It has significant nickel and chromium alloying elements and is a corrosion-resistant metal.

The sector has typically been characterized by high volatility. For instance, growth was 3.8% in 2016, fell to 0.5% in 2017, then rose to 6.4% in 2018. Sectoral growth in 2019 is likely to remain below 1.5%. Given the significant transformations this industry has undergone and the fact that a wide range

of economic factors influence its growth potential, predicting this sector's long-term growth is challenging. However, government initiatives aim to encourage OEMs and technology providers to establish operations in India. To rejuvenate the sector, the government is emphasizing R&D. Moreover, the sector's prospects have been enhanced due to India's focus on the Make in India program.

1.1.2 Production of Steel

• There are two primary methods for producing steel:

• Approximately 70% of the world's steel is made from iron ore. Steel is manufactured by extracting iron from iron ore. The main inputs are iron ore, coal, limestone, and recycled (scrap) steel. The two main ore-based production processes are blast furnace (BF) iron production followed by basic oxygen furnace (BOF) steel production, and direct reduction (DRI) iron production followed by electric arc furnace (EAF).

• Scrap is used to produce about 30% of the world's steel. Recycled steel is produced in an EAF. The primary inputs are steel scrap and power. The two main ore-based production routes are direct reduction (DRI) iron production followed by electric arc furnace (EAF), and blast furnace (BF) iron production followed by basic oxygen furnace (BOF) steel production. Around 30% of the world's total steel production is made from scrap. Recycled steel is produced in an EAF. The main inputs are power and recycled steel. Depending on the plant's setup and the availability of recycled steel, other sources of metallic iron, such as direct reduced iron (DRI) or hot metal, may be used in the EAF process. The three most common waste products from iron and crude steel production are slags (90 percent by mass), dust, and sludge. Process gases from the coke oven, such as BF or BOF, are also significant by-products. On average, a tonne of steel generates 200 kg to 400 kg (EAF/BF/BOF) of by-products.

1.1.3 Sustainable Steel

As per the Inter-Governmental Panel on Climate Change (IPCC), steel is both durable and environmentally friendly, with the steel industry contributing to 3-4% of global greenhouse gas emissions. For every tonne of steel produced, an average of 1.7 tonnes of carbon dioxide is emitted. It's estimated that about 90% of the emissions from the steel industry originate from iron production in countries and regions such as Brazil, China, India, Japan, Korea, Russia, Ukraine, the United States,

and the EU-27 region. Over time, the steel industry has made technical advancements that have significantly reduced emissions related to steel. These achievements include enhanced environmental protection measures, improved recycling of steel products, better utilization of byproducts from steelmaking, and increased energy efficiency in the steelmaking process.

Steel producers worldwide are continually investing in greener production methods. Examples of these include changes in input materials (like using low-sulfur raw materials), onsite reuse and recycling, improved housekeeping, and training. The Asia-Pacific Partnership on Clean Development and Climate's Steel Task Force has created a State-of-the-Art Clean Technologies Handbook that lists some of the leading technologies and strategies for improving energy efficiency and environmental performance in steelmaking facilities.

There are several national programs in place aimed at reducing emissions. The Japanese steel industry, for instance, is currently involved in a voluntary action program that encompasses everything from international technical cooperation to research and development into innovative by-product applications. The American steel industry has set the ambitious goal of achieving net-zero greenhouse gas (GHG) emissions by 2050. The steel industries of the US, Japan, Korea, Australia, and Canada, along with China and India, are also members of the Asia-Pacific Partnership on Clean Development and Climate. The World Steel Association is using this approach to strengthen regional and national commitments by collecting carbon emission data from major steel-producing countries and benchmarking it.

1.2 GLOBAL STEEL DEVELOPMENT

The global scenario, which predicts a downcycle and margin compression, is reflected in the situation in India where steel manufacturers have begun to exhibit similar signs. High input costs and a bleak macroeconomic environment, both domestically and globally, have resulted in low demand for steel products from end-user sectors. India's steel sector has seen rapid growth in recent years due to increased capacity, making India the world's fourth-largest producer of crude steel (after China, Japan, and the United States), as well as the largest producer of sponge iron.

The global steel sector is highly cyclical, leading to frequent volatility in steel prices, which are directly influenced by the cost of raw materials. Overcapacity, an influx of cheap Chinese steel imports, the general economy, and shifts towards alternative replacements have significantly impacted steel prices. With the rupee currently trading between 77 and 78, domestic steel producers

like SAIL and JSW, which depend on imports, may face higher coking coal prices due to a weaker currency. For companies like JSW Steel and Tata Steel that have a higher foreign exchange debt, this could also lead to an increase in net debt.

However, considering the significant additional capacity expected to come online over the next two years, volume expansion will be crucial for the steel industry in the long run. Unless market conditions improve significantly, the overall capacity utilization levels and profitability of steel manufacturers will continue to be impacted.

The market's supply of steel exceeded demand due to imports from China. Furthermore, prices have remained stable due to weakening economies in Europe and Asia. Falling steel prices have negatively affected the profitability of steel producers. However, it is expected that a strengthening domestic economy, stabilization in the Euro-zone, and a resurgence in construction activity will drive a recovery in price momentum.

In terms of production growth, the increased modernization of the twenty-first century has led to a doubling of global steel production, from 851 million tonnes in 2000 to 1,950.5 million tonnes in 2021. Despite its size, the industry remains highly fragmented. It is also highly competitive and cyclical.

A) Top 10 largest Steel Producing Countries in the World:

Global crude steel production and consumption surpassed 1,950 million metric tonnes in 2021, with emerging economies rapidly ascending the production ladder, some accounting for up to 50% of total crude steel production. The surge in demand is propelled by significant technological advancements, rising income levels, and dynamic geopolitical and politico-economic factors. Consequently, countries are ramping up their production, occasionally resulting in surpluses. However, there's global apprehension about overproduction and excessive exports. When there's a surplus of steel, it's exported at very low costs, leading to a sharp decline in steel demand abroad and significant job losses. Several major world powers advocate for reducing excess production and exports to safeguard employment markets.

Upon reading this article, readers will gain insights into significant developments in global steel production, enabling them to form informed opinions on the pressing issues surrounding the global steel trade and its future.

1. **China**:

- In 2021, China produced an impressive 1337 million metric tonnes of basic steel, surpassing all forecasts.
- Concerns arise from several nations, notably the United States, the European Union, and India, regarding China's excessive crude steel production, fearing it has opened a Pandora's Box.
- Many experts argue that China is compelled to produce more crude steel than necessary due to public pressure to sustain factory operations and maintain high GDP levels. China is in negotiations with the US and other major economies regarding its extremely cheap excess exports, citing the need to preserve employment.
- However, many countries accuse China of using Western markets as dumping grounds for exports, resulting in significant unemployment abroad and substandard steel production in the US.
- China's exports have soared by 364% since 2009, totaling 106.6 million metric tonnes, with South Korea, Vietnam, and the Philippines being the top three importers.
- The majority of China's steel producers are state-owned, with companies like Hesteel Group and Baosteel Group playing significant roles in the global steel sector.
- Predictions suggest China's steel industry will continue to expand due to political-economic trends, domestic growth, and increasing geopolitical influence.

2. **India**:

- Reputable economists project that India is on track to surpass Japan as the world's second-largest crude steel producer.
- India's steel output surged by 11% to 118 million metric tonnes in February 2021 from 100.3 million metric tonnes at the end of 2020.
- India, the fourteenth-largest crude steel exporter, exported 10 million metric tonnes of steel to foreign markets, with estimates indicating a potential 75% increase in exports.
- Conversely, imports have declined by over 25%, with Bangladesh, Belgium, and Nepal being the top importers.

- JSW Steel Limited, Steel Authority of India Ltd., and TATA Steel Group are the leading steel producers in India, known for their export-quality steel.

3. **Japan**:

- Despite fluctuations, Japan has maintained a steel output of over 104 million metric tonnes, albeit down from 110.6 million metric tonnes in 2014.
- The nation's significant sales tax hike contributed to the decline, with no clear consensus on potential revivals. Analysts believe stimulus measures could aid in the nation's recovery.
- Major steel producers in Japan include Nippon & Sumitomo and JFE.
- Despite production declines, Japan remains the world's second-largest exporter of high-grade steel, with a 22% increase in export growth. Major consumers include South Korea, Thailand, and China.

4. The United States of America:

- Despite a notable drop in crude steel production from 88.2 million metric tonnes to 86 million metric tonnes in 2022, the condition of the American steel industry shows no signs of improvement.
- Market analysts argue that domestic steelmakers in Western markets are compelled to shutter factories and lay off workers due to abundant, inexpensive imports from significant emerging nations, leading to a production gap.
- The United States, the world's leading steel importer, is in talks with several major producers in developing countries to curtail excessive exports that could destabilize the market.
- Economists, however, anticipate a return to normal steel production levels.
- Nonetheless, the US remains a major exporter of high-quality steel to approximately 150 nations, with Canada and Mexico being the largest consumers. Nucor, US Steel, and ArcelorMittal are the top three steel producers in the country.
- As the ninth-largest steel exporter globally, the US has shipped around 9 million metric tonnes to 150 destinations.

5. **Russia:**

- Following a boom in output in 2014, Russia's steel production growth has slowed down. Output reached 68.6 million metric tonnes in 2016 but surpassed 75.6 million metric tonnes in the first quarter of 2022.
- Russia is poised to maintain its position as the fifth-largest steel exporter globally in 2022, with exports totaling 75.6 million metric tonnes. The country's exports have surged by 22% since 2011.
- Turkey, Taiwan, and Mexico are the primary foreign markets for Russian steel exports. Major steel producers in Russia include Severstal JSC, Evraz Group, and Novolipetsk Steel.

6. **South Korea:**

- South Korea is projected to process over 70.4 million metric tonnes of steel in 2022, ranking it as the sixth-largest producer globally.
- While output trends have fluctuated, there was a slight decline in early 2017. Experts suggest that it's premature to draw conclusions before the fiscal year concludes, but improvements are anticipated.
- As the fourth-largest exporter of crude steel globally, South Korea's top three buyers are China, the US, and Japan.
- Approximately 30.3 million metric tonnes of steel have been exported from South Korea, with POSCO and Hyundai Steel Co. being the top two producers.

7. **Turkey:**

- Following a period of political unrest in the region, Turkey's steel industry is now witnessing a recovery, marked by a significant increase from 31.5 million metric tonnes to 40.4 million metric tonnes in 2022, reflecting a growth of 15.4%.
- Turkey's steel exports saw a modest 2% increase in 2016, rising from 14.8 million metric tonnes to 15 million metric tonnes.

- Key consumers of Turkish steel include the United States, Egypt, and the United Arab Emirates. Leading steel producers in Turkey include Erdemir Group, Içdas, and Habas.

8. Germany:

- Despite its reputation for high-quality steel production, Germany ranks as the seventh-largest producer of crude steel globally.
- In 2021, Germany produced 40.4 million metric tonnes of steel, representing a slight decrease from 2019.
- As a technological hub, Germany is currently the sixth-largest exporter of crude steel worldwide.
- France, Poland, and the Netherlands are among the countries that extensively utilize steel manufactured in Germany, particularly in the automotive and military sectors.
- Salzgitter, ArcelorMittal, and ThyssenKrupp are the three largest steel manufacturers in Germany.
- Experts predict that Germany will soon surpass several other nations in terms of manufacturing output.

9. Brazil:

- Brazil's crude steel output stood at 36.2 million metric tonnes in 2022, reflecting a decrease of approximately three million metric tonnes due to the nation's economic crisis.
- Since 2014, Brazil's steel industry, as reported by a prominent national steel association, has witnessed the closure of 83 operating units, the loss of over 40,000 jobs, and deferred investments totaling USD 3.2 billion.
- The organization cites a 9.2 percent decline in crude steel production in the nation.
- Associated sectors such as the auto industry have been adversely affected by this downturn, resulting in a 2% decrease in Brazil's steel exports, amounting to 13.4 million metric tonnes less than the previous year.
- Major steel producers in Brazil include Gerdau, ArcelorMittal, USIMINAS, and CSN. Despite

these challenges, Brazil remains one of the world's leading steel manufacturers, with experts foreseeing continuity in this status quo.

10. **Ukraine**:

- Positioned in Eastern Europe, experienced a decline in its global ranking for crude steel production from eighth place in 2010 to tenth by 2016. Currently, as of 2022, its steel output stands at 21.4 million metric tonnes. However, the ongoing conflict in the eastern region, where most steel mills are situated, has significantly impeded production. In 2017, exports plummeted to 18.2 million metric tonnes, a 30% drop attributed to political instability.

- Major steel producers in Ukraine include Metinvest, ISD Corporation, JSC, and Zaporizhstal. Egypt, Turkey, and Italy emerge as the primary importers of Ukrainian steel. Despite challenges, experts foresee a modest uptick of approximately 2 million metric tonnes in crude steel output, affirming Ukraine's status as one of the top ten producers and exporters in the global steel market.

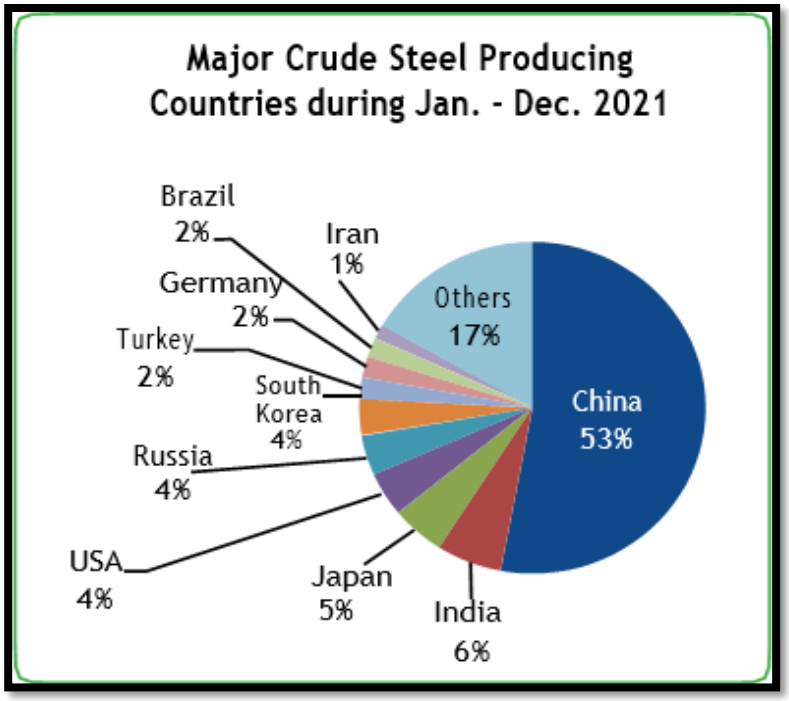
B) Global Ranking of Indian Steel

On January 25, 2022, the World Steel Association unveiled preliminary data indicating a 3.7 percent uptick in global crude steel production, reaching 1950.5 million metric tonnes (MT) between January and December of the preceding year. Within this timeframe, Chinese crude steel output experienced a 3% decline, settling at 1032.8 million MT compared to the corresponding period last year. Despite this decrease, China retained its position as the foremost global producer, contributing 53% to global crude steel production and a staggering 75% to the output in Asia and Oceania. Following China, India emerged as the second-largest crude steel producer globally, witnessing a notable 17.8% surge in output compared to the same period in the previous year.

[2]World Steel Production

Rank	Country	Qty (MT)*	% change over the same period of last year
1	China	1032.8	-3
2	India	118.1	17.8
3	Japan	96.3	15.8
4	USA	86	18.3
5	Russia (e)	76	6.1
6	South Korea	70.6	5.2
7	Turkey	40.4	12.7
8	Germany	40.1	12.3
9	Brazil	36	14.7
10	Iran (e)	28.5	-1.8
	Top 10	1624.8	2.09
	World	1950.5	3.7

Table 1: World crude steel Production January – December 2021



[3] *Provisional "e" stands for an estimat

[2] https://steel.gov.in/annual-re
https://www.ibef.org/ ports

[3] https://steel.gov.in/annual-reports

1.3 PROBLEM INTENDED TO STUDY:

- To study the prospects of steel trade in India.

1.4 OBJECTIVES

- To analyze the trends of production, demand, and market of steel in India and its impact on steel trade.
- To evaluate and analyze the factors that drive steel export and import from India.

1.5 RESEARCH METHODOLOGY

- **Research Design:** The current study is both descriptive and analytical in nature because it discusses the GDP of the nation as it stands at the moment. Since the goal of the study is to ascertain how the steel market will affect India's GDP, it is analytical in nature.
- **Data Collection:** To examine the performance of steel imports and export in India, the study is solely based on secondary data (during a ten-year period) collected from various Government of India websites, journals, and other relevant sources**.**
- **Statistical Techniques:** Several statistical tools and techniques, including pie charts and a graphical representation, were used to analyze the acquired data. graphical data representations and pie charts are used for the comparison analysis. the GDP of India as a result of the steel business.

1.6 SCOPE

The analysis is conducted at the national level for India's import and export of steel. This survey covers raw resources, production, and finished items. Determining the effect of steel imports and exports on the Indian economy is the main objective. The major steel-producing businesses and their most recent steel production contributions have been covered.

1.7 LIMITATIONS

- All analysis has been limited by the data provided in the annual reports of the steelindustry.
- All the data used in this study is secondary data.
- We have limited scope because market conditions are not constant and may change overtime.
- The covid-19 period has led to a gap in the industry and obtaining the data during that periodwas a challenge.

1.8 CHAPTER SCHEME

The chaptering of the study is made into 5 major divisions as follows:

- Chapter I- Introduction.
- Chapter II- Review of the literature.
- Chapters III -. To analyze the trends of production, demand, and market of steel in India and its impact on the steel trade
- Chapters IV –. Analyze the factors that drive steel export and import of India.
- Chapter V- Findings and Conclusion.

CHAPTER - 2

REVIEW OF LITERATURE

INTRODUCTION:

Due to its extensive range of applications across numerous industries, the steel industry has always been a significant economic sector. Over the years, the industry has undergone significant changes as a result of environmental regulations, economic ups and downs, and technological advancements. For businesses to stay competitive and sustainable over the long term, it is imperative that they comprehend the current trends and problems affecting the steel sector. With an emphasis on the most recent advancements, difficulties, and prospects in the business, this study of the literature attempts to give a thorough overview of the body of work already published on the steel industry. Topics like market developments, production technology, environmental sustainability, supply chain management, and government legislation will all be included in the assessment. The results of this assessment can aid scholars, policymakers, and business professionals in better understanding the steel sector and locating prospective areas for development and expansion. The purpose of this literature review is to advance knowledge and encourage sustainable growth in the steel industry by serving as a platform for future research and analysis on this vital industry.

- **Ghosh and Chatterjee (2008), Chadha (1989):** India's expertise in iron and steel dates back over three millennia. Following independence, the Indian government assumed control and focused capacity development within the public sector. Integral to this effort were the construction of four integrated steel plants in Durgapur, Bhilai, Rourkela, and Bokaro during the 1950s and 1960s, aided by technological assistance from the former Soviet Union, West Germany, and the UK. Despite issuing licenses to over 200 steel mills in the early 1970s, many faced closure in the latter half of the decade due to severe power shortages and essential input scarcities. To revive the industry in the 1980s, the Indian government pursued a comprehensive strategy, encompassing the expansion of existing facilities, establishment of new capacity, and modernization of technology in existing plants to enhance productivity.

- **Government of India(2003), Sengupta (2004), Bagchi (2005), Banerjee (2005), Muthuraman(2006), Research Bharti Bala and De (2009), Burang and Yamini (2010):** During this period, the Indian steel sector witnessed a substantial surge in both crude and refined steel production due to heightened demand across infrastructure, construction, automotive, and power domains. However, the significant impact of the 2008 global recession necessitated production cuts by Indian steel manufacturers to stabilize steel prices. The industry grappled with a demand-supply imbalance and soaring raw material costs, significantly impacting profit margins. Moreover, the looming challenge of land acquisition could pose a considerable obstacle to future capacity expansion within the industry.
- **Burange and Yamini (2008):** From 1971 to 2008, the focus was on evaluating the performance of India's iron and steel industry and assessing corporate competitiveness. Data for the study was sourced from annual reports of entities like SAIL, alongside commercial and industrial departments. Visualization methods such as tables and CAGR techniques were employed. Analysis of key variables like production, export, and import demonstrated a consistent upward trend in iron output since India gained independence.
- **Indian steel industry (2009)** : The study, centered on the period from 2002 to 2007, was prepared for the Indian Competition Commission. It relied on secondary data sourced from the India statistical report and the annual report of the CARE steel industry. Its objective was to present factual insights, encompassing growth rates and utilizing tabular representation. The investigation examined variables such as production, export, and import, revealing a consistent rise in iron output subsequent to monetary adjustments.
- **S. Mukherjee & S. Mukherjee (2012):** The study examined India's export performance alongside various factors influencing exports. It discovered that manufactured exports constitute a substantial portion of the nation's total exports, indicating an increasing significance of exports for India's economic advancement.
- **Paudel, R.C. (2014):** The ARDL method was applied to analyze how liberalization impacted India's exports from 1975 to 2008. The study revealed that global demand influences export demand, whereas local output affects export supply. The report concluded that liberalization initiatives positively affected India's industrial exports.
- **Prasad et.al (2014):** The research proposed various broad and specific policy

initiatives, such as enhancing export infrastructure, expanding market diversity, implementing export promotion initiatives, and establishing Regional Trading Agreements, among other strategies, to effectively engage in the evolving global trade landscape.

- **Goyal, S. (2016):** Exports play a crucial role as they bolster a nation's foreign exchange reserves, thereby fostering economic growth. Despite the challenges posed by the US subprime crisis, India witnessed a remarkable surge in merchandise exports, growing at an impressive rate of 15.79 percent over a decade spanning from 2004-05 to 2013-14, as revealed by a study analyzing contemporary export patterns in the country.
- **Veermani, C. (2020):** The study investigated the growth and pattern of India's merchandise exports following reforms. It found that export growth rates were slower in the initial decade after the reforms compared to the subsequent decade, with rates at 8% and 12% respectively. Moreover, the study highlighted a significant shift in India's export market away from traditional affluent nations towards emerging markets.
- **Jayakumar et.al (2021):** Highlighting the significance of various facets of India's imports and exports, the connection between foreign direct investment (FDI) and the nation's trade dynamics was underscored. It was revealed that there exists a positive correlation between FDI and both imports and exports, emphasizing the interdependence among these factors.

CHAPTER 3

TRENDS OF PRODUCTION, DEMAND AND MARKET OF STEEL IN INDIA AND ITS IMPACT ON STEEL TRADE.

3.1 The Development of the Indian Steel Industry

The founders of the nation identified steel and power as the fundamental pillars for India's prosperity post-independence. The majority of India's modern infrastructure was built using steel, underscoring the industry's vital role in the nation's development. India is poised to surpass Japan as the world's second-largest consumer of steel and has already overtaken it as the world's second-largest steel producer.

India's domestic steel industry is particularly vulnerable to imports with lower pricing and fluctuating demand. The overall growth and profitability of the steel industry have been hindered by a decrease in domestic steel demand and a drop in investment across industries. Trade disputes and protectionist policies are negatively impacting the sector. However, we believe this is just a phase.

An immediate policy boost is needed to shield the industry from external threats and simultaneously increase demand. While corporate tax cuts are a significant step in the right direction, they are not enough to stimulate demand. It is crucial to boost consumer confidence and restore integrity in the financial sector. The steel industry must also consider how digital disruption is impacting other industries and how new technologies can help it address some of its challenges.

In 2018, the Indian Steel Association (ISA) successfully launched its flagship event, the ISA Steel Conclave, as a platform for government officials, top business executives, and consultants to learn about the challenges facing the global steel industry.

India has had a steel and iron industry for about a century. The Iron Work Company established the first iron and steel company in 1870 at Kulti, West Bengal. Although the Tata Iron and Steel Company (TISCO) was founded in 1907, large-scale production didn't begin until later. When India gained independence in 1947, it had a modest annual production capacity of 1 million tonnes of iron and steel. At that time, the iron and steel industry was operating at full capacity in the private sector. The Indian Iron & Steel Company Limited (IISCO), founded in 1918 in Burnpur, West Bengal, and later listed on the London Stock Exchange, is the country's second-oldest steel plant. After the transfer, it is now owned by the Steel Authority of India (SAIL), a major player in the public steel industry. The construction of steel mills was a capital-intensive sector that received special attention during the

second and third five-year plans.

Three integrated steel plants with a combined capacity of one million tonnes each were built in the public sector in the states of West Bengal's Durgapur, Orissa's Rourkela, and Madhya Pradesh's Bhilai. After it was built, two more public sector integrated steel plants were built in Bokaro, Jharkhand, and Vishakhapatnam, Andhra Pradesh.

Since the beginning of government investment in the steel industry, market protection measures have been implemented for the domestic industry through reservations (large-scale integrated capacity of over 1 million for the public sector), dual pricing with distribution controls for both the public and private sectors, and protection from import competition through tariff barriers, quantitative restrictions, and import licensing. A managed pricing system also offered market and price protection to the industry in addition to insurance protection. A goods equalization system was in place to maintain rates uniform across all delivery distances. The normative cost of production plus return on capital were used to set and manage the basic selling price of steel.

Cess and levies included, among others, the import pool fund, the Steel Development Fund (SDF) levy, and the Joint Plant Committee (JPC) cess. Imports were channeled, and a fund was set up to make up the difference between higher domestic sales prices and lower foreign procurement prices.
In order to bridge the gap between rising domestic demand and static supply from already existing integrated facilities, a few small-scale secondary steel producers in the private sector (electric arc furnaces and induction furnace units) were established in the 1970s. The private sector was encouraged as a result of a slowdown in governmental investment as a result of resource limitations and a lower capital plan allocation. Due to this industry's production of semi-finished ingots and billets, a sizable number of re-rolling facilities were constructed to transform semi-finished steel bars and rods used mostly in the construction industry.

The Indian steel industry was the first significant sector to be entirely deregulated in terms of licensing, price, and distribution. The industry has had an increase in reforms across the board since 1991. The industry was open to private investment after extensive deregulation (deregulation of price, distribution, and capacity, removal of import and export restrictions, etc.). 21 new projects added 12 million metric tonnes of capacity to the steel sector during this decade.

a. Sectors of High Demand in Sale for Steel

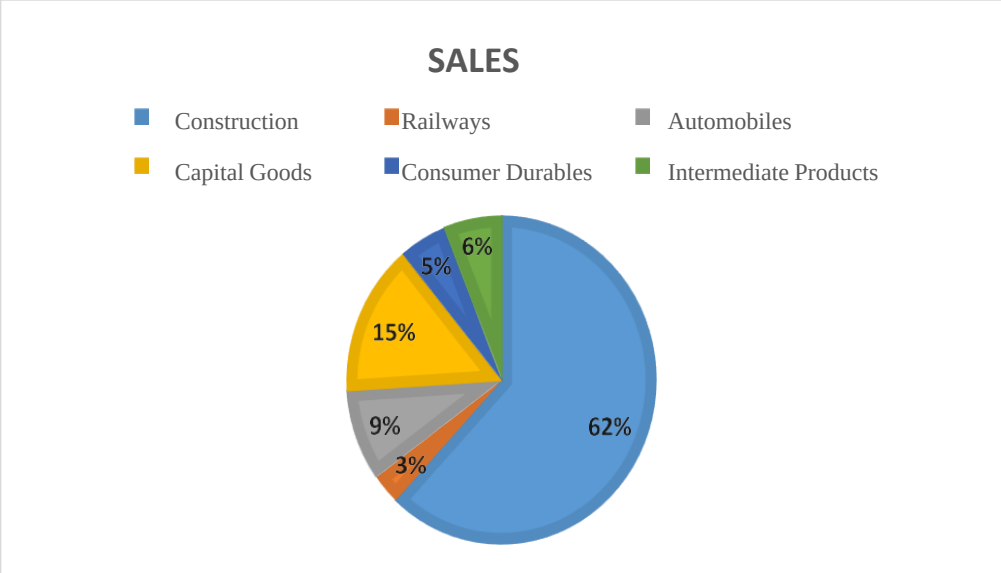


Figure 3: Sector-wise demand for steel [4]

CONSTRUCTION SECTOR

This industry, which encompasses real estate and physical infrastructure (excluding railroads), is responsible for approximately 62 percent of India's steel consumption. The sector experienced an 8.6% growth in 2018. Although growth is expected to slow to just 5.4% in 2019, the industry is projected to rebound in 2020 and beyond, with an estimated increase of about 7% through 2024.

In 2018, over USD 500 billion was invested in the construction industry. By 2025, India is expected to become the third-largest construction market in the world, surpassing China. The government's current focus on infrastructure is expected to drive growth in this industry and overall steel consumption. The real estate industry's sub-growth, which is expanding at a CAGR of above 4%, is being fueled by affordable housing and smart city initiatives. Some of the key ongoing and upcoming government initiatives are listed below.

- Under the Bharatmala project, the National Highways Development Project plans to construct 34,800 kilometers of roads. In addition, the Bharatmala program has identified 24 logistics parks along national corridors. These parks will cater to key production and consumption centers, accounting for 45% of all road freight.

[4] Source: pwc.in

- The Sagarmala initiative, which aims to connect all of India's major maritime zones, envisions port-led industrial development.
- The 15,000-kilometer Urja Ganga Gas Pipeline Project aims to build a gas pipeline network in the oil and gas industry. Urban infrastructure will further develop 100 smart cities. In addition to the metro train projects already underway in Delhi, Mumbai, Kochi, and Bengaluru, ten more cities will be served. Basic facilities are being renovated as part of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

National Investment and Manufacturing Zones (NIMZs), 14 of which have already received preliminary approval, are being built across the nation. Along the Delhi-Mumbai Industrial Corridor Project (DMIC), eight investment zones have also been designated.

India's total construction investment is expected to increase by 50% over the next five years. The infrastructure sector as a whole is expected to grow at a rate of 9–10 percent annually, primarily due to road and urban infrastructure projects. It is expected that all these would increase steel demand both directly and indirectly. For example, as road construction technology advances, demand for steel crash barriers is increasing.

Furthermore, the real estate industry, which has recently been hampered by an excess of inventory, is expected to gain momentum in the coming years, particularly in the affordable housing market. By 2030–31, India's urbanization rate, currently at 33%, is expected to rise to 40%. This equates to a shift of 90 million people from rural to urban areas—almost double the population of Argentina. Therefore, in the medium to long term, housing demand and consequently, real estate growth in urban and semi-urban areas are expected to increase.

RAILWAYS:

This industry, accounting for 3% of all steel consumption, is witnessing rapid growth. It saw a rise of 13.4% in 2018, and it’s projected to increase by more than 20% in 2019. Projects such as high-speed rail lines, dedicated freight corridors (spanning over 3350 km) connecting industrial clusters in western and eastern India, and 100% track electrification (electrification of 16,540 track km by 2021–22) are all expected to significantly boost steel demand.

India is home to the fourth-largest vehicle industry in the world, which represents about 9% of the country’s total steel demand. In addition to being the world’s fourth and seventh largest producer of passenger and commercial vehicles respectively, India is the leading producer of two-wheelers, three-wheelers, and tractors. Two-wheelers dominate the industry with an 81 percent market share, while passenger cars make up 13 percent. Approximately 80% of sales

in India's automotive sector are domestic. After experiencing substantial expansion in recent years, the sector is gradually slowing down. All sub-segments saw their growth slow down in 2019. In 2020, growth is expected to normalize. The automobile sector, including component parts, is projected to reach a value of more than USD 250 billion by 2026. India's export markets for automobiles and auto parts are expected to grow at a CAGR of 3% by 2026. The Indian government unveiled the Automotive Mission Plan 2016-26 (AMP 2026) in 2015. The strategy outlines the objectives for each sub-segment, including scale, global footprint, and technological maturity. It aims to achieve long-term automotive growth and catch up to the major automakers around the world.

As a result, despite a slight slowdown in growth this year, steel demand from the auto industry is expected to remain stable. However, according to the Indian government, electric vehicles will require less steel as they have fewer auto components.

CAPITAL GOODS:

By 2026, the automotive industry, including component parts, is expected to be worth more than USD 250 billion. Up until 2026, the export markets for automobiles and auto components in India are projected to expand at a CAGR of 3%. The Indian government released the Automotive Mission Plan 2016-26 (AMP 2026) in 2015. Scale, global footprint, and technological maturity are just a few of the goals outlined in the plan for each sub-segment. It seeks to surpass the major automakers globally and achieve long-term automotive growth. The most significant of its several sub-sections is machinery and equipment. The machinery and equipment industry includes items like heavy electrical machinery, machine tools, construction and earthmoving equipment, and plant machinery. Building, mining, and heavy and light industries are therefore unquestionably significant to the sector. In other words, the expansion of the secondary sector in general as well as the capital goods industry specifically are dependent upon each other.

A portion of the capital goods industry is known as "machinery and equipment," which makes up about 23% of all manufacturing and 4% of all GVA in India. The sector has historically experienced uneven growth and is strongly dependent on imports, notably in the area of big machinery.

Due to the low level of local product acceptance, there are large technological gaps that lead to a low-capacity utilization ratio, a brittle support system, and insufficient R&D spending.

Since the beginning of 2018, India's economic and industrial growth has been steadily

declining. As a result, the capital goods industry expanded at a solid 6.4 percent in 2018, but it is anticipated that growth will decelerate to less than 1.5 percent in 2019. Since late 2018, there has been a sharp slowdown in manufacturing growth because of concerns about liquidity, particularly among SMEs and a freeze on new investments. The completion of projects that were previously announced has been impeded by declining solar and wind energy rates. However, the industry is probably going to rebound in 2020.

CONSUMER DURABLES:

This sector contributes to about 5% of India's steel demand and reflects the country's consumption-driven economy, known for its rapid growth. For example, in 2018, the industry expanded by 21.7%. However, growth slowed in 2019, aligning with the broader economic slowdown, influenced by factors such as a liquidity crunch in the shadow banking sector, higher interest rates, and electoral uncertainty, leading to a notable decline in consumer durables. Despite its breadth, growth trends in this sector have been inconsistent. While certain products like air conditioners and refrigerators saw growth in 2019, others like frost-free freezers and washing machines did not. Household demand in urban areas has consistently outpaced personal disposable income, prompting increased borrowing and decreased savings, which has constrained growth potential. Additionally, financial conditions tightening, especially by Non-Banking Financial Companies (NBFCs), have further impacted consumption. Consequently, growth prospects are expected to be constrained in the short term, but normalization is anticipated by the latter half of 2020 and beyond.

INTERMEDIATE PRODUCTS:

This sector constitutes the remaining 6% of India's steel demand and is closely linked to the automotive, oil and gas, and other industrial sectors. Consequently, the weakened automotive industry has adversely affected the demand for gearboxes, bearings, and similar components. However, the demand for pipes, particularly large-diameter ones, has seen a continuous increase due to ongoing pipeline projects. Nonetheless, as economic growth decelerates, exports and the demand for packaging materials like barrels and drums also experience a decline.

b. Present Status of the Indian Steel Market

In FY23, the production of finished steel and crude steel until January amounted to 98.39 million tonnes (MT) and 92.82 MT, respectively. CARE Ratings forecasts a year-on-year increase of 8–9% in crude steel production, reaching 112-114 MT in FY22. Finished steel consumption in FY23 reached 86.3 MT by January, indicating that 86.3 MT of finished steel was utilized between April 2022 and January 2023.

Finished Steel Import and Export from FY 2016 to FY 2022[5]

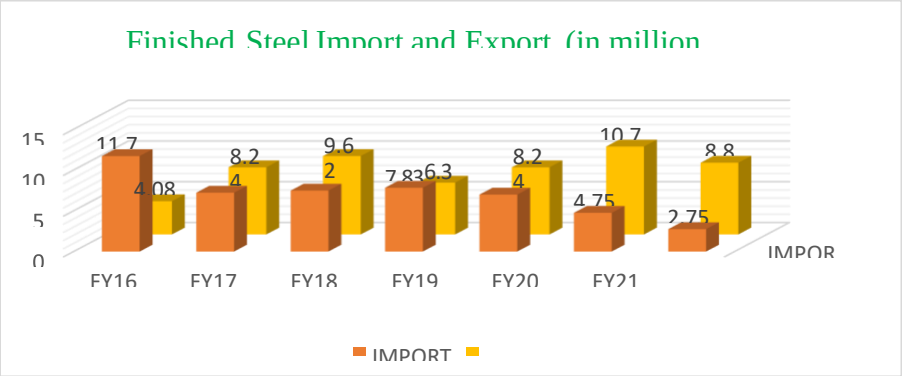


Figure 4: Finished Steel Import and Export from 2016-2022

c. Indian steel industry growth potential

India's steel sector has witnessed a significant surge, primarily driven by robust domestic demand. Since around 2008, domestic steel demand has surged by nearly 80%, while production has increased by 75%. The upward trajectory in steel production has been aligned with organic growth.

The Indian government has consistently backed the steel industry, formulating the National Steel Policy in 2017 to outline its growth trajectory until 2030–31. Key aspects of the strategy include:

- Projecting a steel production capacity exceeding 300 million tons annually by 2030–31.
- Envisaging unprocessed steel production to reach 255 million tonnes by 2030–31, operating at an 85% capacity utilization rate.
- Targeting finished steel production to reach 230 million tonnes, with a 10% yield loss or a

[5] https://steel.gov.in/sites/default/files/Download_0.pdf

conversion rate of 90% from raw to finished steel.

- Anticipating utilization to hit 206 million tonnes by 2030–31, resulting in net exports totaling 24 million tonnes.
- Aiming for per capita steel consumption to increase to 160 kg.
- Planning an additional investment of INR 10 lakh crore.

While the 2017 National Steel Policy marks a significant milestone for the Indian government, it underscores the future potential of the country's steel industry. The Joint Plant Committee reported a production of 110.9 million tonnes of crude steel in India in 2017. To achieve the target of 255 million tonnes of crude steel output by 2030–31, production must grow at a Compound Annual Growth Rate (CAGR) of 7.2%. Considering the 7.6% increase in crude steel output in 2018–19, achieving this target seems feasible, aligning with the growth rate outlined in the policy.

However, the next crucial consideration is the source of demand necessary to sustain the projected production levels, necessitating a sectoral plan.

d. Investments in the indian steel industry

Recent years have witnessed substantial investments and advancements in India's steel sector, along with its associated mining and metallurgical industries. According to data from the Department for Promotion of Industry and Internal Trade (DPIIT), metallurgical industries in India attracted FDI worth US$16.1 billion between April 2000 and December 2021.

Driven by increased construction activities, steel consumption is anticipated to rise by 17% to 110 million tonnes in FY23. Here are some notable investments in the Indian steel industry:

- In October 2021, Tata Steel announced plans to construct additional scrap-based factories with a capacity of at least a billion tonnes by 2025.
- In October 2021, JSW Steel invested Rs. 150 billion (US$ 19.9 million) in Jammu and Kashmir to establish a steel facility and bolster local manufacturing.
- Also in October 2021, the joint venture steel firm of ArcelorMittal and Nippon Steel Corp. declared intentions to invest Rs. 1 trillion (US$ 13.34 billion) over ten years to expand operations in India.

- In August 2021, Tata Steel disclosed plans to allocate Rs. 8,000 crore ($1.08 billion) for capital projects in India in FY22.
- In the same month, ArcelorMittal announced a Rs. 1 lakh crore (US$ 13.48 billion) investment to increase capacity in Gujarat.
- Tata Steel revealed in August 2021 its intention to invest Rs. 3,000 crores (US$ 404.46 million) in Jharkhand over the next three years to enhance capacity.
- Jindal Steel & Power Ltd. unveiled plans in August 2021 to invest US$ 2.4 billion over six years to boost capacity and meet growing customer demand.
- JSW Steel aims to invest Rs. 47,457 crores (US$ 6.36 billion) over the next three years to expand the steel production capacity of Vijayanagar by 5 MTPA and develop mining infrastructure in Odisha.
- Mr. T.V. Narendran, CII's newly elected president and CEO of Tata Steel, announced plans in June 2021 for steel companies to collectively invest Rs. 60,000 crores (US$ 8.09 billion) over the next three years, marking it as the largest private sector investment plan recently announced.
- In June 2021, Shyam Metalics and Energy Ltd. unveiled plans to invest Rs. 2,894 crores (US$ 389.72 million) in brownfield development at two of its sites to triple its production capacity over the following three to four years.
- South Korean steel giant POSCO disclosed plans in April 2021 to construct an integrated steel plant in Odisha at a cost of US$ 12 billion, making it the nation's largest FDI project.
- In May 2022, JSW Steel and JFE Steel Corporation signed a Memorandum of Understanding (MOU) to explore the establishment of a grain-oriented JV Company in India for producing and distributing electrical steel sheets.
- JSW Steel completed its acquisition of Bhushan Power and Steel Ltd. in March 2022, increasing the latter's total output to 21.5 mtpa.
- JSW Steel intends to increase steel production at its Vijayanagar facility from 5 MT per year to 17 MT per year by the financial year ending March 2024. This will raise JSW Steel's capacity to over 26 mtpa with the addition of BPSL and a 10 mtpa capacity boost at its Dolvi steel mill.
- In March 2021, ArcelorMittal Steel and the Odisha government signed a contract for the construction of a Rs. 50,000 crore steel factories.
- In February 2021, Tata Steel BSL collaborated with FarEye, a logistics software startup, to accelerate its digital transformation.

- Indian steel mills have begun to expand their capacity for steel production to achieve self-sufficiency, with plans announced in September 2020 to increase capacity at five of SAIL's steel mills.
- For FY20, JSW Steel aimed to produce 1.5 lakh tonnes of TMT Rebars for metro rail projects nationwide.
- JSW Steel allocated US$4.14 billion for capital investments to increase its total steel production capacity from 18 million to 23 million tonnes by 2020.

Additionally, the Ministry of Steel plans to invest US$70 million in the eastern region of the country due to the industry's rapid growth. SAIL's manufacturing capacity is expected to rise from 13 MTPA to 50 MTPA by 2025, costing US$24.88 billion. Tata Steel plans to invest US$3.64 billion to increase the capacity of its Kalinganagar integrated steel factory from 3 million tonnes to 8 million tonnes.

3.2 Indian Steel Association (ISA)

The Indian Steel Association (ISA) serves as the representative body for the Indian steel industry, both domestically and internationally. It plays a central role in all discussions concerning public and regulatory policies, raw materials, global trade, logistics, environmental issues, technological advancements, and other aspects pertinent to steel manufacturing. The Indian steel industry relies on ISA to aid in achieving its primary objective of fostering domestic demand and fostering sustainable growth in steel production.

Established in 2014, ISA began with ten affiliates and eight full members. These full members comprise prominent players in the industry, including the Steel Authority of India (SAIL), Rashtriya Ispat Nigam Ltd (RINL), Tata Steel Limited, Tata Steel BSL Ltd, JSW Steel Ltd, Jindal Steel and Power Ltd, ArcelorMittal Nippon Steel India Ltd, and Bhushan Power and Steel Limited, representing both public and private sectors. ISA collaborates closely with the World Steel Association (WSA) on event organization and frequently participates in significant meetings with international counterparts as an associate member of the WSA.

Eight Full Members are

- Steel Authority of India Ltd.
- JSW Steel Ltd.
- Rashtriya Ispat Nigam Ltd.

- ArcelorMittal Nippon Steel India Ltd.
- Jindal Steel & Power Ltd.
- Tata Steel Limited
- Tata Steel BSL Limited
- Bhushan Power and Steel Ltd.

Our Ten Affiliate Members are

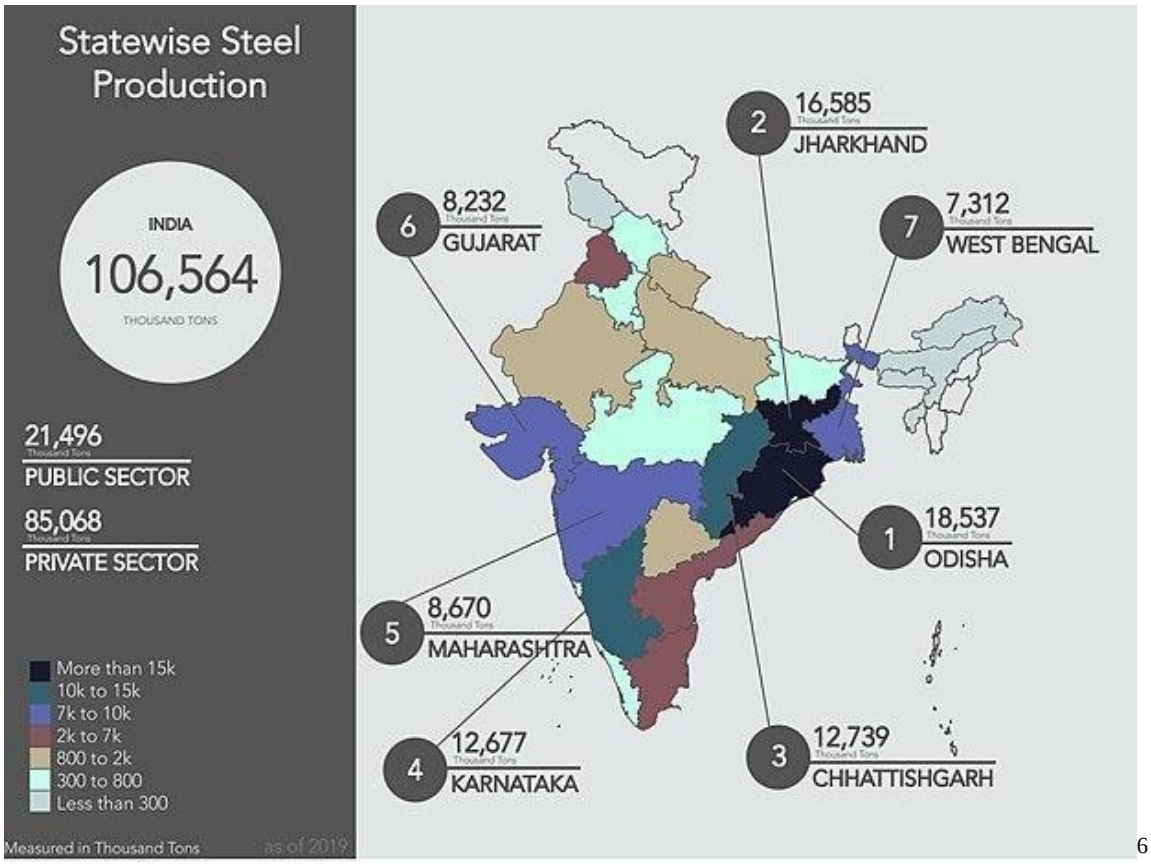
- Monnet Ispat & Energy Ltd.
- INSDAG (Institute for Steel Development and Growth)
- KISMA (Karnataka Iron and Steel Manufacturer's Association)
- Arjas Steel
- Jindal Stainless
- Electro steel Steel
- Shyam steel
- Orissa Metalliks Pvt. Ltd
- Tata Steel Long products
- Rungta Mines Limited

Domestic Scenario:

Due to deregulation, the Indian steel industry has embarked on a new phase of expansion, supported by a growing economy and heightened steel demand. Over the past three years (2018-2020), India has ascended from third to second place as the world's second-largest producer of crude steel, a significant leap from its third-place ranking in 2017. Furthermore, as per provisional rankings from the World Steel Association released in 2020, India emerged as the world's leading producer of sponge iron or DRI, and the second-largest consumer of finished steel after China.

In a deregulated and liberalized economic environment like India, the government's role

primarily revolves around facilitating the industry by establishing policy directives and institutional frameworks. The National Steel Policy 2017, a comprehensive roadmap for long-term growth in the Indian steel sector by 2030–31, exemplifies this approach, addressing both demand and supply aspects. Additionally, the government has implemented policies favoring domestically manufactured iron and steel products in government procurement processes.



[6]

Figure 5: PRODUCTION OF STEEL IN VARIOUS STATES

3.3Top 10 Steel companies in India

1. TATA Steel

Established in 1907, Tata Steel is now recognized as one of the leading low-cost steel producers globally. It holds the distinction of being Asia's inaugural integrated private steel company. The company's financial and operational results for FY22 reflect robust free cash flow generation, alongside a focus on expansion endeavors, debt reduction, improved return ratios, and significant cost savings. There is an optimistic outlook for its European facilities, previously considered a challenge, as they are expected to perform better, especially with the evident improvement in Indian markets and

[6] Source: commons.wikimedia.org

free cash flow generation. The management's confidence in the company's growth trajectory is underscored by plans to augment capacity from 21 million tonnes to 35–40 million tonnes by 2030. In FY21, Tata Steel increased its exports in line with industry trends and bolstered its market share in the Indian automotive sector. With India maintaining some of the world's lowest iron ore prices, Tata Steel benefits from substantial operational and financial leverage, positioning it as one of the premier steel manufacturers for large-scale projects in the country.

2. **Vedanta**

Vedanta entered the steel sector upon acquiring a 90% stake in ESL Steel Limited (ESL) and subsequently gained control of ESL through the Corporate Insolvency Resolution Process aimed at addressing non-performing assets in the Indian banking sector. Vedanta aims to expand its steel operations in Bokaro through brownfield development and aspires to become one of the country's leading steel manufacturers. The company is committed to broadening its horizons and overcoming obstacles in current and future endeavors to ensure growth, success, and profitability for all stakeholders. Vedanta Ltd.'s 5-million-tonne brownfield development project is set to focus on long goods and ductile iron products.

3. **JSW Steel**

JSW Group, a prominent corporate conglomerate in India, has evolved into the largest integrated steel company in the country within a span of less than three decades, boasting a capacity of 28 million tonnes per annum (MTPA) across India and the US. Renowned for its dedication to research and development, JSW Steel's products find applications in various sectors beyond construction and infrastructure, including automotive, electrical appliances, and electrical applications. JSW Steel is celebrated for its exemplary business practices and environmentally conscious initiatives. Notably, for the thirteenth consecutive year, World Steel Dynamics has ranked JSW Steel among the top 15 global steel producers, making it the first Indian company to achieve this recognition.

4. **Steel Authority of India Limited (SAIL)**

Steel Authority of India Limited (SAIL) is a key steel producer in India, headquartered in New Delhi and owned by the Indian government. With five integrated plants and three specialized steel mills primarily located in India's eastern and central regions, close to local raw material sources, SAIL is primarily engaged in the production and distribution of iron and steel products. It holds the distinction of being India's largest steel producer and ranks as the 20th largest globally, with an annual output of

16.30 million metric tonnes.

5. **Jindal Steel and Power**

Jindal Steel and Power Ltd. (JSPL) is part of the OP Jindal Group. The company produces 8.6 million tonnes of steel annually in India and operates a 3.11 million tonnes per year iron ore mine and a 9 million tonnes per year pellet factory. With a single-location thermal power production capacity of 3,400 MW in Chhattisgarh, JSPL has international mining operations in Australia, South Africa, and Mozambique. It recently divested its 2.4 million tonne steel plant in Oman to the promoter business and intends to sell JPL's electrical assets.

6. **Hindalco Industries**

Hindalco Industries Limited, a part of the Aditya Birla Group headquartered in Mumbai, Maharashtra, India, specializes in the production of aluminum and copper. It holds the 895th position among Forbes Global 2000 companies. Originally established as Hindustan Aluminium Corporation Limited by the Aditya Birla Group in 1958, the company commenced operations in Renukoot, Uttar Pradesh, in 1962, with a production capacity of 20,000 metric tonnes of aluminum metal and 40,000 metric tonnes of alumina annually. Following a restructuring in 1989, the company was rebranded as Hindalco.

7. **TATA Steel BSL**

Each company possesses unique strengths critical to its success, as exemplified by Tata Steel BSL. Originally facing challenges, Bhushan Steel was acquired by Tata Steel through its wholly-owned subsidiary Bamnipal Steel in 2018. Leveraging the robust management expertise of the Tata Group, Tata Steel BSL has demonstrated remarkable performance, emerging as a leading player in the Indian steel sector. With a steel production capacity of 5.6 million tonnes per annum (mtpa), it stands as India's sixth-largest secondary steel producer, boasting over three decades of industry experience. The company also operates a 1 million tonne coated product facility and hosts one of India's largest 1,700 mm-wide cold rolling mill facilities, with a capacity of 2.1 million tonnes for cold-rolled products and downstream products.

8. **Jindal Stainless**

Founded by Shri O.P. Jindal in 1970, Jindal Stainless has established itself as one of the top ten stainless steel companies globally and a significant player in India's stainless steel industry. The Jindal Stainless Group anticipates reaching a crude steel capacity of 1.9 million tonnes per annum (MTPA).

9. **TATA Steel Long Products**

Formerly known as Tata Sponge Iron Limited, Tata Steel Long Products (TSLP) specializes in the production of high-alloy steel. It stands as one of India's leading specialty steel mills in the long product category, with a production capacity of one million tonnes. By utilizing high-quality iron ore from its own mine, the company ensures product uniformity. TSLP was the first steel plant in India to adopt the use of hot metal in an electric arc furnace, now a standard practice. Additionally, the company produces and sells sponge iron for the secondary steel industry at its manufacturing facilities in Jamshedpur and Joda, with a combined capacity of 0.90 million tonnes. Furthermore, TSLP generates electricity from the latent heat produced within its furnaces for internal use.

10. **Godawari Power and Ispat**

Established by Mr. B.L. Agrawal in 1999, Godawari Power & Ispat Ltd. (GPIL), formerly known as Ispat Godawari Ltd (IGL), is a part of the HIRA Group of Industries, located in Raipur. Traded on both the Bombay Stock Exchange and the National Stock Exchange, GPIL specializes in the mild steel wire business and offers a wide range of services. Its integrated steel mill, equipped with captive power generation, produces sponge iron, billets, Ferro alloys, wire rods (through a subsidiary company), steel wires, oxygen gas, fly ash bricks, and iron ore pellets.

Production:

The steel industry underwent deregulation in 1991, followed by relinquishing control in 1992.

• By 2020, India had become the world's second-largest producer of crude steel.

• The total output of finished steel (comprising alloy/stainless and non-alloy) reached 96.20 million tonnes (mt) in 2020–21.

• Pig iron production experienced a 10.0 percent decline from the previous year, dropping to 4.88 mt in 2020–21.

• India emerged as the leading producer of sponge iron globally in 2020, with 82% of the total production in 2020–21 (34.38 mt) utilizing coal-based technology.

• The production figures for pig iron, sponge iron, and total finished steel (alloy/stainless and non-alloy) over the past five years are provided below:

Indian steel industry: Production (in million tonnes)					
Category	2016-17	2017-18	2018-19	2019-20	2020-21
Pig Iron	10.34	5.73	6.41	5.42	4.88
Sponge Iron	28.76	30.51	34.71	37.1	34.38
Total Finished Steel	91.54	95.01	101.29	102.62	96.2
Source: Joint Plant Committee					

Table 13: Production of steel for the past 5 years

[7] Source: https://steel.gov.in/make-india

- **Demand – Availability:**

- Demand: Imports are often relied upon to meet demand shortfalls within the country, as the availability of iron and steel is predominantly dictated by market conditions.
- Consumer Engagement: The Steel Consumers' Council convenes monthly to address availability and quality concerns raised by consumers.
- Steel Price:
- The government abolished price restrictions on iron and steel on January 16, 1902, allowing market forces to determine steel prices.
- Domestic steel prices are influenced by fluctuations in raw material costs, market demand-supply dynamics, and global price trends.
- Acting as a facilitator, the government monitors the steel market and incorporates its findings into budgetary and policy decisions. Currently, steel carries an 18 percent GST, with no export taxes imposed on steel products.
- To ensure price rationalization and address any irrational price behavior in steel commodities, the government established a Steel Price Monitoring Committee. Additionally, measures such as increased import duties and anti-dumping and safeguard levies on various iron and steel products have been implemented to mitigate price distortions caused by unpredictable and rising imports.
- The Indian government issued the Stainless Steel (Quality Control) Order, 2016, aimed at curbing the sale of defective and substandard stainless steel products used in utensil and kitchen appliance manufacturing, thereby regulating metal imports.
    - India holds a competitive advantage in steel production due to the abundant availability of high-grade iron ore and non-coking coal locally.
- Both domestic and international markets are expanding.
- The MSME sector is witnessing significant growth.
- India benefits from affordable labor costs and a youthful workforce.
- The current steel consumption in India stands at 69 kg per capita, below the global average of 208 kg. In rural areas, this figure drops to 10 kg, indicating substantial room for consumer growth.
- Government initiatives such as railway network expansion, development of the domestic shipbuilding industry under the Sagarmala project, opening up of the defense sector for

private participation, and automotive industry expansion are expected to drive a substantial surge in demand over the next decade. Predictions indicate that demand could triple, reaching 230 million tonnes by 2030–31.

3.4 Indian Steel Sector Development Since 2010

Government-led economic reforms implemented since 1991 have ushered in new dimensions of industrial expansion, particularly within the steel industry. The sector was removed from the list of industries reserved for the public sector, and the requirement for licenses for capacity expansion was abolished, except for certain location-based exceptions. Automatic approval was granted for foreign equity participation of up to 100%. In a bid to enhance the efficiency and competitiveness of the steel sector, restrictions on pricing and distribution were lifted. Import tariffs saw significant reductions, and restrictions on both import and export trade were eliminated. The Indian steel industry reaped the benefits of comprehensive policy changes, including lowered import duties on capital goods, the option to convert trade accounts into rupees, and access to foreign financial markets, among others. With a production capacity exceeding 140 million tonnes, the Indian steel industry has made significant strides to emerge as the world's second-largest producer of crude steel. Here are some recent noteworthy figures reflecting this growth.

3.4.1 Production/Production for Sale

The production data in the following sections incorporates and uses the (evolving) reporting methodology that JPC has used in the past.

a) Total Finished Steel Production/Sale Steel Production

According to the JPC reporting system, the Main Producers did not produce as much finished steel as the Majors and Other Producers did in 2013–14.

Total Finished Steel Production/Production for Sale				
Year	(a) Main Producers	(b) Majors and Other Producers	Production for sale (a+b)	%share of Majors and Other Producers
2010-11	18.407	50.214	68.621	73.2
2011-12	17.978	57.718	75.696	76.2
2012-13	19.244	62.437	81.681	76.4
2013-14	22.196	65.479	87.675	74.7
Source: JPC				

[8]

[8] Source:

Table 14: Total finished steel production

The reporting system in use from 2014–15 to 2017–18 shows a gradual decline in the share of Other Producers in overall output of finished steel.

[9]

Production of Total Finished Steel (alloy/stainless + non-alloy) (million tonnes)				
Period	(a) SAIL, RINL, TSL, ESL, JSW, JSPL	(b)Other Producers	Production (a+b)	% share of Other Producers
2014-15	50.717	53.861	104.578	51.5
2015-16	52.375	54.227	106.602	50.9
2016-17	61.916	58.224	120.14	48.5
2017-18	69.143	57.712	126.855	45.5
Source: JPC				

Table 15: Total Finished Steel Production (alloy/stainless + non-alloy) (million tonnes)

Since the crude steel equivalent reporting format was introduced in 2018–19, the JPC reporting mechanism has changed. The share of Other Producers in the total output of finished steel has slightly increased under the new reporting methodology.

Production of Total Finished Steel (alloy/stainless + non-alloy) (million tonnes)				
Period	(a) SAIL, RINL, TSL Group, AM/NS, JSW, JSPL	(b)Other Producers	Production (a+b)	% share of Other Producers
2018-19	61.283	40.004	101.287	39.5
2019-20	61.286	41.336	102.621	40.3
2020-21	55.322	40.882	96.204	42.5
Source: JPC; AM/NS =erstwhile Essar Steel				

Table 16: Total Finished Steel Production (alloy/stainless + non-alloy) (million tonnes)

Source: steel.gov.in

https://steel.gov.in/make-india

[9] Source: steel.gov.in

(b) Pig Iron Production/Sale Production

The Majors and Other Producers had a greater share of the total pig iron output for sale than the Main Producers, according to the JPC reporting method in use until 2013–2014.

Production for Sale of Pig Iron (million tonnes)				
Year	(a) Main Producers	(b) Majors and Other Producers	Production for sale (a+b)	%share of Majors & Other Producers
2010-11	0.579	5.104	5.683	89.8
2011-12	0.502	4.869	5.371	90.6
2012-13	0.674	6.196	6.87	90.7
2013-14	0.552	7.398	7.95	93.1
Source: JPC [10]				

Table 17: Production for Sale of Pig Iron (million tonnes)

According to the reporting system in use from 2014-15 to 2017-18, Other Producers' proportionof total pig iron output has been dominant.

Production of Pig Iron (million tonnes)				
Period	(a) SAIL, RINL, TSL, ESL, JSW, JSPL	(b)Other Producers	Production (a+b)	% of share of Other Producers
2014-15	1.213	9.015	10.228	88.1
2015-16	1.287	8.953	10.24	87.4
2016-17	0.905	9.437	10.342	91.2
2017-18	0.726	5.002	5.728	87.3
Source: JPC				

Table 18: Production of Pig Iron (million tonnes)

The JPC reporting system has changed with the implementation of the crude steel equivalent reporting format in 2018–19. The majority of the total output of finished steel, as reported under

[10] Source: steel.gov.in
Source: steel.gov.in

the current reporting system, is produced by Other Producers.

Production of Pig Iron (million tonnes)				
Period	(a) SAIL, RINL, TSL Group, AM/NS, JSW, JSPL	(b)Other Producers	Production (a+b)	% of share of Other Producers
2018-19	1.663	4.751	6.414	74.1
2019-20	1.193	4.227	5.421	78
2020-21	1.413	3.464	4.877	71
Source: JPC; AM/NS =erstwhile Essar Steel				

Table 19: Production of Pig Iron (million tonnes)

(c) DRI – Production/Sale Production

Since 2003, India has been the world's top producer of DRI or sponge iron, according to World Steel Association figures.

Production for Sale of Sponge Iron		
Year	Qty(million tonnes)	% change over last year
2010-11	25.081	4.20%
2011-12	19.633	(-) 21.7%
2012-13	14.329	(-) 27%
2013-14	18.204	27%
Source: JPC		

[11]

Table 20: Production for Sale of Sponge Iron

The term "output for sale" has been replaced in the present reporting system with "gross production," which can refer to anything from the production of iron to finished steel.

[11] Source: steel.gov.in
Source: steel.gov.in

Production of Sponge Iron		
Year	Qty(million tonnes)	% change over last year
2014-15	24.24	5.9
2015-16	22.43	-7.5
2016-17	28.76	28.2
2017-18	30.51	6.1
2018-19	34.71	13.7
2019-20	37.1	6.9
2020-21	34.38	-7.3
Source: JPC		

Table 21: Production of Sponge Iron

3.5 Total Finished Steel Consumption (TFSC) or Apparent Steel Use (ASU)

After taking into account exports, materials used in downstream processing, and changes in total finished steel inventories, apparent steel use is calculated from the total supply, or (production + imports). The graph below displays the annual trends in the total finished steel's apparent steel use. [12]

Apparent Steel Use (ASU) or Consumption of Total Finished Steel		
Year	ASU: Total Finished Steel (million tonnes)	% change over last year
2010-11	66.423	11.9
2011-12	71.021	6.9
2012-13	73.482	3.5
2013-14	74.095	0.83
2009-10	76.994	3.9
2015-16	81.525	5.9
2016-17	84.042	3.1
2017-18	90.708	7.9
2018-19	98.71	8.8
2019-20	100.171	1.5
2020-21	94.891	-5.3
Source : JPC		

Table 22: Total Finished Steel Consumption (ASU) or Apparent Steel Use (ASU).

Source: steel.gov.in

Production, Consumption and Growth of Steel

[12] Source: steel.gov.in

Year	Total Finished Steel (alloy + non-alloy)(in Million Tonnes)			
	Production	Import	Export	Consumption
2017	93.737	7.828	10.871	88.679
2018	100.574	7.295	6.692	96.737
2019	104.062	7.440	8.205	102.622
2020	92.231	4.463	10.150	89.331
2021*	111.858	5.001	12.799	106.134[13]

Table 23: Consumption of Total Finished Steel

From 2017 to 2021, there will be an increase in production, a decrease in imports, an increase in exports, and a stable increase in consumption. 2020 sees a general decline as a result of the COVID-19 crisis and its impact on trade.

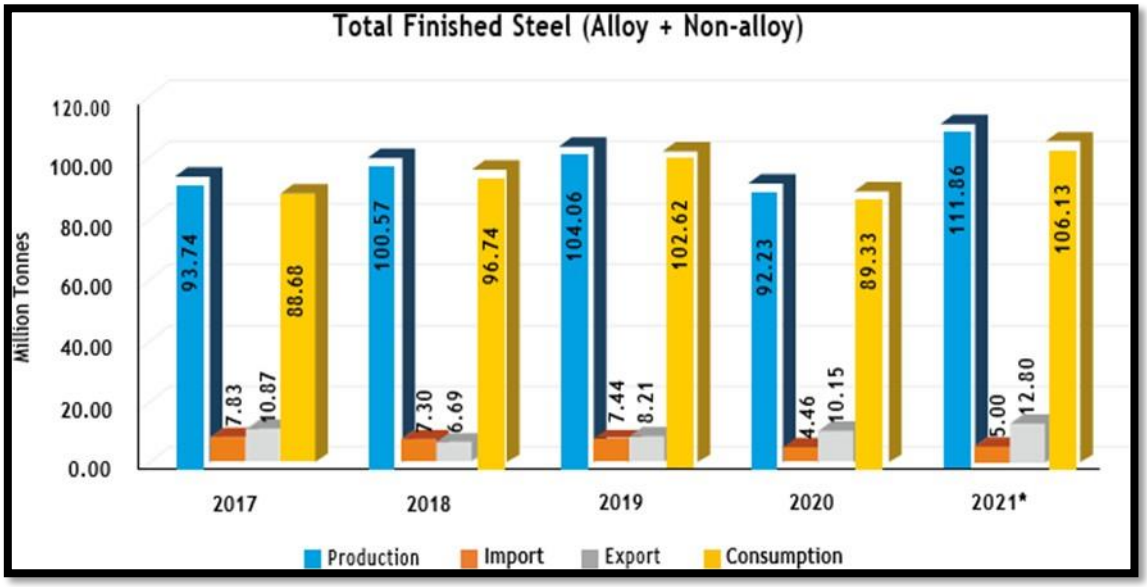


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Figure 6: Total Finished Steel (Alloy + Non-alloy)

[13] Source: https://steel.gov.in/sites/default/files/Download_0.pdf

Data on crude steel production, capacity, and capacity utilization

Year	Crude steel		
	Capacity (MT)	Production (MT)	Capacity Utilization (%)
2017	137.975	101.455	74
2018	142.236	109.250	77
2019	142.299	111.344	78
2020	143.914	100.256	70
2021*	154.269	118.134	77 [15]

Table 24: Total Finished Steel (Alloy + Non-alloy)

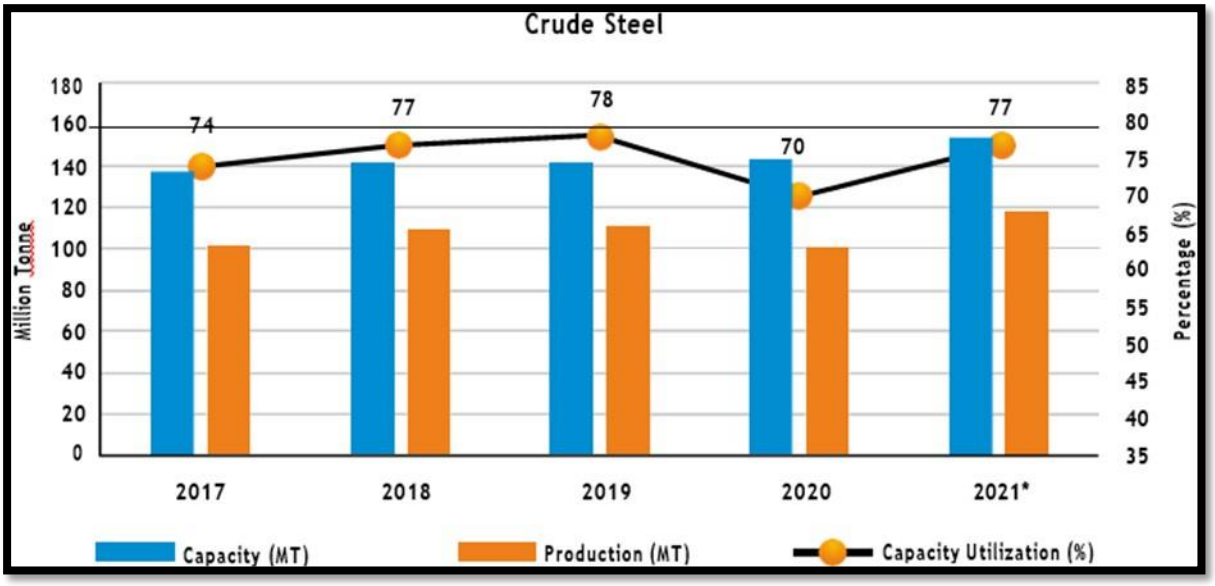

Figure 7: Crude Steel

- [16]From 101.455 metric tonnes in 2017 to 118.134 metric tonnes in 2021, the output of crude steel increased.
- Over the course of these five years, capacity growth increased output, taking it from 137.975 Million Tonnes (MT) in 2017 to 154.269 MT in 2021.

https://steel.gov.in/sites/default/files/Download_0.pdf

- Domestic consumption of total finished steel (alloy and non-alloy) increased to 106.134 MT in 2021 from 88.679 MT in 2017.
- Total finished steel exports (alloy and non-alloy) increased to 12.799 MT in 2021 from 10.871 MT in 2017, while imports decreased to 5.001 MT in 2021 from 7.828 MT in 2017.
- India was a net exporter of all finished steel in 2021.

3.6 MARKET OF STEEL IN INDIA AND ITS IMPACT ON STEEL TRADE

A) Overview of the Indian Steel Market

India boasts the world's second-largest steel market, trailing only China. Notably, the country's steel production has experienced substantial growth in recent years, with a compound annual growth rate of 5.5% from 2011-12 to 2019-20. This expansion is paralleled by increased steel consumption, primarily fueled by escalating demand in sectors such as infrastructure, automobiles, and construction. The landscape of the Indian steel market is predominantly characterized by major integrated steel producers, complemented by a handful of smaller players in the secondary sector.

B) Impact of the Steel Market on Trade Dynamics

The burgeoning Indian steel market has wielded a profound influence on global steel trade patterns. As both steel production and consumption have surged, India has transitioned into a net exporter of steel, witnessing exports skyrocket from 0.8 million tonnes in 2001-02 to 10.8 million tonnes in 2020-21. This export growth owes much to competitive pricing strategies, supportive government policies, and escalating demand from key markets such as the United States, the United Arab Emirates, and Nepal. Concurrently, India has emerged as a noteworthy steel importer, with imports escalating from 1.3 million tonnes in 2001-02 to 6.2 million tonnes in 2020-21. The surge in steel imports is driven by the requirement for specialized steel products and the inadequacy of domestic production to meet demand.

C) Government Endeavors to Foster Steel Trade

The Indian government has embarked on various initiatives to bolster steel trade, both domestically and internationally. The National Steel Policy 2017 outlines ambitious targets, aiming to elevate domestic steel production to 300 million tonnes by 2030 and position India as a net exporter of steel. Emphasis is also placed on infrastructure and technological advancements to underpin industry growth. Additionally, the government has rolled out schemes like the Steel Import

Monitoring System, designed to monitor steel imports, and the Steel Research and Technology Mission of India, aimed at fostering research and development within the sector.

D) Alignment of International Policies with Government Objectives

India has harmonized its policies with international trade regulations to catalyze steel trade. As a member of the World Trade Organization (WTO), India has inked several trade agreements, including the Comprehensive Economic Cooperation Agreement (CECA) with Singapore, the Japan-India Comprehensive Economic Partnership Agreement (CEPA), and the India-Korea Comprehensive Economic Partnership Agreement (CEPA). These pacts are geared towards fostering trade in goods and services, including steel, among participating nations. Furthermore, India has imposed anti-dumping duties on steel imports from select countries to shield domestic producers.

In summary, the Indian steel market holds immense growth potential, domestically and globally. Government initiatives aimed at bolstering the steel industry and aligning with international trade policies have spurred increased steel exports and imports. Nonetheless, the sector grapples with challenges related to high production costs, infrastructure limitations, and steel quality concerns. Hence, concerted efforts are required to address these hurdles and sustain the momentum of growth in both the steel industry and steel trade.

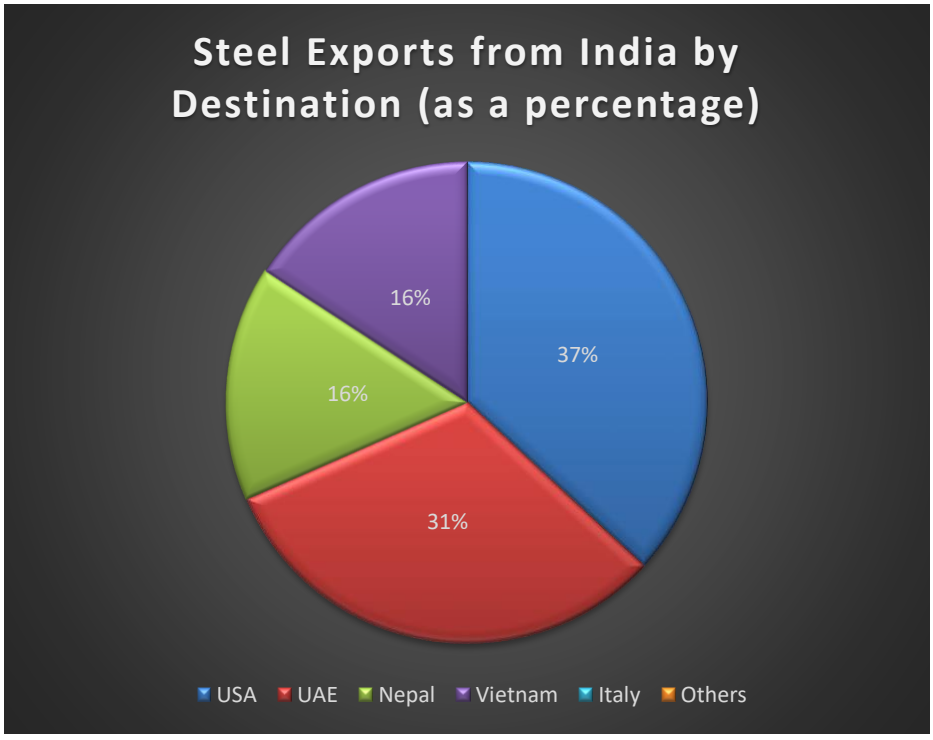

Fig 8. Steel Exports from India by Destination (in %), Compiled by Author

CHAPTER 4

ANALYSIS OF THE FACTORS THAT DRIVE STEEL EXIM FROM INDIA

The following data provides an evaluation and analysis of the factors influencing India's steel exports and imports. India's steel industry has experienced rapid growth, establishing itself as a prominent player in the global steel market. Several factors have contributed to this growth, including government policies, fluctuations in the Indian rupee's value, global steel prices, infrastructure development, steel quality, import duties, railway freight charges, and bilateral trade agreements. Each of these elements has played a pivotal role in propelling the Indian steel industry forward. The data underscores the Indian government's efforts to promote domestic steel production, reduce reliance on steel imports, and increase steel exports. Overall, these insights shed light on the factors driving the growth and maturation of the Indian steel industry, solidifying its position as a key player in the global steel market.

1. Government Policies:

The Indian government has implemented various policies to bolster the growth and development of the steel industry. Notably, the 'National Steel Policy' aims to elevate domestic steel production, enhance exports, curtail imports, and position India as a net steel exporter. Additionally, the government has introduced export incentives, tax breaks, and duty drawback schemes to stimulate steel exports, fostering an environment conducive to industry growth.

2. Depreciation of the Indian Rupee:

The devaluation of the Indian rupee against the US dollar has rendered Indian steel exports more competitive on the global stage. A weaker Indian currency makes Indian steel more affordable for foreign buyers, driving up demand for Indian steel exports and fueling industry expansion.

3. Global Steel Prices:

Escalating global steel prices, attributed largely to supply chain disruptions, production cutbacks, and heightened demand, have bolstered Indian steel exports. Despite China's

dominance as the world's largest steel producer and consumer, rising global steel prices have spurred demand for Indian steel exports, rendering them more lucrative for the industry.

4. Infrastructure Development:

Investments in infrastructure development, including ports, roads, railways, and logistical networks, have been instrumental in facilitating the growth of the steel industry. Government initiatives aimed at enhancing transportation and logistics efficiency have mitigated transportation costs and streamlined the supply chain, enhancing the competitiveness of Indian steel in the global market.

5. Steel Quality:

Improvements in steel quality are paramount for ensuring competitiveness in the global market. The Indian steel industry has made significant investments in enhancing steel quality to align with international standards, catering to the needs of global consumers and enhancing competitiveness vis-à-vis other steel-producing nations.

6. Import Duties:

The Indian government's imposition of higher import duties on steel imports serves to shield domestic steel producers from foreign competition. By reducing the volume of steel imports, this protectionist measure has bolstered the attractiveness of the domestic market, fostering growth in domestic steel production.

7. Railway Freight Charges:

Heightened railway freight charges on steel imports have been implemented to incentivize domestic steel production. By rendering imported steel more expensive, these increased charges have diminished the competitiveness of imported steel in the Indian market, leading to a decline in steel imports and incentivizing domestic production.

8. Bilateral Trade Agreements:

The Indian government's negotiation and signing of bilateral trade agreements with other countries have facilitated steel exports by reducing trade barriers, expanding

market access, and creating a favorable trade environment. These agreements have stimulated demand for Indian steel exports, contributing to the industry's growth trajectory.

In summary, the steel exports and imports of India are influenced by a multitude of factors, including government policies, currency fluctuations, global market dynamics, infrastructure investments, steel quality enhancements, import duties, freight charges, and trade agreements. The concerted efforts of the Indian government, coupled with favorable market conditions and strategic initiatives, have propelled the growth and development of the Indian steel industry, consolidating its position as a major player in the global steel market.

SWOT ANALYSIS:

- **Strengths:**

1. A substantial domestic demand for steel provides a sturdy foundation for the Indian steel industry.
2. Supportive government policies and incentives have fostered the growth of the steel sector in India.
3. Abundant, cost-effective, and skilled labor has enhanced India's competitiveness in the global steel market.
4. The devaluation of the Indian rupee has augmented the competitiveness of Indian steel exports internationally.

- **Weaknesses**:

1. High raw material costs, encompassing iron ore, coal, and scrap, have escalated production expenses for the Indian steel sector.
2. Inadequate infrastructure, including ports, roads, and railways, has led to heightened transportation costs and logistical challenges.
3. The quality of Indian steel continues to trail international standards, impacting its competitive edge in the global market.
4. Reliance on imports for crucial raw materials like coking coal poses a vulnerability to the Indian steel industry.

❖ **Opportunities:**

1. Growth prospects in the construction and infrastructure sectors, both domestically and globally, offer substantial opportunities for the Indian steel industry.
2. Surging demand for specialized steels driven by the rise in electric vehicles and renewable energy sources creates a niche market for the Indian steel sector.
3. Advancements in technology such as Industry 4.0, automation, and digitalization present avenues for enhancing efficiency and competitiveness in the Indian steel industry.
4. The Indian government's initiative to transform India into a net steel exporter opens up avenues for industry expansion into new export markets.

❖ **Threats:**

1. Global economic slowdowns and the COVID-19 pandemic have dampened steel demand globally, impacting the Indian steel industry.
2. Anti-dumping measures enforced by other nations like the US and the EU pose risks to Indian steel exports.
3. Intense competition from other steel-producing countries like China, Japan, and South Korea may challenge the competitiveness of the Indian steel industry.
4. Fluctuations in global steel prices could undermine the profitability of the Indian steel sector.

PESTEL ANALYSIS:

➢ **Political:**

Government initiatives such as the National Steel Policy and Make in India campaign have spurred the growth of India's steel industry.
Trade agreements with various nations have facilitated favorable conditions for steel exports.

➢ **Economic:**

India's economic expansion has bolstered both domestic and global demand for steel.
Currency depreciation has enhanced the competitiveness of Indian steel exports worldwide.

➢ **Social:**

Rising construction and infrastructure projects in India have propelled steel demand.

The emergence of electric vehicles and renewable energy sources has stimulated the need for specialized steel.

- **Technological:**

Adoption of cutting-edge technologies like Industry 4.0, automation, and digitalization offers avenues for efficiency and competitiveness improvements in the Indian steel sector.
Integration of new steel-making technologies such as electric arc furnaces could reduce reliance on imported coking coal.

- **Environmental:**

Addressing greenhouse gas emissions from the steel industry is imperative, necessitating measures to reduce its carbon footprint.
Implementing sustainable practices like utilizing recycled scrap steel and deploying energy-efficient technologies can mitigate the environmental impact of steel production.

- **Legal:**

Government policies, including heightened import duties and anti-dumping measures, safeguard the domestic steel sector.
Adherence to international trade regulations, notably those established by the World Trade Organization (WTO), is pivotal for smooth steel trade operations in India.

In summary, the SWOT and PESTEL analysis of India's steel trade highlights its strengths, weaknesses, opportunities, and threats, alongside political, economic, social, technological, environmental, and legal factors. The analysis underscores the industry's robust domestic demand base and supportive government policies but acknowledges challenges related to production costs, infrastructure, and steel quality. Opportunities lie in burgeoning construction, specialized steel demands, and technological advancements. However, threats loom from global economic downturns, anti-dumping policies, international competition, and volatile steel prices. The PESTEL framework underscores the significance of various factors in steering industry growth and emphasizes the importance of adhering to global trade regulations. Overall, this analysis provides valuable insights into India's steel trade landscape and its future trajectory.

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSION

[17]STEEL TRADE PERFORMANCE OF INDIA OVER THE DECADE (2012 – 2022)

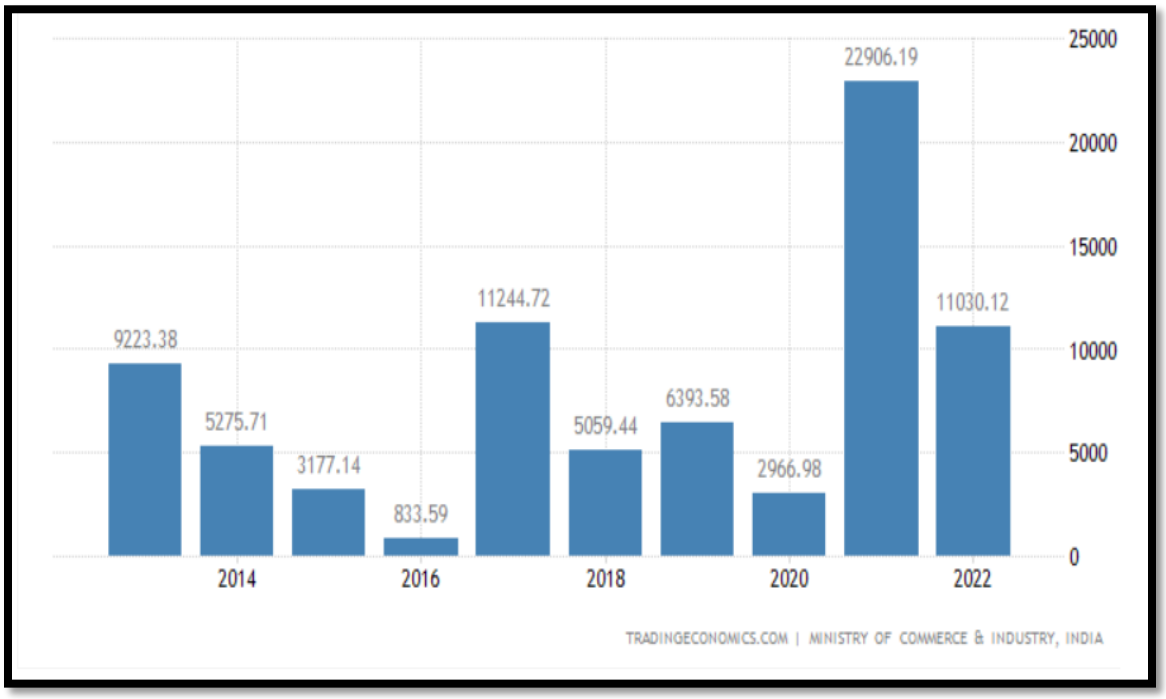

Fig 9. Steel Trade Performance of India over the Decade (2012-2022)

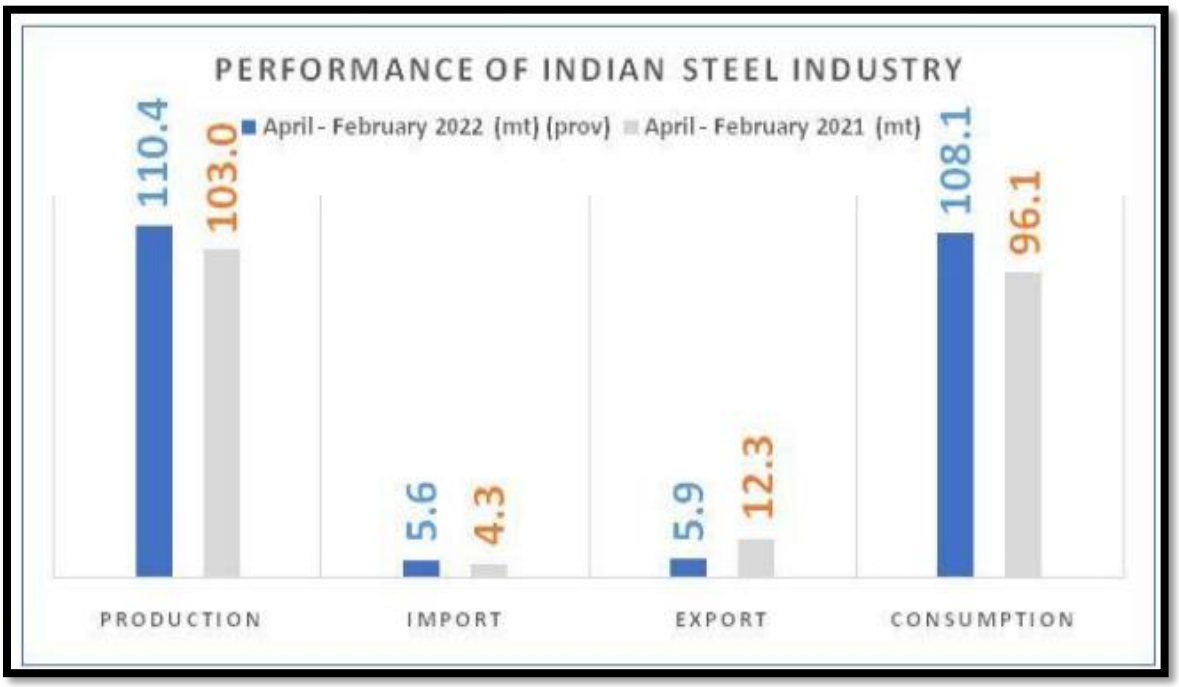

Fig 10. Performance of Indian steel industry (2022-2023)

[17] Tradingeconomics.com| Ministry Of Commerce & Industry , India

World Crude Steel Production				
Rank	Country	2015* (mt)	2014 (mt)	% yoy change
1	China	803.83	822.75	-2.3
2	Japan	105.2	110.7	-5.0
3	India	89.60	87.30	2.6
4	United States	78.92	88.20	-10.5
5	Russia	71.11	71.50	-0.5
6	South Korea	69.67	71.50	-2.6
7	Germany	42.67	42.94	-0.6
8	Brazil	33.24	33.89	-1.9
9	Turkey	31.52	34.03	-7.4
10	Ukraine	22.93	27.17	-15.6
	Top 10	**1348.69**	**1389.98**	**-3.0**
	World	**1622.8**	**1670.2**	**-2.8**
Source: worldsteel, JPC;* provisional				

Table 25. World Crude Steel Production (2014-2015)

World Crude Steel Production (Prov)			
Rank	Top 10	Jan-Feb '23 (mt)	% yoy change
1	China	168.7	5.6
2	India	**21.3**	**1.0**
3	Japan	14.1	(-)6.1
4	USA	12.6	(-)5.7
5	Russia	11.7	(-)5.4
6	South Korea	11.1	(-)1.1
7	Germany	5.9	(-)8.6
8	Brazil	5.3	(-)5.8
9	Iran	5.1	21.1
10	Turkey	4.7	(-)23.1
Top 10 Total		**260.6**	**2.1**
World		**297.8**	**(-) 0.8**

18

Table 25. World Crude Steel Production (2023)

[18] source : jpc steel industry india

FINDINGS:

- India has experienced a notable surge in steel exports, reaching a record high of 10.79 MT in the fiscal year 2020-21, marking a substantial growth of 29.4%. This upswing can be attributed to various factors including government initiatives, the depreciation of the Indian rupee, and the global escalation in steel prices.
- Steel exports serve as a vital revenue stream for the Indian steel sector, with major export destinations including China, Vietnam, and Italy, all of which exhibit robust demand for steel. To sustain this momentum, India's export industry should prioritize meeting the needs of these key markets.
- The notable 27.8% reduction in steel imports during the fiscal year 2020-21 bodes well for the domestic steel industry. This decline is credited to heightened import duties and railway freight charges implemented by the government.
- The uptick in steel exports coupled with the decline in imports has bolstered the self-sufficiency of the Indian steel sector, consolidating its position in the global market.

SUGGESTIONS:

- Enhancing the quality of steel to align with international standards and bolster competitiveness should be a primary focus for the Indian steel industry. Achieving this entails investments in research and development, as well as modernizing production processes.
- Effective infrastructure and logistics play pivotal roles in the steel industry's success. Consequently, the sector should prioritize investments in efficient supply chain management systems, transportation, and storage facilities to curtail costs and enhance operational efficiency.
- Continued government support through incentives such as subsidies and tax incentives is crucial for fostering the growth and sustainability of the steel industry. Additionally, prioritizing bilateral trade agreements with major steel importing nations is imperative.

CONCLUSIONS:

The study concludes that India's steel industry has witnessed positive trends in its exports and imports, driven by proactive government policies, infrastructure investments, and technological advancements. To maintain this upward trajectory, the industry must focus on enhancing steel quality, cost reduction, and operational efficiency. Continued government backing is indispensable for ensuring the sector's global competitiveness. With concerted efforts, the Indian steel industry holds promise for sustained growth and viability in the years ahead.

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