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INDUSTRY OUTLOOK

STEEL INDUSTRY OF INDIA: TRENDS AND PROSPECTS

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Introduction

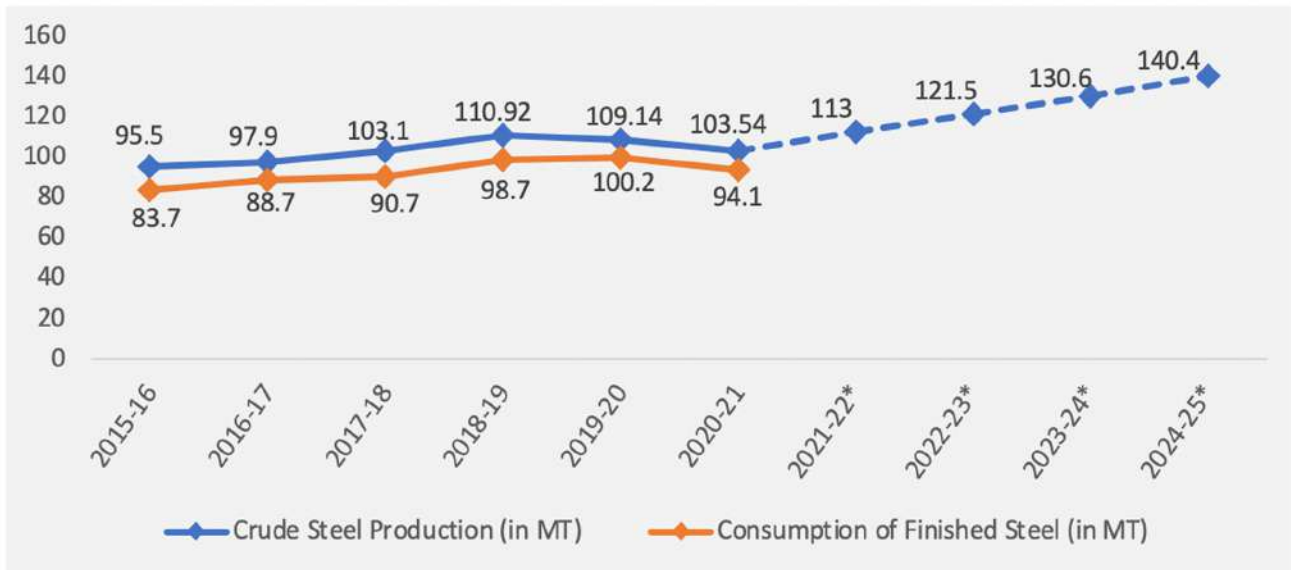
While there are several benchmarks of economic development, it can justifiably be maintained that the consumption of steel is a leading indicator of economic development and has been so in both the capitalist and socialist models of economic growth. To be sure, steel has been a pre-requisite in traditional sectors, such as, construction, housing and ground transportation. But it has been realized that special steels are increasingly used in engineering industries, such as, power generation, petrochemicals & fertilizers and, therefore, the steel industry salubriously influences the process and pattern of economic development – more than ever before – by triggering a ‘virtuous cycle’. No wonder, then, that the growth and transformation of the steel industry seen in terms of the level of per capita consumption of steel and as a catalytic element in key industries powering India’s industrial growth constitutes a corner-stone of India’s development policy.

The Indian steel sector contributes approximately 1.5 per cent to its GDP and forms the backbone of the manufacturing industry providing employment to about 25 lakh persons directly or indirectly. India is the third largest manufacturing hub of steel pipe in the world and steel pipes constitutes 8 to 10 per cent of the steel consumption. [1]



Moreover, India is the second largest producer of steel in the world after China. However, its production is around one-tenth that of China. [2] The production and consumption of steel in India is given in the figure (Figure 1) below.

Figure 1: Production and Consumption of Steel (in million tonne)



*Note – Estimated. Source: <https://steel.gov.in/sites/default/files/lu2282.pdf> and <https://sail.co.in/sites/default/files/2021-06/Performance-highlights-Q4-FY-21.pdf>

The production and consumption of steel has been steadily rising over the years except for the moderate dip witnessed during the last fiscal. The production is estimated to touch 140 MT by FY25. The production of crude steel for some large players (who occupy almost two-third share) along with small producers (who occupy the remaining one-third) is given in the figure below (Figure 2).

Figure 2: Crude Steel Production for Top Companies (in MT)



*Note – Small, Medium and Secondary Producers

Source: "Coal Crisis Comes in the Way of Small Steel Firms' Recovery", Business Standard (25th October 2021).

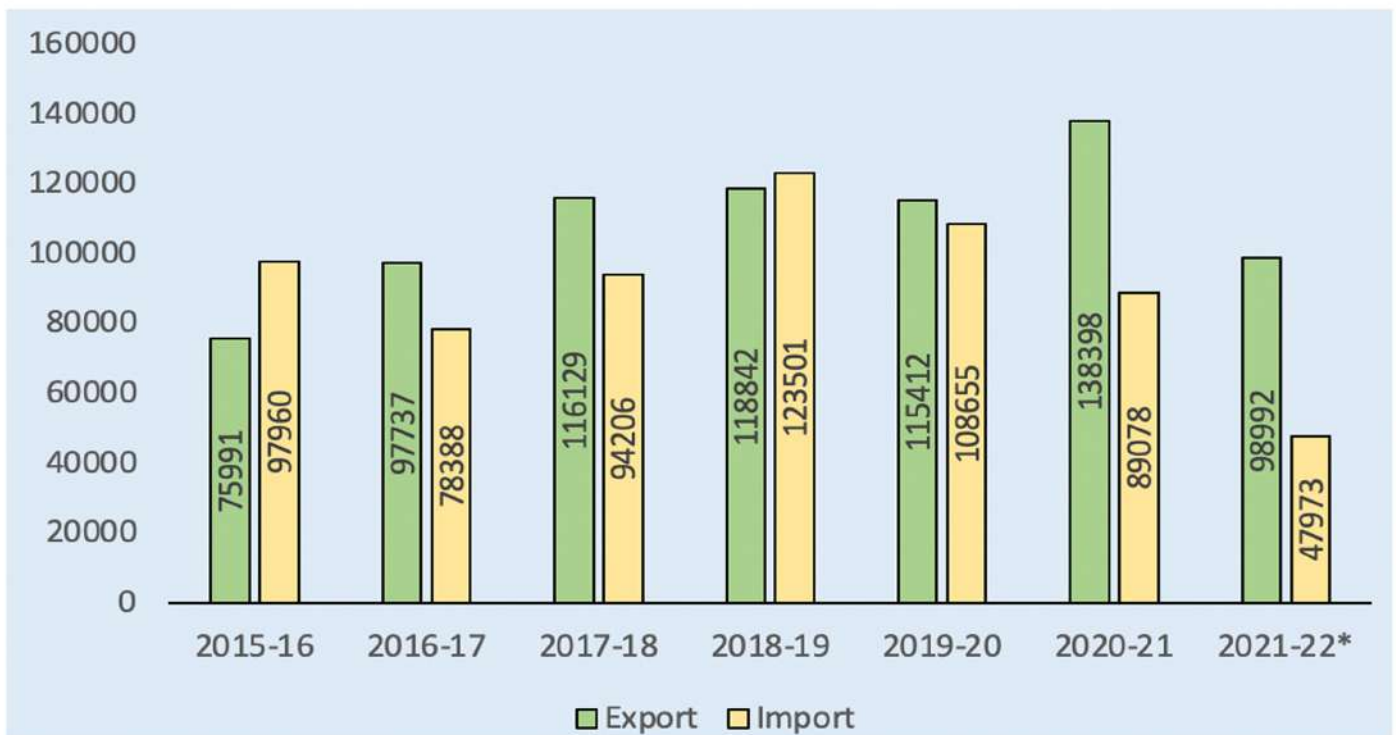
SAIL, TSL Group and JSWL occupy a preponderant share in the production of steel. The production of all the producers is expected to go steeply up in FY22 compared to FY20. [3]

Import-Export Scenario

The health of the industry is reflected by the trade of the respective industry. In case of steel, exports have been constantly rising, except for the slight dip in FY20 whereas imports have been declining since FY20 (see Figure 3 below). The exports for the current fiscal, i.e., FY22 are expected to surpass that of FY21 (already crossed 70 per cent of FY21) whereas the imports are expected to maintain their declining trend.

The declining imports and rising exports are an indicator of the country moving ahead in its pursuit of self-sufficiency or “atmanirbhar”.

Figure 3: Import-Export of Steel# (₹ crore)



#Note – Iron and Steel and its products

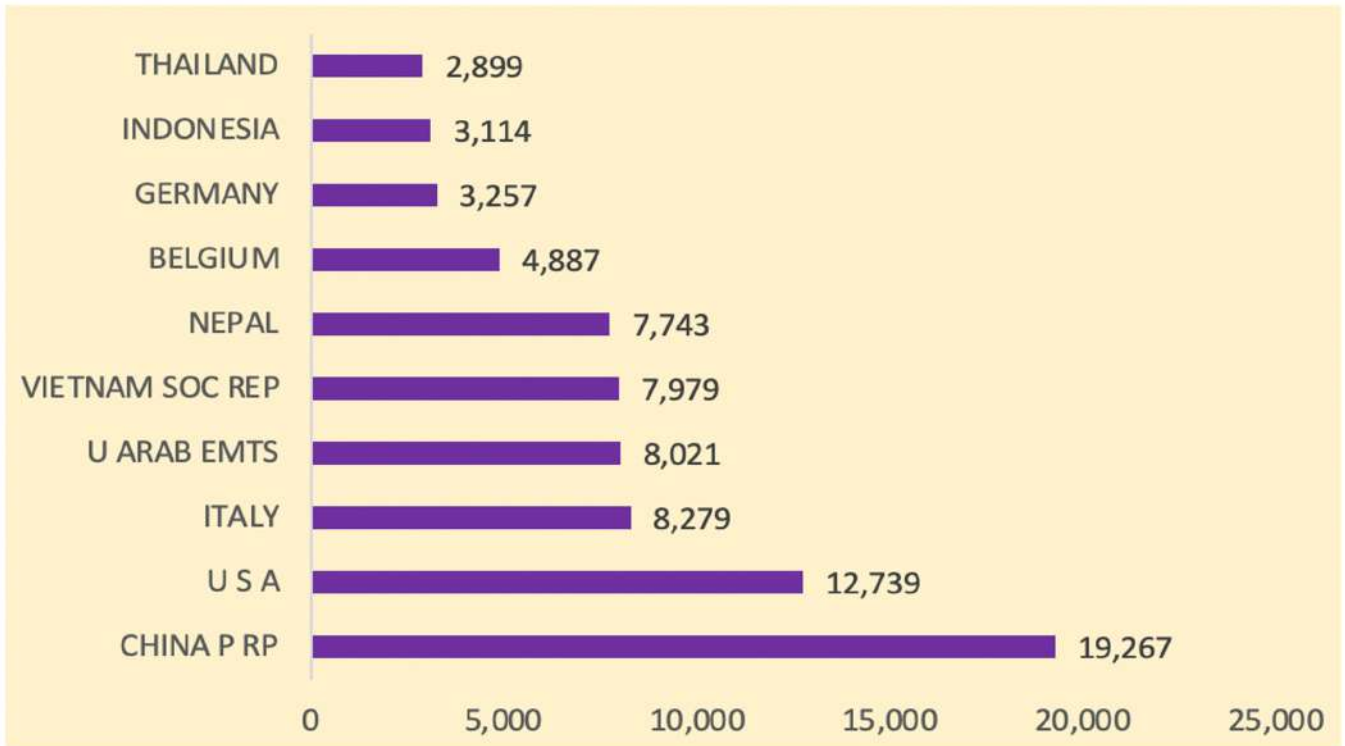
Note – Till August 2021.

Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

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The list of top 10 exporting and importing nations for the year 2020-21 is given in the figures (Figure 4 & 5) below. As can be seen China and USA were the top destination for exports whereas China and Korea stood as the top source nations for imports for India. Additionally, top 10 exporting destination accounted for more than half of the total exports for the year 2020-21, and top 10 importing source nations accounted for more than two-third of the total imports for the year 2020-21.

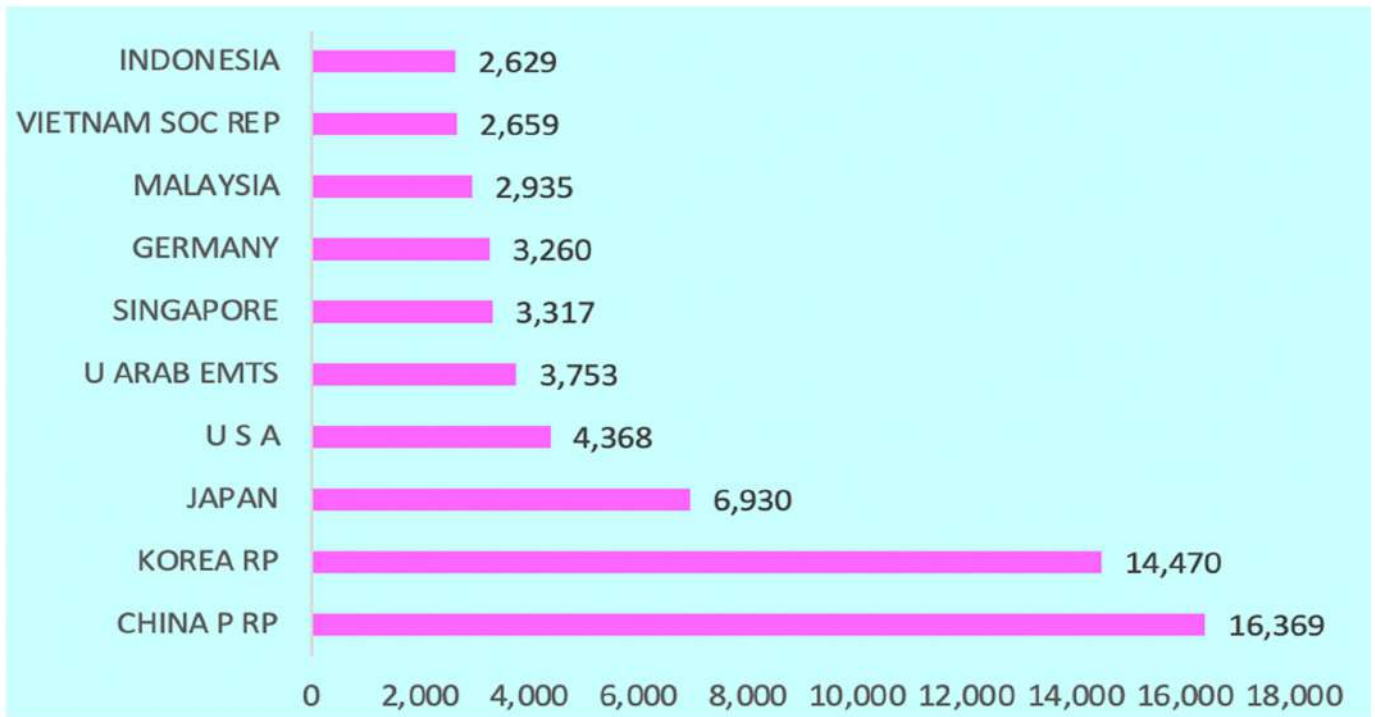
Figure 4: Export Destination for Indian Steel# for 2020-21 (₹ crore)



#Note – Iron and Steel and its products

Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

Figure 5: Importing Source for Steel# in India for 2020-21 (₹ crore)



#Note – Iron and Steel and its products

Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

Global Scenario

Globally, China leads the pack in the production of steel and produced 10 times more than India, which currently stands at second place. Even the recent figures depict the same (see Table 1 below). Although the percentage change in production of steel for India was impressive with the percentage change exceeding 25 per cent, the overall production was nowhere near the Chinese counterpart (China accounted for 76 per cent of Asian and 56 per cent of world crude steel production during the given period). Thus despite fast growth, India is way behind China in crude steel production. Japan and USA are some of the close competitors of India in terms of production.

Table 1: World Crude Steel Production: Jan-Aug 2021

Rank	Top 10	Qty (MT)	% Change
1	China	733.02	5.3
2	India	77.74	25.6
3	Japan	63.99	16.9
4	USA	57.07	19.5
5	Russia	50.76	7.7
6	South Korea	47.46	8.4
7	Germany	26.66	17.4
8	Turkey	26.57	16.7
9	Brazil	24.12	20.9
10	Iran	20.37	9.7
#	Total Top 10	1127.74	8.9
#	Total World	1321.93	10.6

Source: <http://jpcindiansteel.nic.in/pages/display/142-industry-performance> September 2021.

Having already breached the 1 billion tonne mark, world crude steel production stood at 1322 million tonnes (MT) in January – August 2021, up by 10.6 per cent over the corresponding period of last year. The top 10 nations account for more than 85 per cent of the global production and saw their cumulative production go up by 8.9 per cent year-on-year, which shows the skewed nature of the production of steel with just 10 nations controlling the demand and supply. The top 10 exporting and importing nations for steel is given in the table (Table 2) below. The Chinese dominance in the export and import is on expected lines given its magnitude. It is interesting to see that the revenue of several countries listed is export-dependent. Russia, which produced roughly 72 MT in 2020,^[4] exported nearly 44 per cent of its production. Even Japan exported more than one-third of its total production (about 83 MT) and so did South Korea which exported nearly 40 per cent of its total production (about 67 MT). India and China, however, bucked the trend and they exported roughly 17 per cent and 5 per cent, respectively.

Table 2: Major Exporters and Importers of Steel (2020)

Exports			Imports		
Rank	Country	Qty (MT)	Rank	Country	Qty (MT)
1	China	51.4	1	China	37.9
2	Russia	31.5	2	EU (28)	32.6
3	Japan	29.8	3	USA	19.9
4	South Korea	27.6	4	Germany	18.2
5	EU (28)	22.6	5	Italy	15.5
6	Germany	21.2	6	Vietnam	13.7
7	Turkey	18.5	7	Thailand	13.1
8	India	17.1	8	Turkey	12.5
9	Ukraine	15.2	9	France	11.8
10	Italy	14.9	10	South Korea	11.5

Source: World Steel in Figures 2021. Available at <https://www.worldsteel.org/steel-by-topic/statistics/World-Steel-in-Figures.html>

Global Steel Prices Trends

Spot prices for hot rolled coil (HRC) in China declined in November 2021 due to subdued market sentiment on the event of bleak property market data. The most traded HRC contract on the Shanghai Futures Exchange also extended losses as demand for steel remains a concern over grim real estate figures. [5] The price in US remains somewhat volatile, whereas its HRB prices have shown a mild moderation in Nov'21 (m-o-m), its CRC prices have shown a marginal uptick. It may be noted that since the second half of the CY20, global steel prices have shown a sharp upward trend, in July 2021 the US steel prices increased over 200 per cent [6] and traded at \$1,800, whereas in March 2020, prior to the COVID-19 pandemic, steel prices languished between \$500 and \$800. While demand increased substantially amidst production decline in China and huge demand from the China itself for steel products, a combination of supply chain disruption amidst lockdown and higher global demand led to substantial steel price increase earlier. The volatility in iron ore prices and other raw material prices also made steel prices volatile in recent months.

Institutional Initiatives

In a landmark development, the National Steel Policy (NSP) (2017) was implemented to foster faster development of the industry in an attempt to scale global benchmarks. An important element of the policy of making eastern India a manufacturing hub with respect to metallurgical industries relates to fostering faster development of the eastern India (Odisha, Jharkhand, Chhattisgarh, West Bengal and the northern part of Andhra Pradesh) by establishing an integrated steel hub in Kolkata. This aspect has considerable contemporary significance because eastern India has the potential to add over 75 per cent of the India's incremental steel capacity. It is expected that of the 300 MT capacity by 2030-31, over 200 MT can accrue from this region. [7]

Production Linked Incentive (PLI)

The Cabinet recently approved the PLI Scheme for “Specialty Steel” in India to be implemented over FY24 to FY30 with a budgetary outlay of ₹6,322 crore. [8] The aim of the scheme is to promote manufacturing of steel grades within India. At present, the country operates at the low end of the value chain in steel manufacturing, with an average realisation of ₹51,000 to ₹58,000 per tonne. In contrast, India's steel imports have an average value of ₹1,46,000 to ₹1,83,000 per tonne. The PLI incentive will boost domestic production of “Specialty Steel” and attract significant investment for its production in the country.

Industry Risk

Product Development

A historical analysis clearly brings out that continuous modernization of older plants and up-gradation to higher energy efficiency levels has been one of the cardinal objectives of this industry in India. But product development is a challenging area faced by the steel industry in India. While large varieties of value-added steel products are now produced indigenously, India continues to be critically dependent on import for several high performance and value-added steel products like electrical steel, automotive grade steel and steels for specialized use in defence, space, and nuclear applications. This technology is closely guarded by companies in the US, Japan & Korea. [9]

Barring some commendable product development efforts, the contribution towards disruptive technology development have not been noteworthy even by giants like SAIL, Tata Steel, JSW Steel and Essar Steel. Thus, huge R&D investments to develop such technologies are needed along with efforts for technological collaboration with such companies to bridge the technology gap by acquiring high-end technologies possessed by them.



COVID-19 Pandemic Still Remains a Major Challenge

According to one estimate, [10] more than 60 per cent of the steel is consumed by the construction sector, which typically comprises of infrastructure (road, irrigation, and oil & gas projects) and real estate. The rest 40 per cent is roughly equally divided (7 to 8 per cent each) between railways, consumer durables, intermediate products, automobiles, and capital goods. Therefore, it would be safe to say that any hit to the construction sector would also be reflected in the steel industry. This has exactly been the case where the COVID pandemic has severely hurt the construction sector. Lately, though, the construction sector has seen a resumption in its growth but a lot needs be done because of the devastating damage caused. Rising Covid cases in China and Europe can pose potential headwinds to steel companies catering to the overseas market.

Coal Shortage

A coal shortage in India has led to soaring costs for steel producers as they compete with other industrial consumers for supply. Mills are paying more than four times the normal costs for procuring coal from e-auctions and from mines. [11] This is not just restricted to steel but to other industries as well using coal as an input, for example, aluminium. If this persists, this would exacerbate the costs of the companies and might even lead to supply shortage. However, the Union Government has maintained that the situation is under control and any panic on this score is unwarranted.

Increased US inflation has Posed a Global Challenge

Consumer Price Index (CPI) surged to 6.2 per cent for last twelve months in October 2021 due to higher fuel costs and disrupted supply chain. The retail inflation increased to 0.9 per cent in October 2021 from September 2021 faster than the prior month's 0.4 per cent. It is also becoming a major challenge for the Fed that has committed maintaining 2 per cent annual inflation with maximum employment. The initial assurance that inflation is transitory is losing ground so much so that President Biden has stated that "reversing this trend is top priority for me."

Rising Energy Costs in Europe is also Posing Challenge

High energy costs in Europe are posing challenges. For instance, at the Dutch Title Transfer Facility, Europe's leading benchmark, prices escalated from €16 megawatt per hour in early January'21 to €88 by late October'21, a hike of more than 450 per cent in less than one year. This, in turn, has sent electricity prices skyrocketing.[12] Another challenge is that the auto industry in Europe is still functioning at a sub-optimal level due to semiconductor issues.

Coking Coal prices have increased

Leading steel companies needed to enhance prices (hot-rolled coil or HRC) to offset coking coal price increase.[13] Global coking coal prices increased substantially, e.g.; Australian premium coking coal is facing certain price pressures on freight on board levels in recent times. [14]

The Way Forward

The World Steel Association recently forecasted that steel demand will grow by 4.5 per cent in 2021 and reach 1,855.4 MT after 0.1 per cent growth in 2020. [15] In 2022, steel demand is expected to further increase by 2.2 per cent to 1,896.4 MT. [16] Thus, the global prospects seem good. The recent US infrastructure spend would also augur well for the industry by raising further global demand for steel. For India, with China focusing on reducing carbon emissions, its capacity for making crude steel will be reduced. Instead of producing crude steel, they India will buy 20 per cent semi-finished steel or products.

This will help Indian steel companies expand their ambit to China's customer countries and push exports worth ₹1.8-2 trillion as per industry experts.[17] Further, a significant positive factor is that the Section 232 issue between US and the EU is likely to be sorted out as US has announced that it will no longer apply the Section 232 tariffs on a certain amount of EU exports of steel and aluminium (under "tariff-rate quotas" (TRQs)), effective as of 1st January 2022. [18] This will also help many Indian steel companies to expand their footprint into US and EU markets.

With the Indian economy picking up, the prospect for the steel industry seems better as domestic demand is picking up and could return to pre-Covid levels. With this, construction activities in commercial, residential, infrastructure are likely to increase. The picking up of demand for commercial vehicles is a positive as steel intensity is higher for commercial vehicles. Favourable monsoon and good harvest are other positive factors.

It is interesting to note that in 2021, nine steel companies were recognised by WorldSteel as "Steel Sustainability Champions"[19] where Worldsteel uses 8 indicators to measure key aspects of the steel industry's economic, environmental and social sustainability performance. The companies were – JFE Steel Corporation, JSW Steel Limited, Novolipetsk Steel (NLMK Group), Outokumpu Oyj, Severstal (PAO), Tata Steel Europe, Tata Steel Limited, Tenaris, and Ternium.

Given the abundance of iron ore, coal and many other raw materials required for iron and steel making, there is immense latent growth potential for this industry in India. This optimism springs from India's relatively low per capita steel consumption and the likely rise in consumption. The consumption of steel is poised to record an upward trajectory because of the inexorable process of economic growth and structural transformation. More specifically, surging infrastructure construction, the rapidly developing automobile and railways sectors, huge stimulus package launched in several countries across the development spectrum in the aftermath of the COVID-19 pandemic and the rising global steel prices are certain to provide an impetus to this sector.

This is why going forward the steel industry will experience substantial demand in the wake of the ebbing pandemic and increased vaccination. The sectoral growth was not severely debilitated even during the pandemic. Hence, it is expected to gain momentum as the steel consumption sectors like construction, automobile, consumer durables, etc. are likely to gain traction.

We expect the industry to record a steady growth in the next few years. But the realization of the avowed ambitious national objective of 300 million tonnes of production capacity by 2030-31 in terms of the National Steel Policy, 2017 and the National Mineral Policy, 2019 necessitates India consolidating its vantage position on the global steel map. This is a tall order and requires synchronized and concerted action with a sense of immediacy by all stake-holders to support the different stakeholders, increase financing by the private sector, and enhance consumption and trade of steel.

The task ahead is certainly difficult, but it is, by no means, un-doable. Towards this end, greenfield and brownfield steel mills, up-scaling to acquire muscle and scale in global terms, technological modernization and up-gradation to reap benefits of economies of scale and scope, enhancing energy efficiency and productivity and backward integration into global raw material sources constitute important elements of the growth theoretic and the operational frame.

ENDNOTES

1. "SBPIL Adopts a Fully Integrated Model", Business India (4th October 2021). Available at <https://businessindia.co/magazine/sbpil-adopts-a-fully-integrated-model>
2. World Steel in Figures 2021. Available at <https://www.worldsteel.org/steel-by-topic/statistics/World-Steel-in-Figures.html>
3. Didn't compared with FY21 to avoid low base effect.
4. See <https://www.worldsteel.org/steel-by-topic/statistics/World-Steel-in-Figures.html> for details.
5. China's investment in property development increased 7.2% year on year in January-October, slowing from the 8.8% growth of the first nine months of the year, see <https://www.metalbulletin.com/Article/4016482/Steel-All/Chinese-HRC-price-falls-on-grim-property-data.html>
6. "US steel prices are up over 200% and expected to remain high into 2022" (22 July 2021) Mining Technology <https://www.mining-technology.com/comment/us-steel-prices-remain-high-into-2022/>
7. "Government Launches Mission to Develop Steel Sector in Eastern India", Business Standard (11th January 2020). Available at https://www.business-standard.com/article/pti-stories/govt-launches-mission-to-develop-steel-sector-in-eastern-india-120011100887_1.html
8. Press Information Bureau (6th August 2021). Available at <https://pib.gov.in/PressReleasePage.aspx?PRID=1743245> and <https://indsteel.org/pdf/JULY-2021-A-Review-of-development-in-the-Global-Indian-Steel-Industry.pdf>
9. Research & Development in Iron & Steel Sector. Available at https://steel.gov.in/sites/default/files/R_D%20Chapter%20for%20MoS%20Website%20March%202021.pdf
10. Hussain, Zakir (2020), "Decoding the Demand Outlook of India's Steel Consuming Sectors in Post COVID-19 Period". Available at https://indsteel.org/pdf/Decoding_the_Demand_Outlook_of_Indias_Steel_Consuming_Sectors_in_Post_COVID-19_Period.pdf
11. "Coal Shortage in India Leads to Soaring Costs for Steel Producers", Business Standard (7th October 2021). Available at https://www.business-standard.com/article/economy-policy/coal-shortage-in-india-leads-to-soaring-costs-for-steel-producers-121100700050_1.html
12. "Why Europe's Energy Prices are Soaring and Could Get Much Worse" (28th October 2021). Available at <https://www.euronews.com/2021/10/28/why-europe-s-energy-prices-are-soaring-and-could-get-much-worse>
13. "Steel Cos Hike Benchmark HRC Prices by up to 3,500a Tonne", Business Standard (1st November 2021). Available at https://www.business-standard.com/article/companies/steel-firms-hike-prices-by-up-to-rs-3-500-a-tonne-on-input-cost-pressure-121110101245_1.html
14. "India Fears Rising Coking Coal Prices, Increases Imports" Eurometal.net (15th September 2021). Available at https://eurometal.net/india-fears-rising-coking-coal-prices-increases-imports/?utm_source=dlvr.it&utm_medium=twitter&utm_campaign=india-fears-rising-coking-coal-prices-increases-imports
15. World Steel Association, Press Release (14th October 2021). Available at <https://www.worldsteel.org/media-centre/press-releases/2021/worldsteel-Short-Range-Outlook-October-2021.html>
16. The current forecast assumes that, with the progress of vaccinations across the world, the spread of variants of the COVID virus will be less damaging and disruptive than seen in previous waves.
17. "Indian Steel Firms Eye Record Exports in FY22", LiveMint (23rd September 2021). Available at <https://www.livemint.com/industry/manufacturing/indian-steel-firms-eye-record-exports-in-fy22-11632419522809.html>
18. https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_5722
19. <https://www.worldsteel.org/media-centre/press-releases/2021/sustainability-indicators-2021-and-our-sustainability-journey.html>