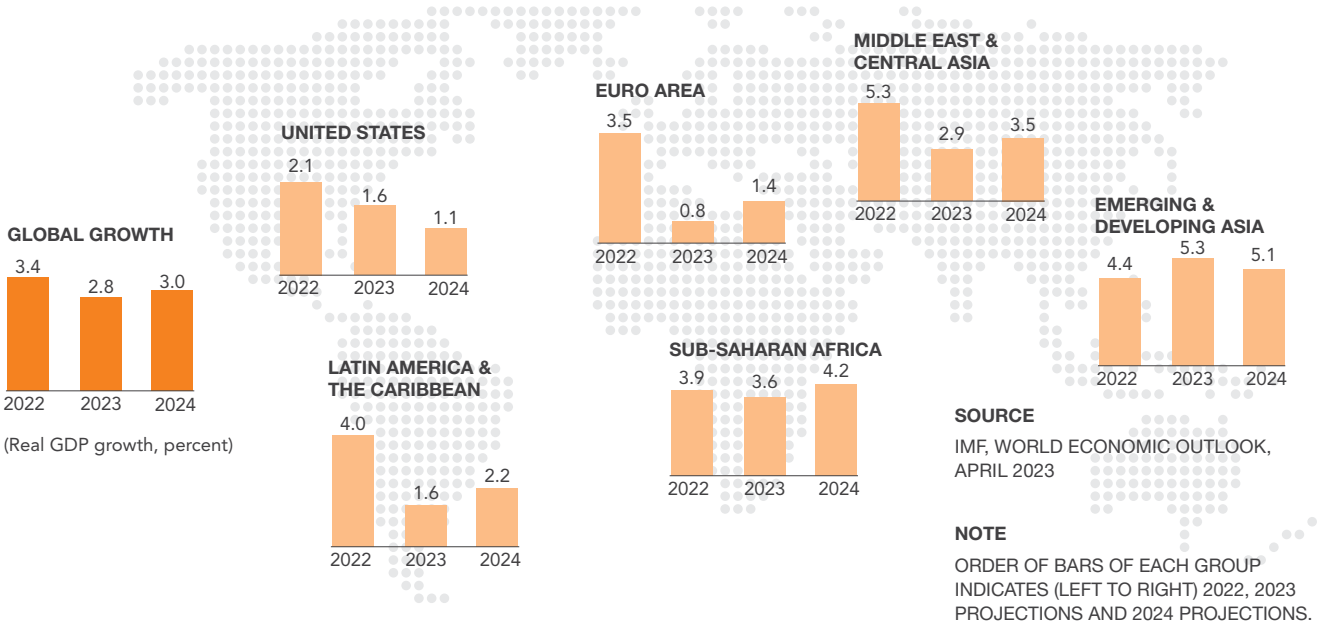
MANAGEMENT DISCUSSION AND ANALYSIS

1. Global economy

WORLD ECONOMIC OUTLOOK APRIL 2023

GROWTH PROJECTIONS BY REGION



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The International Monetary Fund (IMF) reports that the global growth rate is set to decrease from 3.5% to 3.0% in 2023. Russia's Ukraine invasion had a significant impact on the global economy causing disruption in financial markets and raising oil and energy prices. This triggered a sharp increase in headline inflation although this is stabilising at a faster rate than core inflation, largely due to the strategic tightening of monetary policies. In response, global economies have resorted to raising interest rates as a control mechanism. IMF reports that global headline inflation was expected to decrease from 8.7% in 2022 to 6.8% in 2023 and 5.2% in 2024, but core inflation is likely to decline at a slower pace. Improvements to the supply side of the economy would facilitate fiscal consolidation and a smoother decline of inflation toward target levels.

Consequently, global supply chains witnessed difficulties in meeting the demand for goods and services due to the war in Europe. However, the recovery from the global COVID-19 pandemic has eased supply chain bottlenecks, largely spurred by the opening of China's economy. The reabsorption of world exports by China has led to smoother supply delivery times, an improving logistics sector and boosting the overall economic landscape in real estate, tourism, construction and transportation sectors as a collateral effect.

Despite an expected boost in economic growth, advanced economies observed a slowdown in growth of 1.4% compared to 2022, revealing variations in levels of exposure to underlying shocks among different economies. Advanced economies such as the US have shown resilience in the labour market and relatively low unemployment. However, this differs between countries and high inflation remains the issue of priority.

For emerging markets and developing economies, prospects for growth are stronger on average but vary more widely across regions. The forecasted growth rate by the IMF positions emerging economies at 4.0% for 2023 and to rise to 4.1% in 2024. While they do face some headwinds, it is not as severe as those faced by advanced economies because they made relatively better progress in adopting inflation-targeting monetary policies toward domestic stabilisation goals.

The outlook for CY23 presents a notable deceleration in growth, with the projected global GDP growth rate at 1.9%, a substantial decline from the 3.1% recorded in CY22. This downward trend is underscored by disappointing data emanating from China and Europe in May 2023, contributing to an upswing in the value of the dollar. A significant contributor to this shift has been the sharp slowdown in durables spending across the United States and Europe, influenced by elevated inflation in durable goods prices and the constraining impact of higher energy costs on real disposable income. It is noteworthy that durable spending, although currently diminished, still maintains a level well above its pre-Covid-19 trajectory in both the US and the Eurozone. However, the potential for a shift in consumer spending back towards services could act as a headwind for durables expenditure, particularly due to its heightened commodity intensity. As economies grapple with these dynamics, fostering sustainable growth and managing consumer preferences amid inflationary challenges will remain pivotal considerations on the path to global economic recovery.

The United States, the Euro area and Japan are expected to experience the largest declines in growth. Countries with strong trade ties to the United States, like Mexico

and Canada, will be more severely affected, while those with smaller exposures, will be less impacted. In 2022, the global economy performed better than anticipated due to factors like increased savings from the pandemic and robust labour markets. However, there is a possibility that global growth in 2023 could fall below 2.0% if economies do not take proactive measures.

2. Indian economic overview

The Economic data released by the Ministry of Finance projected India as amongst the fastest-growing major economy based on the impressive GDP growth of 7.2% in FY23. The economy has bounced back strongly from the impact of COVID-19, with the main driver of growth being an increase in public spending and private consumption. Also, better utilisation of resources across different sectors has ultimately resulted in bringing the economy back to its pre-pandemic levels of output. Additionally, India has observed a rapid increase in credit expansion, fuelled by an inflow of capital.

While many economies were drastically affected by a rise in energy prices, the impact on the Indian economy was relatively subdued. Additionally, the Indian central bank's monetary policy committee, led by the Governor of the RBI, adopted higher interest rates, in tandem with the rise in global rates to help keep inflation within tolerance levels. Despite inflationary pressures, the country's economic reforms during and post-COVID have proven to be prudent and ensured resilience against global economic volatility.

Infrastructure being the bedrock of a prosperous economy, the capex push in the recent Indian government budgets was not just aimed at addressing infrastructure gaps and climate change but was also part of a strategic plan to encourage private investment in a wider economic landscape. Additionally, the broad scope of the Production-Linked Schemes (PLI) in various sectors has encouraged investments from the private sector.

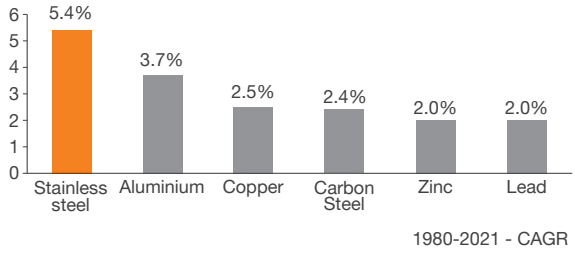
The Reserve Bank of India (RBI) implemented monetary tightening policies and widened the country's account deficit (CAD) temporarily in Q3 FY22 which has recently narrowed dramatically to a deficit of $18.2 Billion in Q3 FY23, down from $36.4 Billion in Q2 FY23. RBI has been successfully maintaining the Indian rupee's relative stability against the US dollar. As a result, the policies mentioned above ensure that economic recovery is robust and sustainable amid geo-political tensions.

India is an essential growth driver and a shining star amidst the prevailing global economic uncertainties. The country's contribution to global growth in 2023 is estimated at ~15%, underscoring its significance on the world stage. India is one of the fastest-growing major economies and is currently ranked as the world's fifth-largest economy. Projections of growth, over the medium term, remain encouraging and optimistic for India. The underlying strengths are indicative of the potential of India to achieve a USD 5 trillion economy by 2025. Overall, India's strategic vision has made significant strides in recent years, driven by a combination of factors such as favourable government policies, technological advancements, strong demographic dividend, and growing foreign investment. Future growth will be attributed to a pick-up in capital investment in the public and private sectors and strong reforms such as PLI, PM Gati Shakti, and modernisation and expansion of Indian Railways will strengthen many sectors simultaneously. However, geopolitical tensions, sticky inflation and global financial sector turmoil will have to be monitored closely due to the sensitive and interconnected nature of global economies.

3. Global stainless steel overview

Stainless steel (SS) has been the fastest-growing metal when compared to other major metals such as aluminium, zinc, carbon steel, etc. with a CAGR of 5.4% during 1980-2021 (as per ISSF). This can be attributed to the diversified usage and improving replacement demand.

Favorable growth trajectory
with stainless steel as the fastest growing metal



1980-2021 - CAGR

Following an increasing trend since 2015, global SS melt shop production stood at 55.3 million tonnes (MT) in CY2022, according to the International SS Forum. The diversified range of applications combined with innovation-driven practices ensures growing production rates and increased market penetration in various applications and end-uses of SS.

4. Indian Stainless Steel Overview

The SS sector occupies a distinct and promising position within the Indian manufacturing landscape due to its unique characteristics. Since SS is inherently corrosion-resistant, it reduces the maintenance load on public resources and ensures longer life for infrastructure. It is also completely and infinitely recyclable, offering the lowest life cycle emissions along with low Life Cycle Costing and reducing the load on the environment, thereby upholding the central principles of a circular economy. India's growth as a market for SS presents significant opportunities as the country is on a rapid growth trajectory and has a massive latent potential for adoption of SS. The consumption of SS in India has grown by nearly 10% over the past financial year to reach 4 million tonnes, according to the Indian Stainless Steel Development Association (ISSDA), given the demand for green metal in sectors such as railways, process industries, Automobile industry and Architecture, Building and Construction (ABC). According to CRISIL, the forecasted growth rate for the next 5-10 fiscal years is projected to be a CAGR of ~7.5%.

India is the second-largest consumer and third largest producer of SS and hence, one of the fastest-growing markets for SS. Government expenditures across multiple sectors that heavily rely on SS usage are expected to drive a significant surge in growth. Since 2017, the railway sector has mandated all passenger coaches to be made in LHB, and the latter can only be made in SS. Combined with a new capex push in India for railways in the Union Budget 2023, this will only increase the production of SS

in the coming years. The market segmentation reveals growth potential in various sectors such as consumer goods, building and construction, automotive and transportation and green energy infrastructure. According to ISSDA, new areas of development, such as alternative energy, ethanol, hydrogen production, water storage and distribution, will further push the demand for SS in the coming years. Decarbonisation will also be a huge driver for the growth of SS industry.

The consumption of SS has undergone a profound transformation over the last few decades, extending its reach beyond conventional applications. This growth aligns with an increase in domestic SS consumption, growing from 1.2 kg per person in 2010 to 2.8 kg per person in 2023. The 'Stainless Steel Vision Document 2047' by CRISIL and the Indian Stainless Steel Development Association, projects a positive outlook by stating that, per capita consumption is predicted to rise significantly. Projections suggest consumption could reach around 9 kg per person by 2040 and potentially 12 kg per person by 2047.The CRISIL research also projects SS consumption to reach about 12.7 MTPA and 20 MTPA by fiscals 2040 and 2047 respectively, signifying a promising path for SS demand in the future.

4.1 Sector-specific Demand

SS's future remains promising as its demand transcends multiple sectors, showcasing its versatility and indispensability. With its wide-ranging applications in construction, automotive, consumer durables, nuclear, and process industries, SS enjoys a diversified market presence. This inherent diversification ensures a stable and thriving industry, fortified by continuous innovation and adaptation to evolving needs.

Architecture, Building and Construction (ABC)

SS is used in the construction sector for architectural elements, structural components, and decorative applications, as well as many infrastructure development projects. As the ABC sector flourishes through endeavours like building construction, airport expansion, port development, bridge construction, Regional Rapid Transit Systems (RRTS) and the expansion of metro rail systems, SS emerges as a cornerstone material for many reasons.

The importance of the infrastructure sector in the economy is due to its multiplier effect. As the Indian government has planned a roadmap for creation of National Infrastructure Pipeline (NIP) with investment budget of $1.4 trillion on infrastructure - 24% on renewable energy, 18% on roads & highways, 17% on urban infrastructure, and 12% on railways - growth and adoption of SS is bound to grow. Even under social sector spending, the Union government has prioritised infrastructure-related projects, such as housing, urban development, and water and sanitation. These made up as little as 5% of the total expenditure in 2009-10 which grew to 21% in 2022-23. In 2023-24, these will constitute 21% of spending. As per Invest India, India will become the 3rds largest construction globally by 2025. It is noteworthy that SS is an inevitable catalyst to develop long-lasting and sustainable infrastructure. In addition to being corrosion-resistant and ~100% recyclable, it also stands up to the low LCC (Life Cycle Cost) and LCE (Life Cycle Emissions) standard for choosing raw materials set by the government.

The primary driver for the industry is increased government spending over the last few years, which saw an increase in investment of 7.5% which reached USD 561 billion in FY23. For instance, one of the government initiatives is the Pradhan Mantri Gati Shakti Master Plan which was announced in 2021, and aims to boost India's infrastructure and economic growth over the next 25 years. Other drivers for the construction industry boom in India are the growing population and urbanisation, creating significant demand that goes beyond tier-1 cities. Additionally, the recent Union Budget of FY24 has sparked a positive outlook within the industry. It comes with substantial provisions for capital expenditure and railway modernisation, totalling INR 10 lakh crore and INR 2 lakh crore, respectively. This budget also includes reinforcing measures like increased investments in the PM Awas Yojana, the establishment of 50 new airports, the initiation of the Green Hydrogen Mission, improvements in agricultural storage capabilities, modernisation of urban sewage systems, and a methodical approach to managing both dry and wet waste. These integrated initiatives reflect a comprehensive strategy towards advancing infrastructure development.

Although SS initially incurred higher costs compared to competing alternatives, its durability is nearly three times that of other materials and is virtually maintenance-free, with expenses associated with painting, coating, and labour being eliminated. This deterrence was challenged by unfortunate incidents involving infrastructure collapses. The National Steel Policy 2017, therefore advocated greater use of SS in residential and commercial constructions in coastal and earthquake prone areas. The policy also guided for usage of high quality SS in drinking water pipelines, packaging of food grains etc. to prevent intake of hazardous impurities.

Automotive, Railway and Transport (ART)

Contributing over 10% to the nation's GDP, the ART sector stands as a catalyst for economic advancement, propelled by urbanisation, population growth, and the demand for efficient, sustainable transportation networks. As the ART sector gains momentum, its symbiotic relationship with SS becomes increasingly evident. Over the past decade, SS demand within the sector has surged by almost 30%.

India's railway system ranks as the world's fourth largest, trailing only the United States, Russia, and China. The railways operate 13,523 passenger trains and 9,146 freight trains daily. In FY23, Indian Railways achieved a record freight loading of 1,512 million tonnes. The integration of SS in India's Vande Bharat trains stands as a testament to the material's impact on modernising the country's railway system. SS's exceptional properties have elevated the structural integrity of these coaches while infusing them with a sleek and contemporary design.Additionally, the Union Budget in FY23 has allocated INR 19,518 crore to all metro projects across the country, further bolstering domestic demand and consumption of SS to make India's transportation networks globally competitive.

Soon, roads and railways are likely to continue to be the dominant modes of transportation in India. However, other modes, such as coastal shipping and inland water transport, are expected to play a larger role as the country's economy grows and people demand more efficient and environmentally friendly transportation options. The PM Gati Shakti Plan aims to grow multimodal connectivity around the country with a strategic infrastructure development plan across railways, roads, airports, ports, mass transportation, waterways, and logistical infrastructure. The plan's emphasis on modern transportation and logistics networks will drive SS's usage, contributing to the metal's expanded role in critical sectors and aiding economic growth in India for its citizens.

According to the Society of Indian Automobile Manufacturers (SIAM), the domestic sales of automobiles witnessed a substantial 20% increase in the fiscal year 2022-23, with the passenger vehicle segment achieving a remarkable annual growth of 27%. Projections indicate a robust Compound Annual Growth Rate (CAGR) for SS demand within the automotive sector, aligning with these dynamic developments.

Some of the government initiatives driving the ART sector include:

- Automotive Mission Plan 2016-2026
- Vehicle scrappage policy
- Vision 2024: Indian Railways aims to achieve 2024 MT freight loading by 2024.

Consumer Durables

The consumer durables industry is expected to grow at a rate of 10-15% in FY24, driven by demand for high-end, feature-rich devices. Consumers are increasingly opting for 'smart, connected, pleasant and convenient appliances' that are simple to operate and efficient with energy. This is leading to growth in demand for premium appliances, particularly in tier-II and beyond areas.

SS is an increasingly important material in consumer durables, as it is more durable and resistant to corrosion than other materials, such as plastic or aluminium.

In addition to its durability, SS is also recyclable, which makes it a more environmentally friendly choice. As a result, the demand for SS in consumer durables is expected to continue to grow in the coming years.

Process Industries

The process industry in India relies heavily on SS due to its exceptional corrosion resistance and hygienic properties. SS's resistance to chemicals, high temperatures, and harsh environments makes it an ideal choice for critical components like equipment, pipelines, and storage tanks. SS is widely used in sectors such as chemical processing, oil and gas, pharmaceuticals, food processing, nuclear applications and water treatment, among others. As the process industry in India continues to expand and modernise, the demand for SS is expected to further increase, driving innovation and technological advancements within the sector. For instance, in terms of energy, India is the 3rd largest energy and oil consumer in the world having consumed 204.23 MMT petroleum products in FY22, a growth of 5.1% over the previous fiscal year.

All of the segments that constitute the process industry are expected to witness growth in demand as India sees a growing population and income, greater urbanisation, increased exports, more efficient logistics, increased digitalisation and better policy support from governments. This increasing demand is expected to lead to greater capacity requirements which will have a direct impact on the demand for SS.

Additionally, the nuclear energy sector in India currently stands as the fifth-largest source of electricity for the country and contributed about 2.8% of power generation in 2021. India has 23 nuclear reactors in 7 power plants across the country with a total capacity of 6780 MW. The Government of India has aspirational targets to increase nuclear power generation in the country with plans to have 22,480 MW of capacity by 2031. This combined with recent developments such as the plan to add 21 more units by 2031, suggest the scope for growth in the sector is large, despite challenges. SS demand in the nuclear sector can therefore be expected to rise due to the numerous unique advantages that SS provides such as its resistance to corrosion, pressure and high temperatures, ductility and durability.

The need for SS has grown because of new types of businesses like ethanol blending and renewable energy. Sustainability stands at the forefront of India's ambitious goals, where the amalgamation of innovation and resourcefulness paves the path to a greener future.

In parallel, the Green Hydrogen Mission, supported by an allocation of INR 19,700 crore, emerges as a beacon of promise, offering a transformative pathway for industries to embrace decarbonization, thus reaffirming the nation's commitment to sustainable energy solutions. Moreover, the tangible impact of sustainability extends beyond energy, encapsulated by the implementation of the Ken Betwa Link Project. This endeavour not only seeks to enhance farmland productivity across 910,000 hectares but also ensures the provision of clean drinking water to a substantial populace of 6.2 million individuals, underscoring the role SS can play in several process industries going forward.

5. Company overview

India's leading stainless steel manufacturer, Jindal Stainless, has an annual melt capacity of 3 million tonnes and an annual turnover of INR 35,700 crore (US $4.30 billion as of March'23). It has two stainless steel manufacturing facilities in India, in the states of Odisha and Haryana and an overseas unit in Indonesia, which serves the markets of South-East Asia and nearby regions.

Jindal Stainless has a worldwide network in 15 countries and one service center in Spain. In India, there are 10 sales offices and six service centers. The Company's product range includes stainless steel slabs, blooms, coils, plates, sheets, precision strips, blade steel, and coin blanks.

Integrated operations have given Jindal Stainless the edge in cost competitiveness and operational efficiency, making it one of the world's top five stainless steel players (ex-China). Founded in 1970, Jindal Stainless continues to be inspired by a vision for innovation and enriching lives and is committed to social responsibility. The Company boasts of an excellent workforce, value-driven business operations, customer centricity and the best safety practices in the industry.

JSL remains committed to a greener, sustainable future, fuelled by environmental responsibility. The company manufactures stainless steel using scrap in an electric arc furnace, the least greenhouse gas emission route since it enables 100% recyclability with no reduction in quality, thereby achieving a circular economy. The company aims to reduce carbon emission intensity by 50% until FY 2035 and achieve Net Zero by 2050.

The capacities of various units of the Company as on March 31, 2023 are as follows:

Particulars	Capacity in Metric tonnes
Steel Melt Shop (SMS)	3,000,000
Hot Strip Mill (HSM)	720,000
Narrow Tandem Mill	250,000
Hot Rolled Annealing Pickling (HRAP)	1,425,000
Cold Rolled Annealing Pickling (CRAP)	1,150,000
Specialty Products Division*	94,000
Ferro Alloys	284,675
Power (MW)	264

*Including Blade Steel, Precision Strips and Coin Blanks

6. Risks and Mitigation Measures

6.1 Volatility in key raw materials

Nickel and Ferro-chrome are the major raw materials used in the SS industry, which also contribute significantly to the product cost. These raw materials are exposed to price and availability fluctuations, as is the case with all commodity-based industries.' Such volatility in raw material tend to impact the costing of user industries. As a company, we remain vigilant in our efforts to navigate this dynamic landscape and adapt our strategies to ensure a secure and cost-effective supply of raw materials. We form mutually-beneficial partnerships with parties that ensure continued supply of raw materials domestically and globally.

6.2 Increased Competition from China

The Indian SS industry is facing increased competition from cheap imports of SS from China. Additionally, Free Trade Agreements (FTAs), like the ASEAN FTA, have led to an imbalanced trade situation that benefits partner countries. This has put the domestic industry at risk of facing declining profitability due to increased dumping of subsidized goods, especially by Chinese companies. Imports from China witnessed a steep increase of 318% from FY21 to FY23. The domestic industry in FY23had a capacity of 6.8 million tonnes, including 5.4 million tonnes of flat products, but the capacity utilisation rate is only around 60%. The MSME sector holds around one-third of this capacity. With nearly one-third of the Indian SS market being captured by imports, the MSME sector has been particularly affected. The MSME producers were operating at 40% of their capacity from April to December, 2022; a lot of them also shut shop and turned to trading, unable to compete with the deluge of Chinese imports. Thus, there is an opportunity to increase utilisation to meet growing domestic demand which is currently being captured by imports.

Moreover, establishing an institutionalised system of checks and balances to ensure fair pricing of imports is also crucial. This includes implementing stricter vigilance at ports and empowering Customs officials through more robust regulations. Although some guidelines have already been proposed, it is crucial to expedite their implementation with utmost diligence. To mitigate these risks, JSL continues to advocate for the protection of domestic manufacturers. The Indian government should also continue its support of the domestic industry by promoting research and development, financial assistance to SS producers, and encouraging the use of SS in government projects.

6.3 Supply chain risk

Volatility in supply chains poses a risk to the SS industry. The supply chain is highly susceptible to disruptions caused by natural disasters, political instability, economic downturns, and technological disruptions. Natural disasters such as floods, earthquakes, and hurricanes can damage infrastructure, disrupt transportation, and cause shortages of raw materials. Political instability, including wars, embargoes, and trade wars, can make it difficult to transport goods and lead to shortages of raw materials. COVID was a case in point to substantiate the risk to the industry on this account.

Additionally, geopolitical tensions and fragmentation can disrupt supply chains, increase trade barriers, and escalate uncertainty, affecting the company's operations and profitability.

JSL has robust and resilient systems in place to source raw materials from diversified sources to consistently produce SS. Our ability to adapt swiftly to changing geopolitical dynamics also allow us to bolster resilience in an ever-evolving global economic landscape.

6.4 Regulatory Risks

Regulatory risk including change in laws and regulations may materially impact a security, business, sector, or market. A change in laws or regulations made by the government or a regulatory body can increase the costs of operating a business, reduce the attractiveness of an investment, or change the competitive landscape in a given business sector. In extreme cases, such changes can dampen a company's growth prospects.

The Bureau of Indian Standards (BIS) – the national Standards body of India which is responsible for standardisation, marking, and quality certifications – is yet to include standards for several grades and applications of SS products. Though this is currently work in progress, all the goods that lie outside its scope run the risk of using non-standard SS grades in those applications. This could turn into a threat to safety and longevity of equipment/ infrastructure/ any other application.

Policy changes pose a key risk for all manufacturing industries that operate on global landscape, including the SS industry. There exists a possibility of a change in the overall duty structure on key raw materials/finished goods by the Government. Such an impact was seen when the government imposed export duty on SS products in May 2022, which went on till November 2022. Higher export duties made Indian SS less competitive globally, leading to a staggering 53% decline in exports during the first half of FY23 compared to the previous year. Further, the Company has been exporting its products to many countries across the globe which has varying degrees of political and commercial stability. Any instability in such countries could impact the Company and pose a challenge to its overall performance. JSL is closely monitoring developments in the SS sector surrounding all regulatory risks and adapting its strategies accordingly to mitigate the risks and foster industry growth.

6.5 Information Security Risk

A significant risk lies in potential cyberattacks targeting its manufacturing process control systems. With modern industries relying heavily on interconnected technologies, malicious actors could exploit vulnerabilities to gain unauthorised access to critical systems. Such attacks could disrupt production, lead to equipment malfunction, or cause physical damage, resulting in operational downtime, financial losses, and compromised product quality. Adequate network security measures, regular updates, employee training, and robust incident response plans are crucial to mitigating this risk. By safeguarding manufacturing processes from cyber threats and prioritising data security, JSL ensures uninterrupted operations and maintains the integrity of its products and services.

6.6 Financial risks

The Company's is exposed to volatility in financial markets. The Company could face incremental challenges in a changing interest rate scenario. Further, the Company is also exposed to currency risks arising due to a considerable amount of import and export of goods it undertakes.

JSL is focused on ensuring prudent financial risk management through a continuous focus on maintaining a healthy leverage ratios, improvement in credit worthiness. JSL is focused on continuous balancing of capital structure through debt reduction, refinancing for improvement in average loan life and ROI, optimizing the variable and fixed interest rate cost. Company follows suitable hedging of its foreign currency exposure.

7. Opportunities

7.1 Increasing Focus on Sustainability

Increasing focus on sustainability and compliance with ESG norms poses two-pronged opportunities for the Company. Firstly, since JSL produces SS through the electric arc furnace (EAF) route, its manufacturing process is inherently more sustainable than the alternate route available for SS production. The EAF route uses scrap as its major raw material, which reduces the carbon load and strengthens the circular economy of the country. In comparison, the Blast Furnace route creates steel or SS from its basic raw materials, thereby consuming more power and resources in the process. When organisations look for vendors to supply SS in compliance with Scope 3 of the ESG norms, JSL comes out as the preferred choice not just in India but the world. However, this surge in demand has been accompanied by stricter standards for sustainable mining practices, leading to a complex and challenging landscape for the procurement of raw materials.

Secondly, the industry has witnessed a surge in demand driven by the global green transition and the growing need for sustainable infrastructure in the recent years. For example, SS is used in the production of wind turbines and solar panels, which are both renewable energy sources. SS is also used in the construction of energy-efficient buildings, which are becoming increasingly popular.

SS is often seen as an expensive material and therefore not considered for a project due to the initial purchasing cost. Although the initial cost of the SS material may be higher, the whole life cycle cost is often lower than for other materials. Taking into account its entire lifecycle, SS has one of the least impact on the earth of all known engineering materials. And at the end of its long life, all SS can be recycled to create new SS that is as strong and long-lasting as the original. It is estimated that about 80% of stainless steels are recycled at the end of their life. As stainless steel has a high intrinsic value, it is collected and recycled without any economic incentives from the public purse.

Additionally, the life cycle costing approach is instrumental in showcasing the superiority of SS over other metals. It emphasises the long-term economic and environmental benefits of SS throughout its entire life cycle. By considering factors like durability, maintenance costs, and recyclability, SS emerges as a more sustainable choice. This approach enables stakeholders to make informed decisions that prioritise cost-effectiveness and environmental stewardship.

Overall COST SAVINGS				
ACQUISUTION COSTS	INSTALLATION	OPERATION	LOST PRODUCTION	RECYCLING
Higher material costs per kg, but usually less material is needed	Less materuak, easy on site installation, no finishing operations needed.	No repairs required, no costs incurred	No lost production costs, no additional society costs.	High value of scrap High recyling rate
At least 60% of recycled content. High strength stainless steel products allow a sparing use of material and lighter structures.	Lighter stainless steel structures, prefabricated components, absence of finishing coatings or paint reduce drastically the IC burden.	No repairs leads to no extra environmental burden in energy and materials.	Optimal use of existing capacities and resources. Includes socio-economic aside effects such as fewer traffic disruptions, less degraded service and lost time.	Reuse of scrap for same quality products. No upper limit to the recycled content.

7.2 Growing demand in automotive and construction

The demand for the product is increasing due to the automobile industry's explosive growth. Corrosion resistance, great strength, and heat resistance are the best qualities provided by these types of metals. For instance, according to the World Steel Organization, SS will soon be used in catalytic converters, fuel tanks, chassis, bodywork, and suspension systems. The acceptance of new products will also be aided by the growing technological development in the automotive sector and the expanding innovation in electric vehicles. As a result, growing product demand from automakers will fuel the expansion of the SS market.

Tesla, a multinational automotive and clean energy company, launched a bullet-resistant cyber truck made totally in SS. The vehicle is set to create new benchmarks in exterior strength and cost savings. This sets a precedence for other auto makers to follow suit and adopt SS for lighter weight vehicles with better aesthetics and passenger safety. Even Volvo, one of the world's leading providers of sustainable public transport systems, makes all its buses with SS in its body. Bus body manufacturers in several Indian states are now experimenting with Volvo-like buses, which are proven to have longer lives and better fuel efficiencies. These buses are running in their pilot stage in the states of Andhra Pradesh, Telangana, Maharashtra, Karnataka, Goa, Tamil Nadu and Kerala.

Additionally, the demand for the product is rising. According to BS Stainless, SS will meet construction needs and provide improvements and aesthetic appeal for buildings. The government has implemented ambitious programs, such as the Atal Mission for Rejuvenation and Urban Transformation, Smart Cities Mission, Swachh Bharat Mission, Sagarmala, and Transit-Oriented Development, to enhance and modernise infrastructure across rural and urban areas. SS is witnessing increased adoption in these projects due to its numerous advantages over other construction materials.

The advantages of SS, including recyclability, absence of toxic run-off, durability, and longevity, make it an environmentally friendly choice. As various state governments offer incentives and benefits through their green building initiatives, the demand for SS in the construction sector is expected to grow. SS aligns with the growing trend of green buildings in India, and national laws and policies further support its use in sustainable construction practices.

7.3 Technology and Innovation

To maintain their competitiveness and market share, companies in the SS industry are actively pursuing innovation and adaptation to meet changing industry trends and consumer demands. They are dedicated to improving their product offerings and expanding their distribution networks through partnerships and collaborations and investing in R&D to further optimise production and leveraging metallurgical properties to develop solutions-led technology.

At JSL, the Research & Development Department demonstrates unwavering determination akin to the strength of SS. Its primary focus lies in pushing beyond conventional boundaries to develop high-value products specifically tailored for niche markets. Recognising the significance of quality in enabling global expansion and acceptance, the Company runs the Stainless Academy, which deals with awareness and ecosystem development through various fabrication and upskilling workshops. It also holds skill enhancement programs for MSMEs and runs courses in 11 leading institutes in the country.

7.4 Government initiatives

Government spending is the biggest driver for all of SS and steel industry in India and abroad. In the Union Budget of 2023-24, the Government set aside a capex of 10 lakh crore and a capital outlay of 2 lakh crores put up for the modernisation and expansion of the

Indian Railways, which is the highest ever outlay. With the strategic partnership between JSL and the Indian Railways, we forecast a significant increase in the demand for critical SS components in the fiscal year. 50 additional airports, helipads, water aero drones, and advanced landing grounds etc will aid easier access and enhanced construction activity. Measures announced to uplift agriculture sector, by creating massive decentralized storage facilities, is sure to intensify consumption of SS in the food and food processing industry. The government's initiative to modernize the country's urban sewage systems, enhanced focus on scientific management of dry and wet waste will promote usage of SS in overall waste management and disposal systems. Renewed focus on vehicle scrapping is also expected to augment the domestic supply of scrap material. All in all, the latest Union Budget is a big boost the SS industry at large.

With the government's emphasis on 'Make in India' since 2014, capacity addition in critical sectors is vital for the success of this initiative. The growth of the SS industry is conducive to most of the sectors identified under the programme such as food processing, construction, automobile and pharmaceuticals. It is projected that alloy consumption growth rates of 7.5% between fiscal years 2022 and 2025, and~7% CAGR between 2025 and 2047, indicating the need for increased capacity in the future to meet the rising demand for SS in alignment with the country's manufacturing-focused economic vision.

Similarly, *The Aatmanirbhar Bharat Abhiyan*, launched by the Government of India in May 2020, aims to foster self-reliance and reduce dependency on imports. A key aspect of this mission is to align with the vision of *Aatmanirbhar Bharat* by adding capacities, optimising the import-export balance, controlling raw material prices, and improving capacity utilisation through effective policies. This strategic approach not only strengthens India's self-reliance but catalyses industries, including the SS sector, to strive for greater autonomy and contribute to the nation's economic growth.

The PM Gati Shakti Scheme, driven by the seven engines of infrastructure including roads, railways, airports, ports, mass transport, waterways, and logistics, aims to establish world-class modern infrastructure and foster logistics synergy. This comprehensive initiative is expected to provide significant support to the Indian SS industry. Additional interventions sought for infrastructure and logistics include promoting transportation of raw materials and finished goods through inland waterways and coastal shipping, facilitating debottlenecking of inland waterways through dredging and modernisation and implementing port-led development of SS clusters under the *Sagarmala* program. Identifying and earmarking specific ports along the eastern coast with sufficient container loading facilities is crucial since a substantial amount of raw materials and finished goods in the SS sector are transported in containers. Furthermore, increasing the availability and allocation of rakes to the SS industry serves as an effective measure to further support its growth. These initiatives collectively foster a conducive environment for the industry to flourish and contribute to India's economic development.

The Ministries of Road Transport and Railways require SS to be used for reinforced bridges in marine government projects to avoid corrosion and enhance safety. Additionally, SS must also be used for concrete bridges in extreme weather environments.

7.5 New applications in SS

SS offers exciting opportunities in various cutting-edge and new-age applications. With increasing focus on sustainability, usage of SS will increase in renewable energy production through mediums like green hydrogen, solar, wind, etc. In hydrogen infrastructure, SS's resistance to hydrogen embrittlement makes it ideal for filling stations and pipelines. SS is the best suited material for enabling and empowering green and blue economies with a low life cycle cost and low life cycle emissions solution. SS's strength, durability, and corrosion resistance also make it popular for 3D printing, energy harvesting devices, and sustainable construction.

From medical implants to green roofs, SS is revolutionising these fields, showcasing its versatility and environmental advantages. In the medical field, a new nickel-free SS alloy called BioDur 108 was developed for use in implanted medical devices like orthopaedic implants SS is also being used in new architectural applications, such as cavity trays in high-rise buildings, due to its corrosion resistance and durability.

Defence, aerospace and nuclear are also thrust areas for the growth of SS in the future. Usage of SS is also increasing in agri equipment manufacturing. These emerging applications demonstrate the expanding horizons for SS, providing avenues for growth and innovation in diverse industries.

8. Financial Overview

Standalone INR in crore	FY23	FY22
Sales Volume (Tonnes)	1,764,405	1,670,618
Revenue	35,030	32,292
EBITDA	3,567	4,720
Other income	106	64
Employee benefit expenses	464	479
Non-current investments	871	866
Current investments	301	71
Capital employed	15,690	13,408

FY23 sales volume were registered at 1,764,405 tonnes compared to 1,670,618 tonnes in FY22, increasing by 93,787 tonnes in the fiscal year. The standalone net revenue from operations increased 8.5% and stood at INR 35,030 crore as compared to INR 32,292 crore in FY22. Standalone EBITDA stood at INR 3,567 crore as compared to INR 4,720 crore during the previous year. Accordingly, there was INR 15,690 crore capital employed compared to INR 13,408 in FY22.

Key Financial Ratios	FY23	FY22
Debtors turnover	9.1	11.5
Inventory turnover	3.5	4.4
Interest coverage ratio	12.5	15.3
Current ratio	1.4	1.4
Net debt-equity ratio	0.2	0.3
Net debt to EBITDA ratio	0.7	0.7
EBITDA margin (%)	10.2%	14.6%
Net profit margin	5.7%	8.6%
ROE %	19%	35%
ROCE %	21%	37%

Return on Equity (ROE)

The average Net worth as on March 31, 2023, increased to Rs. 10,452 cr from Rs. 7,998 cr as of March 31, 2022. Net Profit for FY23 was Rs. 2,014 cr compare to Rs. 2,790 cr in FY22.

9. Operational overview

In FY23, Jindal Stainless achieved remarkable milestones, leaving an imprint on the industry landscape. FY23 saw the completion of the merger of Jindal Stainless (Hisar) Limited into Jindal Stainless Limited, leading to a simplified capital structure, stronger balance sheet and leverage ratios. This will improve financial flexibility and unlock greater value for all the stakeholders of the Company. With the added melt capacity in Jajpur, the Company has further bolstered its manufacturing powers, enabling heightened production capabilities to meet domestic and export demands. The total annual melt capacity of the Company now stands at 3 MT. The Company remains resolute towards powering future growth through renewable sources of energy only. With sustainability at its core, the Company also introduced electric vehicles for employee commuting at its Jajpur facility. JSL also plans to install two rooftop solar plants of 21 Megawatt Peak (MWp) capacity and 6 MWp capacity at its Jajpur and Hisar units respectively.

On the acquisition front, the strategic acquisition of Rathi Super Steel has facilitated diversification, expanding Jindal Stainless' product portfolio and market reach. JSL also focussed on backward integration by entering into a collaboration agreement with New Yaking Pte Ltd for a 49% stake in their Nickel Pig Iron (NPI) smelter facility in Indonesia. This ground-breaking step towards backward integration, which is the first-of-its-kind involving an Indian entity, aims to strengthen the company's raw material security and a significant step towards achieving greater operational efficiency and sustainability. Additionally, Board of Directors of JSL at its meeting held on July 25, 2022 had approved to acquire the remaining 74% equity stake in Jindal United Steel Limited from OPJ Steel Trading Private Limited, for a cash consideration of INR 958 crores. This acquisition would result in improved synergies between both the companies and a preferred governance structure, thereby enhancing value for all stakeholders.

It is noteworthy that JSL earned an outlook upgrade of 'Positive' from 'Stable' from the CRISIL Ratings on the long-term bank facilities and debt programme, and a reaffirmed rating at 'CRISIL AA-'. Meanwhile, the rating on the short-term bank facilities was reaffirmed at 'CRISIL A1+'. The ratings agency revised its outlook in view of the Company's improved business risk profile, an expected uptick in scale and forward integration with capacity expansion and acquisitions.

Backed by this strong performance, the Board of Directors has proposed a Final Dividend payment @Re 1.50 for FY23, subject to shareholders approval. The final dividend, if approved by the shareholders of the Company would lead to the total dividend payment to Re 2.50 i.e. 125% per equity share with a face value of Rs 2 each. This announcement came a month after the announcement of a Special Interim Dividend payment @Re 1 per equity share for FY23 on successful completion of the merger. This was a historic move for the Company since a dividend was announced for the first time in 15 years.

Other important highlights of FY23 are given in detail below.

9.1 ESG at Jindal Stainless

JSL's deep-rooted commitment to sustainability, social upliftment, and the rights of workers is evident through the seamless integration of Environmental, Social, and Governance (ESG) considerations into its core business strategies. In the face of widespread damage and displacement caused by climate change, the company recognises the urgency of adopting environmentally responsible practices. JSL has initiated 'Project Samanvay' with Ernst & Young (EY) LLP in order to expedite its ESG goals, and predict greenhouse gas (GHG) emissions and set carbon neutrality targets in accordance with the Science Based Target initiative (SBTi). On the ESG front, JSL is conducting real-time environment surveillance at various locations to monitor air (ambient air and stack) and water quality and analyse work zone, effluents, and noise.

The Hisar facility successfully commissioned a 3.5 MW rooftop solar power generation project. The Company is set to become India's first SS manufacturer to install a Green Hydrogen Plant, in collaboration with Hygenco, with an objective to reduce carbon emissions and achieve its ESG goals. Accelerating its ESG goals, Jindal Stainless signed a contract with ReNew Power to set up a ~300 MW renewable energy project. This utility-scale captive wind-solar hybrid solution will power the expansion of its facility in Jajpur, Odisha. The Company also introduced electric vehicles for employee commuting at its Jajpur facility.

As stated above, the Company achieved a reduction of ~2.4 lakh tons CO2e in the last two fiscals (FY22 and FY23). JSL remains committed to a greener, sustainable future, fuelled by environmental responsibility. The Company manufactures SS using scrap in an electric arc furnace, the least greenhouse gas emission route since it enables 100% recyclability with no reduction in quality, thereby achieving a circular economy. The company aims to reduce carbon emission intensity by 50% until FY 2035 and achieve Net Zero by 2050.

The Company's dedication extends to social initiatives that prioritise the well-being of vulnerable communities, foster inclusivity, and embrace diversity. JSL's governance framework exemplifies transparency, accountability, and ethical conduct across operations. Ethical behaviour lies at the heart of JSL's values, shaping its commitment to stakeholders' long-term interests and sustainable corporate growth. Operating with fairness, transparency, and integrity, the Company emphasises robust disclosure procedures, transparent accounting practices, sound Board governance, and elevated ethical standards. JSL's well-defined governance structures underscore its dedication to accountability, transparency, adherence to legal norms, and effective management of economic, environmental, and social facets. Read more about JSL's ESG initiatives on page 42.

9.2 Digitisation at Jindal Stainless

JSL embraces advanced technology in its operations to enhance efficiency and productivity. The Company has invested in state-of-the-art equipment and automation systems, enabling it to optimise production processes and reduce costs. For example, the implementation of Industry 4.0 technologies, such as artificial intelligence and data analytics, has improved operational efficiency and enabled predictive maintenance, resulting in higher productivity and cost savings. Key initiatives undertaken by the Company in FY23 include:

a. **Seamless ERP Migration and Enhanced Productivity:** Seamless migration of JSL's ERP system to the cutting-edge 'Rise with SAP' platform was completed in FY23. This forward-looking transition has unlocked a new era of productivity, streamlining operations, and empowering our workforce to achieve remarkable feats of efficiency.

b. **Data Visualization with SAP Dashboards:** As part of JSL's data-driven decision-making philosophy, the Company is embarking on the implementation of SAP Dashboards. This futuristic solution serves as a visual command centre, consolidating critical data into intuitive displays for our senior management and leadership. This leap in data visualization equips the Company with unprecedented insights, enabling agile and informed decision-making.

c. **Exemplary IT General Controls and Fortified Data Security:** JSL's commitment to excellence extends to IT General Controls (ITGC) has been affirmed by the Company's auditors who consistently commend the efficacy of our control framework. JSL maintains stringent vigilance over data security, continuously reviewing and fortifying our defences while embracing emerging technologies to safeguard our digital assets.

d. **Empowering Security Operations Control:** To stay ahead of ever-evolving cyber threats, the Company is empowering its digital ecosystem with Security Operations Control. This state-of-the-art framework amplifies its monitoring capabilities, ensuring the inviolability of its digital assets against unwarranted intrusions. JSL's proactive stance secures the Company's digital infrastructure, poised to withstand the challenges of tomorrow.

e. **Trailblazing Industry 4.0 Advancements:** At the forefront of the Industry 4.0 revolution, JSL is pioneering advancements that redefine manufacturing paradigms. Its endeavours span a multitude of emerging technology areas, prominently including the Internet of Things (IoT). By harnessing IoT capabilities, the Company is minimizing downtimes, augmenting Overall Equipment Efficiency (OEE), and charting a course towards an unprecedented era of operational excellence.

f. **Unveiling a Digital Roadmap:** JSL is charting an ambitious digital roadmap for a paperless future. Its ongoing Vendor Invoice automation initiative is set to revolutionize the procurement processes. Furthermore, the Company is fervently progressing with projects such as Production Planning and Detailed Scheduling, as well as Manufacturing Execution System implementation. Simultaneously, JSL is poised to embark on transformative ventures, including the establishment of a digital control tower. These ventures collectively foster a future of streamlined operations and unparalleled productivity.

g. **Intelligent Collaboration with SAP:** Embracing intelligent collaboration, JSL has seamlessly integrated SAP Intelligent Spend Management into its operations. This ground-breaking implementation has redefined its bid management process, enhancing collaboration across its extensive vendor value chain. JSL's commitment to leveraging cutting-edge technology amplifies vendor collaboration, solidifying the Company's position as an industry leader in vendor relationship management.

h. **Successful Merger Implementation:** JSL takes pride in the successful and timely merger implementation of Jindal Stainless (Hisar) Limited into Jindal Stainless Limited within the SAP ecosystem, adhering meticulously to statutory requirements. This milestone integration has fortified its organizational structure, creating synergies and unlocking unparalleled operational efficiency.

These trailblazing digital and IT interventions firmly establish JSL as a frontrunner in the era of digital transformation.

9.3 Corporate Social Responsibility at Jindal Stainless

The Jindal Stainless Foundation has undertaken a comprehensive range of Corporate Social Responsibility (CSR) initiatives, strategically spanning across regions including Haryana, Odisha, and Delhi NCR. Aligned with the United Nations' Sustainable Development Goals (SDGs), these initiatives ambitiously address 12 out of the 17 SDGs, reflecting the foundation's unwavering commitment to holistic community transformation. Through its concerted efforts, Jindal Stainless Foundation is driving positive change and making a substantial impact on the lives of individuals and communities. By intertwining its CSR endeavours with the globally recognized SDGs, the foundation underscores its dedication to fostering sustainable development, thus shaping a brighter and more inclusive future for the regions it serves. You can read more about JSL's CSR initiatives on page 46.

9.4 The way forward

A major emphasis is being laid on the development of new applications through business development activities and an ecosystem is being developed to facilitate use of SS. With the development of BIS Standards, product references will be available in the industry to facilitate the use of SS in various food processing equipment. Secondly, the implementation of the Skill India program will help in improving the skills of fabricators on a mass scale basis thereby making a skilled workforce available in the industry for fabricating many more products in SS. As the market leader, Organisation is committed towards increasing awareness of SS.

JSL continues to enhance focus on customer satisfaction and long-term mutually beneficial relations through transparent policies, system-based processes and improved services.

10. Human Resources

Jindal Stainless Limited places people at the heart of its operations, recognising that they are the driving force behind the Company's success. From promoting a culture of well-being to conducting regular safety training and reviews, the Company goes above and beyond to safeguard the welfare of its employees. For more details please refer page no. 32

11. Internal Financials Controls

Your Company has in place adequate internal financial controls with reference to financial statements. During the year under review, such controls were tested and no reportable material weakness in the design or operation was observed.

12. Forward looking statement

This Management Discussion and Analysis includes forward-looking statements regarding guidance, industry prospects, or future results of operations or financial position. We use words such as anticipates, believes, expects, future, intends, and similar expressions to identify forward looking statements. Forward looking statements reflect management's current expectations and are inherently uncertain. Actual results could differ materially for a variety of reasons, including, among others, fluctuations in foreign exchange rates, changes in global economic conditions and customer spending, world events and the rate of growth among others. The Company assumes no responsibility to amend, modify or revise any such statements. The Company disclaims any obligation to update these forwardlooking statements except as may be required by law.