



STEEL

Sector Study

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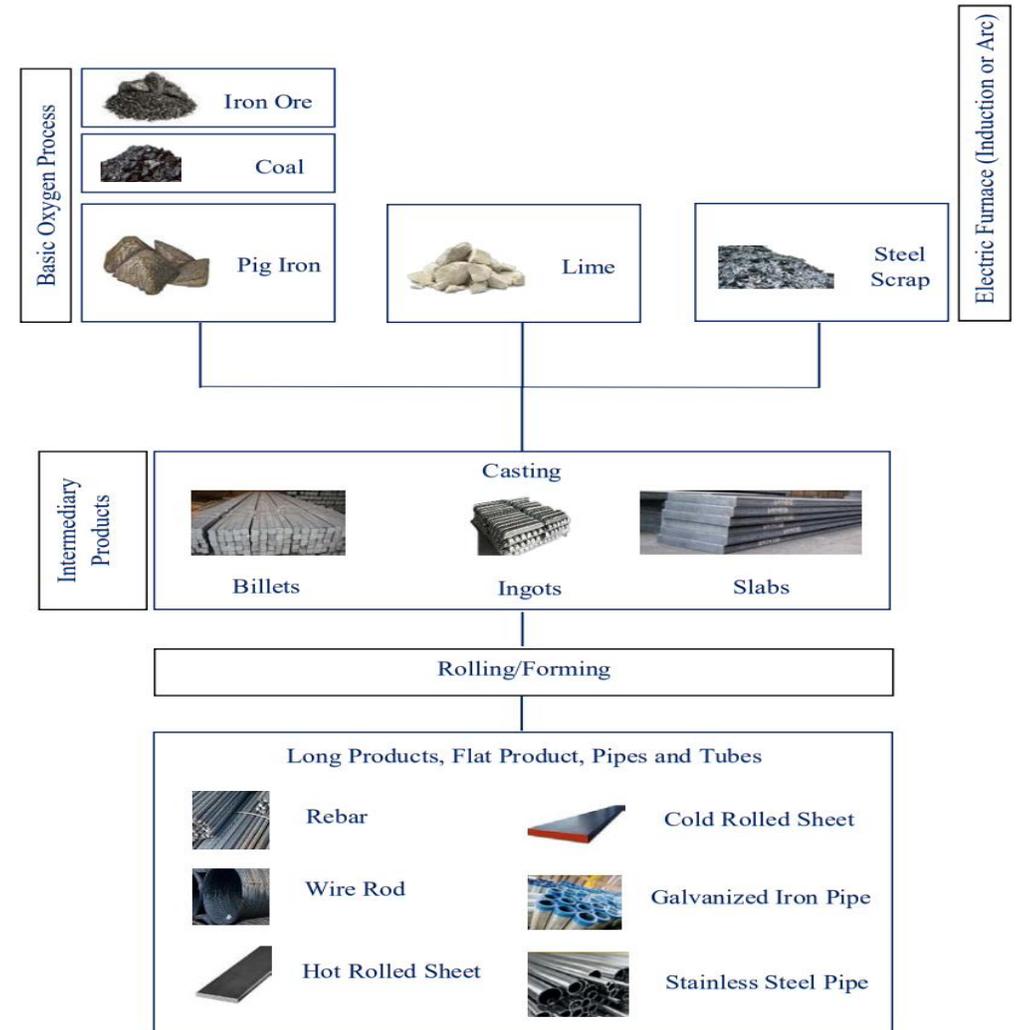
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Introduction

- **Steel** is an alloy of iron and carbon, containing ~2% carbon and ~1% manganese and trace amounts of oxygen, sulphur, silicon and phosphorous. Major Raw Materials used in steel production are Iron Ore (a mineral substance which is heated to yield metallic iron), Coal (to produce Carbon) and Steel Scrap (due to its recyclable nature).
- The Raw Materials involved in steel-making largely comprise iron ore, coal, recycled steel and limestone, depending upon the technology employed for production. The technologies, in turn, can be classified as: **a)** Blast Furnace (BF) and (Blast Oxygen Furnace (BOF), which use iron ore, coal, limestone and recycled steel and **b)** Electric Arc Furnace (EAF) which primarily uses Direct Reduced Iron (DRI) and electricity.
- With respect to iron ore, ~98% of mined iron is used to make steel, therefore, it is an essential input for producing steel. By extension, coking coal is another important key raw material in producing steel, seeing as it is required to reduce iron ore to molten iron saturated with carbon, called hot metal.
- The primary difference between iron and steel is that the former is a metal, whereas the latter is an alloy. Iron is a metal element that occurs naturally on Earth. In comparison, steel is a man-made alloy that's made by mixing iron and carbon together.
- Steel is one of the most commonly used metals in the world, with over ~3,500 different grades and ~2bln MT of production a year. Steel serves as a primary input for most of the important sectors of the economy such as construction, energy, automobile, transportation, infrastructure, and machinery among others.
- In CY21, ~800MT of steel was recycled, while global steel recovery rates were estimated at ~85% for construction, ~90% for automotive and machinery and ~50% for domestic and electrical appliances.
- The growth in demand also likely emanates from growing population levels and especially economic growth in Asian economies like India, as well as the ASEAN countries and Africa, despite a slowdown of the Chinese economy.

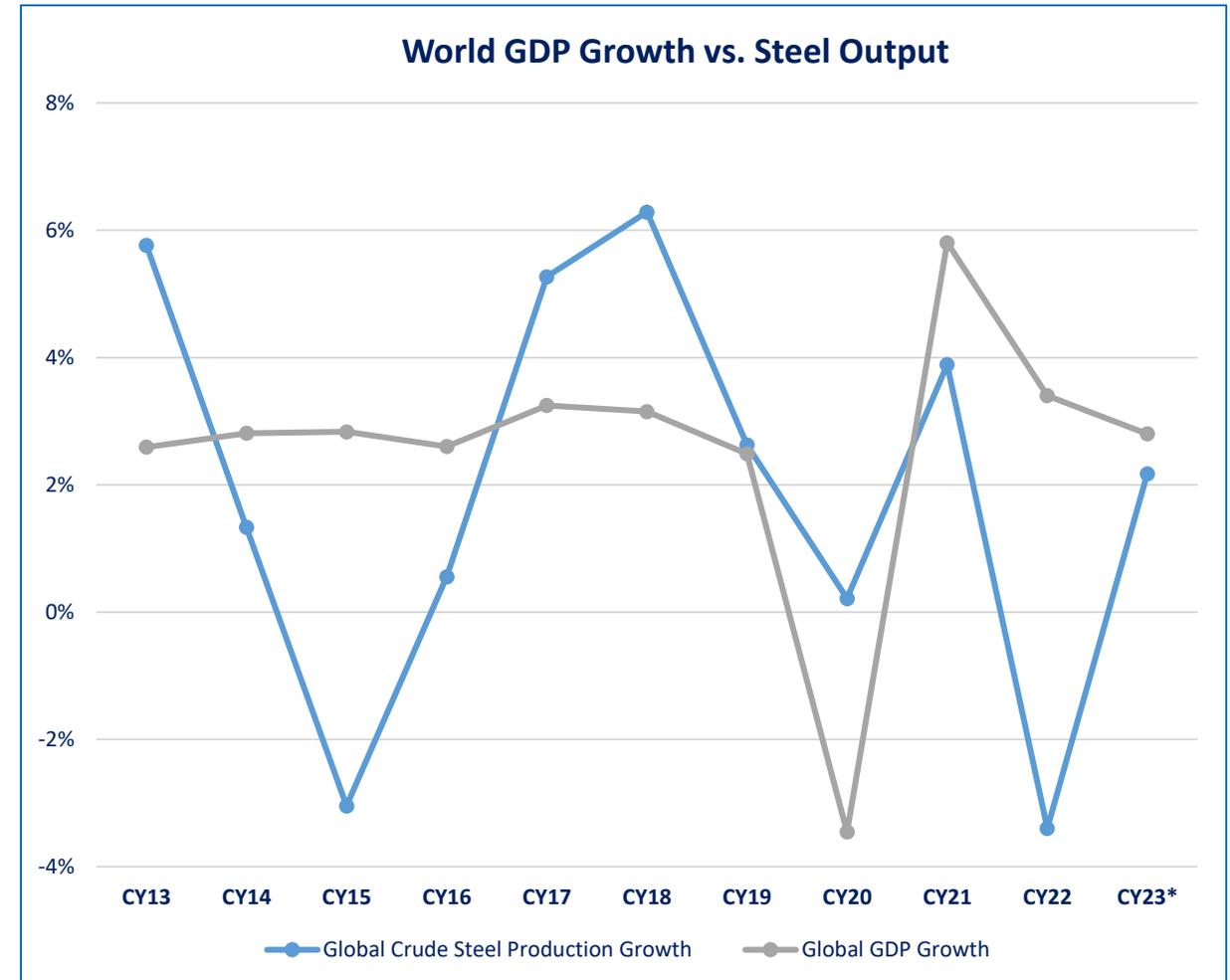
Production Process

- The two most common methods of steel production are basic-oxygen furnace (BOF), which uses iron ore, coal and limestones as its base raw materials and electric furnace that uses Steel Scrap as its primary raw material. Electric furnace further has two types of technologies – Electric Arc Furnace (EAF) and Induction Furnace (IF) – both using Steel Scrap as primary raw material.
- ~48% of the global steel-making capacity is based on BOF, while the remaining pertains to Electric Furnace. Among Electric Furnace, EAF is the more widely used technology and is rapidly growing globally, since it maintains economies of scales and is more environmentally-friendly compared to BOF.
- Asia has the largest share of IF steel-making capacity, though it makes up less than ~5% of the global steel-making process. Investment in IF technology is particularly increasing in the Asian region, probably due to its lower installation and operational costs.
- By CY25, 197 new EAF plants will be added to the global steel-making capacity with 83 new plants in the Middle East and 54 plants in the Asian Region. Meanwhile, 75 new BOF plants will come online majorly from Asia (70). For IF, 19 new plants will be operational with Asia having the highest share of 10 plants followed by Middle East.
- Pakistan’s industry predominately uses Induction Furnace (IF) technology (over ~85% production on IF), although a few players have installed Electric Arc Furnaces (EAF) as well.



Global | Overview

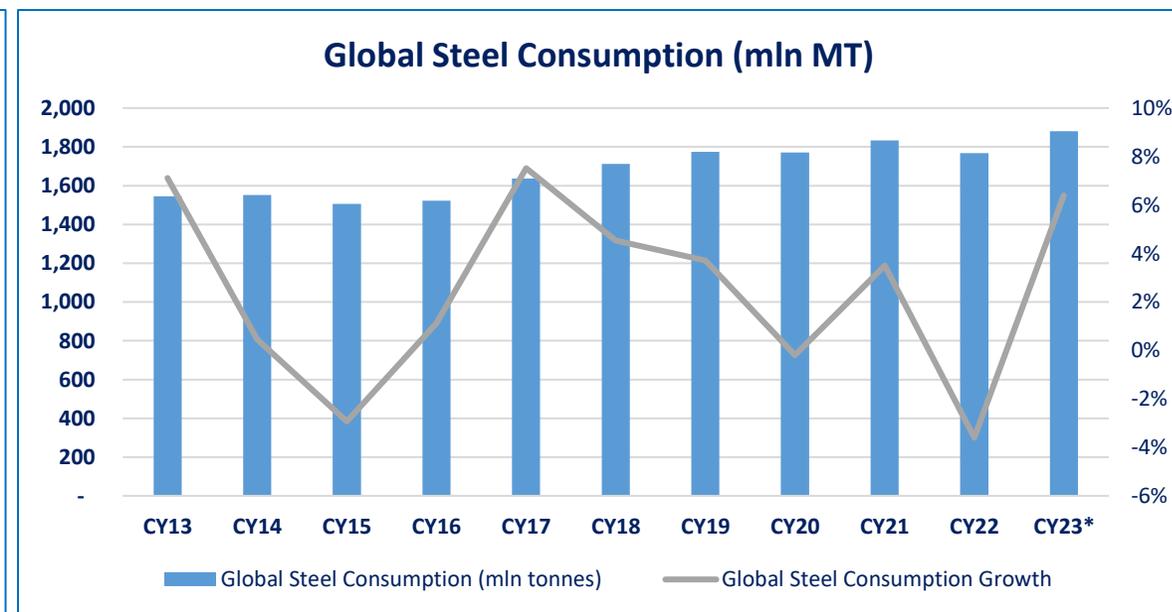
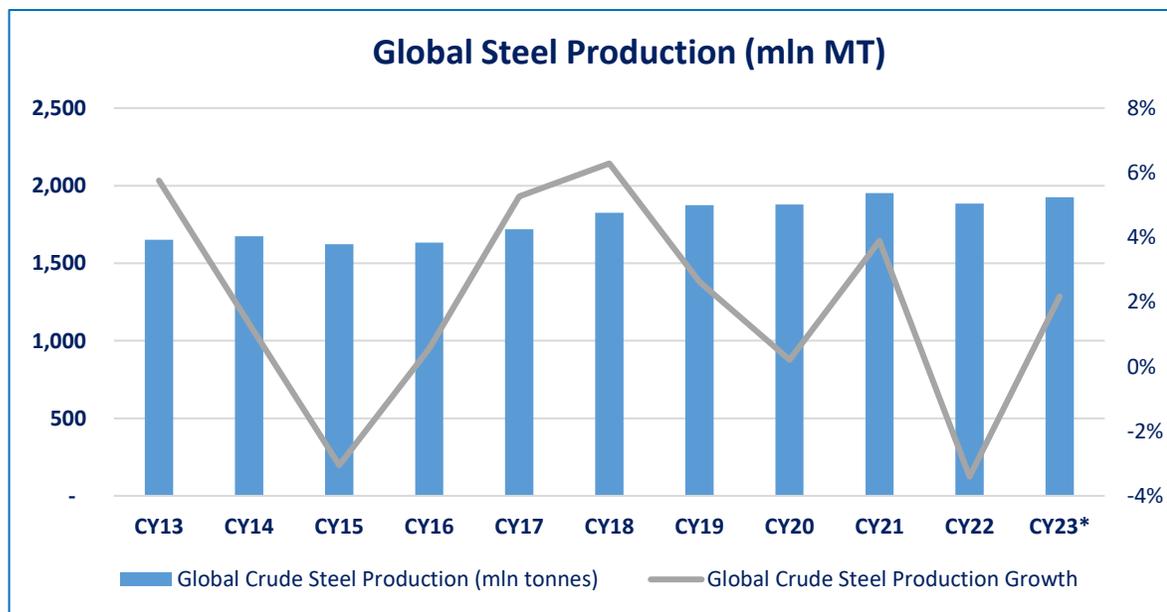
- The global GDP and Steel output tend to exhibit a direct correlation, with average correlation factor clocking in at ~ 0.3 during CY13-CY22.
- In CY22, the global steel production declined by $\sim 3.0\%$ YoY (SPLY: $\sim 4\%$ YoY growth), with global GDP also registering $\sim 3.4\%$ decline during the same period. Steel production dipped to CY15 levels on the back of China's zero-Covid policy and uncertainties over its real estate activity. The country makes up for more than half of global crude steel production (covered later).
- In light of the continuing conflict in Eastern Europe, commodity price spirals and ensuing inflation around the globe, central banks are pursuing a hawkish monetary stance, which is forecast to reign in GDP growth rate to $\sim 2.8\%$ in CY23 (CY22: $\sim 3.4\%$). On the other hand, crude steel production is projected to grow $\sim 2.3\%$ YoY by End-CY23, with investment in manufacturing sectors elected to pick up pace.



*Forecast values.

Global | Production & Consumption

- During CY22, global steel production stood at ~1,885mln MT, falling by ~3.9% YoY and ~3.2% above pre-COVID levels (i.e., CY18). Although China reduced its steel production by ~1.6% YoY to meet its carbon emission goal, it still held the highest share of ~54% in global steel production. Other major contributors to global steel production included India, Japan and USA with ~6.6%, ~4.7% and ~4.3% shares, respectively. However, Japan’s production also remained sluggish due to a slowdown in its automobile segment amid chip shortages. Among the top five steel producing countries, India was the only that registered an increase (~6.0%) owing to a robust economic growth and brisk demand in construction sector.
- Global steel consumption, during CY22, also plunged by ~3.6% YoY and clocked in at ~1,768mln MT. The ~3.2% decline in China’s consumption stemmed from its zero-Covid policy due to which the economy remained subdued throughout CY22. Global consumption levels remained muted due to higher inflation levels and weak consumer spending across most economies. Among the top five consuming countries, only India recorded ~8.5% increase in consumption, driven largely by a strong momentum in infrastructure spending and sustained growth in urban consumption.

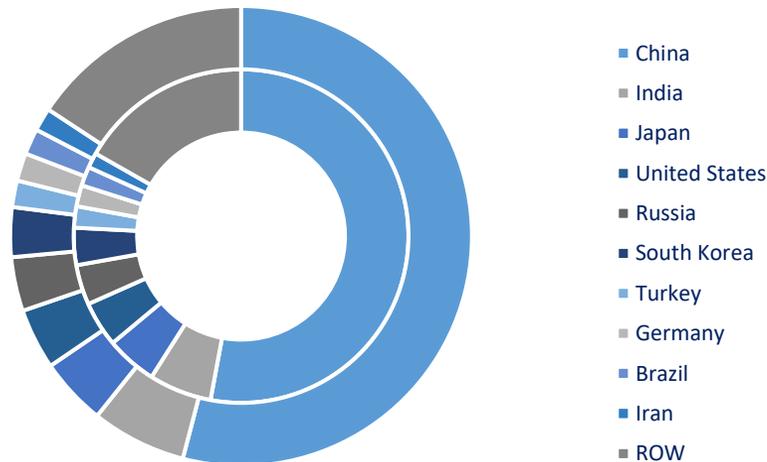


*Forecast values.

Production & Consumption | Top Countries

- Of the total global production of ~1,885mln MT, China represented a ~54.0% in CY22 (CY21: ~53.0%) share in global production, however, the country's production went down by ~1.6% YoY, primarily to meet its carbon emissions goal. India, Japan, USA and Russia occupied ~6.6%, ~4.7%, ~4.3% and ~3.8% of the global steel production, with India's production growing by ~7.1mln MT to ~125.3mln MT during CY22.
- During the same period, China produced ~90.5% using BOF technology, whereas ~54.2% of India's production was based on EAF technology. During 5MCY23, global production stood at ~1,103mln MT, with China maintaining the highest share of ~56.7% and India registering ~9.0% YoY growth.
- On the global steel consumption front, the figures paint a similar picture, with China accounting for ~52.0% of the total steel consumed, followed by India, USA, Japan and S. Korea, with India's consumption recording at ~92% of its total production, while that for China amounting to ~91%. The top five steel-producing countries represent ~73.5% of global crude steel production, while top five consuming countries make up ~70.0% of global steel consumption.

Top Steel Producing Countries | CY22 (Outer), CY21 (Inner)



Top Steel Consuming Countries | CY22 (Outer), CY21 (Inner)



Global | Per Capita Consumption

- Average global per capita consumption of steel is recorded around ~222Kgs in CY22, down ~4.9% YoY. During the same period, the highest per capita consumption was recorded in South Korea (~988Kg) while the lowest was recorded in Venezuela around ~3.7Kg. Pakistan's per capita consumption of steel (~48Kg) is lower than the world average as well as lower than its regional country, India's (~81.1Kg) and Bangladesh's (~43.0Kg).

Global Steel Consumption (Kg/capita)

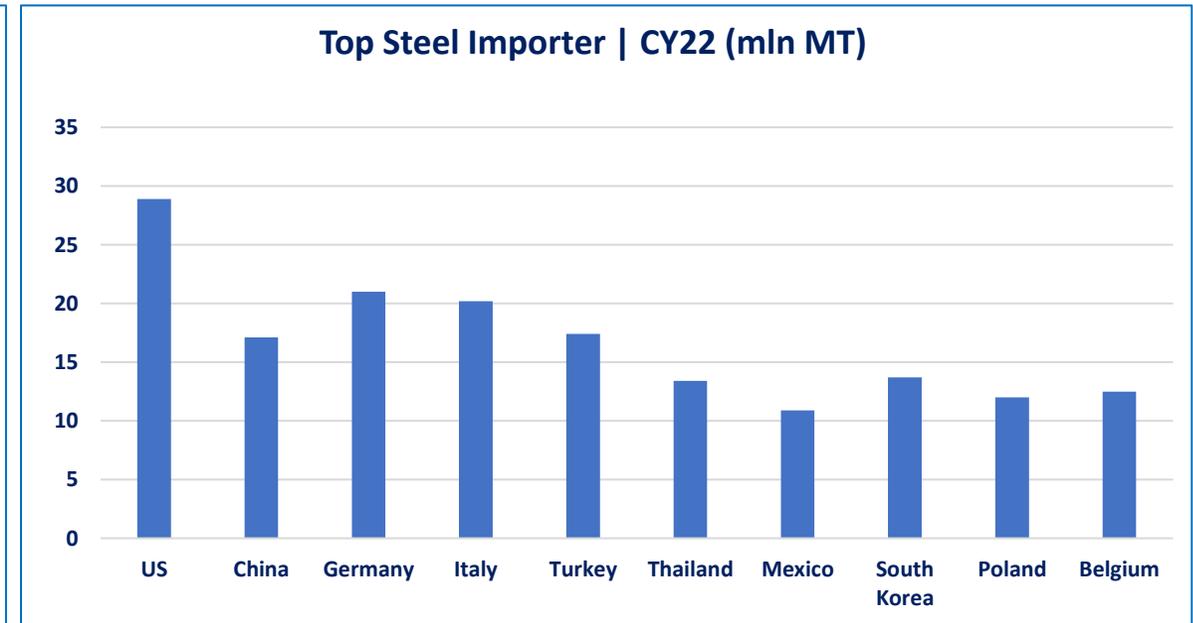
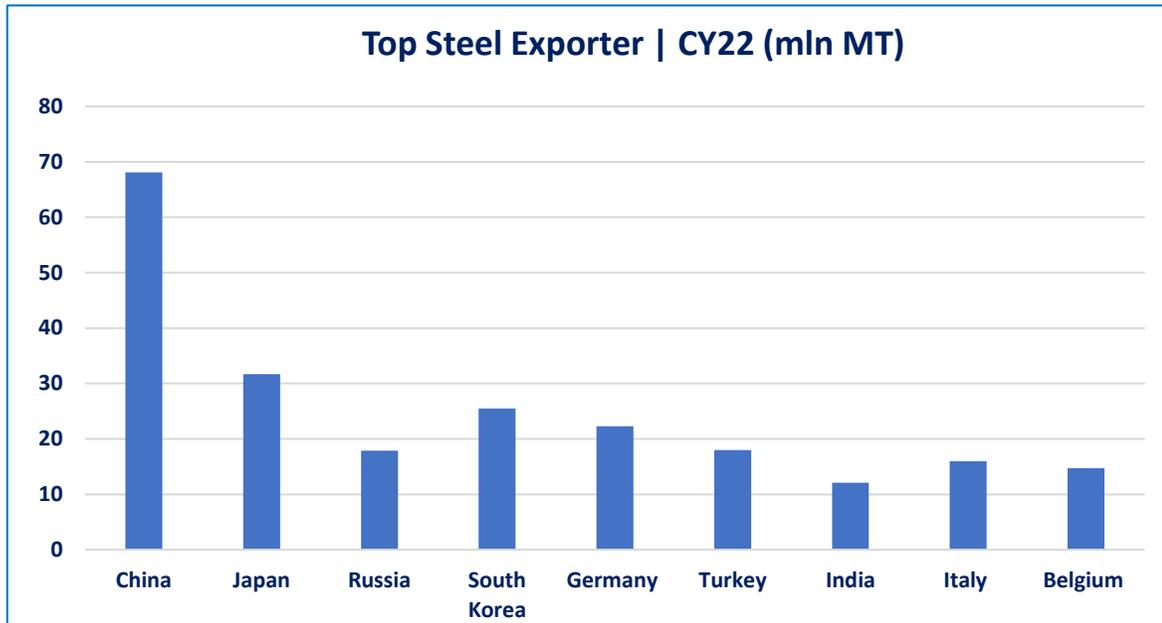
| Sr. | Country | CY17 | CY18 | CY19 | CY20 | CY21 | CY22 |
|-----|--------------|-------|-------|-------|------|-------|------|
| 1 | South Korea | 1,102 | 1,050 | 1,039 | 955 | 1,076 | 988 |
| 2 | Taiwan China | 746 | 750 | 741 | 789 | 886 | 728 |
| 3 | Czechia | 677 | 713 | 675 | 624 | 776 | 631 |
| 4 | China | 545 | 586 | 636 | 699 | 667 | 646 |
| 5 | Austria | 464 | 471 | 444 | 405 | 517 | 476 |
| 6 | Japan | 505 | 514 | 498 | 416 | 456 | 444 |
| 7 | Italy | 410 | 418 | 413 | 338 | 439 | 422 |
| 8 | Germany | 496 | 477 | 421 | 372 | 426 | 379 |
| 9 | Poland | 358 | 393 | 360 | 341 | 400 | 333 |
| 10 | Belgium | 288 | 372 | 280 | 243 | 397 | 283 |
| 11 | World | 217 | 224 | 230 | 229 | 233 | 222 |
| 12 | Pakistan* | 41 | 40 | 34 | 41 | 48 | 48 |

Global | Top Steel Producing Companies

- The global Steel industry registered ~40% concentration in world's top 20 companies during CY22. The top 10 companies (their origin majorly being China) account for ~28% of the global production, while the top 20 Companies make up ~40% of the market share in terms of production.

| Top Steel Producing Companies (mln MT) | | | | | |
|--|--------------------------|---|--------------|--------------|----------------|
| Sr. | Company | Country | CY21 | CY22 | % Share (CY22) |
| 1 | China Baowu Group | China | 120 | 132 | 7% |
| 2 | ArcelorMittal | Luxembourg | 79 | 69 | 4% |
| 3 | Ansteel Group | China | 56 | 56 | 3% |
| 4 | Nippon Steel Corporation | Japan | 49 | 44 | 2% |
| 5 | Shagang Group | China | 44 | 41 | 2% |
| 6 | HBIS Group | China | 42 | 41 | 2% |
| 7 | POSCO Holdings | South Korea | 43 | 39 | 2% |
| 8 | Jianlong Group | China | 37 | 37 | 2% |
| 9 | Shougang Group | China | 35 | 34 | 2% |
| 10 | Tata Steel Group | India | 31 | 30 | 2% |
| 11 | Companies Ranked 11-20 | China, India, Japan, USA, South Korea, Iran | 229 | 229 | 12% |
| | ROW | | 1,186 | 1,134 | 60% |
| | Total Production | | 1,951 | 1,885 | 100% |

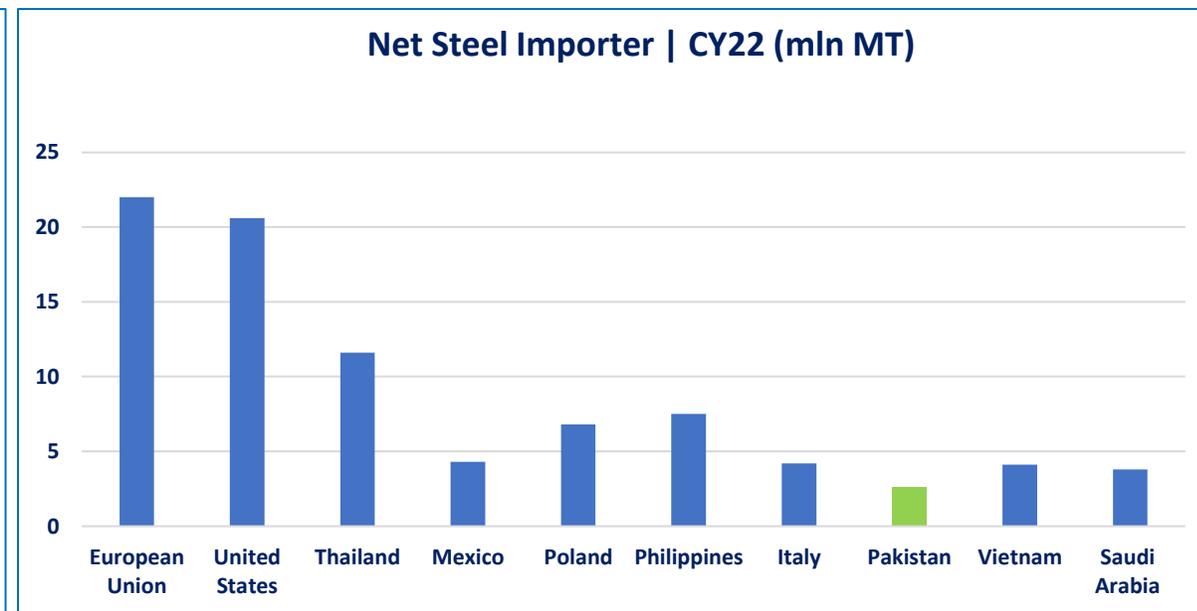
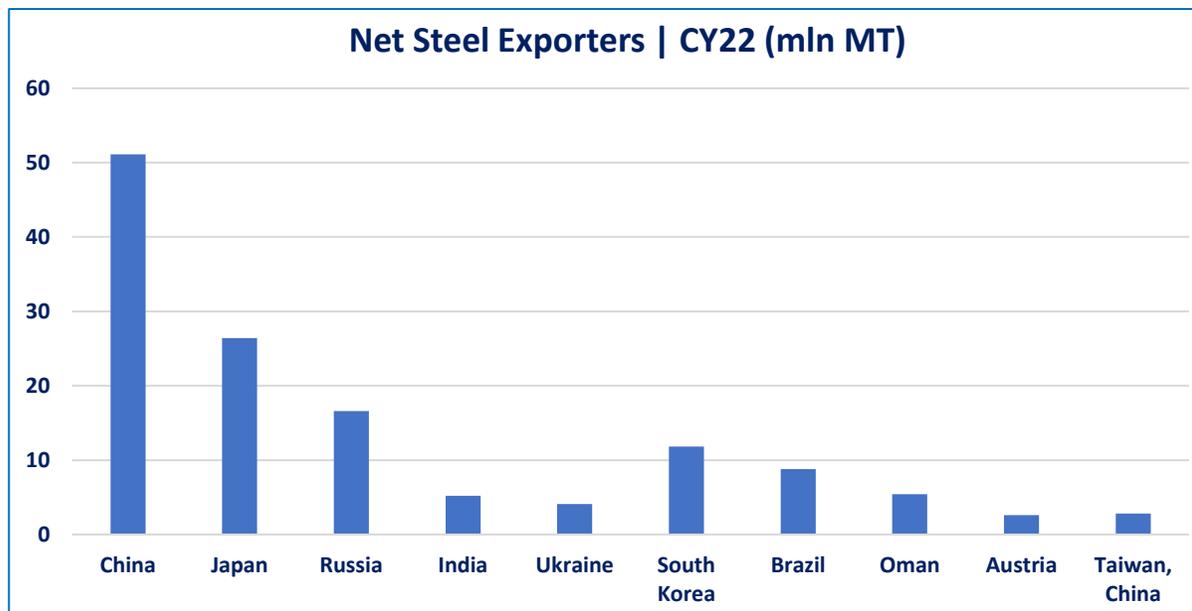
Global Trade | Gross



| Volume in mln MT | CY17 | CY18 | CY19 | CY20 | CY21 | CY22 |
|--|------------|------------|------------|------------|------------|------------|
| Export Volume | 463 | 457 | 439 | 406 | 459 | 402 |
| Total Finished Steel Production | 1,718 | 1,826 | 1,874 | 1,878 | 1,951 | 1,885 |
| Trade Volume as % of Total Production | 27% | 25% | 23% | 22% | 24% | 21% |

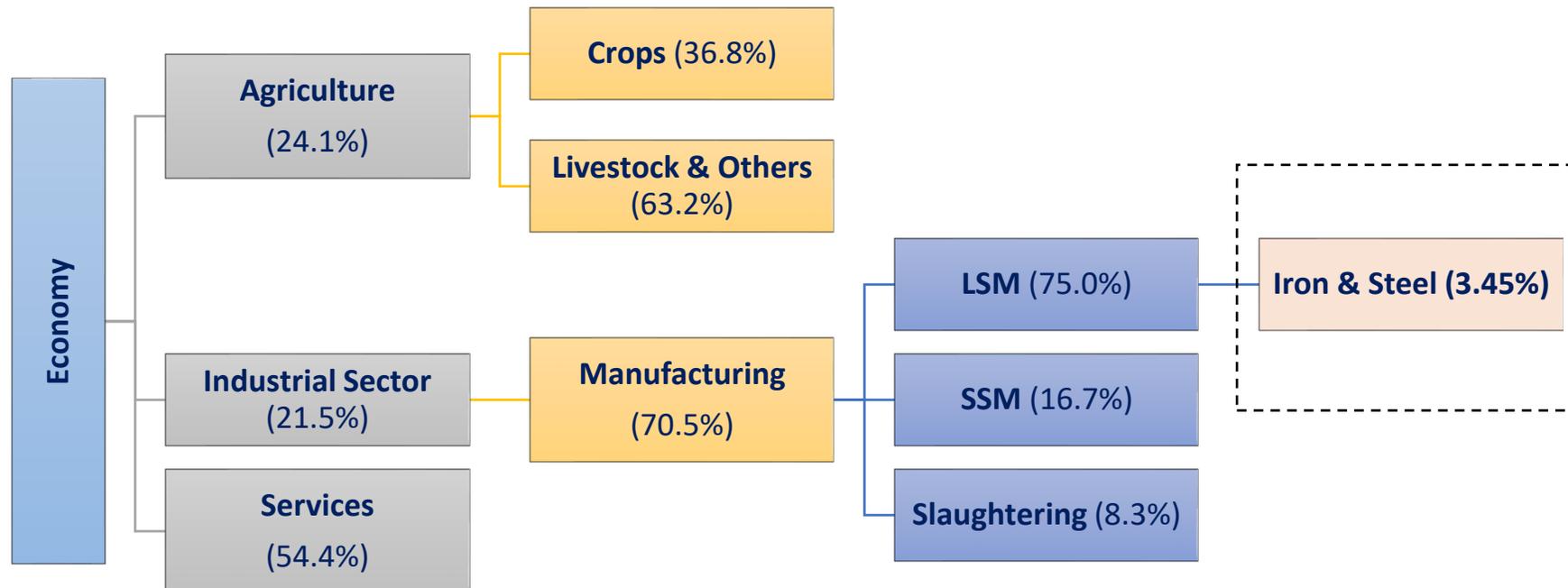
Global Trade | Net

- Total net exports of steel stood at ~142.6mln MT during CY22. China remained the largest net exporter of steel products in the world as the country's net exports was recorded at ~51.1mln MT in CY22, growing by ~33.1% YoY. Other top net exporters include Japan, Russia and India, with net exports across all registering a decline of ~6.7%, ~39.8% and ~64.1%, respectively.
- On the other hand, the EU was the world's largest net importer with net imports amounting to ~22.0mln MT in CY22, with the USA following closely at ~20.6mln MT net exported steel.



LSM | Overview

- With real GDP growth rate for FY23 clocking in at ~0.29% YoY (FY22: ~6.1%), and GDP recording at PKR~79.3trn, Pakistan’s economy exhibited a dismal performance, with the share of industrial activities clocking in at ~21.5% (at current basic prices), falling by ~0.7% YoY.
- The Large Scale Manufacturing (LSM) is a significant component of the manufacturing segment of the industrial sector. It is considered essential for the country’s economic growth considering its strategic importance and linkages with other sectors of the economy. However, the LSMI, as measured by the QIM, exhibited ~10.3% decline YoY in FY23. The Iron & Steel sector forms ~3.5% in the LSMI and during the same period, declined by ~5.1% YoY.



Local | Industry Snapshot

- Pakistan Steel Sector is largely competitive with ~173 players registered with The Pakistan Steel Re-Rolling Mills Association. Key players of the sector are ~20 in number. Of the key players, ~11 players are listed on Pakistan Stock Exchange.
- Pakistan’s steel sector is majorly driven by private corporates. Pakistan Steel Mills (PSM) – a state owned giant with a capacity of ~1.1mln tons has been offline since Jun’15.
- The country’s annual demand for steel products was recorded at ~11.2mln MT during FY22, with imports comprising ~39.2% of the total consumption and recording ~42.1% decline YoY. This largely resulted from SBP-imposed import curbs during FY23, a short-term intervention to control the depleting foreign exchange reserves.
- Due to non-availability of raw material, local production also recorded ~10.1% decline YoY, resulting in higher local prices and reflecting in lower consumption levels, vis-à-vis high levels of inflation and a slowdown in the construction sector.
- Steel products produced are broadly classified into long and flat products and tubes & pipes. Long products include billets and ingots, while flat products comprise H/C.R. Sheets/ Strips/ Coils/ Plates etc.
- The major raw materials used in steel industry is steel scrap. Pakistan is an importer of raw iron and steel scrap. Despite indigenous iron ore reserves estimated at ~1,400mln MT, country’s production of iron ore remains less than a million tons in a year (~0.7mln MT in FY22; ~0.3mln MT in 9MFY23). On the other hand, Pakistan also imports finished steel products (as stated above) to fulfill the country’s demand.

| Overview | FY20 | FY21 | FY22 | FY23 |
|------------------------------------|---|-------------|-------------|-------------|
| Sector Valuation* (PKR bln) | 72 | 175 | 115 | 58 |
| Sector Growth (Production) | -17.40% | 15.60% | 16.30% | -5.12% |
| Billet/ Ingots (% Growth YoY) | -18.30% | 50.90% | 33.10% | -16.04% |
| Coils & Plates (% Growth YoY) | -16.60% | -9.80% | 7.40% | 2.06% |
| Structure | Oligopolistic (~11 listed players) | | | |
| Consumption (mln MT) | 9.3 | 11.1 | 13.6 | 11.2 |
| Local Production (mln MT) | 6.8 | 8.1 | 9.9 | 8.9 |
| Imports (mln MT) | 6.4 | 7.7 | 7.6 | 4.4 |
| Imports (PKR bln) | 482.9 | 609.6 | 930.1 | 738.7 |
| Regulator | Securities and Exchange Commission of Pakistan (SECP) | | | |
| Associations | Pakistan Steel Melters & Re-Rolling Association | | | |

*Based on listed companies. Imports represent Iron and Steel Scrap.

Steel Products | Demand Composition

- **Long Steel Products**

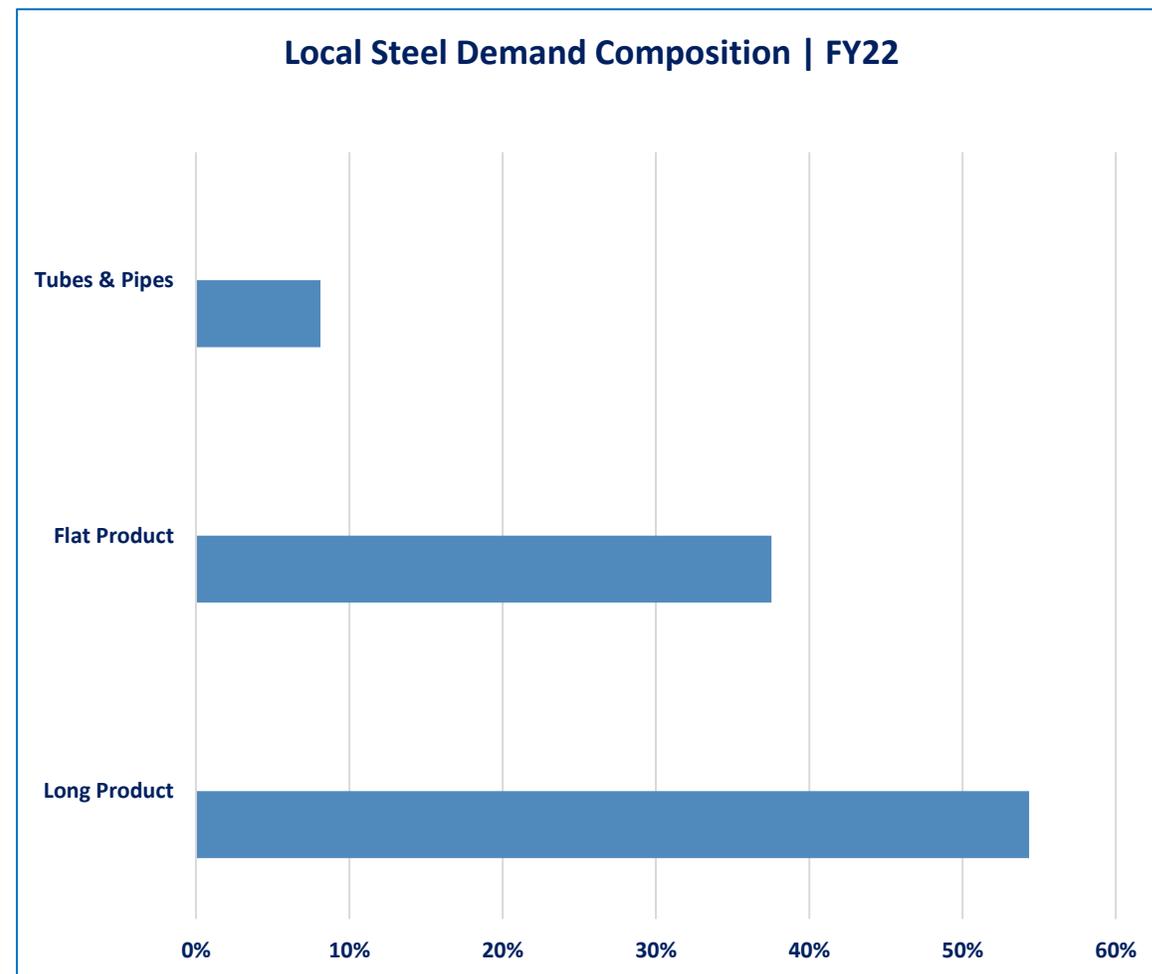
The term long steel refers to the products made from billets and blooms, which are mainly used in the construction sector. Usually, they are made through EA furnaces. Long steel products include rebar, wire rod, merchant bars, rails and sections. For the period FY22, Long Products comprised ~54% of Pakistan's local steel consumption (SPLY: ~50%). There are over ~300 firms currently operational in the Long Steel Sector of which only ~10% are considered organized adhering to the manufacturing quality standards.

- **Flat Steel Products**

Flat steel products consist of sheets and plates. They are rolled from slabs, which are a semi-finished steel product. These products are used in a wide range of industries such as automobile, domestic appliances, and construction. Flat products made up for ~38% of the local steel consumption (SPLY: ~40%) in FY22.

- **Tubes & Pipes**

Steel tubes & pipes are most commonly used to transport products such as oil, gas, and water, and are suitable for long-term installations. The demand is driven by large engineering projects. Of the total consumption mix, Tubes & Pipes formed ~8% during FY22 (SPLY: ~10%).



Product Portfolio

Common Long Steel Products

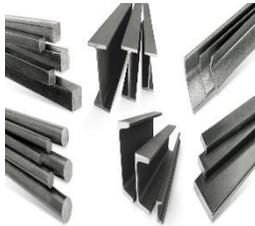


Rebar

Wire Rods



Merchant Bars



Rails



Common Flat Steel Products

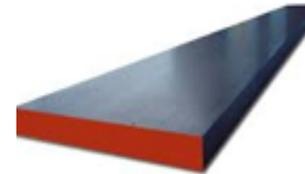
Plates



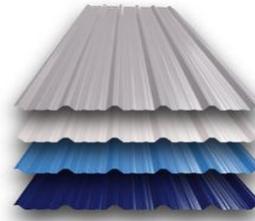
Hot Rolled Sheets



Cold Rolled Sheets



Coated Sheets



Steel Pipes & Tubes

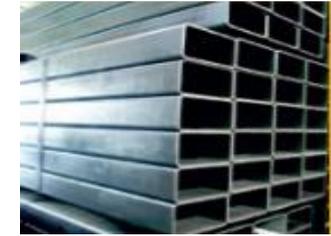
Galvanized Iron Pipes



CRS Tubes



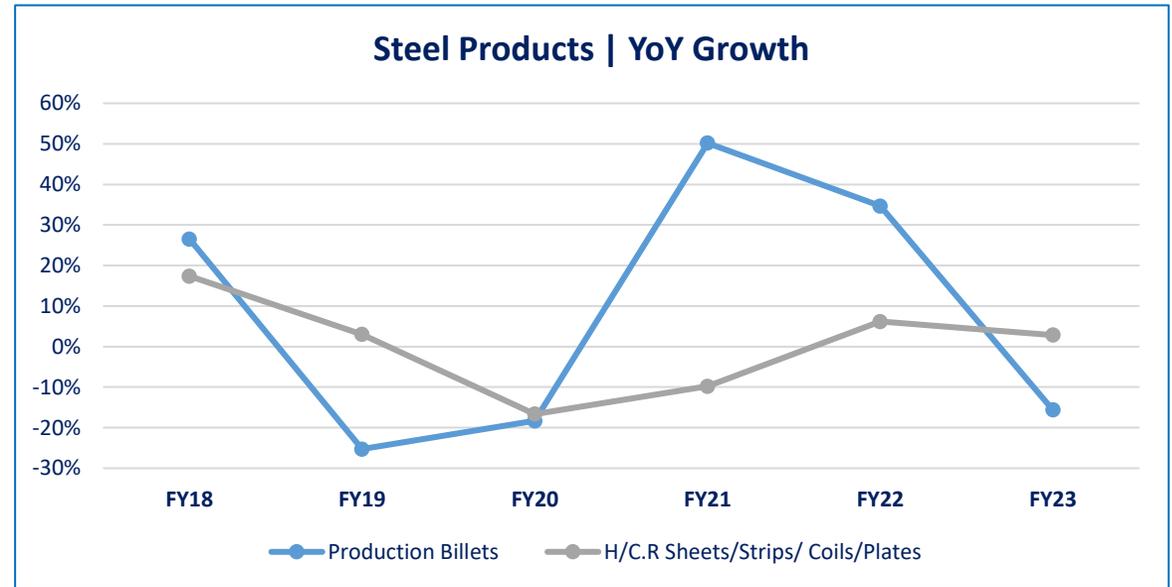
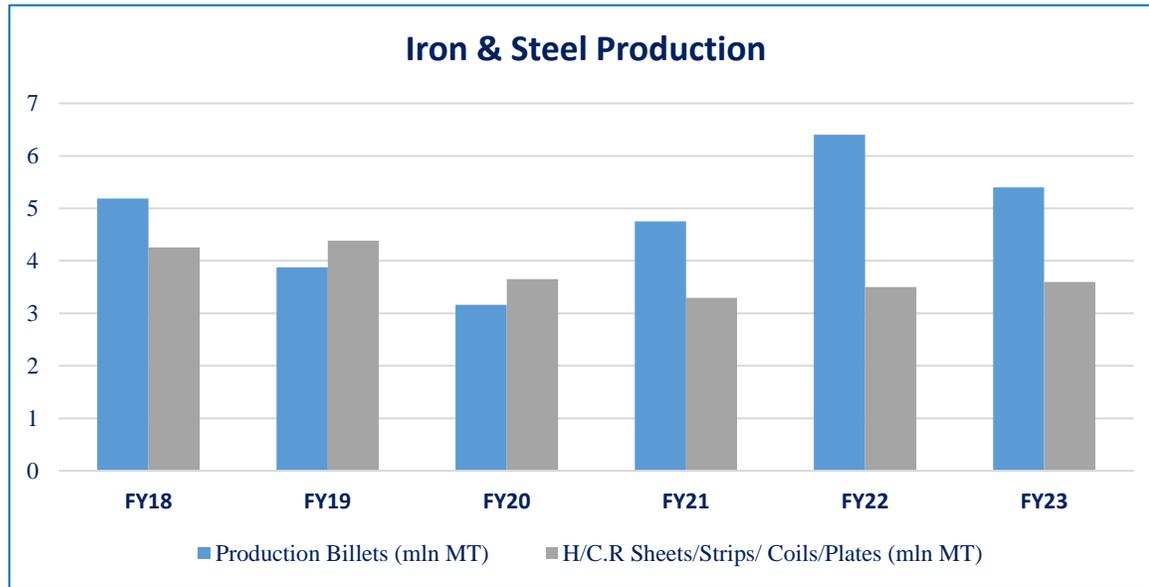
Pre-Galvanized Tool



Stainless Steel



Local | Supply

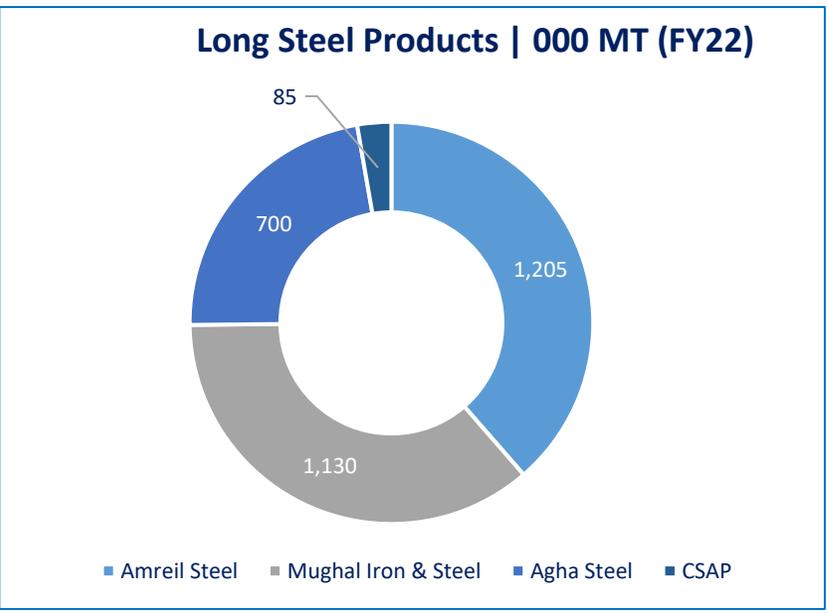


- Production of billets was recorded at ~5.4mtn MT during FY23 with YoY growth of ~-16% (FY22: ~6.4mtn MT). For the same period, H/C.R Sheets (Flat products) production stood at ~3.6mtn MT (FY22:~3.5mtn MT), up ~3% YoY. This decline in long steel products has resulted largely from the import restrictions which were in place throughout FY23 and were only lifted in Jun'23 (a pre-requisite of the IMF SBA). The supply chain disruptions continued to hamper raw material availability, which reflected strongly in long steel products recording ~16% decline in production during FY23.
- Among billet manufacturers Amreli Steel, Mughal Iron & Steel and Agha Steel Industries are major listed companies. This segment of the industry is highly fragmented with scores of small players as well operating privately.

Supply Side | Production Capacity

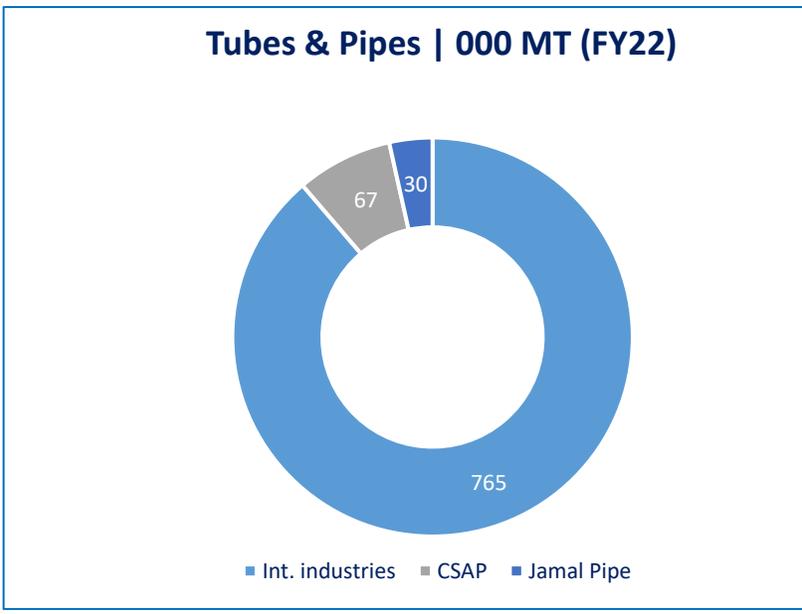
Long Steel Products

The segment's prominent players include Amreli Steel, Mughal Steel, Agha Steel and Crescent Steel & Allied Products. For Mughal Steel, installed capacity increased by ~81,000 MT during 9MFY2, owing to a plant installation. The overall capacity for long steel products is estimated at ~6mln MT, with ~65% average utilization.



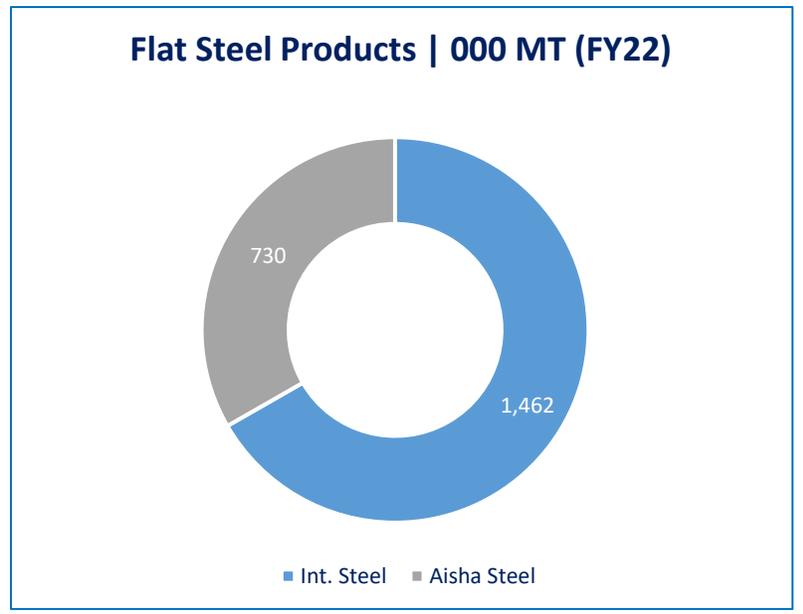
Tubes & Pipes

International Industries is the market leader in Tubes & Pipes market of Pakistan, making up ~88.7% of the total production capacity FY22.



Flat Steel Products

International Steel has flat steel production capacity of ~1.5mln MT, more than double as compared to Aisha Steel's.



Note: Numbers are based on financial accounts of selected listed companies as well as PACRA-rated clients.

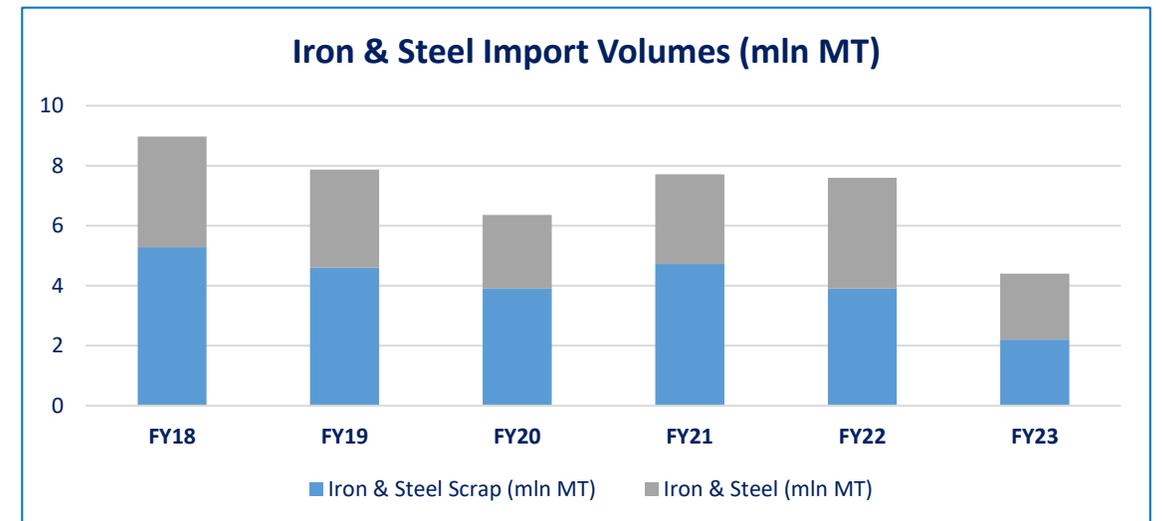
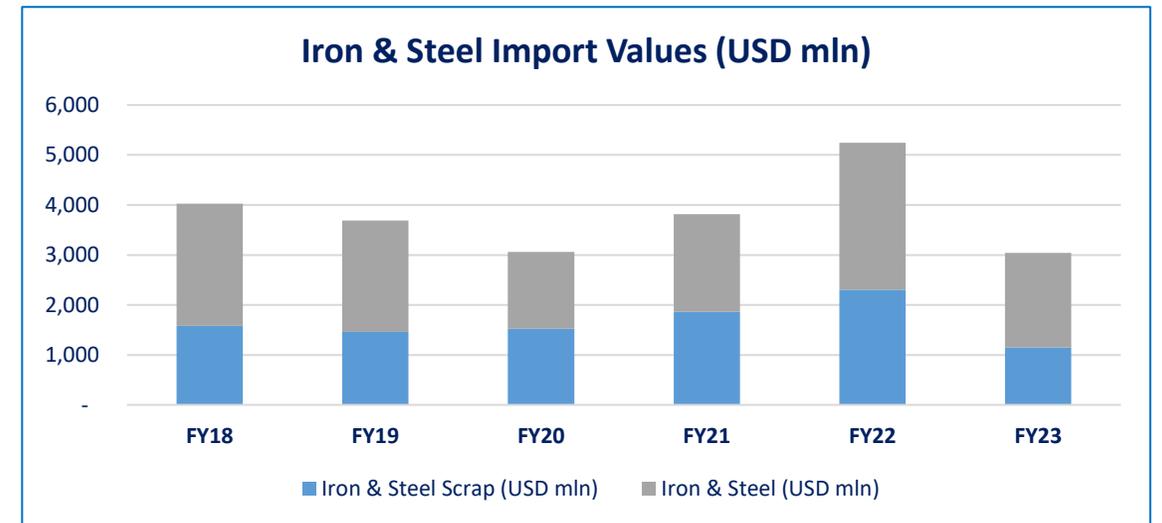
Supply Side | Capacity Utilization

Capacity utilization across all segments fell during FY22. In the case of Long Products, this majorly came about due to increase in actual capacity levels, whereas for flat products, where no new capacities were added, production levels declined by ~13.8% YoY. The Tubes & Pipes segments recorded a decrease in both actual capacity and lower production.

| Actual Capacity (MTPA) vs. Capacity Utilization | | | | | |
|---|------------|------------|------------|------------|------------|
| Long Products | | | | | |
| | FY18 | FY19 | FY20 | FY21 | FY22 |
| Actual Capacity | 1,438 | 2,691 | 2,694 | 2,504 | 3,120 |
| Production | 834 | 1,354 | 1,330 | 1,639 | 1,654 |
| Capacity Utilization (%) | 58% | 50% | 49% | 65% | 53% |
| Flat Products | | | | | |
| Actual Capacity | 1,682 | 1,760 | 2,192 | 2,192 | 2,192 |
| Production | 790 | 1,115 | 1,052 | 1,326 | 1,143 |
| Capacity Utilization (%) | 47% | 63% | 48% | 61% | 52% |
| Tubes & Pipes | | | | | |
| Actual Capacity | 777 | 852 | 852 | 854 | 832 |
| Production | 436 | 320 | 223 | 331 | 247 |
| Capacity Utilization (%) | 56% | 38% | 26% | 39% | 30% |

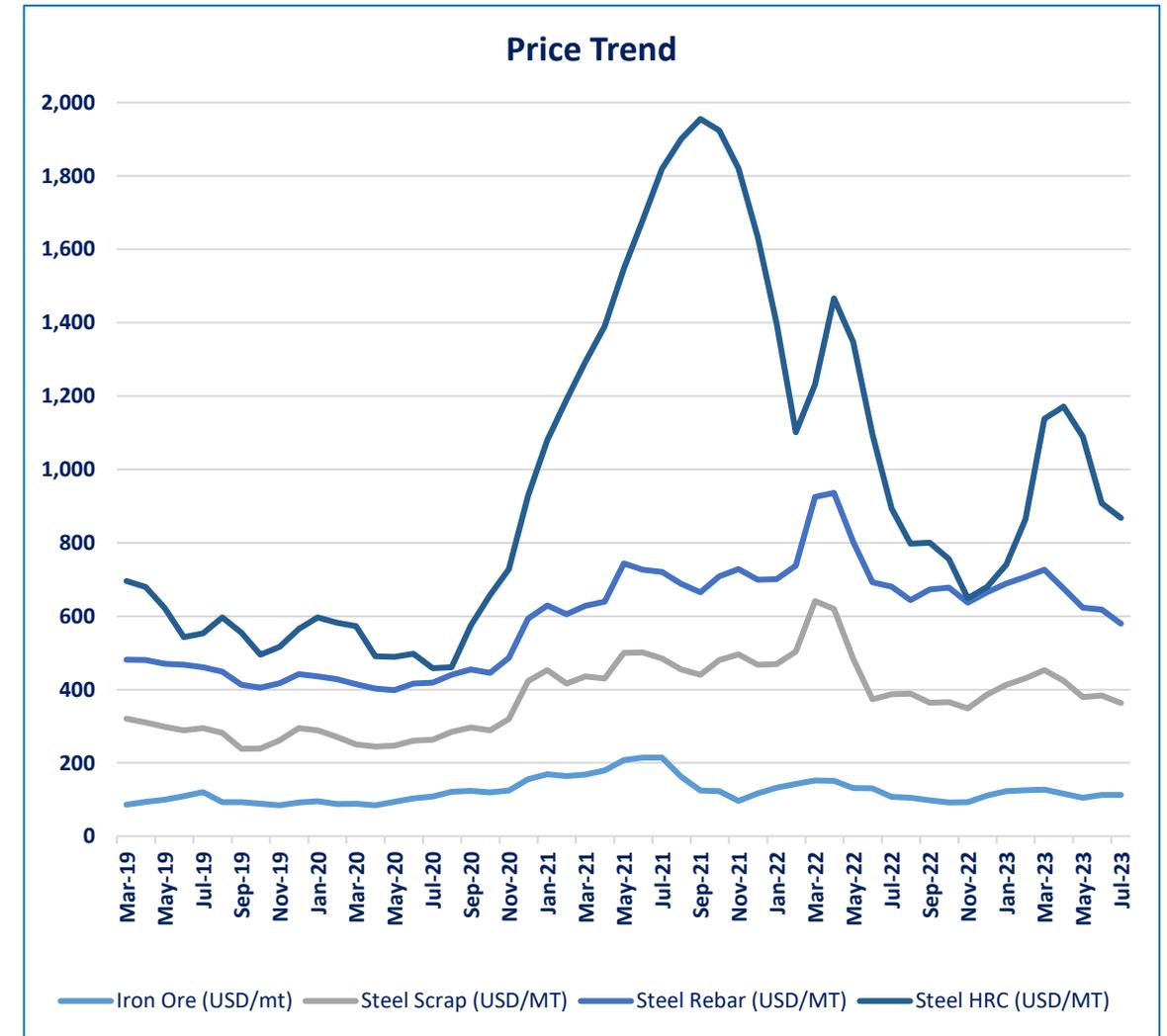
Supply Side | Raw Material

- Pakistan is an importer of major raw material for steel production i.e., steel scrap, although a small share of iron ore is locally procured as well. Most of the raw materials used in steel production are imported from China.
- During FY23, total iron and steel scrap imported was recorded at USD~3.0bln (USD~5.2bln in FY22), making up ~5.5% of the country's total import bill. Of the total imports, iron and steel scrap comprised ~37.8% of the total value. During the same period, total quantity of iron and steel scrap as well as iron and steel products imported was recorded at ~4.4mln MT, down ~18% YoY (FY22: ~7.6mln MT).
- High dependence on imported raw material exposes the sector to changes in international raw material prices and exchange rate fluctuations. Moreover, SBP-imposed curbs on imports was not without repercussions for the sector, since it resulted directly in raw material shortages and thereby, lower production levels especially for the long steel segment.

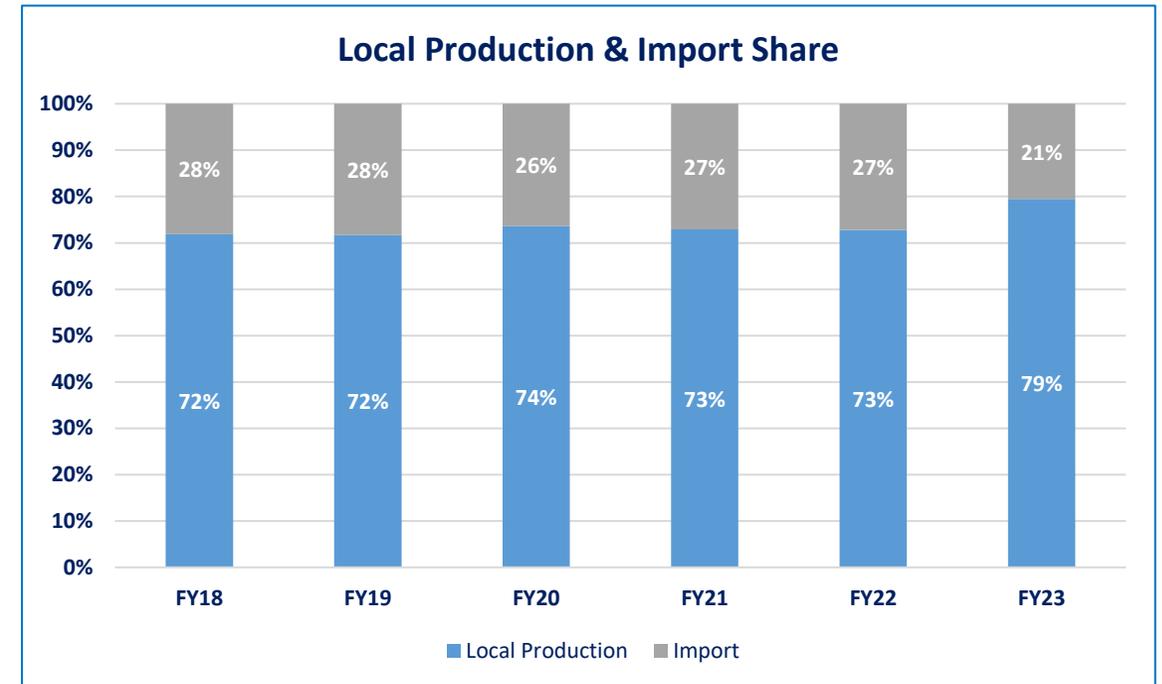
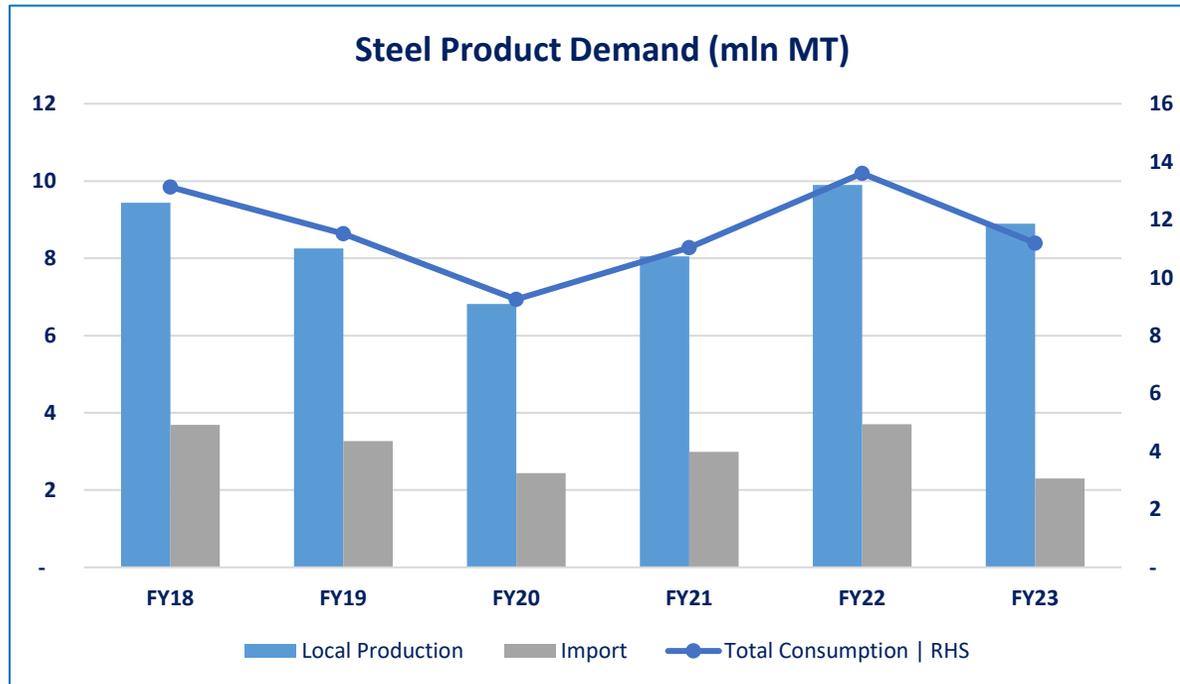


Supply Side | Prices

- Manufacturers of long products are major importer of scrap steel in the global market, whereas flat steel producing companies import hot rolled coil (HRC) as the major raw material for their final product are cold rolled coils (CRC).
- Global prices of scrap and finished steel registered significant increase starting from Sep'20 amid increased construction activity and tightened supplies. HRC steel prices peaked out by 3QCY21, posting an increase of ~2.8x YoY and recording at USD~1,956/MT.
- Following geopolitical tensions in Eastern Europe (Feb'22), steel scrap and rebar (long product) prices, along with those of HRC, registered an increase of ~5.6%, ~46.1% and ~47.0% YoY during Mar-Apr'22.
- Iron ore prices dipped to below USD100/MT by Nov'21 owing to both reduced steel production targets and lower demand on the back of reduced real estate activity after the imposition of debt financing limits on the sector.
- However, iron ore prices rebounded at USD~152/MT by End-1QCY22 and have hovered at USD~112.8/MT through 2QCY22-1HCY23, recording at USD~112.6/MT during Jun'23.
- Going forward, steel prices are forecast to remain sluggish, owing to global recessionary fears, lower consumption and high inflation levels, coupled with continuing hawkish monetary stance across most economies.



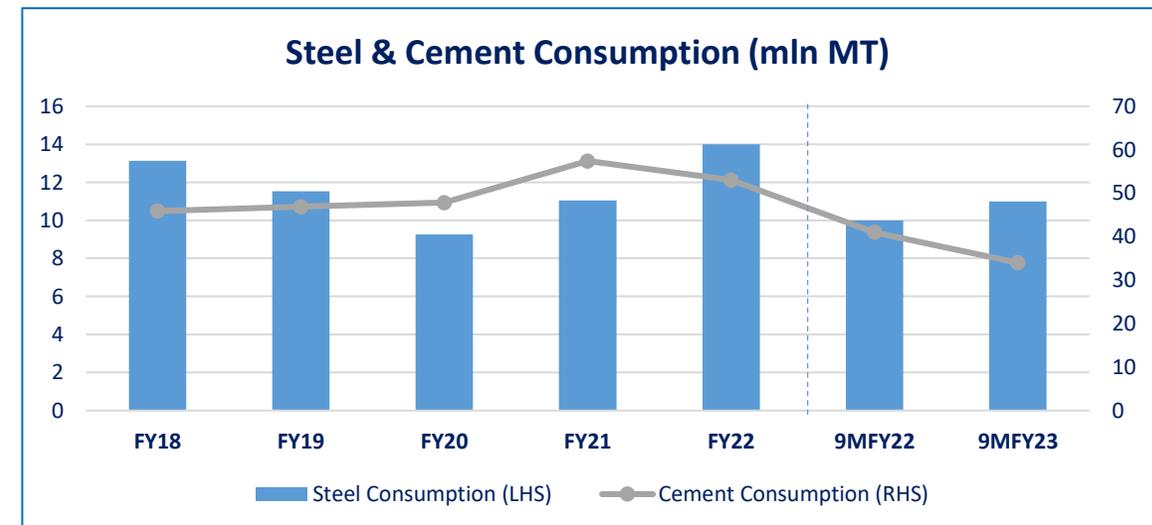
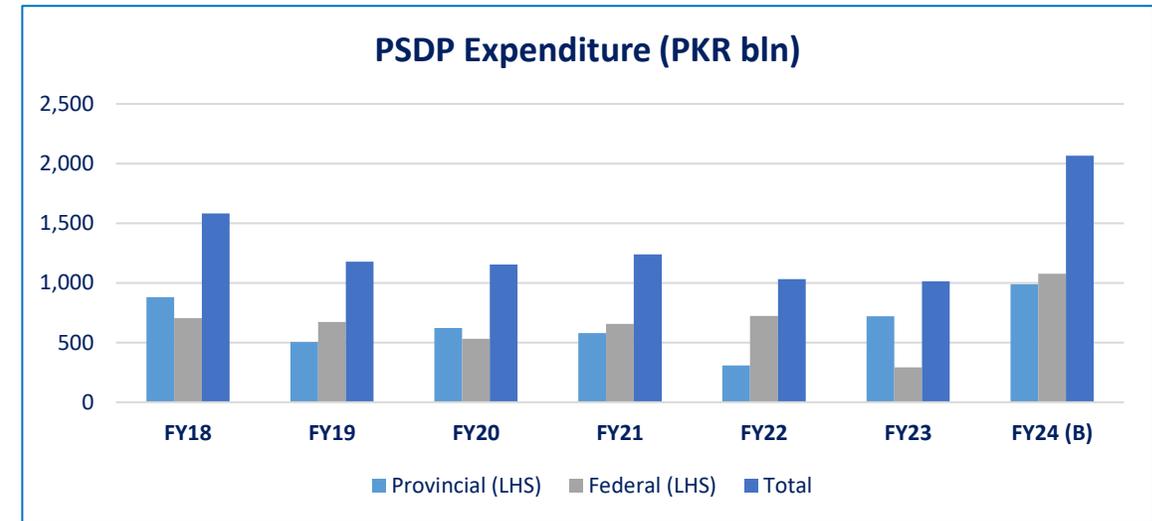
Demand | Overview



- Pakistan's total Steel Products' consumption was recorded at ~11.2mln MT in FY23 (FY22:~13.6mln MT) down ~17.6% YoY basis. The decrease was due to a fall in both billets/ingots and HRC/CRC Sheets/Strips local production. In FY23, billet/ingot production decreased by ~16% YoY.
- During the same period (FY23), HRC/CRC Sheets/Strips production grew by ~3% YoY (FY22: ~6%). However, the increase in production was not in line with consumption levels (reflected in lower sales volumes for segment players, covered later on). Lower sales came about due to a slowdown in the economy, particularly in the construction and automobile sectors.

Demand | Construction

- Majority of the construction revenue is from government contracts ranging from building of Infrastructure to Highways, Offices and Airports. The budgeted size of PSDP allocation for FY24(B) is PKR~2,068bIn, up ~8% YoY from FY21 budget.
- PSDP expenditure and construction activities are highly correlated and provide impetus for job creation, support economic activities and alleviate poverty. During FY23, value added in the construction industry, mainly driven by construction-related expenditures by industries, slowed down by ~5.5% mainly due to conservative reporting of construction-related expenditure by private as well as public sector enterprises.
- In FY23 a total of PKR~1,014bIn PSDP expenditure was budgeted (Federal: PKR~293bIn; Provincial: PKR~721bIn). In FY24, PSDP expenditure has been budgeted at PKR~2,068bIn, ~103.9% higher than the previous year; as FY23 in its beginning has inherited both external pressures and internal vulnerabilities in combination with contractionary macro-economic policies coming into effect.
- Public development spending can reasonably be expected to remain lagged in the near term; with construction demand mainly generating from existing projects.



*9MFY23.
(B) Budgeted

Demand Factors

Major Public Sector Projects

- Dams: Initial/preparatory works for the construction of Diamer Bhasha Dam and Mohmand Dam is in progress.
- The construction work on 298-Km Zhob to Kuchlak road project is in progress.
- Other projects are under implementation and expected to be completed as per timelines such as:
 1. Khuzdar-Basima (110 Km)
 2. Nokundi-Mashkhel (103 Km)
 3. Hoshab-Awaran M8 (146 Km)
- Following new projects have been proposed to be considered under the CPEC framework of transport infrastructure:
 1. Mirpur-Muzaffarabad-Mansehra (MMM)
 2. M-9 Motorway
 3. Babusar Tunnel
- Construction of Breakwater and Capital Dredging of Additional Berth projects are at the initial stage under the development of Gwadar city.
- **Suki Kinari** project on river **Kunhar in Mansehra** is being developed under CPEC with a debt-to-equity ratio of 75:25.
- Expansion of Pipeline Network: PAPCO is expanding its pipeline network from Machhike (Sheikhupura) to TaruJabba (Peshawar). The pipeline is expected to be dual purposed (MOGAS and HSD) and the contract for construction has already been initiated. It is expected to be completed in FY23. The ~427-Km long pipeline is divided into three section, aimed at ensuring a smooth supply chain of petroleum products from Karachi to Peshawar.
 - Machhike-Chak Pirana (~135 Km)
 - Chak Pirana-Rawat (~117 Km)
 - Rawat-TaruJabba (~175 Km)
- Pakistan Stream Gas Pipeline (formerly “North-South Gas Pipeline”): The ~1,100-Km pipeline project is expected to commence operations in CY25 and will be owned by Pakistan Stream Gas Pipeline.

Business Risk | Overview

Operating Risk

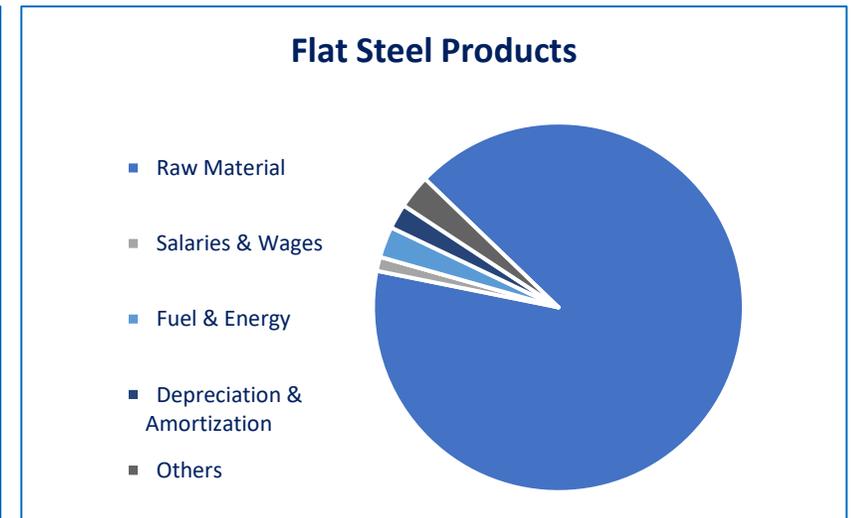
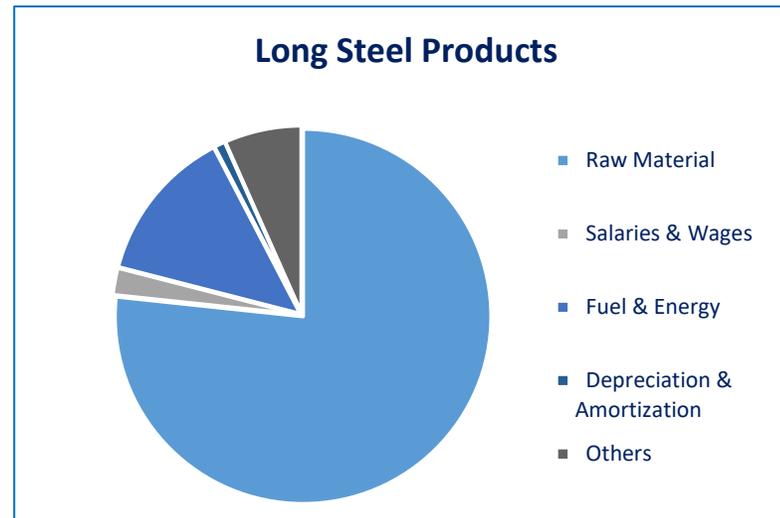
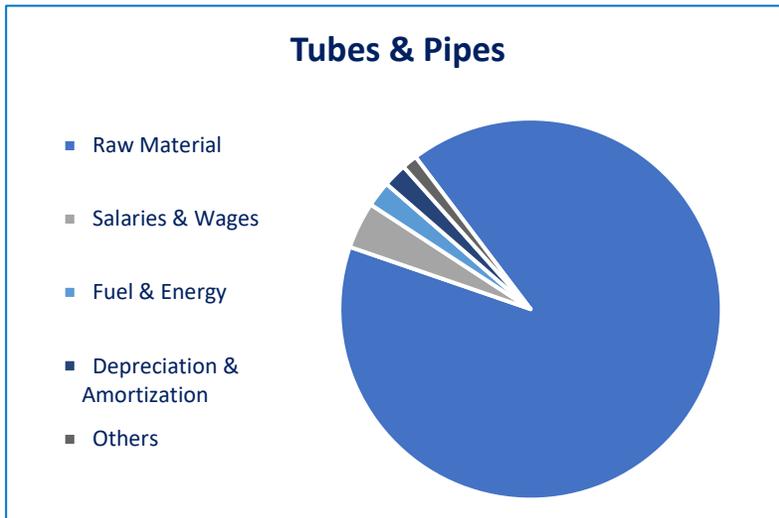
- **Dumped Imports:** Despite huge potential for growth, the steel sector's growth momentum has historically remained subdued. One of the major risks that the Sector has faced over time is Import Substitution. Pakistan imports finished steel products from countries including China, Ukraine, Canada and Russia. Many of the steel products were historically being imported at dumped prices. In a response to the Sector Players' and Association's plea, the NTC imposed anti dumping duties (~24%) on import of billets/ingots from China effective from June, 2017 for a period of five years. The NTC also imposed dumping duties of ~14% on imported H/C.R Coils/Sheets from Canada and Russia w.e.f. Sep 20, 2019 for a period of five years.
- **Availability of Cheaper Steel Products:** Another key risk for the development of steel sector is the availability of cheaper products (other than dumped) from other markets such as FATA. In Budget FY23, GOP maintains its stance of not taxing the untaxed steel players in FATA, therefore, they continue to be exempt from FED.
- **Inefficient Energy Utilization:** Steel is an energy-intensive sector. Many of the small sized players rely on obsolete and energy inefficient steel making technology. The quality of steel products from these mills is substandard as well as costly in comparison to big manufacturers.

Sales Risk

- The demand for Steel Sector is linked to a number of other essential sectors of the economy, the foremost being construction, automotive and electronics sectors. During the 9MFY23 period, a slowdown in construction activities and automotive sectors resulted in lower sales across both the long and flat steel products.
- Prospects for the construction and automotive sectors are positive, therefore, demand for long steel products are expected to foster in the near future. However, flat products, which are majorly used in electronics production, may continue to witness a slowdown in the upcoming days, till the electronics segment revives.

Business Risk | Cost Break up

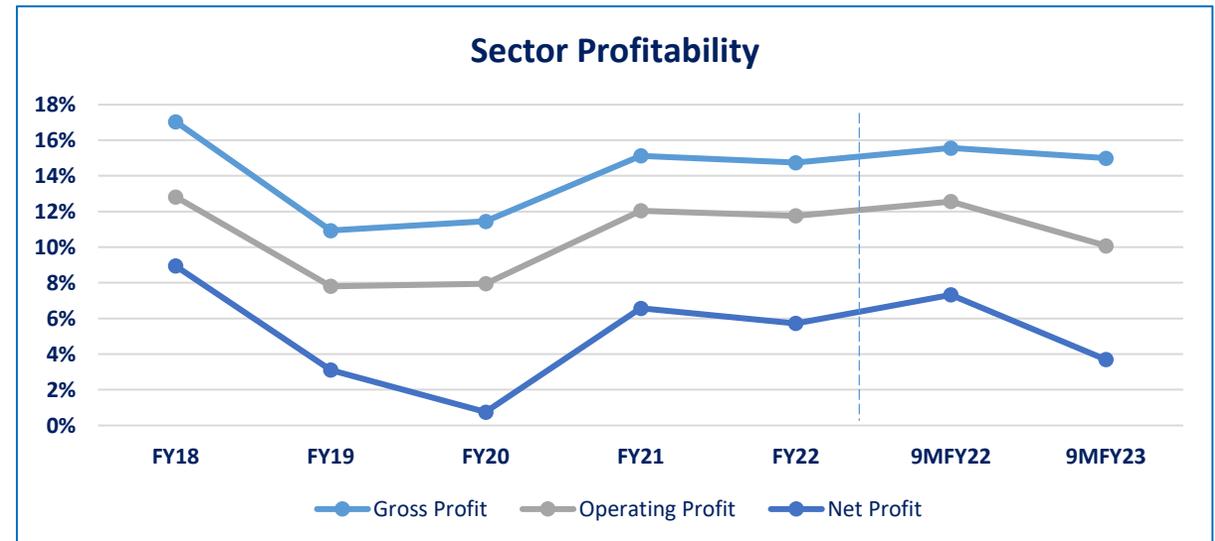
- Major raw material used in steel manufacturing process is steel scrap. Raw Material constitute a significant portion of the companies' manufacturing cost. High reliance on imported raw material to meets sector's demand exposes the sector to changes in international raw material prices and exchange rate fluctuations.
- Fuel & energy cost is the second largest component of the cost as it constitutes ~13.4% of the total cost of the production in case of long steel products during 6MFY23. Other than high prices of electricity, lack of reliable supply, especially electricity, also adversely impacts COGS. In the case of Flat products, energy and fuel costs comprise ~3% of the total cost, whereas for tubes and pipes, it makes up ~2%.
- Companies with captive powerplants remain less exposed to operational disruptions, however, they are exposed to energy commodity price and exchange rate movements.
- Going forward, although scrap prices continue on the lower end, the steep hikes in electricity tariffs will likely impact the cost of goods across all three segments.



Business Risk | Long Products

- Total revenue of the long products segment was recorded at PKR~150bln during FY22 (FY21: PKR~67bln) with a YoY increase of ~44.2%.
- The segment posted a robust recovery in FY22, as long product production* increased by ~35% YoY and prices increased ~34.5% YoY. Average local prices for steel bars clocked in at USD~926/MT during FY22. The segment's average gross and operating margin levels were recorded at ~14.7% and ~11.8%, respectively, during FY22 with cost of goods and operating expenses increasing ~44.8% and ~400% YoY, respectively. On the other hand, average net margin dipped to ~5.7% (FY21: ~6.7%) on the back of rising finance costs which increased by ~59.5% YoY. This was in line with the policy rate going up from ~7% in Jul'21 to ~13.7% in Jun'22.
- Moving into 9MFY23, the segment's performance turned dismal, owing to lower sales and high finance costs. During the period, the revenue dipped by ~9.1% YoY, reflecting lower consumption levels in line with automobile and construction sectors slowing down. Keeping with the same, average operating margin also declined to ~10% (SPLY: ~13%), average net margin decreased to ~3.7% (SPLY: ~7.3%). The latter occurred largely due to sharp interest rate hikes during the period, with average policy rate going up ~500bps.
- Going forward, although the SBP has lifted the restrictions on imports, the segment will likely remain exposed to PKR depreciation and high local interest rates, on account of a slowdown in the economy which has managed to continue in FY24.

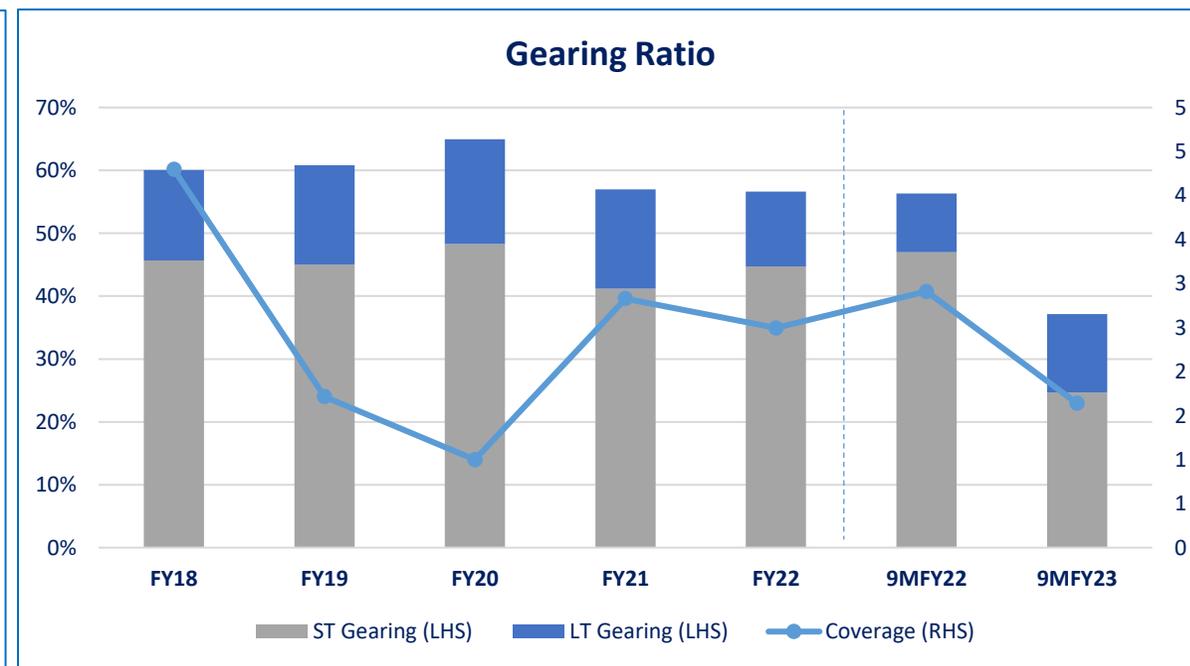
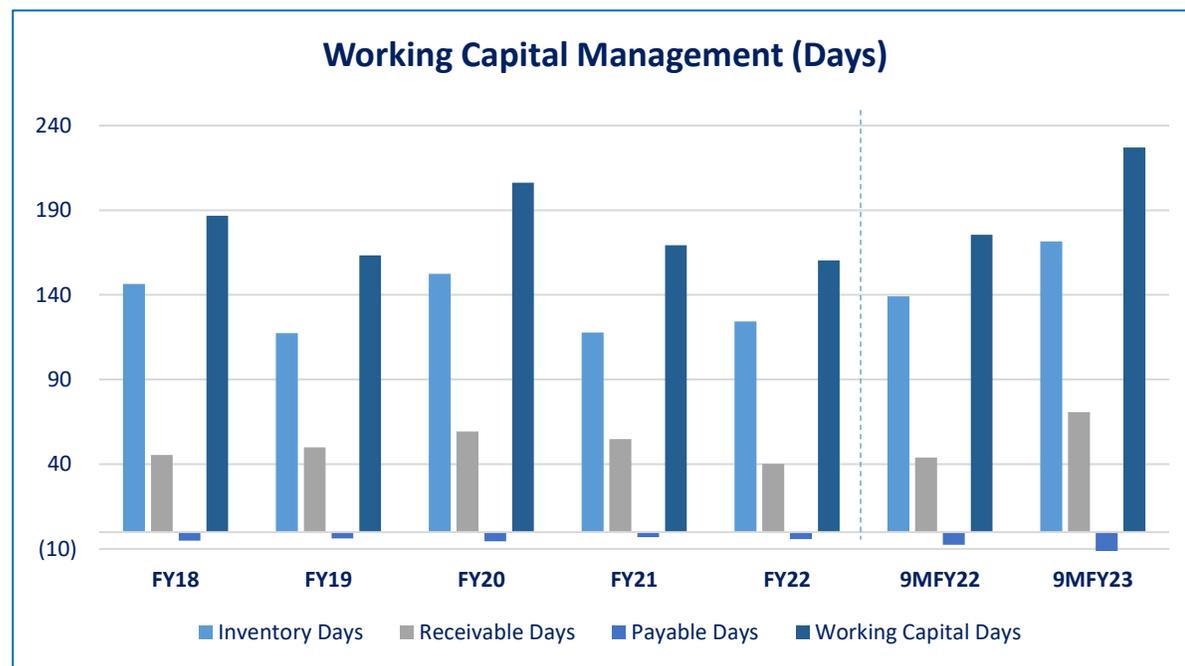
| Particulars | Figures in PKR mln | | | | | | |
|---------------------------------|--------------------|--------------|--------------|---------------|---------------|---------------|---------------|
| | FY18 | FY19 | FY20 | FY21 | FY22 | 9MFY22 | 9MFY23 |
| Net Sales | 48,414 | 69,906 | 67,264 | 104,047 | 149,985 | 108,472 | 98,629 |
| Cost of Sales | 40,169 | 62,262 | 59,563 | 88,312 | 127,875 | 91,595 | 83,844 |
| Gross profit | 8,246 | 7,644 | 7,702 | 15,735 | 22,110 | 16,876 | 14,785 |
| Operating Expense | 1,529 | 2,188 | 2,358 | 890 | 4,477 | 3,258 | 4,848 |
| Operating Profit | 6,206 | 5,456 | 5,344 | 12,527 | 17,633 | 13,618 | 9,935 |
| Finance Cost | 1,445 | 3,179 | 5,345 | 4,428 | 7,065 | 4,681 | 6,055 |
| Profit/(Loss) before Tax | 4,761 | 2,277 | -1 | 8,099 | 10,568 | 8,938 | 4,078 |
| Taxation | 430 | 103 | -508 | 1,265 | 1,977 | 994 | 434 |
| Profit/(Loss) after Tax | 4,331 | 2,174 | 507 | 6,834 | 8,591 | 7,944 | 3,644 |



Note: Numbers are based on accounts of selected listed companies and PACRA clients.
 * Local billet production growth considered equivalent to long product production growth.

Financial Risk | Long Products

- The segment's working capital structure is characterized by high inventory and receivable days. Considering the long lead time required for procurement of raw material, this segment usually maintains high inventory levels. During FY22, average inventory days clocked in at ~124 days (SPLY: ~118 days),
- The segment's working capital cycle was recorded at ~227 days during 9MFY23 (9MFY22: ~174 days) mainly driven by inventory days rising to ~172 days (SPLY: ~139 days). The segment's exposure to raw material volatility in terms of price and exchange rate fluctuations, while with respect to consumption, sales registered ~9.1% decline. Moreover, receivable days also increased to ~71 days over the 9MFY23 period (SPLY: ~44 days).

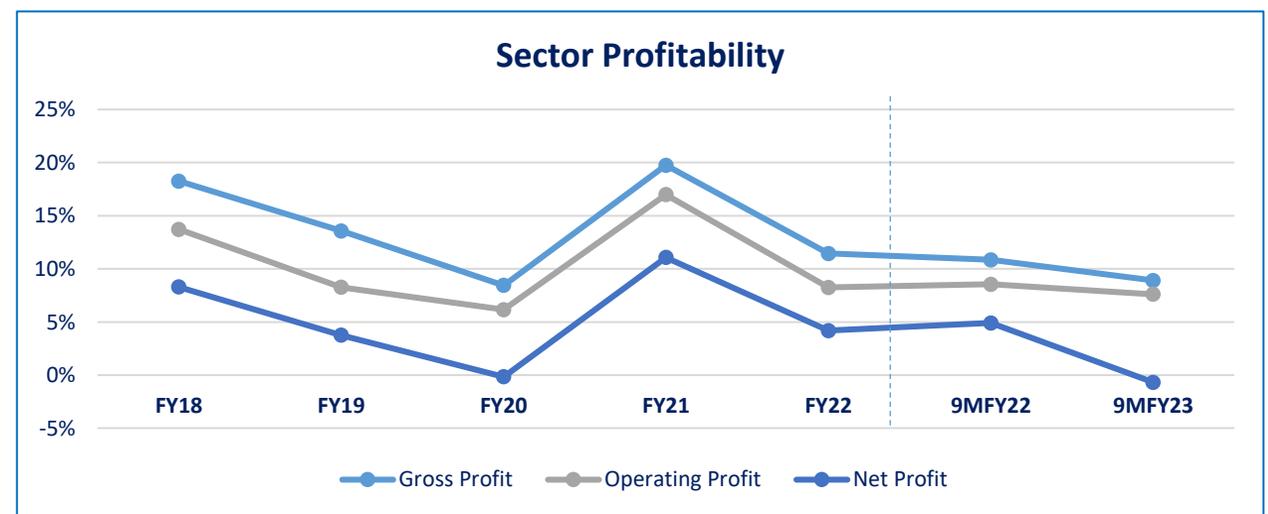


Business Risk | Flat Products

- In line with the whole steel sector, the demand for flat products also rebounded as the segment's revenue was recorded at PKR~156bln during FY22 (FY21: PKR~125bln), posting ~24.8% growth YoY.
- Although flat product production* did increase by ~6% in FY22, due to improved pricing power of ~34.5%, furthermore, due to a 38% increase in cost of sales which was caused by a significant increase in cost of raw materials segment's average gross profit margin fell to ~11.4% (FY21: ~19.8%) and operating profit margin also fell to ~8.3% (FY21: ~17%); moreover, higher finance cost led to net profit margin falling to ~4.2% (FY21: ~11.1%).
- In 9MFY23 period, average net sales fell by ~30.5% YoY despite flat product production levels increasing by ~3, with average gross and operating margins dipping to ~8.9% (9MFY22: ~11%) and ~7.6% (9MFY22: ~9% YoY), respectively. On the other hand, higher finance costs also led to lower Net Margin of ~-0.7% (9MFY22: ~5%).
- This drastic fall in net profit margin was due to low economic activity, high inflation (causing high prices and lower demand) as well as high interest rates, that culminated into lower demand for flat products.
- Going forward, recent contractionary measures taken by the government and SBP may cause subdued demand from the electronics and machinery manufacturing sectors and keep segment growth in check; however reducing input prices (i.e. steel scrap and HRC) may offer some respite to segment margins.

Figures in PKR mln

| Particulars | FY18 | FY19 | FY20 | FY21 | FY22 | 9MFY22 | 9MFY23 |
|---------------------------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|
| Net Sales | 68,062 | 77,714 | 77,861 | 124,913 | 156,299 | 119,674 | 83,229 |
| Cost of Sales | 55,636 | 67,164 | 71,279 | 100,235 | 138,359 | 106,679 | 75,811 |
| Gross profit | 12,426 | 10,550 | 6,582 | 24,678 | 17,940 | 12,995 | 7,418 |
| Operating Expense | 3,091 | 4,129 | 1,783 | 3,459 | 4,998 | 2,764 | 1,079 |
| Operating Profit | 9,335 | 6,421 | 4,799 | 21,219 | 12,897 | 10,231 | 6,339 |
| Finance Cost | 1,617 | 3,154 | 5,700 | 2,336 | 3,621 | 2,490 | 7,578 |
| Profit/(Loss) before Tax | 7,718 | 3,267 | -901 | 18,883 | 9,276 | 7,741 | -1,238 |
| Taxation | 2,069 | 348 | -778 | 5,047 | 2,718 | 1,872 | 1,681 |
| Profit/(Loss) after Tax | 5,649 | 2,919 | -123 | 13,836 | 6,558 | 5,869 | -568 |

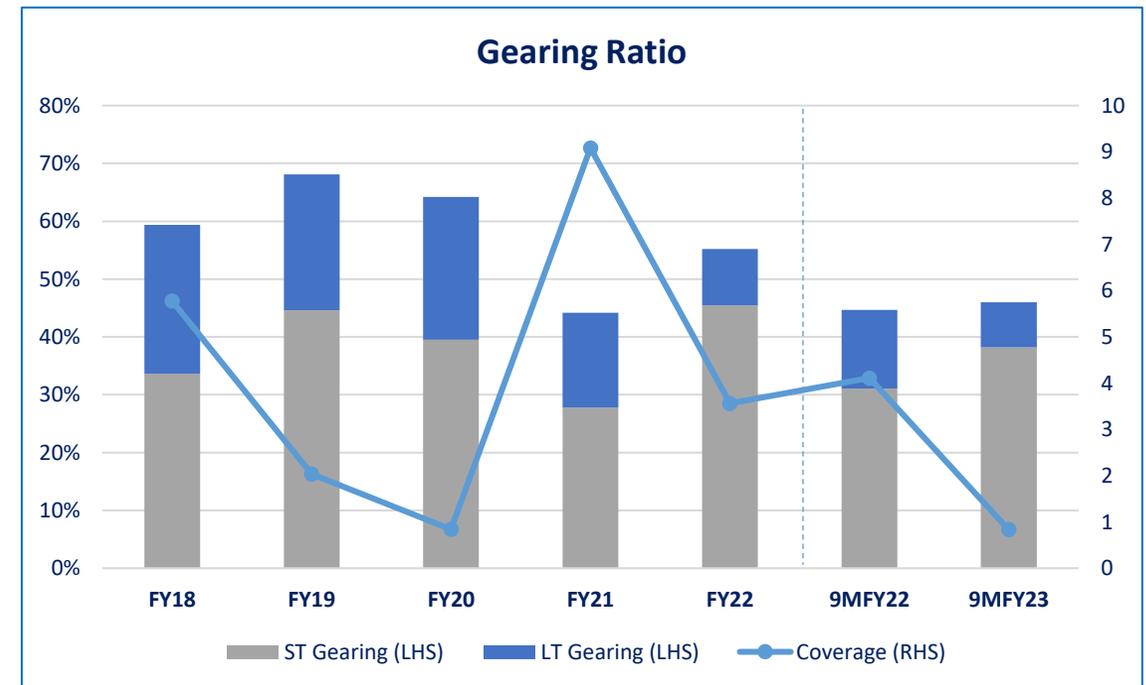
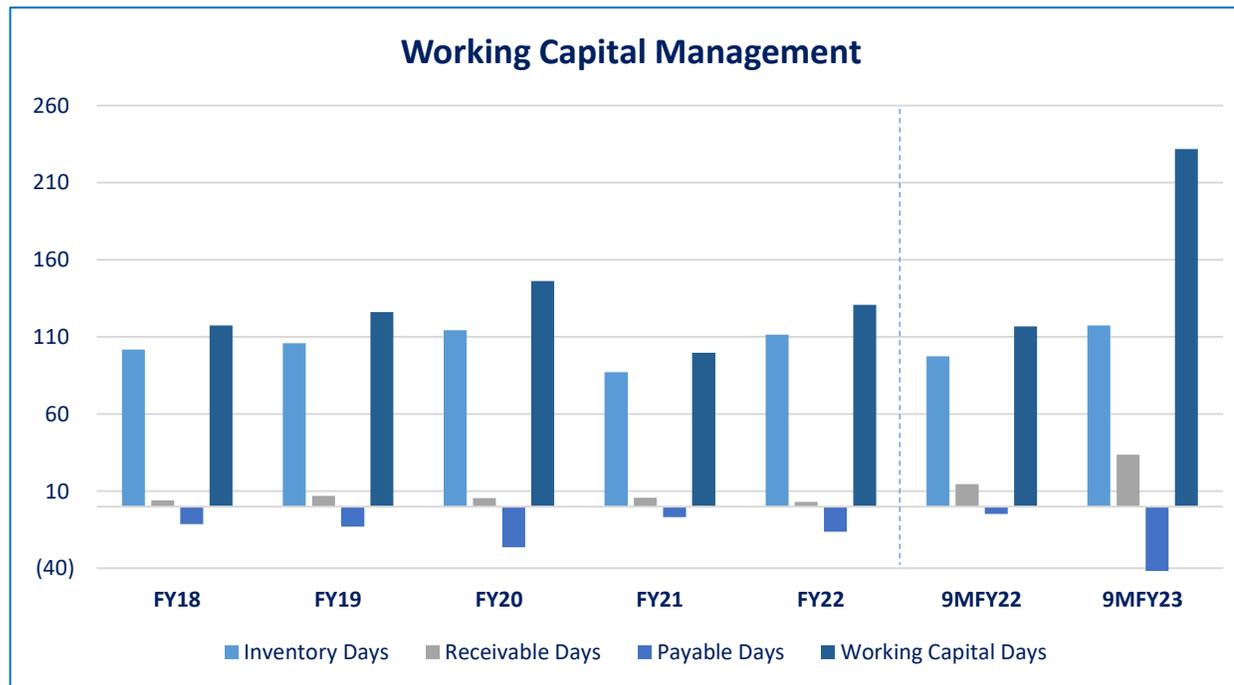


Note: Numbers are based on accounts of selected listed companies and PACRA clients.

* Local H/C.R Sheets/Strips/ Coils/Plates production growth considered equivalent to flat product consumption growth.

Financial Risk | Flat Products

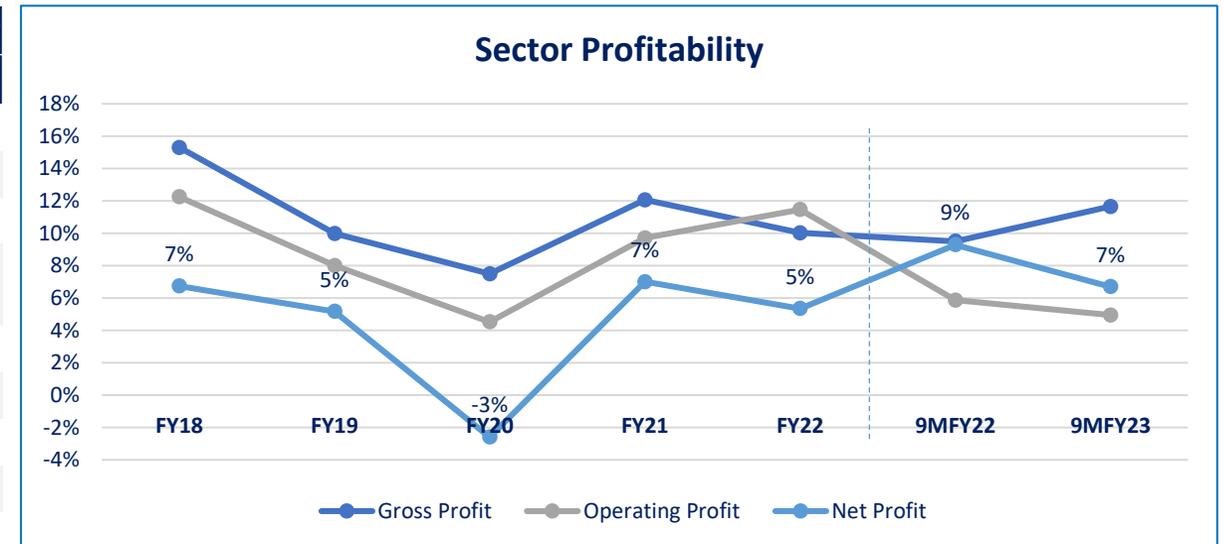
- The segment's working capital structure has been characterized by high inventory days and moderate payable days during FY18-9MFY23.
- Working capital cycle increased to ~232 days during 9MFY23 (9MFY22: ~117 days) due to both Increased inventory and payable days to ~117 and ~81 days, respectively (SPLY: ~97 and ~5 days, respectively). Higher payable days also coincide with higher short-term borrowings during the same period and higher interest rates, which rendered the segment players inefficient with respect to paying back their creditors.



Business Risk | Tubes & Pipes

- The steel tubes and pipes demand is strongly linked to the government spending as most of the segment's demand emanates from large engineering projects (covered previously).
- During FY22, the segment registered ~23.3% increase in revenue, however, due to higher cost of goods sold, average gross margins declined slightly to ~10% (SPLY: ~12%). On the other hand, due to higher finance costs, average net margins also dipped to ~5% (SPLY: ~7%).
- Steel tubes & pipes segment registered ~27.7% decline in revenue during the 9MFY23 period. However, the segment's margins largely remained rangebound, with average gross margins increasing to ~12% YoY (SPLY: ~9%) and net margin falling to ~7% YoY (SPLY: ~9%). The dip in finance cost came largely on the back of higher finance costs.
- Moving forward in the near term, subdued demand for new construction projects may keep sector growth in check, while reducing raw material prices would likely alleviate pressure off of sector margins.

| Particulars | Figures in PKR mln | | | | | | |
|----------------------------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | FY18 | FY19 | FY20 | FY21 | FY22 | 9MFY22 | 9MFY23 |
| Net Sales | 35,881 | 32,441 | 25,651 | 39,386 | 48,585 | 35,369 | 25,561 |
| Cost of Sales | 29,995 | 28,842 | 23,310 | 34,170 | 43,178 | 32,009 | 22,584 |
| Gross profit | 5,886 | 3,599 | 2,341 | 5,216 | 5,406 | 3,360 | 2,977 |
| Operating Expense & Other Income | 1,097 | (152) | 762 | 926 | (692) | (1,286) | (1,715) |
| Operating Profit | 4,391 | 3,391 | 1,159 | 3,821 | 5,566 | 1,999 | 1,264 |
| Finance Cost | 1,158 | 1,290 | 1,627 | 1,005 | 1,477 | 1,014 | 1,570 |
| Profit/(Loss) before Tax | 3,234 | 2,101 | (468) | 2,816 | 4,081 | 3,975 | 1,750 |
| Taxation | 817 | 424 | 199 | 59 | 1,489 | 664 | 651 |
| Profit/(Loss) after Tax | 2,416 | 1,677 | (667) | 2,757 | 2,592 | 3,283 | 1,711 |

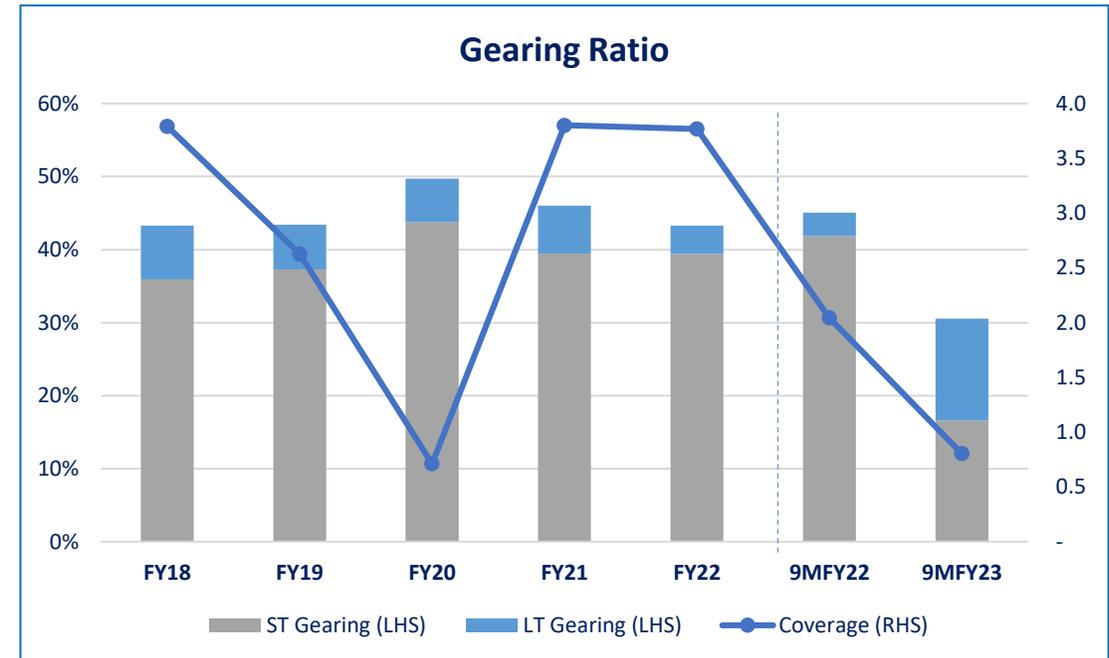
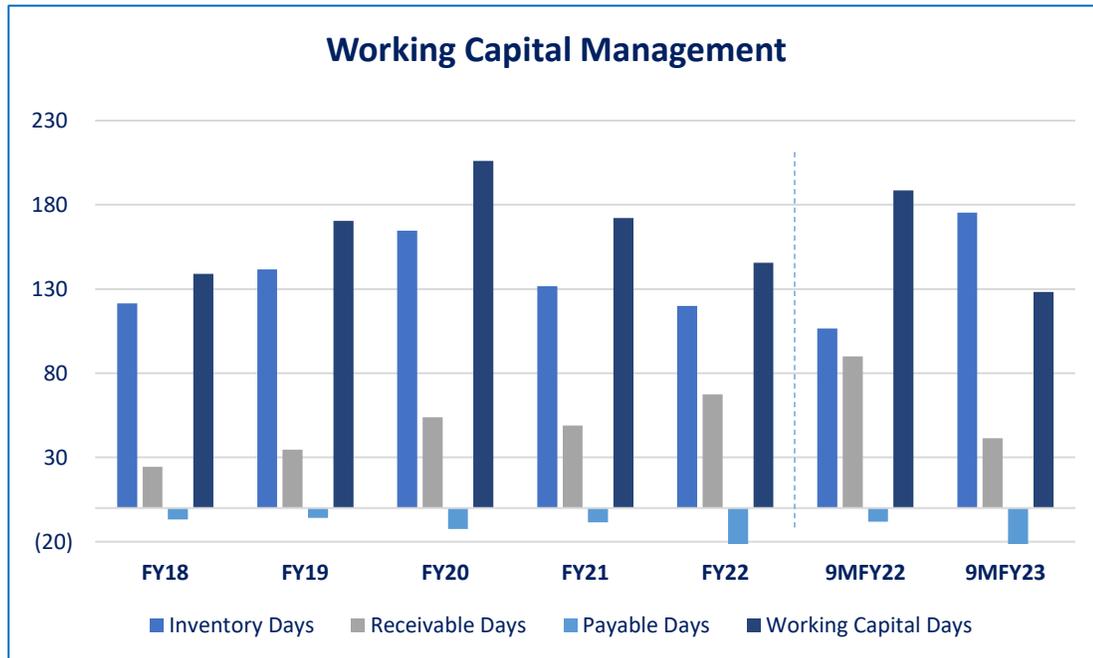


Note: Numbers are based on accounts of of selected listed companies and PACRA clients.

Source: APCMA, PBS, Companies Financial, PACRA Internal Database 28

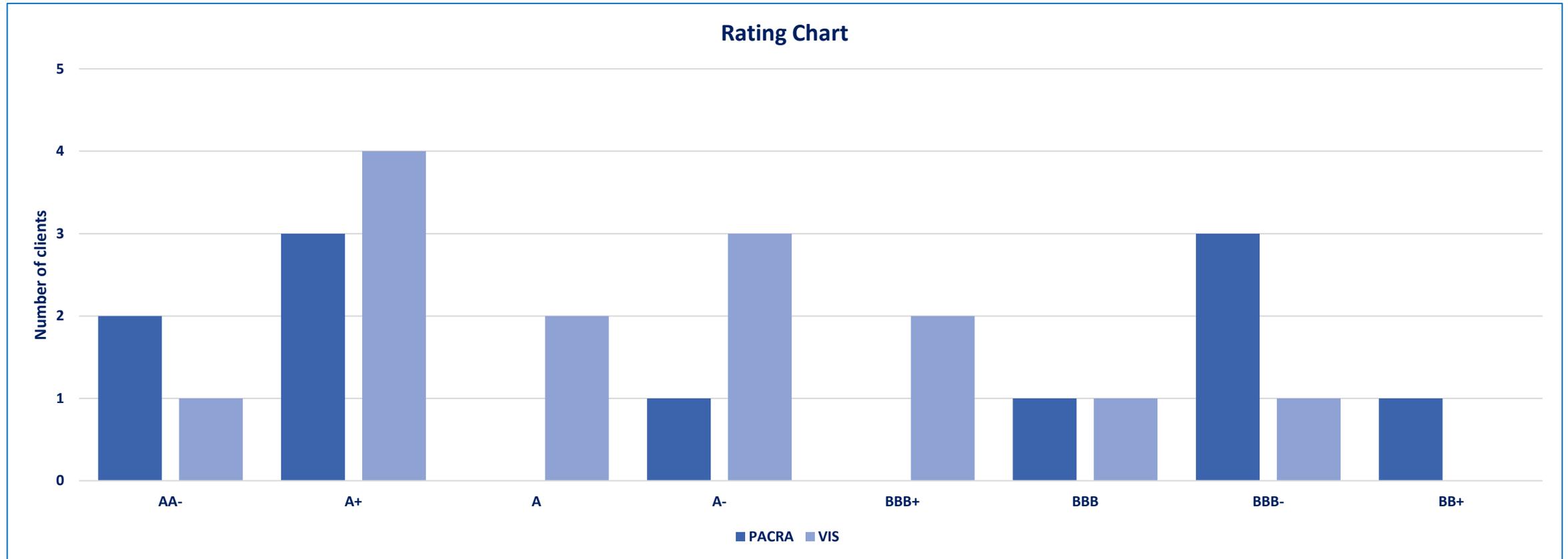
Financial Risk | Tubes & Pipes

- The segment's working capital structure is characterized by high inventory days and receivable days.
- The segment's working capital cycle has gone down by ~61 days in 9MFY23 to ~128 days (9MFY22: ~189 days) mainly due to an increase in payable days from ~11 days in 9MFY22 to ~88 days in 9MFY23. The working capital needs are fulfilled through short-term financing from banks.



Rating Chart

- PACRA rates 11 clients in the steel sector. Rating bandwidth of the sector is BB+ to AA-.



STEEL

SWOT



Duties & Taxes

| PCT Code | Description | Custom Duty | | Additional Custom Duty | | Regulatory Duty | | Sales Tax | | Income Tax | | |
|-----------|----------------------|-------------------------|------|------------------------|------|-----------------|------|-----------|------|------------|------|------|
| | | Raw Material for Cement | FY23 | FY24 | FY23 | FY24 | FY23 | FY24 | FY23 | FY24 | FY23 | FY24 |
| 7204.3000 | Scrap | | 3% | 0% | 2% | 2% | 5% | 5% | 17% | 18% | 11% | 12% |
| 7206.1000 | Ingots | | 11% | 3% | 2% | 2% | 0% | 0% | 17% | 18% | 11% | 12% |
| 7207.1110 | Billets | | 20% | 11% | 2% | 2% | 15% | 15% | 17% | 18% | 11% | 12% |
| 7209.1510 | Flat Rolled Products | | 20% | 20% | 2% | 6% | 5% | 5% | 17% | 18% | 11% | 12% |
| 7213.1010 | Bars & Rods | | 0% | 20% | 2% | 6% | 20% | 30% | 17% | 18% | 11% | 12% |

Outlook: Stable

- Steel is one of the most important sectors of the Infrastructure cluster, and therefore, holds a high significance in the overall economy as it has linkages with numerous important sectors of the economy. Steel demand is driven by sectors such as construction, auto, appliances, agriculture, etc. Hence the demand for long and flat steel is a major function of economic growth and LSM. However, due to the slowdown in economy during FY23, LSM dipped by ~10.3% YoY, with the Iron and Steel sector slowing down by ~5.1%.
- The organized segment faces stiff competition from Imports as well as undocumented market which hampers its productivity. Moreover, where the sector maintained robust performance across all three segments (Long Products, Flat Products and Tubes & Pipes segment) during FY22, the performance waned in 9MFY23 owing to raw material shortages and high interest rates, both of which contributed to average gross and net margins registering steep declines for these segments.
- With respect to the long steel segment, despite the restrictions on imports and raw material shortages, the segment was able to maintain a positive bottom line, although it did exhibit a downward movement. Segment's average operating margin declined to ~10% (SPLY: ~13%), while average net margin decreased to ~3.7% (SPLY: ~7.3%). The latter occurred largely due to sharp interest rate hikes during the period, with average policy rate going up ~500bps.
- For the flat steel segment, additional challenges include from dumping of steel products from FATA and Pakistan Administered Tribal Area (PATA) region because of GST exemptions. While the overall production of flat products increased ~3.6% YoY during FY23, the segment registered losses, with average net margins dipping to ~ -0.7% during 9MFY23 period, owing to lowers ales and higher finance costs. For the Tubes & Pipes segment, performance during 9MFY23 was muted, with profit margins staying rangebound. Despite revenue dipping by ~27.85 during the 9MFY23 period, average net margins clocked in at ~7% (SPLY: ~9%).
- Going forward, with further rate hikes expected and electricity tariffs continuing on the higher end, there is reason to believe that the sector will continue to grapple with respect to maintaining its profitability. However, with the import restrictions lifted and scrap prices remaining low compared to the FY22 period, raw material availability is expected to return to normal levels. Moreover, with the GoP's GDP growth target of ~3.5% during FY24, industrial activity is likely to pick up pace, which will improve business prospects for the steel sector as well.

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- Bloomberg

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