Rating Methodology - Steel Industry

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Industry Overview

The steel industry, part of core manufacturing sector, plays an important role in the overall development of economy, particularly the infrastructure and construction sector. India is second-largest producer of steel in world after China. The major demand drivers for the steel industry are sectors such as infrastructure, construction, automobiles, consumer durables and railways. India is among the fastest growing major steel consuming countries and it has surpassed USA in steel consumption during 2018 to become the second-largest consumer of steel in the world after China. Steel is a globally traded commodity due to standardisation and ease of transportation of the products. As a result, domestic prices of steel products generally move in tandem with international prices adjusted for applicable duties and taxes.

Steel is manufactured by de-oxidizing and de-carbonizing iron ore at very high temperatures. On the basis of level of backward integration, companies engaged in steel manufacturing can be broadly categorised into primary steel producers and secondary steel producers. Steel producers who begin production of steel from iron ore and coke/coal are classified as primary steel producers. Secondary steel producers include entities engaged in the production of steel from scrap, and processing units engaged in the production of finished steel products from intermediate steel products (slabs, blooms, billets, etc). Steel products can be classified into long products and flat products. Long products like bars, wires and wire rods are primarily used by the construction industry. A variant of long products called structural steel products, e.g., angles and channels, are used for the infrastructure sector. Flat products, on the other hand, are mainly used in automobile, pipes, industrial processes (Boilers), ship building and consumer durables industries. Examples of flat products are Hot Rolled Coils (HRC), Cold Rolled Coils (CRC), Plates, etc.

Rating Methodology

CARE Ratings has a standard methodology for the rating of companies belonging to the manufacturing sector. As per this methodology, CARE's rating process begins with the evaluation of the economy/industry in which the company operates, followed by the assessment of the business risk factors specific to the company. This is followed by an assessment of the financial and project-related risk factors as well as the quality of the management. This methodology is followed while analysing all the industries that come under the purview of the manufacturing sector. However, considering the size and diversity of the sector, CARE Ratings has developed

methodologies specific to various industries within the sector. These methodologies attempt to point out factors, over and above those mentioned in the broad methodology, which will be assessed while carrying out rating exercises of the companies belonging to the particular industry. The following is a list of such sector-specific factors, along with their analytical implications considered by CARE Ratings while arriving at the rating of the players that operate in the steel industry:

A. Management Risk

CARE Ratings critically analyses the experience, track record and resourcefulness of the promoters and management of steel companies. Apart from the period of the experience, the factors such as project execution capabilities, track record in supporting the companies in down cycles and appetite for debt-funded expansions and acquisitions are analysed. Typically, the companies with history of deleveraging in industry up cycles, the promoter's financial support in down cycles and low debt appetite are seen favourably. In some cases, the promoter groups might have diversified into other sectors (Energy, Power, Shipping, Cement, ITES etc.), and this is analysed to see if this contributes positively or negatively to the financial strength of the promoter group.

B. Business and Operational Risks

1. <u>Cyclicality</u>

Steel is a cyclical industry, strongly correlated to economic cycles since its key users, viz., construction, infrastructure, automobiles and capital goods are heavily dependent on the state of the economy. Apart from the cyclicality of the end-user industries, heavy capital investment and a gestation period of 3-5 years for a new plant also contribute to the cyclicality in the steel industry. This results in several steel projects coming on stream simultaneously leading to demand-supply mismatch. Besides local factors, the global demand supply situation is major factor impacting the local steel prices. The producers of steel products are essentially price-takers in the market, which directly expose their cash flows and profitability to volatility in the steel prices.

2. <u>Size of operations</u>

Size of the company is a significant rating factor for a steel company as the industry is fragmented and highly capital intensive both from the perspective of fixed asset base and working capital requirements. Companies with a large capital base are considered more able to withstand downturns than others due to their stronger negotiation powers, larger reserves and therefore greater financial flexibility. However, while size is an important rating factor, CARE Ratings views

size of the company in conjunction with other factors like capital structure, size of ongoing expansions and the industry cycle during the rating process.

3. Control over supply and cost of raw materials

Backward linkages for raw material supply

Steel is generally manufactured in a continuous process as the shutdown of blast furnaces is both costly and time consuming. Uninterrupted supply of raw materials is, thus, imperative to continuous production processes. CARE considers companies which have control over supply of their raw material such as iron ore, coking coal, thermal coal, power, water, etc., as more capable of being cost efficient. The control over supply could be either in the form of captive operational mines or long-term supply contracts with miners or easy access to large miners.

Control over raw material cost

Raw material constitutes around 70%-75% of cost of sales of steel. Furthermore, the supplies of raw materials like iron ore, coal, etc., is largely concentrated with few government-owned entities, and private players, and the supply side is oligopolistic in nature. Thus, captive mines could contribute significantly to overall profitability of steel production. The ability to control raw material costs is therefore a key determinant of profitability. Although most steel manufacturers are able to pass on the increases in raw material prices to their customers under normal market conditions, generally, the profitability of companies who have control over their raw material costs would be higher. CARE Ratings considers ownership of operational captive iron ore and coal/coking coal mines or presence of linkages for iron ore or coal, as a strength. The adequacy of the reserves to meet the steel manufacturer's requirements and tenure and adequacy of the linkages is also assessed.

Freight

Due to the bulky nature of key raw materials, the freight cost become an important cost head, and the location of the steel plant becomes a key rating factor. Assuming that 1MT of steel requires 1.5MT of iron ore, and 1MT of Coking coal, almost 2.5MT of raw material needs to be transported to steel plant from the mines. The companies whose plants are located close to the sources of raw material are likely to have an advantage in terms of freight cost, inventory holding period and therefore, working capital cycle. Additionally, as some of the raw materials like coking coal or coke need to be imported due to their non-availability in India, manufacturers who are located near to the ports or who have their private jetties have an advantage over others. This also applies to

export-oriented companies like stainless steel manufacturers. CARE Ratings favourably views those companies who are able to minimise their cost of transporting of raw materials.

Power

CARE Ratings views steel manufacturers who have captive power plants as superior to their peers on account of stable supply source & relatively lower cost, especially where the technology used is power-intensive. Steel manufacturers who are able to utilise captive fuel sources, for example, using waste heat gas recovery from its plants for power generation are viewed favourably as their power generation costs are likely to be lower. CARE Ratings considers ability to keep power costs down as a critical parameter of operating efficiency.

Key Ratios

CARE uses the below ratios to analyse the business risk associated with the steel sector players.

- Total cost per tonne of steel manufactured
- Power & fuel cost per tonne of steel manufactured
- PBILDT per tonne of steel sold across the cycles
- Total Debt/Installed capacity

4. Technology and ageing of the plants

The technology used for the manufacturing of steel determines not only the quality of steel produced but also the cost of production. The blast furnace route has been the mainstay of the large steel plants (> 1mtpa), while the smaller plants (<1mtpa), especially in mineral-rich Chhattisgarh prefer the DRI route due to lower capital investments. Some steel plants producing alloy steel for the auto ancillary sector, prefer the Induction furnace route where the higher production costs are compensated by higher value addition during steel making. Certain new technologies (Corex, Midrex, etc) have come over the last 2 decades promising to improve yields with lower power costs, and lower environmental impact, and have found mixed success. The more sophisticated the manufacturing process, the lower will be the cost of production, and therefore, higher the profitability. CARE Ratings views the use of sophisticated and proven technology as a rating strength. Also, the ageing of the plants is critical factor as the companies with older plants may require substantial investments for modernization and up gradation of the machineries.

5. Geographical and product diversification

Geographical diversification

Steel being a global commodity, global competition plays a role in the profitability of steel manufacturers. Steel companies with a diversified market base can take advantage of regional

demand-supply mismatches which will help mitigate their market risk. Geographical diversification also mitigates political and economic risks. Although steel is not a regulated industry, it tends to attract government attention in times of inflation, given its importance to the economy. A global presence helps to hedge against such regulations. CARE Ratings considers geographical diversification as a key credit strength for steel manufacturers. At the same time, given the significant amount of capital investments made by the industry, its linkages to economy & banking sector, governments also assist their domestic steel industry through imposition of duties to thwart unjust competition from cheaper imports. CARE Ratings considers the implications of support provided to both foreign and domestic steel industry by respective governments.

Product diversification

Steel manufacturers who have progressed up the value chain by diversifying to value-added products while continuing to manufacture crude and intermediary products are considered favourably. Not only are such manufacturers able to command better prices on account of value-addition but they are also able to increase profitability due to their self-reliance with regard to the supply of crude and intermediary products. Furthermore, such manufacturers are in a better position to take advantage of differential demand conditions for different products by scaling up manufacturing of any part of their product portfolio according to the demand conditions. A steel manufacturer with end-to-end control over the value chain who has progressed to manufacture of value-added products is considered to be superior to the one who manufactures merely crude steel or intermediary products. The smaller companies with limited product diversification and limited value addition in finished products operate at lower margins.

6. Regulatory Risks

Domestic steel producers also face stiff competition in the form of low-cost imports and such imports put pressure on steel prices and profit margins of industry players. Not only in the domestic markets, but the competition also exists in the export markets to which Indian steel players export steel products. Consequently, any regulatory intervention in the form of export incentives for domestic steel exporters or protection measures such as import duty/safeguard duty/anti-dumping duty partially alleviates pricing pressures for domestic steelmakers. Since most of these duties are product specific, a careful analysis of product portfolio of steel companies becomes important. However, duty structure needs to be seen in conjunction with the prevailing demand-supply situation as the same may not be fully effective in case of unfavourable demand and/or oversupply scenario. Duty structure also plays a key role in assessment of operating performance of specialised

steel entities such as steel pipes and tubes makers since a large chunk of their sales comes from export markets and any trade barriers in export markets can have a material impact on the entity's revenues.

C. Project Risk

Timing of expansion vis-à-vis demand-supply scenario

The demand-supply situation, although important for any cyclical commodity-based industry, assumes more importance for steel due to the capital-intensive nature of the business coupled with the long gestation period for setting up a new plant. In case of a downturn, companies who have project-related debt repayment obligations could find it difficult to service debt as both estimated cash accruals and fund-raising ability would deteriorate. The companies who face a downturn immediately post expansion or during an expansion are likely to be more at risk. CARE Ratings believes that timing and size of the expanded capacity coming on-stream is critical to the success of a steel manufacturer.

Land acquisition and clearances

The Indian steel industry is exposed to the risks of changes in regulations relating to land acquisition, renewal or grant of mining rights and environmental clearances. The risks are more predominant for Greenfield projects, however, brownfield projects or existing operations of steel companies are also subject to these risks in some way or the other. Since most of the greenfield projects are being set up under the assumption of the availability of iron ore and coal as captive sources (for sponge iron production as they use non coking coal which is abundant in India unlike coking coal), entities which proceed with projects without tying up the necessary captive raw materials are more considered riskier.

D. Financial Risk

Large working capital requirements

Typically, integrated players with presence across the value chain tend to have longer working capital cycle due to substantial amount of inventories maintained for each and every raw materials, products and processes. In contrast, the secondary steel producers with limited presence on steel value chain are required to maintain limited inventory and therefore have relatively shorter working cycle.

Access to financial markets

Steel companies require significant amount of capital with long maturities, given the long gestation periods of projects, and sustained period of downcycle. Players with access to various sources of funding – domestic banks, foreign banks, ECAs, debt capital markets, etc, are able to arrange long-term funding at competitive pricing which gives them substantial advantage compared to peers.

Conclusion

The rating outcome is ultimately an assessment of the fundamentals and the probabilities of change in the fundamentals. CARE analyses each of the above factors and their linkages to arrive at the overall assessment of credit quality, by taking into account the industry's cyclicality. While the methodology encompasses comprehensive technical, financial, commercial, economic and management analysis, credit rating is an overall assessment of all aspects of the issuer.

[For previous version please refer 'Rating Methodology – Steel Companies' issued in July 2019]

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