RATING METHODOLOGY - FERROUS METALS

June 2023

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This rating methodology updates and supersedes ICRA's earlier methodology document on this subject, published in June 2021. While this revised version incorporates a few modifications, ICRA's overall approach to rating entities in the sector remains materially similar. Also, a section has been added to provide a broad perspective on how environmental, social and governance (ESG) risks are incorporated by ICRA in its credit assessments.

Overview

Indian ferrous (steel) industry ranks second in the world, after China, with a crude steel production of 124.7 million tonnes in CY2022. India's installed capacity stood at about 156.3 million tonnes as on March 31, 2023. The domestic steel industry is dominated by a handful of primary steel producers, which produce both flat and long products, and a large number of secondary steel producers, which primarily produce long products. Top six steel producers in India had close to 60% share in total crude steel production in FY2023 compared to around 50% share enjoyed in FY2016, which implies increasing consolidation in the industry. India remained a net exporter of steel in FY2023 with export volumes of 6.7 million tonnes against imports of 6.0 million tonnes. Import of commoditised steel grades, which are generally substitutable, are driven by market dynamics associated with its price competitiveness with domestic prices. However, the import of specialised steel grades is more difficult to substitute, given the barriers associated with technological knowhow.

The Indian steel industry can be categorised into primary and secondary steel producers. Primary steel producers are typically large-scale entities which manufacture steel largely through the blast furnace route while using iron ore lumps/pellets/sinter, coke, and fluxes to produce pig iron that is further processed in an oxygen converter to produce steel (flat/ long products). Secondary steel producers on the other hand manufacture steel through the electric arc furnace (EAF) or induction furnace (IF) routes while using a mix of sponge iron, scrap, and pig iron in a power intensive process. Many of the secondary players are backward integrated into the manufacturing of sponge iron which is produced in a kiln using iron ore lumps/pellets and thermal coal.

This document outlines some of the key factors that are evaluated by ICRA for assessing the credit quality of a ferrous metal entity and covers both primary and secondary steel producers. The list of rating drivers covered in this document is not exhaustive by itself, but provides an overall perspective to the lenders, investors, issuers and other market participants on the rating considerations that are usually the most important.

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Rating Methodology

ICRA's analytical approach for rating the ferrous metal entities can be broadly divided into the following factors:

Industry Risk Assessment

- Demand-supply dynamics and price volatility
- Regulatory risks
- Industry growth prospects

Business Risk Assessment

- Scale of operations and product-market diversity
- Cost competitiveness

Financial Risk Assessment

- Profitability metrics
- Contribution analysis
- Leverage and coverage indicators
- Liquidity and financial flexibility
- Adequacy of future cash flows
- Tenure mismatches, and risks related to interest rates and refinancing
- Foreign currency related risks

Other Elements of Credit Risk Assessment

- Debt servicing track record
- New project risks/ inorganic growth
- Parentage/ Group Support
- Contingent liabilities/off-balance sheet exposures

Management Quality

Assessment of Environmental, Social and Governance (ESG) Risks

Industry Risk Assessment

Demand–supply dynamics and price volatility

Steel is used as a structural material in construction, and also finds applications in various other sectors including packaging (metal cans, drums, containers etc.), automobiles, capital goods and consumer durables. Key primary steel producers in India typically use blast furnace (BF) and basic oxygen furnace (BOF) route to produce steel. Secondary steel producers, which typically comprise of relatively small to medium scale entities, generally make steel by melting scrap, sponge iron and pig iron in electric arc furnace (EAF) or induction furnace (IF) and are a part of a highly fragmented industry characterised by intense competition. Secondary steel producers also include re-rollers, which rely on other secondary steel players and roll out semi-finished steel products (semis, which typically include billets, ingots etc.) into finished steel products, and stand-alone sponge iron and pig iron units, which are not forward integrated.

Like many other internationally traded commodities, steel prices also exhibit a highly cyclical pattern, causing wide fluctuations in the profits and cash accruals of steel players, increasing their business risks. Apart from demand supply dynamics, with everything else remaining same, the currency exchange rate also results in price volatility given the price benchmarking with the landed cost of import. Besides steel prices, demand also tends to witness ups and downs because of the linkages with many consuming sectors including construction and automobiles, which in turn are exposed to demand cyclicality. While the industry is exposed to cyclicality, ICRA's analytical approach is designed to evaluate the credit risk profile of a rated entity across steel cycles, while being focused on the entity's fundamental credit quality.

Regulatory risks

Domestic steel industry also faces significant competition in the form of low-cost imports from countries having large surplus steel capacity. In a weak demand scenario, such imports trigger price cuts by manufacturers, thereby exerting pressure on their margins. Stiff competition exists in the export markets too from these nations. As a result, 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 or some minimum floor price for imports partly alleviates pricing pressures for domestic steelmakers. Since most of these duties are product specific, assessment of product portfolio of steel companies becomes important. Also, imposition of such duties is for a fixed timeframe, which means that higher the tenor of the protection measure, the better it is for the industry. However, duty structure needs to be seen in conjunction with the prevailing demand-supply situation and hence 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 those markets can have a material impact on the entity's revenues.

Apart from duty structure, any unfavourable change in Government policies with respect to mining of iron ore and/or coal can adversely impact the availability and prices of these key raw materials and in turn a steelmaker's profitability, and hence is monitored by ICRA regularly.

Industry growth prospects

As a consuming market, India presents a high growth potential with a low annual per capita finished steel consumption of 76 kg in CY2021, compared to 666.5 kg in China and the world average of 232.8 kg. However, threat of cheaper imports, demand weakness in end-user industries and intense price-based competition cannot be ruled out for entities operating in the ferrous metal industry. Overall, while ICRA favourably considers the presence of any entity in a high growth industry, the virtues of growth are not assessed in isolation. Rather, these are assessed against the backdrop of other aspects including the sustainability of long-term growth and the sources of volatility.

Business Risk Assessment

Scale of operation and diversity

A steel producer is better insulated from demand and price volatility when it has a strong market position, large scale of operations, relatively superior cost competitiveness, and a diversified business mix. Typically, a large and well diversified operation generates more reliable cash flows than a smaller operation with concentrated product lines of more commoditised nature. Companies with a large revenue base exhibit higher resilience to weather the cyclicality inherent in the industry and have better control on costs through greater bargaining power against raw material suppliers and customers. Larger companies also benefit from economies of scale which accrues from size. However, it is to be noted that installed capacity in isolation is not a measure of scale of operations. Ability of an entity to effectively utilise the installed capacity provides a more accurate representation of scale. Also, higher the complexity of the manufacturing process, higher the capital costs and in turn higher the entry barriers for a new player in the steel industry. Hence, steel producers which use BF/BOF/Corex route to manufacture steel have a competitive advantage over players, which use sponge iron and EAF route to produce steel as the former benefits not only from lower conversion costs, but also from being able to produce steel of superior grades.

Business diversification either in terms of product segments, plant locations, diversified customer base or a wide geographic presence are viewed as positive rating factors. Forward integration by steel players into downstream facilities (such as cold rolling mill, galvanizing mill, hot strip mill etc. for flat products and bar and wire rod mill for long products) increases the overall value addition in business and mitigates competitive pressures. Additionally, a steel player present in both long and flat product segments is less exposed to the ups and downs of a particular end-user industry because of its ability to cater to diverse sectors at the same time. Primary steel producers, due to their wide product offering and richer mix of value-added products, typically have a diversified geographical presence and customer base, with low exposure to sales concentration and counter-party credit risks. Such producers also have a higher share of institutional sales compared to secondary steel players.

Market position of the company is one of the important determinants of a steel entity's operating profile with primary steelmakers typically enjoying a wider distribution reach, healthy retail presence and stronger branding of various steel products compared to secondary steel producers. Higher product realisations than the market prices typically indicate brand premium or superior quality product being offered by the company and vice-versa, which can help lift overall earnings.

Cost competitiveness

Given the commodity nature of steel business, cost efficiency in the production of steel becomes a key factor determining the steel producer's fundamental credit quality. Steel being internationally traded, a steel player needs to be internationally cost competitive to remain profitable across cycles. Steel players are largely price takers with their customers having a greater bargaining power, and therefore lower cost of production tends to protect margins. Within the overall costs, raw material cost is the largest cost component and therefore is the single most important driver of profitability of a steel company. Apart from key raw materials such as iron ore and coking coal, ICRA also factors in other important cost considerations including mix of intermediate products (also known as metallics), freight and power costs, which directly impact a steelmaker's cost of production.

1. Iron ore and coking coal

Primary steel producers using the blast furnace (BF) route of steel making are largely dependent on the availability of iron ore and coking coal or coke for the production of crude steel. While iron ore is largely procured from domestic mines, coking coal is primarily imported by India due to domestic shortages and thus remains sensitive to foreign currency fluctuations in addition to price risks. Also, backward integration with captive sources of raw materials leads to significant cost advantages for integrated steel makers over those without any captive raw material sources, providing operating leverage benefits, besides enabling supply-side security. . ICRA therefore focuses on steel producers' arrangements for raw material procurement and extent of backward integration. However, it is important to look at the cost of acquisition of captive raw material sources and fixed costs pertaining to the maintenance of the same since a high cost of production of a raw material during a down cycle may render some of the integration gains ineffective. Hence, ICRA evaluates the integration benefits in the context of the associated cost of raw material production.

2. Power

Secondary steel producers who use a mix of scrap, sponge iron and pig iron in their electric arc furnaces (EAF) or induction furnaces (IF) are not only dependent on the availability and prices of these raw materials, but also on the availability of power, as conversion through the EAF/IF is an energy intensive process. Hence, uninterrupted supply of power and prevailing energy tariffs become an important cost consideration for such steel producers.

Additionally, presence of a captive power plant running on waste heat/blast furnace gas/coke oven gas is viewed favourably for a steel producer.

3. Mix of Intermediate products

Sponge iron, pig iron and scrap are intermediate products (also known as metallics) used for the manufacture of steel via EAF/IF route. Scrap prices, which account for around half the cost of secondary steel producers, generally move in tandem

with finished steel prices and, thus, secondary players using greater proportion of scrap in comparison to sponge iron/pig iron have lower volatility in their margins.

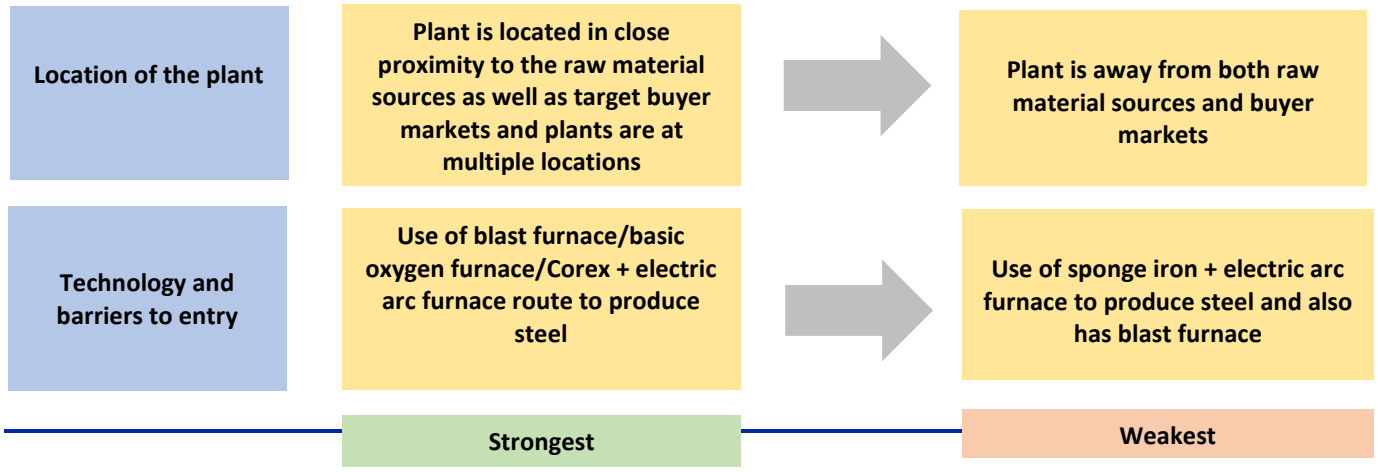
Apart from primary and secondary steel producers, ICRA also rates metallics producers including pig iron and sponge iron manufacturers. While pig iron manufacturers require iron ore and coking coal to produce pig iron via blast furnace route, sponge iron producers are usually dependent on thermal coal, in addition to iron ore. Many sponge iron players however also have waste-heat based captive power generating facilities, which is viewed favourably by ICRA because of the availability of cheap power for running their operations.

4. Transportation

Steel business is highly material intensive in nature, with one metric tonne of finished steel requiring almost four metric tonnes of material to be handled for a primary steel producer. This causes freight costs to have a reasonably high influence on the overall cost structure of a steel company. Given that raw material movement alone forms nearly two-third of the total material to be handled for a primary steel producer, proximity of the steel plant to raw material sources improves the competitive position of a steel producer in the form of lower raw material costs and better inventory management. In case the company is engaged in export of its finished products or is reliant on imported raw material, the lower the distance of its plant from the nearest port, the better placed the company is in terms of freight costs. For a secondary steel producer catering to regional markets, proximity to consumption centres provides it with a competitive advantage as the entity is well-placed to meet the just-in-time and customised requirements of the end-users.

Summary of the Salient Business Risk Factors (Primary Steel Producers)
[Indicative Metrics]

	Strongest	Weakest
Scale and market position	Revenues > Rs. 4,000 crore or steel production > 1 million tonnes	Revenues less than Rs. 100 crore
Extent of backward Integration	Presence of captive mines of iron ore and coal, with at least 50% of raw material requirements being fulfilled from these mines Captive power plant is also present	Sourcing of iron ore/coal from external sources Captive power plant is not present
Product diversification	Presence across the value chain i.e. flats, longs and semis; specialised downstream steel products is also a part of the portfolio	Presence in semis only with no flat/longs
Geographic Diversification	Well diversified with more than 25% of total revenues coming from export markets	No geographical diversification, no exports



Financial Risk Assessment

ICRA analyses long period past financial performance trends as well as estimates future financial performance to assess the financial risk profile of an entity. The financial metrics provide a useful reference to not only evaluate the performance trends of an entity over a given time horizon, but also enable a comparison with peers. The financial risk assessment is not done in isolation but in conjunction with the business and the industry risks that the entity is exposed to. An entity with low exposure to business and industry risks would generally have stable cash flows and thus a higher tolerance to operate with a relatively modest financial risk profile. In contrast, entities that are exposed to high business and industry risks need to maintain a stronger financial risk profile for an adequate cushion to manage cash flow volatility. The various financial metrics assessed by ICRA could be divided into five categories—profitability, leverage, coverage, liquidity and cash flows. This document provides a summary of why ICRA considers these ratios to be important. For a more detailed description, readers may refer to the note titled – "Financial Ratio Analysis of Entities in the Non-Financial Sector", published on ICRA's website. Since the prime objective of the rating exercise is to assess the adequacy of the debt servicing capability of an entity, ICRA draws up projections on the likely financial position of the rated entity based on the expected movements in operating performance, while factoring in the capex and investment requirements as well as upcoming debt obligations. Depending on the uncertainty around how the various credit drivers could evolve in the future, ICRA also carries out sensitivity analyses to assess the impact of key variables on various financial metrics.

In case of groups consisting of entities with strong financial and operational linkages, various parameters such as capital structure, debt coverage indicators, and future funding requirements are assessed at the consolidated/ group level.

Profitability metrics

Profitability metrics are a measure of an entity's efficiency and return on investments. Entities that have superior profitability can fund business through internally generated resources with low dependence on external financing. Moreover, such entities can generate sufficient surplus for not only meeting debt servicing obligations but also to reward equity investors. This in turn improves their ability to attract fresh capital for future business requirements. Moreover, entities with higher profitability have better resilience to economic downturns and are more likely to generate adequate internal resources for re-investment and debt servicing.

The profitability of a steel producer is primarily a function of its cost structure and product mix. However, steel being a cyclical industry, profitability varies significantly along the cycle. Nevertheless, producers having cost structures better than the industry median level can generally be expected to remain profitable across cycles. In addition to operating profit margins, OPBDITA per tonne, which is the ratio of operating profit to sales volumes, is also one of the key parameters to evaluate the profitability of an

entity viv-a-vis other players in the industry. Return on capital employed (RoCE) is also a key profitability indicator as it measures the efficiency with which an entity sweats the capital deployed in its business.

Validation of Business Risk through Profitability Metrics

[Indicative Metrics[1]]

	Strongest		Weakest
RoCE	>=25%		<10%
Volatility in RoCE	<=10%		>55%

Contribution analysis

The gross contribution per metric tonne of a rated entity reflects the marginal profits generated per unit of incremental sales, being the difference between product realisations and variable cost of production. Comparing an entity's gross contribution with peers in the industry helps in ascertaining its cost competitiveness. Depending on data availability from the rated entity, calculation of specific consumption of raw materials, which is the quantity of raw material required to produce one metric tonne of finished product, is the first step towards this. Typically, specific consumption of iron ore is 1.6 times, which means that 1.6 metric tonnes of iron ore is required to produce one metric tonne of steel. Similarly, specific consumption of coking coal is 0.8 time. A higher-than-average specific consumption hints at use of inferior quality of raw material or deployment of inefficient technology for steelmaking or inadequate capacity utilisation and vice-versa.

Leverage and coverage indicators

Leverage ratios measure the indebtedness of an entity. Entities that pursue an aggressive financial policy, including heavy reliance on debt financing, are likely to be more vulnerable to cyclical downturns than entities who employ conservative financial leverage in their business. As with companies in other commodity industries exhibiting cyclical price trends, a low financial leverage is viewed as a credit positive for steel players. Besides protecting the cash flows of players by imposing a lower debt service burden, especially during periods of cyclical stress, a low gearing also imparts greater financial flexibility to steel producers to raise incremental external capital (debt or equity) for re-investment in business or to tide over temporary funding shortfalls. Apart from gearing, ICRA also looks at total indebtedness ratio (ratio of all external liabilities to shareholders' funds), debt to profit ratio (ratio of borrowed funds to operating profits) and accruals to debt ratio (ratio of net cash accruals to borrowed funds) to ascertain the leverage of an entity.Total debt per tonne[2], which is the ratio of total debt to installed capacity of an entity, is an additional parameter for comparing the relative leverage among ferrous metal entities.

Assessment of Leverage

[Indicative Metrics]

	Strongest		Weakest
Outside Liabilities/ Net Worth	<=0.9x		>3.0x
Total Debt/ OPBITDA	<=0.5x		>5.0x

Apart from the leverage, coverage is a measure of a steel producer's debt-servicing ability and is calculated as the ratio of profits (or cash flows) to the debt servicing obligations within a given period. The interest coverage indicator reflects the

1 The indicative financial metrics mentioned here and elsewhere in the document are intended to provide a broad overview to the readers regarding what ICRA generally considers as 'relatively strong' or 'relatively weak' metrics. It is, however, possible that an entity has relatively weaker metrices on one or more financial parameters, but its credit risk is assessed to be low because of other mitigating factors, including (but not limited to) stronger metrices on other financial parameters, a healthy business risk profile, strong financial flexibility or a strong promoter group that is willing to extend distress support to it.

2 Specifically considered in case of an acquisition or greenfield/brownfield capacity expansion being carried out by the steel company

entity's ability to service the cost of external borrowings after meeting all operating expenses. It is an important rating consideration while evaluating the financial health of a steel producer as a weak OPBITDA-to interest multiple indicates the entity's inability to generate adequate operating profits to meet its interest obligations and may signal a default risk. The Debt-Service-Coverage Ratio (DSCR) indicates the entity's ability to service its interest and repayment from cash accruals generated from the business. ICRA is particularly concerned with an entity's capability to honour its contractual obligations under stress conditions. The more robust its performance is under a stress scenario, the better it is from a credit evaluation perspective.

Assessment of Coverage
[Indicative Metrics]

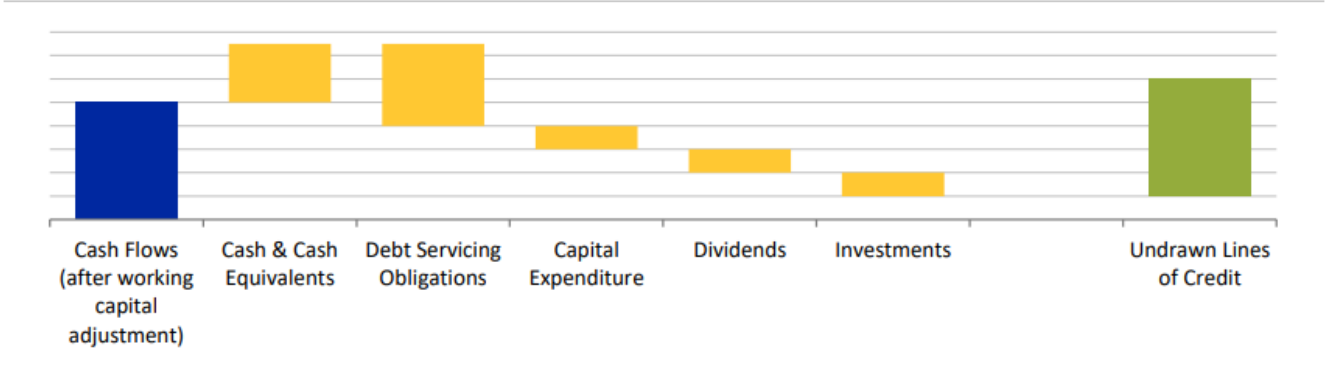
	Strongest	Weakest
Interest Coverage	>=18.0x	<2.0x
DSCR	>=4.0x	<1.1x

Liquidity and financial flexibility

Liquidity is the indicator of an entity's ability to meet its short-term cash obligations from various internal or external resources. Internal resources include fund flow from operations, unencumbered cash and cash equivalents on the balance sheet, and cash inflows expected from the monetisation of physical and financial assets. External resources include undrawn lines of credit or equity capital. Short-term obligations include committed as well as contingent claims on an entity's cash, including the debt-servicing obligations, working capital requirements, capital expenditure and other investment outlays, dividend and share buyback-related outflows, besides the sudden demand arising from the crystallisation of discrete events such as litigation penalty. The higher the cushion between available resources (especially internal resources) and obligations, the better the liquidity profile of an entity. Liquidity is generally assessed in conjunction with the vulnerability of an entity to timely refinancing / renewal of short-term sources of funding. Depending upon the circumstances, an entity that has a relatively modest liquidity profile, but a strong refinancing ability may not be viewed too unfavourably. ICRA also notes that the liquidity available with an entity may be for a temporary period and hence an entity's overall policy towards maintaining adequate liquidity (given the trade-off between returns and liquidity) is accorded due importance in the analytical approach.

An entity's financial flexibility (or the lack thereof) is reflected by its ability to access the capital or money markets at short notice, attract diverse and marquee investors, and enjoy the confidence of banks, financial institutions and intermediaries. A strong financial flexibility allows an entity to raise fresh borrowings or refinance existing ones quickly, whenever required. Financial flexibility could arise from factors such as an entity's large scale of operations with strong financials, large unencumbered cash flows (such as rental income), unencumbered assets and the flexibility to borrow against such assets, or strong parentage or linkage with a strong group.

Liquidity snapshot over any defined period



Adequacy of future cash flows

Since the prime objective of the rating exercise is to assess the adequacy of the entity's debt servicing capability, ICRA draws up projections on the likely financial position of the entity under various scenarios. Besides, ICRA takes into account the commitments of the company towards other group companies, new ventures, and its investments in subsidiaries/SPVs. Subsequently, future cash flows are projected after taking into account the company's capacity utilisation levels and the likely prices of raw materials and finished products; the growth it envisages for itself; debt repayment schedule; its funding requirements; and the funding options available to it. These cash flows are then used to determine the company's future debt servicing capability under various scenarios. For price assumptions, ICRA considers the through-the-cycle median price and gross contribution levels over a long period to account for the inherent cyclicality in the steel industry. A detailed sensitivity analysis on relevant operating parameters is also carried out to test the adequacy of cash flows in various scenarios.

While assessing the financial position of a steel producer, ICRA also reviews the Accounting Policies followed by the company, Notes to Accounts, and Auditors' Comments that are part of the Annual Report. Any deviation from the Generally Accepted Accounting Practices is noted and the financial statements of the entity are adjusted to reflect the impact of such deviations and also to compare more meaningfully against peers in the industry.

Tenure Mismatches and Risks Relating to Interest Rates and Refinancing

Large dependence on short-term borrowings to fund long-term investments can expose an entity to significant re-financing risks, especially during periods of tight liquidity. Healthy financial flexibility and the existence of adequate buffers of liquid assets/bank lines to meet short-term obligations, however, mitigates this risk to some extent. Similarly, the extent to which an entity could be impacted by movements in interest rates is also evaluated.

Foreign currency related risks

As against imported coal or scrap purchases by a domestic steel producer, there is an element of a natural hedge as its selling prices are linked to the exchange rate, being typically benchmarked against the landed cost of imports. Nevertheless, the foreign currency risk can also arise from unhedged liabilities, especially for companies with liabilities denominated in a foreign currency. ICRA's analysis also focuses on the hedging policy of the entity concerned in the context of the tenure and nature of its contracts with counterparties (short term/long term, fixed price/variable price). Analysis of net foreign exposure and the extent of the timing difference in expected receipts vis-a-vis scheduled outflows is also looked into.

Other Elements of Credit Risk Assessment

Debt Servicing Track Record

The debt-servicing track record of an entity is an important input for any credit rating exercise. Any delays or defaults in the past in the repayment of principal or interest payments reduce the comfort level with respect to the steel player's future debt-servicing capability and willingness. Nevertheless, ICRA appropriately analyses the reason behind past defaults, which could also be due to adverse demand situations in the underlying industry.

New project risks/inorganic growth

Steel projects are highly capital intensive, with around US$ one billion required for setting up a greenfield capacity of one million metric tonne. ICRA therefore evaluates the various risks associated with large steel projects including completion risk, funding risk, technology risk and offtake risk, and examines the impact of the same on the entity to ascertain its overall credit risk profile.

Ability to carry out expansions at lower costs than the capital cost benchmarks is an important determinant of the competitiveness of a steel entity. ICRA compares the capital cost per metric tonne of capacity of a steel producer with that of other players in the similar product category to arrive at its overall cost competitiveness. Presence of an experienced project

management team, established relationship with reputed equipment suppliers etc. are some of the key factors which help an entity achieve low capital costs.

ICRA also looks at inorganic growth appetite of the entity and associated aspects such as synergies from the acquisition, type of asset being acquired, product profile and key markets covered by the target company, cost of acquisition and its comparison with benchmark capital costs per tonne etc. In addition, the entity's exposure to technology obsolescence risks, offtake risks and its track record in achieving successful business integration of acquired companies remain important credit considerations.

Parentage/ Group Support

Apart from standalone credit considerations, the likelihood of extraordinary support coming in from the parent to an entity or the support that an entity is likely to extend to the other group companies is factored while assessing credit profile of the entity. Support here means financial support from the parent expected to be available to the entity in the form of loans, equity, extended credit period, advances etc in times of credit or liquidity stress on the entity. Support here does not mean operational support in the form of new business opportunities, technology sharing, distribution network sharing and so on as these aspects are factored in the standalone credit profile assessment itself. This process involves an assessment of the ability and willingness of the parent to extend support to the entity (and vice-versa), in addition to evaluating the entity's own fundamental credit strength. For more details, please refer to ICRA's methodology, "Rating Approach - Implicit support from parent or group", available on ICRA's website www.icra.in.

Contingent liabilities/off-balance sheet exposures and accounting quality

In this case, the likelihood of devolvement of contingent liabilities / off-balance sheet exposures and the financial implications of the same are evaluated.

Management Quality

All debt ratings necessarily incorporate an assessment of the quality of the rated entity's management. Thus, the comfort level of the management, evident from discussions and past actions, becomes a key rating consideration in such cases. ICRA gives considerable importance to qualitative aspects resulting from management meetings. A discussion is held with the management to understand their business strategies, growth plans, as well as risk appetite, which may have an impact on the future performance of the entity, besides the outlook on the industry. In addition, the rated entity's likely cash outflows arising from the possible need to support other group entities are of importance, in case the rated entity is among the stronger entities within the group. Periodic interactions with the management also help ICRA evaluate the management's tendency to deviate from its business and financial policies in times of stress. The management's ability to meet their committed performance targets and ensure stability in operations is an important input for analysis.

For steel players, ICRA looks at management strategies with respect to the company's cost position and product portfolio. ICRA also evaluates how the management responds to the cyclical behaviour of the industry, i.e. strategies followed to mitigate the risks arising out of such cyclicality. Generally, a record of conservative financial policy provides an extra level of comfort for the rating.

Some of the points assessed are:

- Experience of the promoter/management in the line of business concerned
- Commitment of the promoter/management to the rated entity
- Risk appetite of the promoter/management and risk mitigation plans
- The entity's policies on leveraging, managing interest rate and currency risks
- The entity's plans on new projects, acquisitions and expansions

Assessment of Environmental, Social and Governance (ESG) Risks

As this methodology highlights, while undertaking credit assessment of entities, ICRA seeks to incorporate all relevant credit considerations into its rating decisions while taking a forward-looking view on the risks and the mitigants. The relevant credit considerations include (sometimes overtly, sometimes covertly) the E&S factors that could affect the rated entity/ transaction. While ICRA's analytical approach does not explicitly disaggregate these risks to assess their impact on the rating, these risks are often assessed broadly. Further, it is not always feasible to disaggregate the sub-components of E&S risks fully or precisely in credit analysis since these considerations often tend to overlap.

That said, the materiality of the E&S risks and the time horizon over which they are expected to crystallise differ widely across sectors and entities. In some cases, while the E&S risks could be material, their effect on the credit profile may be muted because of other fundamental strengths of the entity. In other cases, the adverse impact of E&S risks is expected to play out in the distant future and, hence, these considerations do not necessarily weigh on the rating today—with the expectation that when these risks manifest in future, the rated entity would possibly have adapted itself by realigning its business model.

While evaluating E&S risks, ICRA's objective is only to assess the direct and indirect risks that an entity faces and how it already is or is intending to mitigate the impact of such risks on its credit profile. As an example, ICRA only assesses whether an entity is exposed to physical climate risks, or carbon transition risks such as those arising from changes in regulations or other environmental and social risks; and seeks to understand the various mitigation and adaptation approaches that the entity is implementing to mollify these risks. In spite of the above, as an example, it is possible that even if entity A has a higher carbon footprint than entity B, it does not materially affect ICRA's credit opinion on entity A. This is because ICRA's credit opinion on an entity considers a wide gamut of credit-relevant factors, and the E&S factors are only one among those.

Environmental considerations

Steel manufacturing is an energy intensive process and requires a substantial use of fossil-fuels which results in greenhouse gas emissions, industrial waste generation, and environmental pollution. Increasing regulatory requirements to reduce greenhouse gas emissions and stricter air pollution standards may lead to higher costs for manufacturers in the medium term. This in turn leads to a greater focus on reducing the carbon footprint through various technological interventions, like increasing share of renewables in the energy mix, increasing the share of steelmaking through the electrical route, transition to green hydrogen technologies, decrease in fuel rate in furnaces, and setting up carbon capture utilisation and storage units, to name a few. With many of these emerging low-carbon technologies yet to achieve commercial viability, this transition could entail a significant investment for steel manufacturers. Further, the entities face risk of physical climate change from floods & drought in the form of impact on minerals availability due to extreme weather events and impact on water availability due to drought.

Social considerations

Social risks for ferrous metal entities manifest from health and safety of employees involved in the captive mining and manufacturing activities. Casualties/ accidents at operating units due to gaps in safety practices could not only lead to production outages, but also invite penal actions from regulatory bodies. The sector is exposed to labour related risks and risks of protests/social issues with local communities, which might impact expansion/modernisation plans. Also, the adverse impact of environmental pollution in nearby localities could trigger local criticism. Steel plants require vast tracts of land. Therefore, rehabilitation and resettlement (R&R) challenges associated with acquisition of large land parcels, especially in proximity to densely populated areas, remains an important risk that greenfield steel projects encounter frequently. R&R issues in turn delays project implementation schedules and pushes up project costs.

Governance Risks

A sound corporate governance structure attempts to make clear the distinction of power and responsibilities between the Board of Directors and the management. The constitution of an entity's Board and the Board's participation in strategy formulation, besides the entity's adherence to legal and statutory compliances is factored in during credit assessments. ICRA seeks to gain a qualitative understanding of an entity's commitment to following transparent and credible practices by the way its financial statements are reported, its level of disclosures, consistency in communication and openness in sharing information during the credit rating exercise. Besides, the corporate group structure (whether simple or complex), the rated entity's related party transactions and instances of supporting group entities at the expense of debt holders are assessed.

Summing Up

ICRA's credit ratings are a symbolic representation of its opinion on the relative credit risk associated with the instrument being rated. This opinion is arrived at following a detailed evaluation of the entity's business and financial risks, its competitive strengths, its likely cash flows over the life of the instrument being rated, and the adequacy of such cash flows vis-à-vis its debt servicing obligations. As the document has highlighted, for steel companies, special attention is also paid on the company's raw material security, extent of backward/forward integration, cost structure, product diversity, existing duty structure, management strategies for managing cyclical downturns and an overall approach towards investment and growth.

ANNEXURE

Summary of rating factors and an example to illustrate the key building blocks of the credit rating

		Strong			Comfortable			Adequate			Moderate			Weak		
Industry Risk	Industry Position															
Business Risk	Scale and Market Position															
	Geographic Diversification															
	Extent of Backward Integration															
	Product Diversification															
	Location of the Plant															
	Technology and Barriers to Entry															
Financial Risk	Leverage															
	Coverage															
		Enhance					**Support/ Neutral**					**Hinder**				
	Diversification															
Do these factors enhance or hinder the credit profile?	Refinancing Dependence, Liquidity and Financial Flexibility															
	Currency Risk															
	Financial Policy															
	Management, Governance & Reporting															
		Very High				**High**				**Moderate**				**Low**		
Parent Support	Likelihood of Parent Support															
	Rating of Parent	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B/ C category	
	Final Rating	**AAA**	**AA+**	**AA**	**AA-**	**A+**	**A**	**A-**	**BBB+**	**BBB**	**BBB-**	**BB+**	**BB**	**BB-**	**B/ C category**	

The above graphic is only for illustration purpose and does not represent a rating output from a formulaic model. The ratings assigned by ICRA are determined by Rating Committees based on both quantitative and qualitative considerations.

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About ICRA Limited:

ICRA Limited was set up in 1991 by leading financial/investment institutions, commercial banks and financial services companies as an independent and professional investment Information and Credit Rating Agency.

Today, ICRA and its subsidiaries together form the ICRA Group of Companies (Group ICRA). ICRA is a Public Limited Company, with its shares listed on the Bombay Stock Exchange and the National Stock Exchange. The international Credit Rating Agency Moody's Investors Service is ICRA's largest shareholder.

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