



ICRA Rating Feature

Rating Methodology for Primary Non-ferrous Metal Manufacturers

Background

Non-ferrous metals comprising aluminium, copper and zinc find wide applications in the electrical, construction, packaging, transport, and consumer durable segments. During April 2016 to March 2017 (FY2017), the aggregate domestic consumption of the above metals was estimated at ~4.46 million metric tonne (MMT). Backed by the Government's focus on public and private sector investments, domestic consumption of these non-ferrous metals is expected to grow by 6%-8% annually over the next three years. On the supply side, the industry is dominated by a few large players, given the high capital intensity in the business. With a healthy consumption growth anticipated, these domestic primary non-ferrous metal manufacturers have already set up large metal production capacities. ICRA notes that cumulative production capacity of the above three non-ferrous metals is more than the current domestic consumption. Hence, a sizeable portion of non-ferrous metal production output is exported.

Rating Methodology

The objective of ICRA's rating methodology is to provide a reference tool that can be used to evaluate the credit profiles of entities engaged in the primary non-ferrous metal manufacturing business. It aims to help issuers, investors and other interested market participants understand ICRA's approach in analysing quantitative and qualitative risk characteristics that are likely to affect rating outcomes. This methodology does not include an exhaustive treatment of all factors that are reflected in ratings but enables the reader to understand the rating considerations that are most important. ICRA's risk analysis framework for the primary non-ferrous metal manufacturers can be broadly divided into the following factors –

- Industry risks
- Cost position
- Scale of operations and product-market diversity
- Project risks
- Financial Risk
 - Profitability
 - Leverage and cash flows
 - Foreign currency-related risks
 - Tenure mismatches, and risks relating to interest rates and refinancing
 - Debt servicing track record
 - Contingent liabilities/Off-balance sheet exposures
 - Adequacy of future cash flows
- Management quality

Given the cyclicity inherent in primary non-ferrous metal sectors, ICRA's rating methodology for primary manufacturers in these industries lays an emphasis on the extent of the impact of the industry cycle on each manufacturer, which varies significantly in accordance with its cost structure, since individual players are price takers in globally-traded base metals. An entity's cost position in

turn is derived from the following factors - cost of raw material and power, extent of integration in metal production and technology used.

In addition, the market position derived from the scale of operation and product-market diversification, financial health, new project-related risks as well as management depth are also key success factors. ICRA also views raw material security as a key determinant of a player's business performance and notes that Government regulations often plays a critical role in determining an entity's access to raw material. Consequently regulatory risk in the Indian mining sector has emerged as a major operating risk in recent times.

Key Rating Criteria

Industry Risk

The non-ferrous metals industry exhibits cyclicalities in terms of demand and prices, which causes wide swings in the profitability and cash flows of individual producers, increasing their business risks.

International Price Trends: Given the relatively small size¹ of the domestic industry, non-ferrous metal prices in India are largely benchmarked to the London Metal Exchange prices, which in turn are influenced by the international demand-supply position. Hence, ICRA closely monitors the consumption trends in the major non-ferrous metal markets as well as the production levels of the global players. In addition, ICRA also keeps track of the global inventory position of these metals, which has an effect on their prices in the spot market.

Domestic Demand-Supply Trends: Demand for non-ferrous metals in India historically has come from the power, construction, automobile, packaging and consumer durable sectors. ICRA, therefore, evaluates the demand outlook of these major user industries in order to assess the adequacy of the domestic market in absorbing the metal produced in the country. Metals sold in the domestic market typically have a premium over export markets, which remain at a level comparable to cost of importing the metal from the overseas market. Since imports would have additional logistics and other import related costs, domestic prices are higher than international prices, thus providing higher margins.

Regulatory Risks: A number of Indian base metal players have captive mines for their raw material/fuel requirements. Regulatory risks are one of the key risks in the Indian mining sector. Consequently, ICRA evaluates such risks while analysing a mining company's (including players with captive mines) credit profile. Government policies on land acquisition, environmental and forest clearance have a critical impact on the mining sector. Moreover, profitability of the domestic manufacturers is dependent on the applicable royalties on mining of minerals as well as import and export duty structures.

Cost Position

Given the commodity nature of the non-ferrous metals' business, cost efficiency in the production of these metals becomes a key factor determining the producer's fundamental credit quality. Since all producers are necessarily price-takers, profitability of individual players depends upon their respective positions on the industry cost curve, which is largely determined by their costs of raw material, power, technology used and the extent of vertical integration. Within the three metals, cost of power is the highest in aluminium on a per tonne basis, given the power intensive nature of aluminium production, as against higher raw material cost intensity in the case of copper and zinc. Hence from a rating perspective, access to captive source of power along with coal at competitive rates is positive for an aluminium manufacturing entity, whereas for a zinc or copper manufacturer captive mines with good quality ore is the dominant factor.

¹ Domestic consumption and production of non-ferrous metals were both at ~5% of global consumption and production in FY2017

Sourcing Ore: Entities, with captive mines of ores are secured against raw material availability related risks. Moreover, ores from captive sources have a lower volatility in raw material cost. Ores with richer metal content result in a lower overall cost of metal production as compared to inferior grades of ore. ICRA, therefore, views the availability of captive sources of good quality ores to a primary producer, favourably.

Energy Costs: Power cost is the other major driver of overall cost efficiency of non-ferrous metal manufacturers. Among the three metals, aluminium production is the most power intensive which requires ~15,000 units² of electrical energy for 1 MT of aluminium production, as against ~1,100 units for production of copper and ~3,500 units for zinc. Typically, power and fuel costs of an integrated aluminium player account for around 25% of its operating income as against around 15% and 8% for an integrated copper and zinc player, respectively. Hence, the cheap source of electricity keeps overall production costs low. In India, most aluminium manufacturers have captive power plants fuelled by coal. Hence, assured source of good quality coal at competitive rates for power generation is a key driver of cost efficiencies for these entities³.

Production Technology: The technology used in metal production has a critical impact on the overall cost⁴ of production of non-ferrous metals. For instance, recent capacities commissioned by the aluminium players have superior energy efficiency and are less polluting. Moreover, a modern plant typically uses allied facilities for by-product recovery⁵, which provides an extra avenue of income to the manufacturers, thus bringing down production costs on a net basis.

Contribution Analysis: ICRA assesses the contribution margins per tonne of metal sales, which captures the overall cost efficiency of the producer vis-a-vis the prevailing metal prices. While performing this analysis, gross and net contribution levels are measured per unit of sales.

All the three non-ferrous metals being globally traded, ICRA believes that a primary metal producer, notwithstanding duty protections, needs to be globally cost competitive for it to remain profitable across business cycles. ICRA, therefore, benchmarks the company's cash cost of production against its global peers. In ICRA's opinion, cash cost determines an entity's staying power in business because if prices fall below this level, it starts losing cash and ultimately faces a liquidity strain.

Scale of operations and product-market diversity:

A non-ferrous metal producer is better insulated from cyclical volatility when it has a large scale of operations and has a diversified product mix. While size in itself does not drive a player's competitive position, it confers upon a company the ability to control costs through greater bargaining power against raw material suppliers and customers. It also helps it enter into long-term supply contracts with large customers and access funds from the market at better rates.

Forward integration by primary players into downstream businesses protects them against the volatility associated with commodity metal prices to an extent. Although downstream businesses also suffer during periods of stress, such businesses display relatively lower price cyclicity compared to pure primary metal businesses. Besides, since different downstream products find applications in different industries, forward integration into more value-added products enables a company to lower its dependence on any particular user industry or customer.

² Stated norms are representative, actual energy consumption will vary depending upon the quality of ore, efficiency of the process and equipment

³ Given the importance of assured supply of coal, aluminium players have bid aggressively for both captive coal blocks as well as coal linkage auctions in the past two years or so.

⁴ As per nomenclature in the commodity space, cost of production is reported in three forms, viz. C1, C2 and C3. C1 cost is the direct cost of production, which represents the cash cost incurred at each processing stage from mining till metal production. Mines and plant overhead costs are also included in C1 cost. C2 cost = C1 cost + (depreciation, depletion and amortization). C3 cost = C2 cost + net interest charges + corporate costs + royalties + R&D costs

⁵ By products from smelting and refining of copper are sulphuric acid and precious metals, and from refining of zinc are precious metals. There is no major by-product from smelting of aluminium

Project risks

Primary non-ferrous metal capacities are highly capital intensive. Given the high capital intensity of projects, ICRA critically evaluates the various risks associated with large projects, including completion risk, funding risk, technology risk and offtake risk, and examines the impact of the same on the entity to ascertain its credit rating. ICRA also factors in the past experience of the management in commissioning large projects in a timely manner. A typical non-ferrous metal project requires a large capex with technical complexities involved in implementing the project. Consequently time and cost overruns are key risks in implementation of such projects.

Financial Risk

While analysing the financial risk profile, ICRA evaluates the overall balance sheet strength of the entity, which determines a player's ability to withstand a deep down cycle. In addition, ICRA also evaluates the profitability and cash-generating ability of the business as well as other sources of financial flexibility available to an entity. The objective here is to assess the present as well as future expectations of the financial position and the financial risk profile of the entity. This section provides a brief summary of the parameters ICRA considers to be important while analysing an entity's financial risk profile. For a more detailed description, readers may refer to the note titled, "Approach for Financial Ratio Analysis" published on ICRA's website:

Profitability: Profitability of a primary producer is primarily a function of its cost structure and product mix. However, non-ferrous metal being a cyclical industry, profitability varies significantly along the cycle. Nevertheless, producers having better cost structures than the industry median level can generally be expected to remain profitable across cycles.

Leverage and debt coverage indicators: As with entities in other commodity industries exhibiting cyclical price trends, a low financial leverage is viewed as a credit positive for primary non-ferrous metal 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 primary non-ferrous metal producers to access funds from institutional sources.

Besides capital structure, ICRA pays special attention to leverage ratios, which are an indicator of the degree of financial flexibility that an entity enjoys, as reflected by its gearing (ratio of Total Debt to Tangible Net Worth) and Total Debt to OPBITDA multiple. Low gearing and low Total Debt to OPBITDA ratios, resulting from healthy net worth and profitability, imply financial flexibility available in terms of raising funds from external sources for meeting funding requirements and is a credit positive. ICRA is particularly concerned with a company's capability to honour its contractual obligations under stress conditions. The more robust a company's performance under a range of reasonable projections; the better it is from a credit evaluation perspective. ICRA also critically looks at other sources of financial flexibility available to an issuer, which could be in the form of, among others, availability of a portfolio of liquid financial assets, unused bank lines, etc.

Promoter strength: An entity also derives financial flexibility being part of a large group. Hence ICRA evaluates the strategic importance of the entity to the Group to which it belongs, along with the financial strength of the Group entities.

Foreign currency-related risks: The manufacturing costs of a domestic primary non-ferrous metal producer are incurred primarily in the domestic currency (except cost of imported coal and scrap), while selling prices are, even if the company sells its produce within the country, linked to the exchange rate, being typically benchmarked against the landed cost of imports. The foreign currency risk can rise from unhedged liabilities, especially for entities with liabilities denominated in a non-INR currency. ICRA analysis also focuses on the hedging policy of the issuer concerned in the context of the tenure and nature of its contracts with clients (short term/long term, fixed price/variable price).

Tenure mismatches, and risks relating to interest rates and refinancing: Large dependence on short-term borrowings to fund long-term investments can expose an issuer to significant re-financing risks, especially during periods of tight liquidity. The existence of adequate buffers of liquid assets/bank lines to meet short-term obligations is viewed positively. Similarly, the extent to which an issuer could be impacted by movements in interest rates is also evaluated.

Debt-servicing track record: The debt-servicing track record of a company 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 primary non-ferrous metal player's future debt-servicing capability and willingness.

Contingent liabilities/Off-balance sheet exposures: ICRA evaluates the likelihood of devolvment of contingent liabilities/off-balance sheet exposures and the financial implications of the same.

Adequacy of future cash flows: Since the prime objective of the rating exercise is to assess the adequacy of the issuer's debt-servicing capability, ICRA draws up projections on the likely financial position of the issuer under various scenarios. Besides, ICRA takes into account the commitments of the company towards other Group entities, new ventures, and its investments in subsidiaries/SPVs. Accordingly, future cash flows are projected after taking into account the company's capacity utilisation levels and the likely prices of raw material and finished products, the growth it envisages, 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. The ratios used to assess cash flows are Fund Flow from Operations (FFO), interest coverage, FFO debt coverage, and FFO capital expenditure coverage.

Accounting policy and internal control: While assessing the credit risk profile of a primary non-ferrous metal producer, ICRA 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 Practises is noted and the financial statements of the issuer are adjusted to reflect the impact of such deviations and also to compare more meaningfully against peers in the industry.

Management Quality

All ratings necessarily incorporate an assessment of the quality of the issuer's management, as well as the strengths/weaknesses arising from the issuer's being a part of a "group". Also of importance is the issuer's likely cash outflow, arising from the possible need to support other Group entities, in case the issuer is among the stronger entities within the Group. Usually, a detailed discussion is held with the management of the issuer to understand its business objectives, plans and strategies, and views on past performance, besides the outlook on the (issuer's) industry.

Some of the other points assessed are:

- Experience of the promoter/management in the line of business concerned
- Commitment of the promoter/management to the line of business concerned
- Attitude of the promoter/management to risk-taking and containment
- The issuer's policies on leveraging, interest risks and currency risks
- The issuer's plans on new projects, acquisitions, expansion, etc.
- Strength of the other entities belonging to the same group as the issuer
- The ability and willingness of the group to support the issuer through measures such as capital infusion, if required

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-a-vis its debt servicing obligations. As highlighted in the note, ICRA's approach to rating primary non-ferrous metal producers incorporates both quantitative and qualitative factors, some of which are used to assess other commodity sectors, which display cyclicalities. While the former includes, among others, an assessment of cash flow generation under normal and stress scenarios, cost competitiveness and financial strength, the latter includes market position, management strategies for managing cyclical downturns and an overall approach towards investment and growth.

Table: List of Rated Entities in Primary Non Ferrous Metal Manufacturers as on November 30, 2017

Company	Long term Rating	Short term Rating
Hindustan Copper Ltd	[ICRA]AA+(Stable)	[ICRA]A1+
Bharat Aluminium Company Ltd	[ICRA]AA-(Stable)	[ICRA]A1+



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