

Rating criteria for the aluminium industry

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Executive Summary

The global aluminium industry is characterised by fluctuating prices and cyclical demand-supply trends, similar to all other commodity markets. Therefore, CRISIL assesses risks prevalent in both domestic and international markets, while analysing companies operating in the aluminium industry. The assessment mainly covers the operational and marketing aspects of companies, to evaluate their business risk profiles, and financial and management risk parameters.

Scope

While the broader criterion of manufacturing companies¹ is applicable to all the firms, this article² details the industry-specific factors impacting the market position and operating efficiency of players in the aluminum industry. A similar approach can be used to assess companies manufacturing other non-ferrous metals such as copper, lead, and zinc, due to the commoditised nature of the product and availability of LME prices as a transparent pricing benchmark.

Business Risk

Market position

Demand-supply dynamics: CRISIL's demand analysis looks at historical usage of aluminium, shifts in consumption patterns, cyclical trends, and potential impact of substitutes. New applications can change secular growth and offset cyclical demand. However, product substitution may constrain the pick-up in demand. For instance, aluminium could be replaced by plastics in the packaging sector, and copper in electrical applications. Substitution can also occur due to technological changes in the user industry, in the long term. Hence, a segment-wise demand analysis that also takes into account anticipated growth rates, is of crucial importance. When estimating future supply, CRISIL looks at historical production trends, government policies, anticipated capacity additions across the value chain, and adjustments made for anticipated smelter shutdowns/production downtimes.

Government policies: Government policies related to fixing of import tariffs and duty differential between primary aluminium metal (wrought aluminium) and semi-fabricated aluminium products, and availability of coal and bauxite, have a significant bearing on performance of players. Profitability of domestic aluminium manufacturers will be determined by price differential between the landed cost and domestic prices.

Product diversity: CRISIL believes a diversified product mix helps curb volatility in sales, and widens the customer base, thus reducing reliance on fewer clients. Presence in export markets provides a hedge against any slowdown in domestic demand. CRISIL also assesses the degree to which an aluminium producer can differentiate

¹ The detailed criteria is present on the CRISIL website under the 'Criteria and Methodology' section - 'Rating Criteria for Manufacturing and Service Sector Companies' and 'CRISIL's Approach to Financial Ratios'.

² To access the previous published document on "Rating Criteria for Aluminium industry" kindly follow below mentioned link:
https://www.crisil.com/content/dam/crisil/criteria_methodology/materials/archive/CRISIL-Ratings-criteria-aluminium-industry_2013.pdf

itself from its peers, by producing niche or value-added products, as opposed to commoditised products. Having value-added offerings enhances the cushion available to the producer against price volatility.

Proximity to user markets: Apart from having a diversified product portfolio and wider geographic reach, proximity to user markets also helps sharpen the competitive edge. In this regard, CRISIL considers location of various manufacturing facilities of the producer, with respect to key markets, overall distribution network, and proximity to ports.

Price volatility at the international level: CRISIL also keeps track of global demand-supply trends, which in turn, affect material prices at the London Metal Exchange (LME) and the domestic market. Pricing for all aluminium manufacturers globally is benchmarked to the LME. In addition, CRISIL also factors trends in spot premium in a particular geography. Spot premiums are negotiated between buyers and sellers whenever needs to sell/buy on a spot basis emerge. While pricing is in terms of the US dollar, realisations of domestic producers are rupee-denominated, and hence, USD/INR assumptions become critical. As commodities are dollar-denominated, a depreciating INR usually offers a hedge against weak commodity prices, but also detracts when LME is strong.

Operating efficiency

Given the commoditised nature of aluminium and the associated price volatility, a company's cost position is by far the most critical success factor.

Key cost determinants are as follows:

Degree of vertical integration: Market position of a company is characterised by fully integrated operations, right from having own bauxite reserves to manufacturing of value-added products, such as sheets, extrusions, and foils. CRISIL believes that complete vertical integration of operations ensures sustainability of supplies at various stages of the production chain, and provide reasonable control on the cost structure and product quality.

Energy costs and availability: Aluminium manufacturing is a highly energy-intensive process, with power constituting around 35% of the total production cost. Producers need to ensure uninterrupted access to low-cost power to ensure high capacity utilisation, consistent product quality, and an efficient cost structure. CRISIL analyses the quantum, nature, availability and per unit cost of various sources of power. CRISIL believes companies with captive power sources are better placed than their peers. Fuel source of the captive power – captive coal/linkage coal/procurement from spot market - is also analysed to determine cost competitiveness.

Additionally, any capacity expansion programme envisaged will require to be accompanied by appropriate additions to captive power generation capacity.

Manufacturing efficiency: This is typically measured in terms of:

- Specific consumption parameters, such as consumption of bauxite and caustic soda per ton of alumina, or consumption of alumina and power per ton of aluminium;
- Trends in overall cost structure over the past five years, along with the attendant reasons for changes, if any;
- Trends in cost structure at various stages, such as the landed cost of bauxite at the refinery, and cost per ton of alumina and aluminium, which are strong indicators of a company's position among its peers

Manufacturing diversity/flexibility: CRISIL believes that an appropriate mix of capacities for various downstream products, such as alumina, aluminium, and value-added products will obviate the need for outsourcing, and thus, improve control over the cost structure. As a result of high risk associated with geographical concentration, it will be beneficial for aluminium manufacturers to have production facilities distributed across locations. In this context,

CRISIL examines a company's history of production stoppages and downtimes, and impact on the overall operating performance.

Raw material requirement and sourcing: Herein, CRISIL considers an aluminium company's ability to source its raw material at a competitive cost. Downstream manufacturers need to have access to sufficient supply of high quality and low-cost primary aluminium for achieving cost-competitiveness. For integrated producers, access to low-cost supplies of bauxite and other key raw materials, such as caustic soda, calcined petroleum coke, cryolite, aluminium fluoride, coal tar pitch, and continuous supply of fuel for the captive power plant is critical.

Quality and economic life of bauxite reserves: Estimated reserves of bauxite (the primary input) and their annual depletion rates will determine the production profile and life of mines. In this context, CRISIL reviews the location of the mine and the quality of the ore reserves, which, in turn, determine the method used to extract the metal from the ore. CRISIL also takes into account the company's plans to acquire mining rights for exploration and additional reserves, going forward.

Other raw materials: Producers sourcing bulk of raw materials externally through supply contracts, are prone to price volatility. In this context, CRISIL reviews whether the raw materials are purchased locally or imported.

For imported raw material, CRISIL also factors in susceptibility to currency risks, hedging mechanisms employed by the company, and potential risks from any change in government policies. In addition, inventory holding levels are linked to distance between the facilities and raw material sources, which will have a direct impact on the working capital requirement.

Technology employed: This will have a bearing both on the cost structure and product quality. CRISIL draws a comparison between merits of a technology deployed by a company, and other contemporary technologies available worldwide, and evaluates the state of a company's manufacturing facilities in terms of vintage and layout. Extent to which a company is able to integrate technological improvements into its operations is also important for determining its future operating efficiency. Globally, manufacturing capacity has seen a shift towards developing markets, due to the environmentally degrading impact of aluminium smelting. Any such environmental impact has to be also assessed in the Indian context. Potential for production outages is higher in cases where an Indian manufacturer is unable to meet these norms.

Financial Risk

For analysing the financial risk profile of players operating in the aluminium industry, CRISIL follows the standard criteria used for all manufacturing companies. This criterion is presented in detail in our publications, 'Rating Criteria for Manufacturing and Services Sector Companies', and 'CRISIL's Approach to Financial Ratios'.

Management Risk

For the analysis of the management risk of an aluminium company, CRISIL follows the standard criteria used for all manufacturing companies. This criterion is presented in detail in our publication, 'Rating Criteria for Manufacturing and Services Sector Companies'.

Conclusion

Thus, in CRISIL's opinion, the key success factors for the aluminium sector include the presence of:

- Product and customer diversity
- Proximity to user makers
- Level of vertical integration and effective energy cost controls
- Quality and economic life of bauxite reserves

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