CRISIL Ratings

CRISIL Ratings criteria for the materials sector

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Executive summary

The materials sector plays a significant role in the economic development of a country. It is largely cyclical, and prices are fairly volatile and influenced by many factors such as demand-supply dynamics, raw material cost, import-export scenario, capacity utilisation and improvement in manufacturing processes.

For rating companies operating in the materials sector, CRISIL Ratings evaluates their management, and business and financial risk profiles. The key parameters considered for analysing business risk profile are market position and operating efficiency. Market position covers market share, customer profile, product mix, demand pattern and the level of competition in the industry. Analysis of operating efficiency involves the cost position of the company.

For financial risk assessment, CRISIL Ratings follows the standard criteria used for all manufacturing companies, which assesses the sustainability and adequacy of the cash flow, with particular emphasis on

debt-servicing ability. It includes an assessment of how the business strengths of the rated company are translated into its current and future financial performance and its financial flexibility, especially liquidity.

For management risk assessment, CRISIL Ratings follows the standard criteria used for all manufacturing companies, which includes evaluating the management philosophies, strategies and risk appetite of the company.

These are available in detail in the CRISIL Ratings publications, ‘Rating criteria for manufacturing and services sector companies' and 'CRISIL Ratings approach to financial ratios'.

Scope

While the broader criterion of manufacturing companies is applicable to the materials sector, this document[1] details the industry-specific factors impacting the business risk profiles of different industries in the materials sector.

It covers the following industries:

- Aluminium
- Cement
- Chemical
- Fertiliser
- Mining
- Paper
- Steel

The criteria document highlights the parameters that are relevant for assessing the credit profile of issuers within the sector. These parameters serve as illustrative guidelines. The relevance of specific parameters varies based on the issuer's unique circumstances. For instance, if the liquidity of the company is weak, industry risk or other business-related factors may exert minimal influence on the final rating. Likewise, business parameters that hold substantial importance for one issuer may be less pertinent for another, potentially being encompassed within the broader category of industry risk.

[1] For accessing the previous published document on rating criteria for this sector, kindly follow the link: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/materials/archive/criisl-ratings-criteria-for-the-materials-sector-june2023.pdf

Criteria for the aluminium industry

Market position

Demand-supply dynamics:

To analyse demand, CRISIL Ratings looks at the historical usage of aluminium, shifts in consumption patterns, cyclical trends and the potential impact of substitutes. New applications can change secular growth and offset cyclical demand. However, product substitution may constrain pick-up in demand. For instance, aluminium could be replaced by plastic 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 Ratings 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 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 the performance of players. Profitability of domestic aluminium manufacturers will be determined by the difference between the landed cost and domestic prices.

Product diversity:

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

Besides diversified product portfolio and wider geographical reach, proximity to user markets, too, helps sharpen the competitive edge. In this regard, CRISIL Ratings considers the location of the manufacturing facilities of the producer with respect to key markets, overall distribution network and proximity to ports.

Price volatility at the international level:

CRISIL Ratings also keeps track of global demand-supply trends, which 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 Ratings also factors in spot premium trends in a particular geography. Spot premiums are negotiated between buyers and sellers whenever there is need to sell or buy on a spot basis. While pricing is in terms of the US dollar (USD), realisations of domestic producers are denominated in Indian rupee (INR), and hence USD/INR assumptions become critical. As commodities are USD-denominated, a depreciating INR usually offers a hedge against weak commodity prices, but also detracts when the LME is strong.

Operating efficiency

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

The key cost determinants are:

Degree of vertical integration

The cost competitiveness of a company is supported by fully integrated operations, right from having own bauxite reserves to manufacturing value-added products such as sheets, extrusions and foils. CRISIL Ratings believes complete vertical integration of operations ensures sustainability of supplies at various stages of the production chain and provides reasonable control over 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. Uninterrupted access to low-cost power is essential to ensure high capacity utilisation, consistent product quality and an efficient cost structure. CRISIL Ratings analyses the quantum, nature, availability and per unit cost of various sources of power. Companies with captive power sources have an edge. Fuel source of the captive power — captive coal/linkage coal/procurement from spot market — is also analysed to determine cost competitiveness.

Moreover, any capacity expansion programme will need to be accompanied by appropriate additions to captive power generation capacity.

Manufacturing efficiency

This is typically measured in terms of:

- Specific parameters, such as consumption of bauxite and caustic soda per tonne of alumina or consumption of alumina and power per tonne of aluminium
- Trends in overall cost structure over the past five years, along with the 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 tonne of alumina and aluminium, which are strong indicators of the position of a company among peers

Manufacturing diversity/flexibility

CRISIL Ratings believes 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. Given the high risk associated with geographical concentration, it will be beneficial for aluminium manufacturers to have production facilities across locations. In this context, CRISIL Ratings examines the history of production stoppages and downtimes, and impact on the overall operating performance of the company.

Raw material requirement and sourcing

CRISIL Ratings considers the ability of an aluminium company to source 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, as well as continuous supply of fuel for the captive power plant are critical.

Quality and economic life of bauxite reserves

Estimated reserves of bauxite (key input) and their annual depletion rates will determine the production profile and life of mines. In this context, CRISIL Ratings 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 Ratings also factors in the plans of the company to acquire mining rights for exploration and additional reserves over the medium term.

Other raw materials

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

For imported raw material, CRISIL Ratings 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 level is linked to the distance between the facilities and raw material sources, which will have a direct impact on working capital requirement.

Technology employed

This will have a bearing on both, cost structure and product quality. CRISIL Ratings draws a comparison between the merits of the technology deployed by a company and other contemporary technologies available worldwide, and evaluates the state of manufacturing facilities in terms of vintage and layout. The 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 assessed in the Indian context. Potential for production outages is higher in cases where an Indian manufacturer is unable to meet these norms.

Criteria for the cement industry

Market position

Brand strength

Branding can enable cement companies to realise a price premium. Hence, companies that have invested in advertising and have a communication strategy can enhance their brand proposition, which is a plus in the rating assessment.

Capacity additions and regional demand-supply scenario

Demand for cement is cyclical, leading to uneven capacity additions that could outpace demand growth during some periods. The consequent periods of depressed realisations and unutilised capacities weaken the finances of players. Hence, CRISIL Ratings factors into its analysis the expected capacity addition, which could lead to demand-supply imbalances in the region that the rated company operates in. CRISIL Ratings also examines the impact of spillovers from adjoining areas.

Level of consolidation

Unlike other commodities that are impacted by global demand-supply cycles and volatility in international prices, the Indian cement industry is largely insulated. High freight costs make sustained imports unviable. Therefore, profitable operations are possible even in a surplus scenario if there is production sharing or pricing discipline. The industry has seen significant consolidation over the past decade. So, while analysing plants in regions with surplus, CRISIL Ratings takes a favourable view if the region is dominated by a few large players as it is easier to develop cohesiveness among a few players than among many.

Government policy

Government initiatives, such as the thrust on infrastructure development, could boost the sector. Policies related to availability of raw materials, such as limestone and coal, could also influence growth in this industry.

Operating efficiency

Locational advantage

As transportation of cement over long distances is expensive, freight costs are among the largest expenses for a cement company. In an increasingly competitive environment, companies that have plants in the vicinity of demand centres have to distribute products over a smaller radius, which minimises freight costs and maximises profits.

Distribution facilities

The quasi-commodity nature of the domestic cement market and the high share of retail sales make distribution a key factor in the operations of a company. CRISIL Ratings places emphasis on freight options and freight costs while rating cement companies.

Cement is currently transported through road, rail and sea. For inland transportation, the state-run rail network is the preferred mode because of its lower cost, especially over long distances. CRISIL Ratings, however, considers both freight mix as well as average lead distance while analysing the logistics plan of an entity. For short distances, road transport is preferred as it minimises both, secondary handling and freight costs.

Economies of scale from plants

Advancements in manufacturing sub-systems have steadily improved production economies. Therefore, on an operating cost basis, new cement plants have an edge over older plants. CRISIL Ratings analyses the size of the cement plant and capital cost for establishing economies of scale. Furthermore, the ability of a manufacturer to set up the plant within appropriate cost and timelines also impacts the returns generated by the project. In an oversupply situation, companies with superior operating efficiency are better placed due to their lower cost structure.

Power costs

Power being the largest cost component in manufacturing cement and given the high tariffs in India, companies with lower power costs — either through lower consumption or cheaper per unit costs because of captive facilities — are able to better withstand pricing pressure. Thus, companies with captive power sources have an edge because they have control over both the cost and availability of power.

Sources of coal

Entities with established coal linkages are less exposed to volatility in international coal prices. The coal procurement mix (domestic, e-auction and imported coal) is also analysed. Entities with greater reliance on imported or e-auction coal are at a disadvantage because of higher prices. CRISIL Ratings also examines the ability of companies to use alternative fuels in managing their overall power cost.

Split-location plants

In most cases, limestone deposits are located far away from consumption centres, resulting in high freight costs. Furthermore, when the market is in another state, companies are unable to fully utilise their sales tax concessions and incur considerable freight costs. A split-location plant, where the grinding unit is at a different location, alleviates this problem. Clinker, unlike cement, can be transported in open wagons, reducing freight costs, besides allowing for the grinding unit to be located close to a pozzolanic or slag source. CRISIL Ratings has a favourable outlook on expansions through split-location plants and believes this reflects the operational acumen of the management.

Better product mix

From a predominantly ordinary portland cement market, India has transitioned into a blended cement market that accounts for 80-85% of the total cement production. This shift could be advantageous as blended cement not only conserves valuable limestone resources but also reduces the fixed cost associated with power and freight, thus significantly improving cost competitiveness. Therefore, while arriving at the rating, CRISIL Ratings considers the company's product mix and consequent cost advantages and disadvantages against its competitors, besides factoring in efforts to move the product mix towards blended cement. Consequently, companies with plants close to fly ash and slag (key inputs) sources incur lower costs.

Criteria for the chemical industry

Market position

Product profile

Product profile refers to the proportion of bulk and speciality chemicals in the sales mix. Speciality chemicals offer better and sustainable margins in the long term because these products:

- Are backed by patented technology and, hence, not readily available with competitors.
- Play an important role in the production process of the users and, hence, users do not compromise on quality. The supplies are finalised after stringent quality tests. Once finalised, suppliers are not changed frequently, leading to a stable buying pattern.
- Constitute a minor proportion of the cost of production for users. Hence, slight changes in prices do not alarm them.

Bulk chemicals are pure commodities and prices tend to be very volatile, with little or no relation to the cost of production of a specific manufacturer. Thus, a higher proportion of speciality chemicals should provide greater stability to revenue, thereby strengthening the credit risk profile of the company.

Demand-supply equations and cyclicality

Rationalisation of import tariffs during the 1990s has linked the domestic market to international cycles. Higher capital investment in bulk chemicals subjects them to more pronounced cycles compared to speciality chemicals. CRISIL Ratings closely tracks international cycles and determines the likely scenario over the medium term. The vulnerability of Indian manufacturers is assessed in the light of this outlook and appropriately factored into the rating.

Price and margins trends

Over the past few years, domestic prices of chemicals have been generally linked to the landed cost of imports. CRISIL Ratings, hence, analyses the global and domestic price trends to ascertain the level of linkages. There are also issues specific to bulk and speciality chemicals.

- **Bulk chemicals:** Price trends are seen to be a direct reflection of the variations in either downstream product prices or input prices. CRISIL Ratings identifies these price determinants and analyses them to understand the trends.
- **Speciality chemicals:** Prices do not undergo cyclical changes because of applications in various end-user industries. CRISIL Ratings thus emphasises the identification of out-of-line variation in prices and analyses the reasons for these to understand the trends in the utility of the product.
- **Duty protection and pricing:** The differential between import duties on raw materials and finished products is an important determinant of pricing for domestic manufacturers. CRISIL Ratings, therefore, analyses the movement in import tariffs and the sensitivity of margins to changes in the protection levels. This is an important aspect in the rating of bulk chemical companies.
- **Sales break-up:** CRISIL Ratings looks into the break-up between domestic and international sales and the changes in this mix. Increase in exports not only indicates consistency in quality, but also reflects the ability to negotiate international market forces. Of late, the prominence of Indian companies in the global market has been increasing on account of two reasons. First, Indian companies are developing expertise to produce

complex chemicals while complying with the quality requirements of end users, and second, countries that traditionally were chemical manufacturing centres are witnessing environmental restrictions. This is expected to give a leg-up to the export contribution of Indian companies. Such companies would be better placed to handle future rationalisation in import tariffs.

Location

Proximity to users is an advantage, especially in bulk chemicals. CRISIL Ratings analyses regional demand-supply balances, which assume importance for low-value chemicals.

Operating efficiency

Cost of production

The competency of India in manufacturing chemicals would primarily lie in its ability to be a low-cost producer of bulk as well as speciality chemicals. Thus, CRISIL Ratings lays great importance on cost competitiveness vis-à-vis other producing regions, especially Southeast Asia and China. The elements that could play a role are: economies of scale arising from size of operations, technology and access to technology, flexibility in manufacturing (ability to shift between products with the same set-up), level of integration in operations, access to raw materials, nature of raw materials (whether petroleum derivatives or agricultural derivatives), taxes and import tariffs. This cost structure is compared with the global weighted average cost of production and the global prices at the bottom of the cycle at various points in time. The larger the difference, the stronger the company is from the credit risk perspective.

Technology

CRISIL Ratings places great importance on technology-related issues. The role of technology varies between the various classes of chemicals as detailed below.

- **Bulk chemicals:** The technology is easily available and, typically, there is more than one way to manufacture a particular product. Choice of technology is, therefore, dependent on the availability of the required raw materials, economies of scale and the ability to invest. CRISIL Ratings, hence, analyses the chosen technology and compares this with the other available technologies. Capital intensity makes this analysis critical as it would be a major determinant of cost.
- **Speciality chemicals:** Technology is typically developed in-house with the critical equipment being outsourced. The process is closely guarded as it can typically be duplicated. This exposes these companies to risks of technology theft. Thus, CRISIL Ratings looks into the level of investment on research and development and analyses the risk of manpower related to technology.

Capacity utilisation and flexibility in manufacturing

For bulk chemicals, the cost of production is directly related to capacity utilisation. Thus, it is important to maintain high capacity utilisation. For speciality products, small volumes generally do not translate into cost- efficient operations and are thus typically produced along with other products sharing common facilities. CRISIL Ratings, therefore, looks into the nature of products and the flexibility in the manufacturing set-up to shift between products.

Level of integration

A high level of integration usually results in a better cost structure. However, in the event of sharp price movements in inputs or outputs, the company is exposed to adverse market circumstances. Thus, CRISIL Ratings looks into the flexibility available to the manufacturer to start from various stages in its production process in case of adverse price movements in its upstream products. The ability to market intermediate products in the event of sudden price movements in downstream products is also assessed.

Access to raw materials

Access to raw materials at a favourable price is critical, especially for bulk chemicals where the cost of raw materials is high. Adverse price movements would typically impact the conversion margins available to the manufacturer. Also, dependence on imports for raw material, including concentration from any particular region, is analysed. CRISIL Ratings analyses past data to ascertain the ability of the company to pass on cost increases to consumers. The ability of speciality chemical manufacturers to do so is high, but varies depending on the industry structure.

Environmental impact and safety issues

CRISIL Ratings also looks into pollution-control measures employed by a company in the backdrop of increasing resistance from developed countries in buying products that are not eco-friendly. This assumes importance as these countries are expected to remain primary consumption centres, at least over the medium term. The safety record of the company is also considered.

Infrastructure

CRISIL Ratings examines the nature of infrastructure with a special emphasis on the transportation and storage of chemicals. This is important due to increased reliance on exports, which would necessitate special handling and storage facilities at the ports. Bottlenecks in infrastructure could curtail the growth of exports.

Product consistency and quality

With more companies diversifying into international markets, product consistency and adequacy of quality standards become critical. Thus, CRISIL Ratings looks into quality levels and the systems employed by the company to maintain these. In this regard, companies complying with quality standards (ISO 9001), environmental standards (ISO 14001), and health and safety standards (OHSAS 18001) are viewed positively.

Criteria for the fertiliser industry

Industry background

Government policies

The fertiliser industry has always been highly regulated. Hence, CRISIL Ratings believes that the credit risk profile of a fertiliser company is significantly vulnerable to government policies, which not only influence demand factors but also supply-side variables through pricing, distribution controls and subsidies. The policy environment has been such that the subsidy element chiefly determines the profitability of a fertiliser company.

Phosphatic and potassic fertiliser makers were governed by the Retention Price Scheme (RPS) till 1992, and urea players till March 2003. Introduced in 1977 with the objective of achieving self-sufficiency and providing adequate returns to fertiliser companies, the RPS has been primarily responsible for the growth in domestic fertiliser capacity and production. The commissioning of large capacities, persuaded by the promise of assured returns under RPS, and a marginal rise in farm-gate prices compared with production costs, however, resulted in a ballooning subsidy burden. In a bid to control its subsidy bill, the government has been changing its fertiliser policies over the past decade. The fortunes of fertiliser manufacturers, especially urea, have varied with each policy change.

While retail prices of urea continue to be regulated, prices of non-urea fertilisers were deregulated in April 2010.

In addition to price regulation, the subsidy disbursal policy also impacts credit risk profile by impacting the working capital cycle of a fertiliser producer. In November 2020, the government announced an additional subsidy of Rs. 65,000 crore under the Atmanirbhar Bharat Package 3.0. This is expected to clear the subsidy arrears, thereby bringing down the working capital borrowings of players. However, the timeline for the disbursement of the additional subsidy and annual subsidy budget will remain monitorable. The clearance of past subsidy arrears is expected to pave the path towards effective implementation of Direct Benefit Transfer (DBT) by providing subsidy directly to the accounts of farmers.

Non-urea fertilisers

Phosphatic and complex fertiliser manufacturers are governed under the ad hoc concession scheme of the government. In the early to mid-1990s, demand for phosphatic fertilisers was considerably impacted following the decontrol (1992) and flip-flops in government policies, resulting in highly decontrolled farm gate prices, as against urea, which was then governed by RPS and was, therefore, subsidised. High phosphatic fertiliser prices distorted the consumption patterns in the country in favour of nitrogenous fertilisers, thereby creating a nutrient imbalance.

Currently, non-urea fertilisers are governed by the Nutrient-Based Subsidy (NBS) scheme, introduced in 2010, wherein the subsidy component is fixed and domestic prices are allowed to vary in line with international prices.

CRISIL Ratings evaluates the profitability of a player within the overall framework of NBS. Players with strong raw material linkages (especially phosphoric acid/rock phosphate), efficient handling operations, adequate storage facilities and effective conversion parameters tend to have better margins. Proximity to markets and presence of strong brands result in better recoveries of distribution and selling expenses for players.

As phosphatic and complex fertiliser manufacturing is not capital-intensive, the profitability of players in this segment is lower than their counterparts in the urea industry. The regulatory environment for phosphatic manufacturers is liberal with fewer distribution or selling restrictions on the end product. While there has been progressive tightening of norms under the ad hoc concession policy over time, players with cost structures well within the normative parameters of the government policy and strong risk management policies tend to have superior business risk profiles

Urea

Urea pricing is governed under the New Pricing Scheme (NPS) from April 1, 2003, which replaced RPS. The NPS is a group concession scheme that aggregates plants of similar vintage and feedstock under six groups. Pre-set energy consumption norms were specified in stage I (fiscal 2004) and stage II (fiscals 2005 and 2006) of NPS and capital costs were also reassessed. These resulted in a decline in industry profitability during the period. Stage III, which was applicable from October 1, 2006, to March 31, 2010, incentivised production of urea beyond 100% capacity. This policy was amended in April 2014, updating the cost assumptions used in calculating the subsidy. In May 2015, the government announced the New Urea Policy-2015 (NUP-2015), which was initially made effective from June 1, 2015, up to March 31, 2019, with the objective of maximising indigenous urea production, promoting energy efficiency in urea production by changing the prescribed energy norms and rationalising subsidy burden on the government by mopping up energy savings by the industry.

Essentially, extant regulations fix the retail price of urea and the subsidy depends on the cost of production (which, in turn, would have commodity linkages).

CRISIL Ratings evaluates the cost structure of urea players against that of the group it is assigned to under NPS. While subsidy under NPS is expected to be progressively tightened, players with low energy consumption, competitive cost structure and economies of scale will fare better in the long term. The ability to improve energy efficiency without taking up large capital expenditure (capex) will be a key determinant of business risk profile.

CRISIL Ratings believes that unlike other industries, fertiliser producers have greater exposure to policy changes and uncertainties, which have a significant bearing on their business risk profiles. With political compulsions constraining the ability of fertiliser producers to charge market prices from farmers, the government will continue to play a major role, retaining some kind of subsidy mechanism for the sector over the medium term.

Market position

Demand-supply

The low per-hectare fertiliser consumption levels in the country point to an increasing demand for all three nutrients − nitrogenous, phosphatic and potassic – in the long term.

On account of unfavourable investment policies, capacity additions were absent in the urea segment, leading to a surge in urea import (from 0.5 million tonne [MT] in fiscal 2000 to 6.9 MT in fiscal 2008). The government introduced the urea investment policy in 2008, which saw muted response as no assurance was provided for gas prices and returns were not linked to gas costs. This was addressed in the updated policy in 2012, which linked realisations to costs and assured minimum return on networth of 12% to urea manufacturers. This policy led to a rush of applications, which would have resulted in overcapacity in the industry. Consequently, the policy was modified to remove the assured offtake clause. After that, of the 2.6 MT capacity set up, only 1.3 MT has been operational. The remaining 1.3 MT is expected to be operational and capacity of 6 MT is likely to be added by fiscal 2024, thereby shrinking the demand-supply gap. CRISIL Ratings closely examines the demand-supply scenario while evaluating business risk. With non-urea fertiliser plants not operating at high capacity utilisation, limited capacity addition is expected for this segment.

Over the short term, CRISIL Ratings believes fertiliser consumption patterns will remain susceptible to pricing and subsidy policies, which may tilt demand in favour of certain varieties and influence capacity addition plans. At a macro level, the demand-supply position of various fertilisers is by and large favourable; the market position of a player is also a function of its brand equity in a particular region and the local demand-supply equation.

Distribution network

Fertiliser manufacturers with a wide and established distribution network would be in a better position to take on competition. In addition, players catering to more states would be better placed as they would be less susceptible to uneven monsoon.

Issues specific to urea manufacturers

The partial loosening of controls on distribution under the Essential Commodities Act with effect from October 2003 has resulted in a situation where players with substantial distribution networks are able to improve their market positions. Players located close to their target markets also have an advantage as they can cash in on freight savings arising from distribution decontrol.

Operating efficiency

Capacity utilisation

Under RPS, the operating parameters of a plant, especially in the case of urea manufacturers, played a major role in determining profitability. Earlier, urea manufacturers were reimbursed for variable costs on the basis of normative consumption levels and for fixed costs on capacity utilisation of 90%; higher capacity utilisation resulted in increased profitability. With the implementation of the group concession scheme, however, the importance of this parameter has been eclipsed by factors such as energy efficiency, low fixed costs, availability of feedstock, plant vintage and technology. Furthermore, the policy allowing pooling of domestic gas and LNG, and applying uniform cost of gas thereafter ensures stability of profitability.

Flexibility in sourcing raw materials

Under RPS, import dependence of urea manufacturers was not a matter of concern as all variable costs were reimbursed. However, with the gas pooling mechanism in place, the government has rationalised the input cost for all players, bringing some parity in the cost of production for urea.

For phosphatic fertilisers, import dependence is high with most raw materials, such as phosphoric acid, rock phosphate, muriate of potash, sulphur and ammonia, being imported. This increases the inherent business risks in the event of supply shortage and a depreciating rupee environment. In such a scenario, players with assured long-term supply of raw materials at stable prices or with domestic facilities for phosphatic fertilisers tend to have stronger credit risk profiles. Additionally, players with flexible manufacturing facilities that enable them to shift between sourcing of intermediates and basic raw materials, depending on the cost economics, are usually able to minimise cost increases.

The raw material handling facilities of players and ability to store are other key operating efficiency determinants, given that raw materials are imported and their prices are volatile.

Cost structure

In the long term, policy orientation is expected to favour the more efficient plants that use cheaper feedstock, are energy efficient and have an internationally competitive cost structure. Thus, while the current players are comfortably placed today, they will need to focus on reforming their cost structure. This includes exploring alternative and more viable feedstock and benchmarking themselves against international players in terms of scale of operations, production routes, energy efficiency and productivity levels.

In a scenario where both farm gate prices and subsidies will need to grow within reasonable limits and given the resultant pressures on profitability, the cost structure of a fertiliser plant will have a critical bearing on the credit quality.

Criteria for the mining industry

Regulatory risk

CRISIL Ratings believes the regulatory scenario in India will continue to evolve, especially in the areas of:

- Environmental regulations
- Private sector participation
- Commercial mining
- Import barriers

For instance, due to environmental concerns, iron ore has witnessed mining bans in select states, which have impacted the production and overall domestic supply of companies. CRISIL Ratings monitors and factors in the effect of the expected changes in the fundamental functioning of the mining industry in the country.

Market position

Pricing characteristics

As minerals are commodity items, their pricing characteristics are vital. Mineral prices are affected by factors that are generally beyond the control of a producer. In this regard, CRISIL Ratings analyses the competitive position of the company in its market areas, threat of import substitution, flexibility offered by the cost structure to absorb the price variation as well as regulation in pricing that the company may be subject to.

In evaluating the pricing flexibility of the company, CRISIL Ratings also looks at the supply and demand fundamentals of the mineral being mined. Analysis of demand for a mineral covers historical domestic and international usage and cyclical trends.

In India, most of the mining companies are state-owned monopolies and, therefore, face limited domestic competition. In such a scenario, diverse consumer base, lower threat of import substitution and ability to pass on costs to consumers are considered favourable. Excessive government control on pricing or concentration in the customer profile are negatives. That said, private participation is now allowed and the first round of auctions for coal mining has been undertaken. Furthermore, with 100% foreign direct investment (FDI) being permitted, the competitive landscape is expected to evolve and monopoly of state players reduce.

Operating efficiency

A low-cost position is important in an industry where producers have limited pricing flexibility. CRISIL Ratings believes the cost position of a company depends on:

- Ability to access inputs at low cost
- Quality of ore reserves
- Ease of mining (parameters such as overburden ratio, stripping ratio)
- Technology employed
- Location of the mine and the associated transportation cost

CRISIL Ratings evaluates the labour structure of the company on the basis of factors such as manning level, mix between permanent and contracted employees, financial implications of any new wage contracts being negotiated, the extent of social welfare costs that mining companies have to bear and their implications on future profitability, and the productivity of the labour force.

Ore reserves are a part of mineral deposits that can be economically extracted. The quantity and quality of the proven and probable reserves of a company are important success factors. CRISIL Ratings believes the quality of an ore will have a direct bearing on the pricing flexibility of the mineral. That is, the intrinsic quality of ore will necessitate less beneficiation (the process of enriching the mined ore to usable condition), leading to a low-cost position. Mix between open cast and underground mining is also a critical factor as open cast mines tend to have a lower cost of production.

CRISIL Ratings also looks at the ease of access to low-cost energy and whether or not it is purchased under long-term contracts. The proximity and sourcing of raw materials are also examined. For instance, CRISIL Ratings considers where a milling operation is located in relation to its power source and whether raw materials and infrastructure required are in-house or from third parties.

CRISIL Ratings assesses the potential for creeping cost increases attributable to inflation, wage hikes or less-than-envisaged ore grades in the mine plan, as well as supply disruptions that could arise from labour strikes or regulatory restrictions. Any of these developments could increase costs.

CRISIL Ratings evaluates the company with respect to the above parameters on an absolute basis and benchmarks it against other industry players, both domestic and international.

Production diversification

The diversity in operating assets contributes to credit strength by reducing exposure to disruptions from unforeseen operating, geological or political events. CRISIL Ratings assesses the extent to which the continuation of operations is threatened by the lack of backup systems and, as part of its analysis, looks to stress the performance of the company to the possibility of adverse events. CRISIL Ratings believes that entities with well-diversified operating assets can insulate themselves from considerable operating risks. However, even a single mining company can achieve diversification if it operates one mine with multiple operating faces within the same pit or a number of separate pits within one mine.

Reserve replacement

The reserve replacement strategy of a company is a critical factor in assessing its credit quality. Ore reserves are depleting assets. Besides, some of the ores could be on mining leases with defined tenure. Therefore, producers have to constantly look for additional reserves. For mining companies choosing to explore and develop their own reserves, CRISIL Ratings evaluates the quality and location of the assets within their portfolios of exploration targets and the financing plan for the exploration and development of the new mines. CRISIL Ratings also reviews the track record of the company with respect to exploration success, which includes bringing targets into production in a timely and cost-effective manner.

Safety and environment issues

CRISIL Ratings reviews the safety measures of the company in terms of:

- Track record of accidents, their severity and frequency
- Safety guidelines being followed
- Potential liabilities stemming from historical mining activities or other legacy costs

- Indemnification measures against such potential liabilities

Given the toxicity of many of the products and by-products in the mining process, there is the risk of ongoing operations possibly violating environmental regulations. CRISIL Ratings assesses the existing measures and past track record of the company in relation to compliance with environmental codes.

Geographical concentration risk

Domestic and international consumption drives the demand for ore. A company present only in the domestic market is exposed to domestic cycles and unexpected fluctuations in demand due to local circumstances. Presence in the global market provides a hedge against these risks.

Criteria for the paper industry

Market position

Product segments

The presence of players in the commodity and speciality grades of the paper market will determine the extent of vulnerability to cyclicality. In the commodity grade segment, the ability to sell a diverse product range and cater to a wide cross-section of the market will moderate the effects of cyclicality. However, in the newsprint (NP) and niche segments such as coated or speciality paper, where the market size is limited and players are few, factors such as international price movements and import duty dictate the fortunes of domestic players. Hence, it is essential for them to have a competitive cost structure.

Flexible manufacturing facilities

The ability to alter the product mix — for instance, to shift between NP and writing and printing paper (WPP) or within the various commodity grades in WPP — according to market trends will be a crucial factor, especially in a highly cyclical industry.

Distribution strengths

A large and geographically spread distribution network provides significant marketing strength and reduces offtake per dealer. A loyal and dedicated dealer network will help withstand market downtrends more effectively. Such loyalty is normally built through distribution policies such as unbiased allocation of volumes across channels during market uptrends, ability to extend credit in periods of distress, and supply of a wide range of products. Customer profile in direct supplies and retail also has a bearing on the business risk profile.

Capex to maintain market share

As developing economies usually experience high growth in demand, manufacturers need to constantly add capacities to retain market share. In addition, the commoditised nature of the business requires regular modernisation of production facilities to remain competitive. With business being highly capital-intensive, the funding requirement for capacity augmentation and modernisation tends to be enormous. The long gestation periods involved in expansion also require considerable project implementation skills and financial strength.

Operating efficiency

Extent of integration

This determines the fixed-cost intensity of the business. Units that are fully integrated, from pulping to conversion, will be more fixed-cost intensive, resulting in higher breakeven volume. During downturns in the industry, when pulp prices tend to be lower, integrated manufacturers are unable to take advantage of this. In contrast, manufacturers with a lesser degree of integration are better positioned to withstand downtrends owing to their lower fixed-cost intensity, although this also means that their profitability tends to be average even during industry uptrends.

Fibre sourcing

The linkages created to ensure steady and adequate supply of raw materials are critical. The flexibility to use non-forest-based sources such as bagasse and wastepaper as raw material is also important. This is because of the limited forest cover and increasing environmental awareness. However, high usage of non-forest-based fibre

resources limits production capabilities to the lower-end commodity grades of paper. Therefore, it is crucial to strike an appropriate balance based on market requirement.

The extent of dependence on imported raw materials such as wastepaper and intermediates such as pulp is also an important factor. As the volume of exports tends to be negligible, a high level of imports results in an unhedged position that exposes the company to significant foreign exchange risks. A high level of imports also requires substantial liquidity to maintain adequate inventory because imports are normally in quantities that are substantially higher than the daily production requirement.

Cost structure

In an extremely cyclical business such as paper, it is crucial for players to maintain a low-cost status to remain competitive. CRISIL Ratings compares the cost structures with those of the peer group, as well as the landed costs of imports and past trends.

CRISIL Ratings also assesses the following factors to determine performance efficiency:

- Plant utilisation level
- Power availability, tariff, extent of back-up and facility for cogeneration of power
- Power and chemical consumption
- Pollution control measures

Criteria for the steel industry

Market position

Market share

The key factors that drive the market position of a company are its market share and customer profile. Market share is related to the size of the company and is an important determinant of its position in the industry. Large, well-diversified companies in the highly fragmented steel industry typically have greater ability to withstand external shocks, easier access to capital markets, and better bargaining power with suppliers and customers. Consequently, a larger size tends to have a favourable impact on the credit risk profile, although the benefits can be overshadowed by a weak capital structure or poor cost position.

Client base

The customer profile of a steel company determines its business position. For instance, a client base that includes automotive (auto) and auto ancillary companies is more stable than one that comprises traders because sales in the former are generally governed by contracts, ensuring long-term demand stability. In some cases, prices are negotiated for a fixed period, thereby reducing exposure to price fluctuations.

CRISIL Ratings believes a diversified clientele is a positive factor as a setback in a particular end-user segment will have a lower impact on total sales, compared with a company with high client concentration. Diversification may also be across geographies, and include export.

Product mix

CRISIL Ratings examines the product range and the extent of value addition. A wide product range enables a company to cater to a larger clientele. The product range may cover several grades and product types (the latter essentially entails flat and long products). In the Indian context, it is a prudent strategy for steel companies to adopt a judicious mix of flat and long products because prices of long products are generally more stable than those of flat products, though the latter are typically more profitable.

The extent of value addition is another crucial differentiating factor for steel companies. Value-added products offer higher realisations and boost profitability. The cost of adding value is generally lower than the incremental realisation that such products offer.

In the flat segment, value-added steel products include cold-rolled, colour-coated, galvanised and tin-plated. In the long product segment, value addition involves producing more wires, wire ropes and rails. Higher profitability and stable cash flow are significant benefits of selling a larger quantum of value-added products.

There are many small and mid-sized steel companies and quite a few of these are not primary producers of steel, but engaged in re-rolling of flat and long products. These entities cater to the customised requirements of their end-users and operate on fixed conversion margins.

Demand-supply dynamics

In general, steel consumption is highly cyclical with capital goods, consumer durables and construction accounting for a significant proportion. Yet, demand for certain products tends to be more stable — for instance, the recession-resistant consumer packaging industry is the primary market for tin-mill products, leading to stable demand.

The demand pattern for flat and long products depends on the stage of development the economy is in. Typically, long products are used in infrastructure. Hence, their consumption is higher in a developing country. On the other hand, flats have higher consumption in developed economies as they are primarily used to manufacture consumer goods, automotives, and the like.

Rationalising capacity between flat and long products is important. During downturns in the steel cycle, the ability of a company to cut production and yet remain cost-effective is a key factor determining long-term competitive advantage.

Level of competition

The level of competition that a steel producer has to contend with is critical for assessing its credit quality. The intensity of competition is influenced by the demand-supply balance in the product category and the regions the company operates in. Local freight economics also has a critical bearing on the ability to stave off competition.

Operating efficiency

Steel companies have little control over end prices. Therefore, the key to success is keeping cost low. The key cost determinants are technology, manufacturing method, operational integration and operating efficiency. As the steel industry is capital-intensive and has a fairly high fixed-cost base, a company can also control cost by maximising capacity utilisation. Some of these parameters are discussed below.

Technology

State-of-the-art technology can help a company achieve a competitive cost position. That said, for a particular choice of technology, factors such as experience of the management team, workforce training, and operating and maintenance practices influence operating efficiency.

Manufacturing method

Steel can be manufactured through the integrated route or through mini-mills. The integrated route uses iron ore, coke and limestone, while mini-mills produce steel by melting scrap or scrap substitutes (such as sponge iron) in an electric arc furnace (EAF). Some plants combine the advantages of both routes using a mini-blast furnace to make iron and an EAF to make steel.

In India, EAF is the most common route for producing steel. While long products are typically produced in small and medium-sized mills, flat products are mostly manufactured in large integrated mills.

Operational integration

The greater the integration in the operations of a steel company, the lower its cost. Coal is a significant cost component in steel manufacturing. Companies with captive iron-ore and coal sources have a significant cost advantage over non-integrated players. In India, however, the lack of metallurgy-grade coal is a significant handicap. Some companies overcome this hurdle by using a mix of local and imported coal while others import their entire coal requirement.

Similarly, EAF-based producers must have access to a low-cost supply of scrap substitutes, such as hot briquetted iron or direct reduced iron (sponge iron), as both the cost and availability of scrap are concerns in India. These producers must also have access to captive power because of the energy-intensive manufacturing process. The distance of the plant from its key raw material sources is another important consideration that determines the landed cost of raw material and, eventually, the final cost of manufacturing.

Operational parameters

Some key parameters that CRISIL Ratings considers while assessing the operating efficiency of a company are the energy consumption in the blast furnace and its productivity, coke rate, labour productivity, and the percentage of steel produced through the continuous casting technology. CRISIL Ratings also measures the production yield, which is the ratio of the quantity of finished steel shipments to the total raw steel produced.

Capital investments

Another key issue is capital requirement, either to expand capacity or upgrade facilities. The steel industry requires regular, large capex to maintain modern and efficient facilities.

In some developing countries, such as India, mills need modernisation, which is costly, to compete effectively in the global marketplace. CRISIL Ratings examines the construction risks, technological challenges, and other constraints on the financial flexibility of these companies as they pursue their capex programmes.

A strong financial risk profile is important for the credit strength of a steel company for two main reasons. First, steel producers with a weak balance sheet are less likely to withstand business downturns and maintain their investment programmes, thereby losing out on efficiency. Second, players with a strong financial risk profile will be able to acquire weaker competitors during a downturn.

Conclusion

CRISIL Ratings analyses the business, financial and management risk profiles when rating companies in the materials sector. While the broad criteria remains the same as that for rating manufacturing and service sector companies, CRISIL Ratings considers the industry-specific factors discussed in this document to assess the business risk profiles of companies from different industries in the materials sector.

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