Crisil Ratings criteria for manufacturing, trading and corporate services sector

(Including approach for financial ratios)

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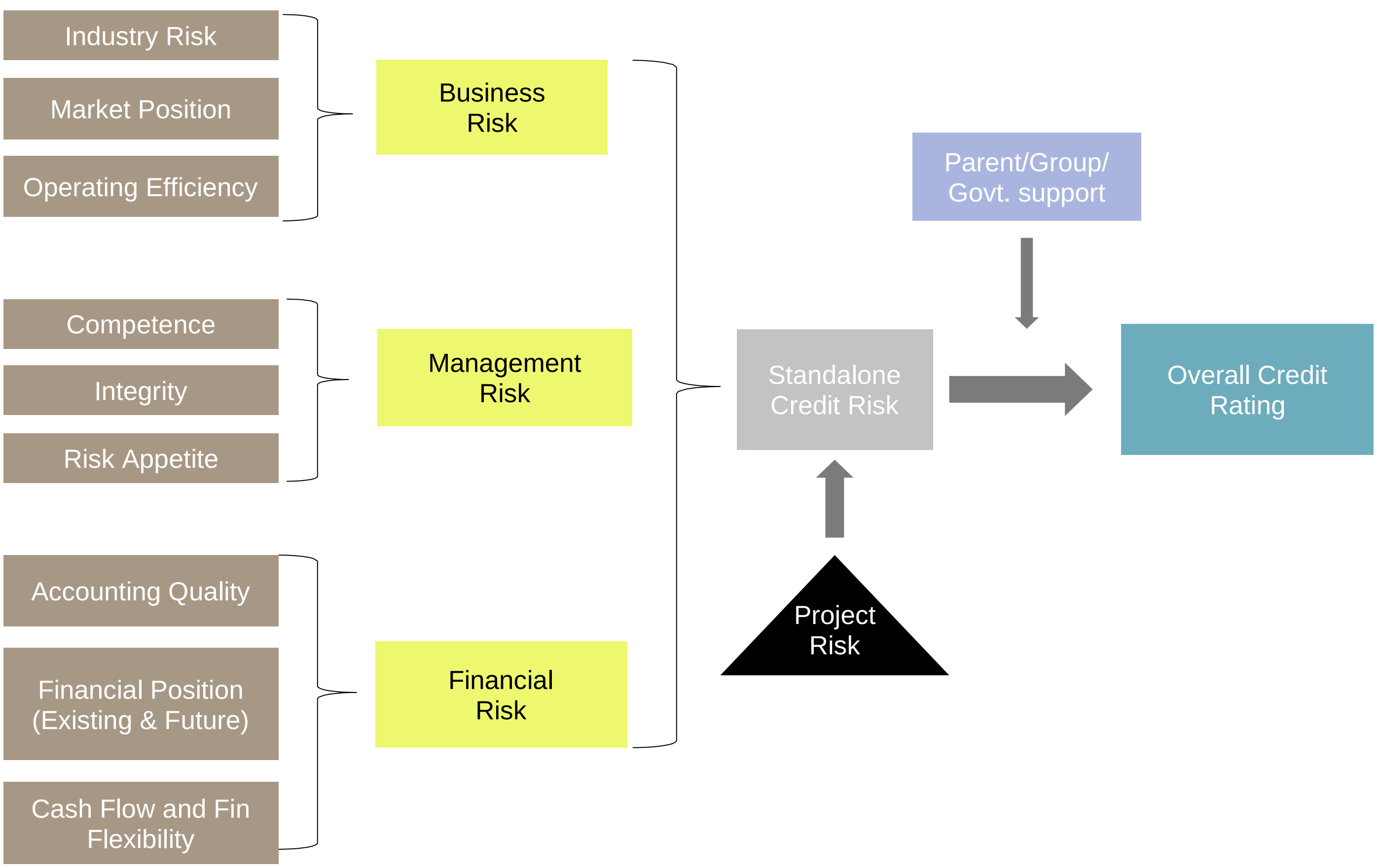
Executive summary

The Crisil Ratings framework for assessing the credit quality of manufacturing and corporate service sector companies entails the four broad areas of business, financial, management, and project risks.

- Business risk analysis is an assessment of the sustainability and stability of a company's cash flows. It includes the business fundamentals of the rated company, the characteristics of the industry in which it operates, its competitive market position in the industry, and its operational efficiency.
- Financial risk analysis assesses the sustainability and adequacy of the company's cash flows with particular emphasis on debt servicing ability. It analyses how the business strengths of the rated company translate into its current and future financial performance and its financial flexibility, with particular emphasis on liquidity.
- The company's management philosophies, strategies/policies, and risk appetite are evaluated while assessing management risk.
- If the company is implementing any large project, the risks associated with the project implementation, funding, and marketing are evaluated.
- Support from the parent/group/government is also analysed and factored into the overall rating.

Crisil Ratings believes environmental, social and corporate governance (ESG) risks and opportunities can have a bearing on the credit profile of an issuer. Based on materiality and adequacy of data on ESG factors, Crisil Ratings will assess and suitably factor in the ESG profile of the issuer in its credit risk analysis.

Chart 1: The Crisil Ratings framework for rating manufacturing and corporate service sector companies



Scope

This section[1] details the broader rating methodology for entities in the manufacturing and corporate services sectors. These entities have relatively higher degree of value addition compared with traders, which add minimal value to the products they deal in. The methodology for assessing the risks within specific industries (cement, steel, auto ancillaries, real estate, education, solar power producers, and so on) is discussed in the following sections. Criteria for parent/group/government support is also covered under separate article available on the Crisil website.

Business risk analysis

The analysis begins with a fundamental assessment of the environment in which the company operates, and essentially covers the overall aspects of the industry, the risks the industry faces, and the government policies affecting that particular industry. The evaluation extends to an assessment of the company's market position and its operational efficiency.

Industry risk

Assessing the industry risk is fundamental to evaluating a company's business risk profile. The industry risk rating largely indicates the median rating for companies in that industry. It should be noted that the presence or otherwise of strong credit quality factors in terms of market position, operating efficiency, and financial position will eventually determine the final rating assigned to the debt instruments of individual companies.

For industry risk analysis, Crisil Ratings evaluates the size of the industry, its growth prospects, the competitive scenario and demand-supply dynamics, vulnerability to technological change, the importance of the industry to the economy, government policies, entry barriers, profitability and cyclicality. Industries that have steady demand growth, ability to maintain margins without impairing future prospects, flexibility to time capital expenditure, and moderate capital intensity are regarded favourably. Favourable industry risk factors may not, however, directly translate into higher ratings for all companies within that industry, but such factors do support the credit quality of these companies.

Market position

An analysis of the rated company's market position, in essence, is an assessment of its ability to profitably sell goods and services in a stable and sustainable manner. The ability to sell what is produced and to control selling prices critically determine the market position of a company. Thus, a large market share is not always synonymous with competitive advantages or industry dominance if the company does not have the flexibility to determine the selling price of its products. For instance, in a highly competitive industry, with limited product or service differentiation or a business where landed cost of imports govern prices, even large companies may lack pricing leadership potential.

To evaluate the market position of an entity, Crisil Ratings undertakes a detailed analysis of both the degree of competition in each market segment and the competitive dynamics among different players. Entry barriers to the industry and capacity expansion by existing players are examined to understand the dynamics of demand and supply on a forward-looking basis.

Crisil Ratings also considers regional demand-supply balances, especially for those industries where the logistical cost of transporting products across regions is prohibitive.

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[1] *The previous version of this article, which was updated in January 2025, can be accessed here:- https://www.crisilratings.com/content/dam/crisil/criteria_methodology/industrials/archive/rating-criteria-for-manufaturing-and-services-sector-companies-jan2025.pdf*

A company's ability to pass on increased input or service cost to its customers is a crucial factor for stable profitability. A diversified presence, both geographically and through a wide product mix, leads to a stable market position, vis-à- vis a region-specific distribution network and limited product portfolio. Similarly, large exposure to a single client (or a few clients) will increase the concentration risk and curtail pricing flexibility.

For industries such as cement, branded consumer goods and fast-moving consumer goods, the key factors for assessing market position are distribution network and brand equity. For service industries, strong customer relationships, and ability to brand and differentiate the service offerings are critical factors. An analysis of positioning categories on the basis of their size, features, price range, and consumer segments gives Crisil Ratings an insight into the company's market strategy. The market position of companies in industries such as software, drugs and pharmaceuticals, and consumer durables is analysed in terms of their track record, and ability to innovate and launch products and achieve commercial success.

Operating efficiency

Operating efficiency is an analysis of a company's ability to produce goods and provide services at competitive costs in a sustainable manner. The factors considered while evaluating operational efficiency vary from industry to industry. Some of the key factors common across industries are technology, access to resources, human resources, capacity utilisation, flexibility in the manufacturing process, extent of integration, and research and development (R&D). These factors could contribute to the stability of a company's cost structure or create sustainable cost advantage, or conversely, lead to volatile cost structures and only short-term cost advantage.

Technology

Technology remains a significant factor for maintaining a competitive position in the business. Companies with strong technology-oriented businesses have fewer competitors as technology provides a significant entry barrier to the unorganised sector.

Access to resources

Companies with easy access to raw materials and bargaining power with suppliers maintain healthy operating margins in the long term. Domestic availability of raw materials and captive sources impart flexibility in protecting operating margins. For power-intensive industries such as aluminum, steel and cement, access to captive power generation facilities provides operational flexibility and even significant cost advantages in some industries.

Price volatility of key raw materials/inputs

The extent of volatility in raw material prices is another key element of analysis. Crisil Ratings analyses the linkage (or absence thereof) between input prices and the pricing of goods sold. Strong linkages will normally imply low volatility of operating margins. However, commodity-based businesses such as steel and petrochemicals, wherein raw material prices are linked to global prices and not related to final product prices, report more volatile operating margins; such businesses are viewed less favourably by Crisil Ratings.

Human resources

While evaluating entities in knowledge-based industries, Crisil Ratings analyses the company’s ability to attract and retain qualified and experienced manpower as well as the depth and diversity of skill sets available in the company, and policies regarding training and upgrading skills of employees. The company's attrition level is compared with the industry level, and the impact of attrition evaluated. This becomes especially important for companies in the services sector, as their largest cost component is employee cost and it is through the quality of human capital that they differentiate themselves in the industry.

Crisil Ratings also evaluates the company’s relationships with labour unions and the workforce in general, and any history of disruptions in operations driven by labour unrest.

Capacity utilisation and flexibility

Economies of scale achieved through optimum capacity utilisation are very important to reduce production cost per unit. Crisil Ratings assesses the flexibility of the company to shift between products or redeploy human resources. Operating parameters are developed for each industry and the individual industry rating methodology highlights these parameters, which are critical for the profitability levels in that sector.

Level of integration

A high level of vertical integration usually results in a better cost structure. Crisil Ratings analyses the flexibility available to a company to alter various stages in its process to adapt to adverse movements in its cost structure.

R&D

Crisil Ratings examines the rated company's ability to develop new products to serve changing needs of the market or to acquire new domain knowledge. Crisil Ratings also studies the quality, annual spend and the adequacy of the company's R&D facilities.

Operating efficiency parameters specific to individual industries are discussed in greater detail in the industry-specific rating methodologies.

Financial risk analysis

The financial risk analysis essentially focuses on determining the sustainability and adequacy of the issuer's cash flows in relation to its debt obligations. The key parameters for assessing financial risk are accounting quality, adequacy of cash flows, and financial flexibility. Crisil Ratings considers various financial ratios while analysing the financial risk profile of a firm. For further details, please refer below to section IV: ‘Crisil Ratings methodology for financial ratios’.

Accounting quality

The financial ratios and statements used by Crisil Ratings to analyse a company's financial performance are derived from the audited financial statements. Consequently, Crisil Ratings commences its financial risk analysis by assessing the company's accounting quality. Some key areas that are analysed are:

- Any overstatement/understatement of profits

- Qualifications made by auditors
- Method of income recognition and depreciation
- Inventory valuation policies
- Off-balance-sheet items/contingent liabilities and similar factors

Wherever required, analytical adjustments are made and the company's financial statements are recast to reflect an accurate picture of its true financial position. This is essential for an accurate assessment of the company's financial performance vis-à-vis its peers.

Adequacy of cash flows

As a credit rating is an assessment of a company's ability to meet its future debt obligations, the financial risk analysis primarily involves an assessment of the company's future earning capacity in relation to its debt obligations. It is pertinent to note that the analysis is cash-flow based: Crisil Ratings uses a proprietary financial model to estimate the cash flow that will be generated by the company during a particular year. Several adjustments are made to the reported financial statements, including those for working capital changes and provision for expenses, to ensure comparability and to provide analytically sound metrics for the assessment of financial performance.

The Crisil Ratings cash flow analysis includes two steps:

(A) Assess the company's financial performance (that is, its income statement). The company's past and future profit potential is evaluated to understand the available credit protection and the sustainability of the same. This encompasses an analysis of absolute levels of various ratios, trends across years, and comparison across industry peers. Crisil Ratings evaluates the profitability of the company's operations and its sensitivity to price fluctuations and downturns in the industry. The operational cost structure is also analysed and compared with other players in the industry. The financial performance is correlated with the business risk evaluation and an assessment made as to whether the financial performance truly reflects the business position of the company. Based on this understanding, Crisil Ratings arrives at an estimate of the company's future financial performance and cash flows, and assesses its adequacy with respect to its debt obligations.

(B) Assess the company's financial position, that is, balance sheet analysis. The assessment includes the company's capital structure, cost of funding and working capital management. This is studied in relation to the company's business risk profile. Companies with volatile earnings (such as steel, cement and petrochemical companies) may increase their financial risk if they leverage excessively, while companies with stable operations (power, for example) can operate at a high leverage without adversely affecting their financial risk profiles. Crisil Ratings analyses any proposed capital expenditure, organic and inorganic growth plans, funding strategies and the maturity profile of debt.

Liquidity and financial flexibility

Crisil Ratings evaluates a company's ability to generate funds through alternative sources during any financial distress. The company's contingency plans and its ability to deal with adverse scenarios are analysed. Its ability to raise funds through internal sources (internal accrual, saleable assets) and external sources (relationships with bankers, access to capital markets) to cover temporary shortfalls is examined. The company's record in raising funds, especially from the capital markets, relationships with lending institutions, and the quantum of marketable securities it holds are some of the indicators of its financial flexibility. Capitalisation ratios are analysed to evaluate if the company is overly reliant on debt funding as this will limit its ability to raise resources from the debt market.

To assess liquidity, Crisil Ratings evaluates bank limit utilisation with respect to drawing power on a monthly basis. The bank limit utilisation indicates the flexibility available to the company to manage its working capital through external sources. Working capital management is a key parameter that has a direct impact on profitability, and therefore, cash accruals. Working capital management becomes especially important for companies in working capital-intensive industries or those that supply to cyclical industries. Efficient working capital management will reduce pressure on liquidity, and hence enable timely servicing of debt.

For corporate service sector entities, especially those in the information technology (IT) sector, employee salaries form a major chunk of operating costs and there is limited flexibility in deferring this expense. Therefore these companies, as a policy, maintain necessary cash to pay specified months of employee cost (for example, a company may maintain cash to pay three months of employee costs as a policy). While analysing financial flexibility, Crisil Ratings factors in the cash in excess of what is required to be maintained as per policy.

A company's flexibility to defer its capital expenditure plans if its financial position weakens is also studied. If the rated company is a subsidiary or part of a group, the external support that it can receive from the parent company or group companies is analysed at great length and factored into the overall rating. Conversely, any support by the rated company to group companies is also considered.

Growing importance of ESG risks and opportunities

ESG risks and opportunities can have a bearing on the long-term sustainability of businesses, which can, in turn, affect their creditworthiness. For instance, investments that help reduce emissions, deploy efficient methods of waste disposal and introduce sustainable sourcing of raw material mean lesser regulatory issues, better community engagement and long-term sustainability of business operations. Strong governance structure is the cornerstone of any successful business and long-term viability is impossible without it. How a company implements its strategies to mitigate ESG risks and leverage opportunities indicates its ability to handle changes in the business environment. Therefore, all parameters—including ESG parameters—that have the potential to impact business or the financials of the business are assessed to arrive at a credit opinion.

The last few years have seen the emergence of ESG-led investments globally. ESG investments account for about a third of global assets under management and are expected to grow more than 2.5 times to ~$100 trillion by 2030. Investments in emerging markets, pegged at ~15% in these global funds, are likely to reflect a similar trend, thereby significantly improving access to funds for ESG-focused entities. Over time, ESG readiness may well become an important distinguishing feature for corporates to access funds.

World over, non-financial disclosures are still evolving. India is no exception. Some of the large corporates have been early adopters, voluntarily tracking and disclosing their ESG-related parameters and policies. ESG-led investing is at a nascent stage in India, but is steadily gathering pace. As information availability is largely restricted to large listed companies, Indian banks—a major source of funding for corporates—are expected to gradually integrate ESG in their lending decisions.

However, disclosure levels in India are expected to improve. A SEBI circular on Business Responsibility and Sustainability Reporting dated May 10, 2021, requires the top 1,000 listed corporates to disclose significant non- financial information voluntarily in fiscal 2022 and compulsorily from fiscal 2023. Improving data availability and ability to benchmark non-financial parameters will help in suitably factoring in ESG risks in credit assessment and other investment decisions in the future.

Factoring the impact of ESG in credit ratings:

As investors begin to screen their investments through the ESG lens, Crisil Ratings believes the ability of an entity to manage ESG related risks will have a bearing on access to funds. Consequently, and based on materiality, Crisil Ratings will assess and disclose the impact of these on the credit risk profiles of companies, underscoring their ability to raise funds and, in turn, their financial flexibility. This will especially hold true for companies that are accessing global capital pools to meet their funding needs and for businesses that have large global operations. Crisil Ratings will assess the impact of ESG risk on corporates subject to availability of information. Parameters such as sectoral characteristics, proportion of foreign investment holding and existence of external market borrowings will be considered in assessing the materiality of ESG for an entity.

Crisil Ratings will assess parameters such as emissions and energy consumption, water usage, land use and bio diversity, treatment and discharge of waste and by-products and end product for assessment of environment information pertaining to human capital, product and customer management, vendor management and community engagement for assessment of social aspects; board performance, ownership concentration, shareholder relations and disclosures and financial statements for assessment of governance. Crisil Ratings may look at a specific combination of these parameters based on the materiality and availability of information.

Crisil Ratings believes improvement in non-financial disclosures will be critical to increase the scope of integrating ESG into credit risk assessment.

Management risk analysis

The Crisil Ratings evaluation of a company's management entails understanding the goals, philosophies, and strategies that drive the company's business and financial performance. If the company is a part of a larger business group or if it is a multinational, the parent company's management philosophies or those of the business group are used as pointers to assess managerial responses in the enterprise being evaluated.

An evaluation of the management involves several aspects such as understanding the organisational and reporting structure, the management's experience and track record, the level of commitment and track record in debt servicing, and the adequacy of planning and control systems.

The management's past success in introducing new products and ability to manage change in the external environment, such as regulatory or technological changes, are also analysed. In addition, the company's overall risk appetite is assessed. A high risk appetite, manifested in high leverage, or a propensity to undertake projects that are larger than existing operations, is not viewed favourably by Crisil Ratings.

Succession is another key area of concern if the company's operations are dependent on a single promoter or manager. Corporate governance principles followed by the management in its daily operations and transparency in management actions are also evaluated.

Project risk analysis

If a company is implementing a new project, Crisil Ratings evaluates the risks associated with that project and factors in these risks while assigning the overall rating. The size of the project compared with the existing operations indicates the significance of the project risk in the overall rating.

Implementation risks such as time and cost overruns and technology obsolescence risk, along with the impact of these risks on the project's viability, and funding risks in terms of the project's capital structure and funding arrangements, are also evaluated.

The project's market risks in relation to the company's existing product line and track record in implementing such projects are given adequate importance in assigning the rating.

Conclusion

The rating methodology of Crisil Ratings for manufacturing and corporate services companies involves intensive analysis of the business, financial, and management risk profiles of the company. The analysis primarily seeks to determine the quantum, stability, and adequacy of the company's future cash flows in relation to its debt servicing requirements. This section provides the basic parameters for the analysis which are applicable to all industries. Separate industry-specific methodology will dive deep into the particular issues considered while evaluating various sectors.

Section II. Crisil Ratings methodology for trading companies

Executive summary

Trading entities are intermediaries between manufacturers/suppliers and distributors/retailers. They add limited value to products but have a place in the supply chain because of their understanding of customer requirements in terms of quantity and quality. They can sell goods in small consignments and also reduce the credit risk for suppliers.

Limited value addition and commoditised nature of business mean margins are thin for traders. The bulk of their balance sheet assets comprises inventory and receivables, with fixed assets forming a small part. Consequently, traders rarely contract term debt for capital expenditure, and mostly have working capital debt. Thus, unlike manufacturers, for whom adequacy and sustainability of cash flow play a critical role in servicing of term debt, for traders, working capital management is paramount. Any stretch in the working capital cycle due to inventory pile-up (because of slowdown in demand) or write-down of receivables can wipe out margins and impact their credit risk profiles.

Crisil Ratings' analysis of the business risk of trading entities focuses on inventory and receivables management, and also takes into account business size and sustainability, supplier concentration, and foreign exchange (forex) risk if there are overseas suppliers or customers.

The analysis of financial risk takes into account both the financial position and its flexibility.

To assess the financial position, credit protection metrics and their sustainability, Crisil Ratings uses following parameters: return on capital employed (RoCE), interest coverage, total indebtedness ratio and cash to indebtedness ratio.

To assess financial flexibility, the working capital cycle and availability of internal and external fund sources (such as payables, unencumbered cash, unutilised bank lines, and funds from promoter to tide over unanticipated stretch in working capital) are evaluated.

Crisil Ratings also factors management risk, which covers the management's competence, integrity and risk appetite.

Scope

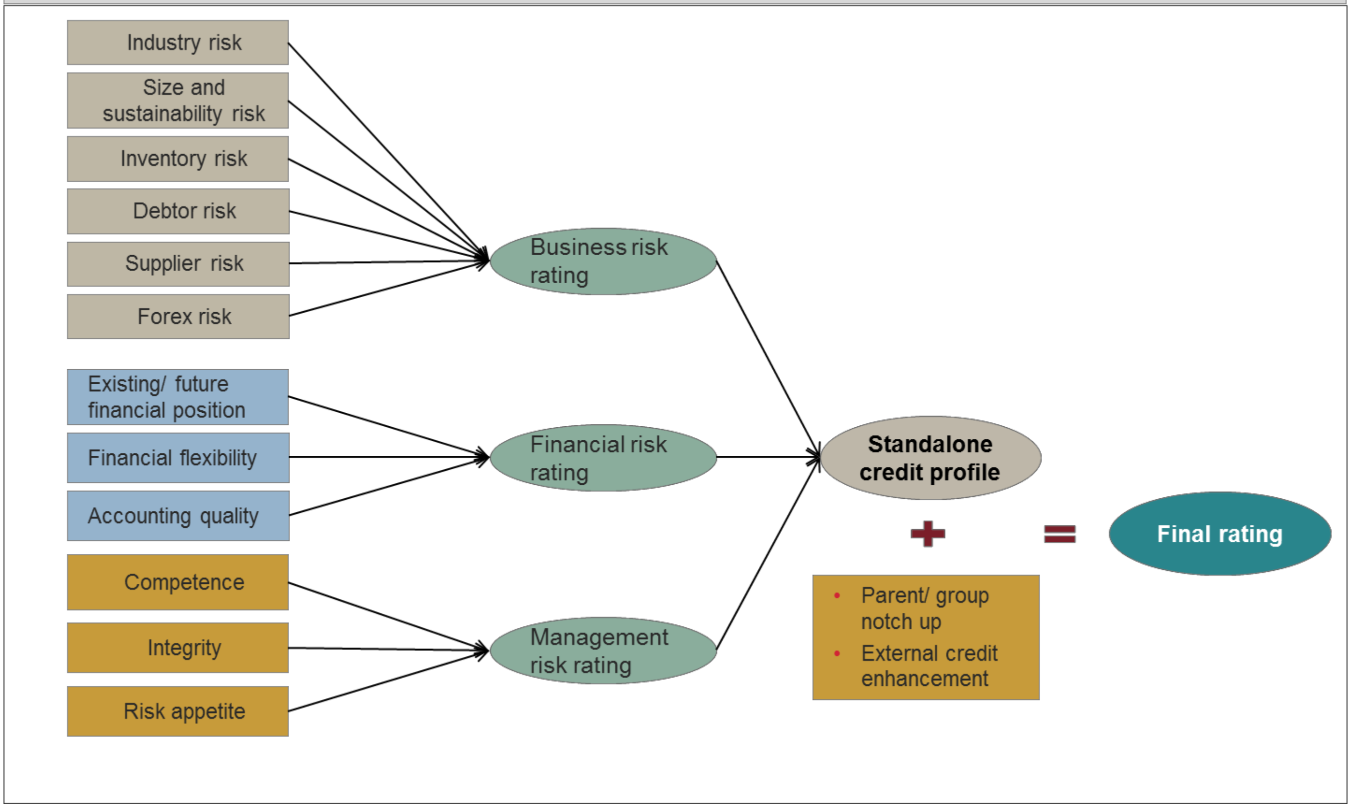
This section focuses on the risks that traders face and Crisil Ratings' methodology for assessing their credit risk profiles. The methodology[2] do not apply to entities trading in financial assets (such as equities and bonds), and has limited applicability for entities that also have significant manufacturing operations.

Methodology

Crisil Ratings' framework for assessing the credit quality of traders covers business risk, financial risk, and management risk (*Chart 1*).

[2] *For accessing previous version of the document, https://www.crisilratings.com/content/dam/crisil/criteria_methodology/traders/archive/criteria-for-rating-trading-companies-oct2022.pdf*

Chart 1: Overall risk assessment framework for trading companies



Business risk

This section outlines the risks inherent to the trading business and components of business risk evaluated by Crisil Ratings.

1. Industry Risk

While assessing the industry risk of a trader, Crisil Ratings looks at the demand-supply dynamics of the product the trader specialises in. With cross-border trade, these dynamics could take on a global scope, and government regulations come into play. For example, China's domestic sourcing policy affects India's textile export, or import restrictions on steel in India prevent glut of cheap imports. These factors affect the growth prospects of the industry, the barriers to entry and exit, and the extent of competition, which form the basis of Crisil Ratings' evaluation of industry risk.

2. Business size and sustainability risk

The business viability of a trading entity depends on its criticality in the value chain. Though traders add limited value to products, they provide important services such as enhancing the distribution network and geographical reach of the supplier. Although the business of a trading entity depends on the performance of the underlying industry, its own ability to sustain a viable business model is vital. All else being equal, a trader with a large scale of operations (and hence, a considerable market share) is more critical to the value chain than a smaller entity, leading to more bargaining power with suppliers and customers, and consequently, better sustainability. Crisil Ratings also compares a trader's operating margin with that of its peers because it will reflect its bargaining power and market position.

A long track-record (or promoter's experience) is an important indicator of the ability to weather business cycles. Diversity in products and markets (both geographies and end-use industries) insulates the trader's business from downturn in any one product line or market.

3. Inventory risk

For traders, inventory accounts for a large part of working capital. Inventory risk arises because of fluctuations in product prices. Due to thin margins, any significant fluctuation in price can have a substantial impact on the trader's credit risk profile. Crisil Ratings' assessment of inventory risk focuses on the potential decline in the value of inventory, and the ability of the trader to absorb the impact. The inventory value could decline due to a fall in the commodity price during the holding period, or because of product obsolescence. Crisil Ratings evaluates the following factors when assessing inventory risk:

Holding policy: For traders, the risk of price volatility is directly proportional to the inventory holding period. Therefore, Crisil Ratings analyses the historical inventory holding philosophy of the firm and the intent of its management to take speculative positions. It also assesses the track record of the management to insulate the company during times of excessive volatility in commodity prices.

Price risk refers to the decline in the price of a product during the holding period. A sharp drop in price can lead to a steep fall in the trader's networth. Crisil Ratings looks at historical price data to determine the value at risk (VaR) of a commodity so as to quantify the price risk. The trader's ability to absorb the impact of unanticipated price fluctuation is also assessed, in addition to the potential decline in the value of the inventory because of price fluctuation.

Crisil Ratings quantifies the inventory risk through inventory risk cover, which assesses whether the networth of the trader can adequately cover the loss arising from dip in value of held inventory in event of extreme price fluctuations. Traders of commodities with highly volatile prices, or with long inventory holding period, are expected to have a larger networth to absorb the impact of price decline.

Obsolescence risk is common in industries with short product life cycle or dynamic markets. Crisil Ratings takes into account the nature of the product to assess the obsolescence risk. Examples of products with high obsolescence risk are mobile phones and garments.

To assess the inventory risk, Crisil Ratings also considers the trader's risk mitigation strategies, such as hedging on commodity exchanges, on-demand procurement, and passing on increase in price to customer.

4. Receivables risk

As receivables also constitute a sizeable proportion of the current assets of traders, credit policy and collection efficiency are significant determinants of business risk. These factors also impact the financial risk profile. Delays in receivables can impact business considerably, especially if the capital employed is small. Crisil Ratings analyses the amount of receivables in proportion to the trader's scale of operations to understand collection efficiency and receivables management.

For assessing receivables risk, Crisil Ratings analyses the customer profile of traders — such as length of relationship, extent of revenue dependence, and credit risk profiles of customers.

Ceteris paribus, traders will be able to avoid cancellation of orders from longstanding clients, which is important especially in times of falling product prices. Customer concentration is a significant risk as during downturns delay in payment by a single large customer may lead to severe stress on the trader's financial position. It also matters whether the customers are large firms with good creditworthiness, or small enterprises with modest credit quality. Furthermore, sales against letter of credit (LC), bank guarantee (BG) or post-dated cheques are positive factors, as they reduce the risk of losses due to default.

5. Supplier risk

Excessive dependence on a few suppliers can expose traders to business continuity risk. Though they can get discounts by ordering in bulk, it is preferable to have a diverse supplier base to prevent slowdown in business because of problems at the supplier's end. Crisil Ratings also looks at qualitative parameters such as the supplier's brand equity and credit policy, and length of relationship with the supplier. A longstanding relationship or criticality to the supplier's operations could lead to flexibility in obtaining favourable credit terms, allowing the trader to manage liquidity better in case of a stretch in working capital.

6. Forex risk

Often, traders with overseas suppliers or customers do not have a defined policy for mitigating forex risk. Crisil Ratings views the credit risk profile of traders that either consistently hedge their forex exposure through forward currency contracts, or through a natural hedge (imports matched against exports) positively. Instances where management has documented and demonstrated a consistent forex hedging policy are also viewed positively.

Financial risk

The financial risk analysis covers how an entity's business strengths translate into current and future financial performance, and financial flexibility.

Existing and future financial position

To gauge past and future profit potential, and to understand the level and sustainability of the credit protection available, Crisil Ratings looks at two key ratios: RoCE and interest coverage.

- **RoCE:** This ratio captures how well an entity is run by its managers, irrespective of leverage or the nature of industry. A consistently low RoCE reflects poorly on long-term business viability.

  RoCE = Profit before interest and tax (PBIT[3])/ (Total debt + Tangible networth + Deferred tax liability)

- **Interest coverage:** It represents the cushion for meeting interest obligation from surplus generated and reflects the ability to service debt on time. Entities with high coverage ratio can better absorb financial adversity and still pay interest on time. The interest coverage ratio is a factor of profitability, capital structure, and cost of borrowings.

  Interest coverage = Profit before depreciation, interest and tax (PBDIT)/ Interest and finance charges

The other aspect of financial assessment is balance sheet analysis, which determines financial position. For this, Crisil Ratings takes into account:

- **Total indebtedness ratio:** Most of the debt of traders is short-term and self-liquidating. Also, trading entities tend to avail of a substantial non-fund-based financing (such as LC), which is not reflected as debt on their books, but as payables. Therefore, total outside liabilities which also includes current liabilities offer a more holistic view of a trader's indebtedness, Crisil Ratings uses the total indebtedness ratio to assess the capital structure

  Total indebtedness ratio = Total outside liabilities (TOL)/ Tangible networth

- **Cash to indebtedness ratio:** Traders having higher proportion cash[3] in relation to its outside liabilities are able to effectively manage obligations, especially payment to creditors, and have extra cushion to weather adversity. Hence, Crisil Ratings considers cash to indebtedness ratio as an important metric to ascertain a trader's financial position.

[3] *CRISIL Ratings, in its calculation for PBIT and PBDIT, includes recurring non-operating income, but excludes extraordinary income or expenses*

Cash to indebtedness ratio = Cash (and equivalents)/ Total outside liability

In addition to above mentioned parameters, we also assess risk coverage. In Crisil Ratings' view, the biggest risks for traders are of inventory and receivables. Risk coverage is designed to assess how well a trader can absorb unanticipated shocks due to fall in commodity price or stretch in receivables, without materially impacting its financial position. Entities having healthy risk coverage ratio on account of comfortable networth, or low inventory or receivables, have the ability to absorb business shocks and price volatility without compromising their liquidity. Lower ratio could act as a constraining factor.

Risk coverage = Tangible networth/ (Potential loss on inventory + Potential loss on receivables + Potential loss on forex exposures)

Cash flow adequacy and financial flexibility

As trading operations are working capital-intensive, liquidity assessment becomes a critical factor to determine financial risk. Crisil Ratings considers both internal and external sources of liquidity, and assesses the ability to manage liquidity in case of a sudden increase in working capital requirement, especially during slowdown or extreme fluctuation in prices, and to generate funds through alternative sources in case of financial distress.

Among external sources of funding, traders are more likely to depend on working capital debt or payables. Flexibility in obtaining extended credit from suppliers is considered a positive, while unutilised bank lines enhance ability to meet unanticipated increase in working capital requirement. Adequacy of current assets and ease of converting these assets into cash to meet maturing LC obligations are also assessed to evaluate the overall financial flexibility of the entity.

Other liquidity indicators assessed by Crisil Ratings are:

- **Current ratio:** This ratio indicates whether short-term assets are sufficient to meet short-term obligations. A healthy current ratio implies that long-term liabilities are financing long-term assets and a proportion of short- term assets, leaving sufficient liquidity for normal operations.

  Current ratio = Current assets (including marketable securities)/ Current liabilities (including current portion of long-term debt)

- **Gross current assets (GCA) days:** An indicator of working capital intensity, GCA days signify how quickly an entity can convert its current assets into cash. A large value signals either inability to sell inventory or stretched receivables.

  GCA days = Total current assets related to operations/ Operating income

Management risk

Crisil Ratings evaluates how well an entity's management operates the business, its credit policies, and history of speculative intent. The presence of risk management systems is viewed positively, as they can track product prices and flag sharp movements, enabling quick liquidation if required.

Crisil Ratings assesses management in three broad areas: integrity, risk appetite, and competency. For more details, please refer to section I (above) on 'Crisil Ratings methodology for manufacturing and corporate service sector companies'.

Conclusion

Crisil Ratings' rating methodology for trading entities involves intensive analysis of their business, financial, and management risk profiles, and is primarily aimed at determining the extent of inventory and receivables risk. Crisil Ratings uses various financial ratios that it believes capture these risks appropriately.

Crisil Ratings may also factor in parent/group support when assigning credit ratings. The methodology for factoring in parent/group support, and that for manufacturers (which share a few key aspects with methodology for rating traders) are covered on Crisil 's website.

Section III. Crisil Ratings methodology for education institutions

Executive summary

Education institutions in India are mostly not-for-profit organisations. They operate under trusts or charitable societies. Such institutions need to be always in capital expenditure (capex) mode to avail of income tax exemption. That explains why their liquidity and operating cash flows are generally under pressure, even if they generate substantial operating profit. In fact, institutions offering tertiary education may undertake capex as if by routine and seek to ramp up scale and diversity by regularly adding new courses. Similarly, schools offering K12 (kindergarten to Standard 12) education either keep adding capacities or setting up new campuses, sometimes even in multiple geographies.

Given the strong demand, the gap between demand and supply continues to be favourable, and stability of cash flows better for schools and medical institutions (offering MBBS and allied courses such as pharmacy) more than for institutions offering engineering or business management courses.

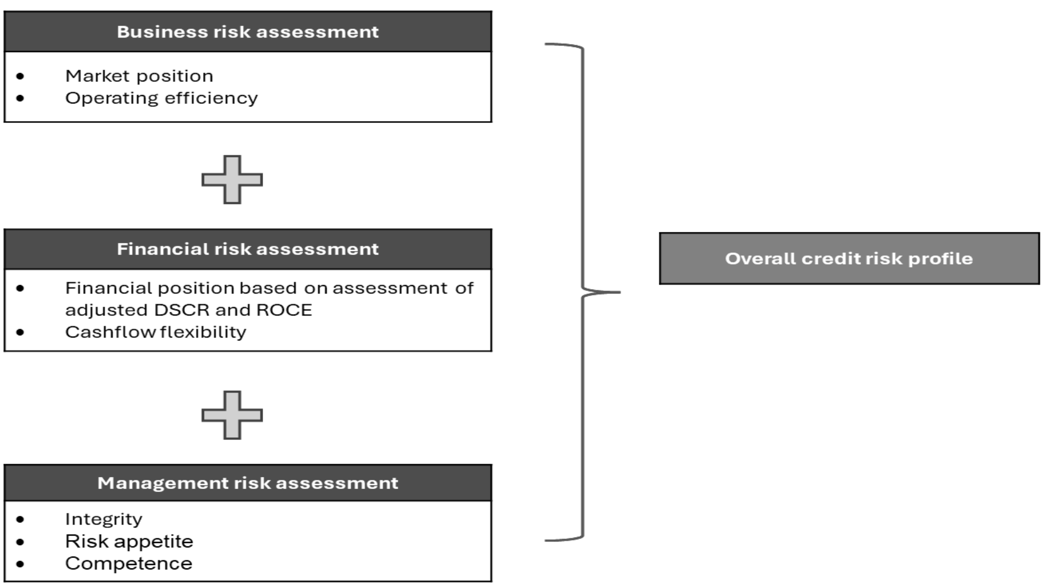
The Crisil Ratings' framework for assessing the credit quality of education institutions considers their liquidity and the stability and predictability of cash flows. The ability to manage cash flows, particularly timing mismatches between fee collection and debt servicing, is a key rating driver.

Scope

This section[4] highlights the Crisil Ratings' methodology for assessing the credit quality of educational institutions, and focuses on analysing their business and financial risk profiles. The section also covers Crisil Ratings' methodology for financial ratios used for analysing these entities, including adjustments, if any, carried out to the reported metrics in the financial statements.

Methodology

The chart below indicates the framework for assessing educational institutions:



[4] *For accessing the previously published document on "CRISIL Ratings criteria for rating educational institutions", follow the link: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/education-institutions/archive/crisil-ratings-criteria-for-rating-educational-institutions-oct2024.pdf*

Assessment of business risk

Market position

Track record of operations and revenue (fees) growth is critical when assessing the market position of an educational institution. Institutions build track record only after operating for reasonably long periods. The reputation and defined catchment they come to acquire will not only determine classroom occupancy, but also help in diversification in terms of courses and geography. The ranking acquired at the state and national levels, performance in placements, and whether the institutions are part of a reputed group or trust, are among the other factors considered.

Given that primary and secondary education are a basic need, K12 schools with an established track record tend to see strong demand, and therefore maintain steady student occupancy. However, demand and occupancy at institutions offering tertiary education are determined by factors such as demographic mix, overall economic conditions, perceived employment opportunities, brand, reputation, regulatory framework and social mindset of the students and their families

How education institutions stack up

Parameter	Medical	K-12	Engineering	MBA
Demand-supply gap	Favourable	Favourable	Unfavourable	Unfavourable
Occupancy level	High	High	Low-Moderate	Low-Moderate
Correlation with economy	Low	Low	High	High
Reliance on brand, location, placements	Low	Low	High	High
Regulatory framework complexity	High	Moderate	Moderate-High	Moderate-High
Availability of professional management and competent staff	Moderate	Moderate	Low-Moderate	Low-Moderate
Outlook for medium to long term	Positive	Positive	Negative- Neutral	Negative- Neutral

As the table indicates, schools and medical institutions fare better on market position compared with those offering engineering or business management courses.

Operating efficiency

Occupancy is a critical parameter for evaluating operating efficiency, especially because educational institutions are constantly in capex mode. Crisil Ratings closely monitors the ability to ramp up seat utilisation after each round of capex because the quantum of cash flow will determine the ability to service capex-related debt. With the Income Tax Act restricting retention of profits by trusts, cash accrual is generally used for capex or debt servicing. This limits the ability to service incremental debt.

Operating profitability and return on capital employed (RoCE) are other factors that are analysed as part of operating efficiency. Cost structure, of which employee cost (salary) is a major component, is largely fixed and predictable, given that employee cost increases at a steady rate each year. Institutions should, therefore, maintain stable operating margin if there is no significant expansion in occupancy.

Operating margin is vulnerable to sharp increases in capacity as occupancy may stabilise with a lag. Thus, institutions with a higher operating margin are better placed to absorb changes in occupancy and maintain a stable credit risk profile over the medium term.

RoCE indicates the return generated by the institute on the total capital employed in the business. The ratio comprehensively indicates how well the institute is run and is a critical indicator of seat occupancy. A consistently low RoCE implies poor viability over the long term.

RoCE = Profit before interest and tax (PBIT) / [total debt + adjusted networth + deferred tax liability]

In evaluating operating efficiency, the cost structure and operating margin of each institution is also compared with those of its peers.

Assessment of management risk

Integrity, risk appetite and competence

As in the case of manufacturing companies, Crisil Ratings evaluates the management profiles of education institutions also under three heads: integrity, risk appetite and competence.

For details, please refer to section I (above) on ‘Crisil Ratings methodology for manufacturing and corporate service sector companies’.

Assessment of financial risk

Cash flow stability and predictability

The predictability and stability of cash flow are ascertained by analysing the following:

Risks	Severity of risk
Cash flow certainty	Highly predictable and certain as instances of student dropouts are rare
Receipt of cash flow	In advance (before delivery of service)
Exposure to economic cycles	Low-to-moderate
Seasonality of cash flow	Moderate-to-high
Customer concentration	Low
Counterparty risk	Low
Timely inflow of income	Yes
Operating expense as % of income	Moderate at 50-60%
Working capital	Negligible
Capex	Moderate-to-high

Education institutions have a steady and reasonably predictable single-stream cash flow: fees from students. The predictability of outflow is high in the absence of major variable overheads. The following factors support cash flow stability:

- **Strong demand for education, especially in urban and semi-urban areas:** Education is becoming a priority in rural areas also, due to several government schemes. Payment of tuition fees, therefore, takes precedence over other household expenses, thus mitigating credit risk for institutions.
- **Steady occupancy:** Instances of students dropping out midway through a course are rare, and occupancy for the duration of a course is, therefore, stable.

- **Low risk of unfavourable regulations:** Business continuity is assured, as institutions are reasonably insulated from adverse regulations or controversies; this, in turn, lends stability to cash flow.
- **Ability to accurately forecast cash outflow:** The major operating expense comprises staff salaries, which increase at a predictable rate each year. This facilitates forecasting of cash outflow.
- **Low working capital requirement:** Absence of major variable overheads helps minimise working capital requirement, which again lends stability to cash flow.
- **Predictability of capex:** Capex requirement, though high, remains largely predictable. Trusts generally plan capex over a medium-term horizon, complete with timelines for completion and funding sources.

Therefore, cash flows of education institutions are stable, unlike in the manufacturing or trading sectors. Hence, the Crisil Ratings methodology for education institutions places significant emphasis on the analysis of the adequacy of cash flow and overall liquidity.

Cash flow adequacy

Debt is repaid using fees collected from students. Hence, Crisil Ratings considers an institution's debt service coverage ratio (DSCR) or its ability to service debt (both principal and interest) from the fees collected.

Trusts and societies cannot freely raise equity and tend to rely on accrual to fund capex. Under the Income Tax Act, to avail of exemptions, trusts need to utilise 85% or more of their gross receipts each year towards operating expenses and capex.

As the capex may be reasonably committed in nature, the DSCR needs to be adjusted accordingly. To factor in the use of net cash accrual (NCA) in funding capex, the DSCR is adjusted as follows:

Adjusted DSCR = ((NCA - part of NCA to be used for capex) + Interest) / (Interest + Repayment)

Liquidity

Most of the defaults in the Crisil Ratings' portfolio of education institutions over the past decade have been because of mismatches, rather than inadequacy, of cash flow.

Crisil Ratings believes the risk of mismatches can be mitigated by maintaining sufficient liquidity to cover monthly outflow. The liquidity that needs to be maintained will be a function of the frequency of fee collection relative to the quantum and frequency of debt obligation. Liquidity is also adjusted for monthly operational expenses, a significant portion of which consists of staff salaries that must be paid on time.

Liquidity is to be maintained as cash, fixed deposits and unutilised working capital limits, to cover cash outflow till the next cycle for fee collection starts.

Conclusion

The Crisil Ratings' analysis of education institutions places significant emphasis on their track record, as well as on cash flow and liquidity. These factors, combined with management risk, are evaluated to arrive at the credit rating of the institution

Section IV. Crisil Ratings methodology for financial ratios

Executive summary

The analysis of a company's financial ratios is core to Crisil Ratings' rating process as these ratios help understand a company's overall financial risk profile. Crisil Ratings considers eight crucial financial parameters while evaluating a company's credit quality: capital structure, interest coverage ratio, debt service coverage, networth, profitability, return on capital employed (RoCE), net cash accrual to total debt (NCATD) ratio, and current ratio. Crisil Ratings considers present as well as future (projected) financial risk profile while assessing a company's credit quality. These parameters give an insight into the company's financial health and are factored into the final rating. However, the final rating assessment involves the interplay of other factors such as financial flexibility; business, project, and management risks; as well as support from a stronger parent, group, or the government. In cases where the linkage to a weaker parent or group puts a strain on the entity's resources, the same is factored in.

Scope and objective

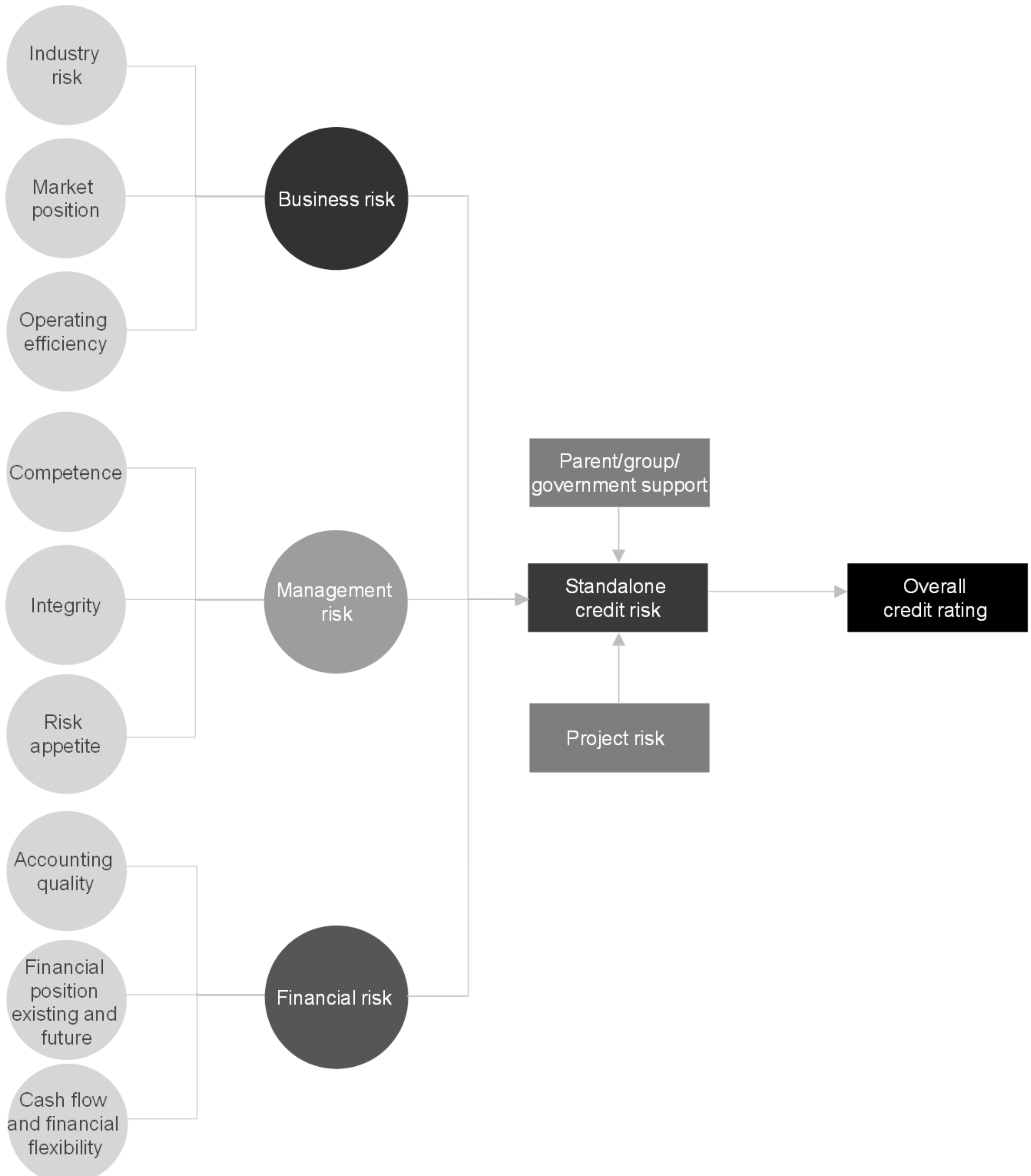
This section[5] focuses on the key ratios that Crisil Ratings uses in its rating process for manufacturing and corporate service sector companies. These ratios are also used, with minor variations, if necessary, in analysing logistics providers, construction companies, and a majority of corporate services sector entities. However, for some sectors such as traders, real estate, and educational institutions, Crisil Ratings uses specific financial parameters such as risk coverage ratio, cash buffer ratio, and adjusted debt service coverage ratio (DSCR) to assess financial risk because they capture the nuances of these sectors better. The rating methodology for these sectors is available on Crisil Ratings' website.

This section explains Crisil Ratings' methodology for financial ratios and the formulae employed to compute them. The financial ratios indicated here, along with other qualitative parameters, are used as inputs in rating financial risk which, in turn, is factored into the overall assessment of a company's credit quality.

5 Refer the following link for accessing the previous published rating criteria:

https://www.crisilratings.com/content/dam/crisil/criteria_methodology/criteria-research/archive/crisil-ratings-approach-to-financial-ratios-jan2025.pdf

Use of financial risk analysis in rating decisions



The relative importance of the ratios may vary on a case-to-case basis. Crisil Ratings does not adopt an arithmetic approach in using these ratios; instead, it makes a subjective assessment of the importance of the ratios for each credit. While some ratios may be part of the business risk analysis, others will be part of financial risk analysis. A detailed discussion on the eight parameters is as follows:

Capital structure

A company's capital structure – commonly referred to as its gearing, leverage, or debt-to-equity ratio – reflects the extent of borrowed funds in the company's funding mix. The equity component in the capital employed by a company has no fixed repayment obligation; returns to equity shareholders depend on the profits made by the company. Debt, on the other hand, carries specified contractual obligations of interest and principal. These will necessarily have to be honored, in full and on time, irrespective of the volatility witnessed in business.

A company's capital structure is invariably a function of the strategy adopted by its management. Although high dependence on borrowed funds (and thus, weak gearing) may result in a greater return on shareholders' funds, it translates into high fixed costs in terms of the interest burden, which may adversely affect financial position. In fact, in situations of weak business performance, high gearing may affect profitability, thereby constraining a company's ability to repay debt. Gearing, therefore, denotes the extent of financial risk taken by a company: the larger the quantum of debt, the higher the gearing, and the more difficult it will be for the company to meet its debt obligation. A credit rating informs investors about the probability of timely servicing of the rated debt obligation. Therefore, financial risk in the form of high gearing adversely affects an entity's credit rating. The rating also depends on the mix of business and financial risks borne by the company. For instance, entities (sugar and cement companies) that are highly susceptible to industry cycles cannot afford high gearing. On the other hand, companies in stable industries may choose to operate with large debt without unduly straining their financial position.

Crisil Ratings computes gearing using the following formula:

Gearing = adjusted total debt/adjusted networth

In adjusted debt, Crisil Ratings includes all forms of debt, such as short-term and long-term borrowings, off- balance sheet liabilities, preference shares, subordinated debt, optionally convertible debentures, deferred payment credit, and bills discounted. Guarantees, receivables that have been factored, pension liabilities, derivatives, and contingent liabilities are some off-balance-sheet items that are evaluated. In case of guarantees or loans extended, the company may have considerations such as operational linkages or strategic interest, which may drive the level of support to the entity. Crisil Ratings assesses the likelihood of devolvement of such liabilities and recoverability of exposures, including management intent, while calculating gearing.

Crisil Ratings' analysis assesses the true and tangible networth of a company; therefore, revaluation reserves and miscellaneous expenditures that have not been written off are excluded from the reported networth. Intangible assets and goodwill are assessed for their intrinsic worth on a case-specific basis. If the goodwill is generated during an arm's-length transaction (amalgamation or consolidation), then it is amortised over its useful life or five years (whichever is shorter). In case of an acquired intangible such as patents, trademarks, or license, it is amortised over the useful period of life or 10 years (whichever is shorter). Instruments such as compulsorily convertible preference shares, share application money, and fully (and compulsorily) convertible debentures are treated as part of the tangible networth on a case-to-case basis.

Crisil Ratings excludes provisions for deferred tax liability (DTL) from calculations of tangible networth. The DTL represents timing differences in tax on book profits and on profits computed under the Income Tax Act; these differences are expected to be reversed eventually, and hence constitute an outside liability. Though the timeframe for the reversals is uncertain, Crisil Ratings believes DTL represents the taxman's funds and not the shareholders.

Box 1: Treatment of unsecured loans from promoters

Computation of debt and equity has its nuances, especially in the context of promoter/family-owned unlisted entities where a sizeable portion of promoter funds deployed in the business could be in the form of unsecured loans.

These loans are infused either by promoters or family members and are usually subordinated to external debt. Over the years, Crisil Ratings has observed that this source of funds has demonstrated a high degree of permanence in times of distress, with promoters deferring interest payments on these loans in order to prioritize the servicing of external debt. Furthermore, unsecured loans from promoters in case of promoter owned, unlisted entities are largely viewed as promoter source of funding by lenders and considered subordinate to all other forms of external debt.

Hence, even though as per accounting conventions, unsecured loans are considered part of debt, the aforementioned factors render some equity-like characteristics to these instruments.

Crisil Ratings, as part of its analytical treatment of unsecured loans, classifies them into one of the following:

- Part of overall debt
- May exclude unsecured loans from computation of debt
- In some circumstances, Crisil Ratings accords partial equity treatment to around 75% of the unsecured loans, while considering the remaining as debt.

The above analytical treatment of unsecured loans depends on the following factors:

1. **Subordination to external borrowings:** This is an important factor taken into consideration when evaluating the analytical treatment of unsecured loans. Having a subordination feature means repaying external debt will be given priority over servicing interest and other obligations on unsecured loans. Hence, this feature provides a cushion to external debt holders to withstand the impact of losses or in the event of liquidation. Unsecured loans that are not subordinate to external borrowings are considered as having debt- like features.

2. **Track record of commitment:** Crisil Ratings looks at the track record of unsecured loans being retained in the entity to assess their permanence characteristic. It also analyses the factors based on which it evaluates the likelihood of the unsecured loans being retained in the business over the medium term. A long track record of unsecured loans being retained in business and fewer withdrawals, as well as the expectation of the same being continued over the medium term, are features that are considered positive when evaluating the analytical treatment of unsecured loans.

3. **Interest rate:** Interest rate charged on unsecured loans is also an important parameter. Higher the interest rate charged on the unsecured loan, lower is the retention of profits, which affects cushion available to meet external debt obligation. This brings these loans closer to debt than equity. Furthermore, a substantially higher interest rate charged on unsecured loans, compared to the average market borrowing rate of the entity, could indicate the possibility that promoters have availed of external loan to infuse funds into the entity, which strengthens the case for debt-like treatment.

4. **Deferability/plough-back of interest payments:** In times of distress, if promoters have demonstrated the ability to defer interest payment on unsecured loans, it indicates a strong commitment to maintain funds within the entity, which is considered a positive. Furthermore, a track record of promoters having consistently ploughed back interest by infusing additional unsecured loans, as well as the expectation of the same being continued over the medium term, is considered positive.

Crisil Ratings also looks at the total indebtedness ratio while analysing capital structure. This ratio becomes especially important when a large quantum of an entity's liabilities is non-fund based – such as letter of credit facility to pay off creditors. Crisil Ratings also considers this ratio while analysing companies that have relatively weaker bargaining power with their suppliers. Such entities are limited in their ability to stretch payables. Term as well as current liabilities are accounted while assessing total indebtedness. Hence, Crisil Ratings looks at indebtedness ratio to get a more holistic picture of the entity's capital structure. Crisil Ratings computes the total indebtedness ratio as follows:

Total indebtedness ratio = adjusted total outside liability/adjusted networth

Interest coverage ratio

Interest coverage ratio represents the extent of cushion a company has for meeting its interest obligation through surplus generated from operations. This ratio is important to the rating process because the rating reflects the entity's ability to meet debt obligation in a timely manner. This implies that the company should generate adequate income to service interest obligation, even if business prospects were to turn adverse. Thus, companies with a higher interest coverage ratio can absorb more adversity, are more likely to pay interest on time, and are hence less likely to default. Interest coverage ratio is a consequence of a company's profitability, capital structure, and cost of borrowings.

For businesses that have an intrinsically low profit margin, a high interest burden – either on account of weak gearing or high cost of funds, or both – may adversely affect interest coverage ratio, and therefore the rating.

Crisil Ratings computes interest coverage ratio as follows:

Interest coverage ratio = profit before depreciation, interest, and tax (PBDIT[6])/interest and finance charges

Interest and finance charges refer to the total interest payable by a company during the financial year under assessment; this includes the interest component of lease liabilities, non-funded capitalised interest7, and preference dividend.

DSCR

The DSCR indicates a company's ability to meet its debt obligation, both principal and interest, through earnings generated from operations. The textbook definition of DSCR assumes that debt repayment gets higher priority over working capital expansion. In practice, however, the priority is often reversed: working capital funding takes priority over other payments. Hence, Crisil Ratings uses a modified version of the ratio: the cash debt service coverage ratio (CDSCR). This ratio assumes that 25% of the incremental net working capital will be funded through cash accrual prior to meeting debt obligation; it is assumed that the remainder will be financed through working capital borrowings from banks.

According to the definition of DSCR, a ratio greater than 1 time implies that an entity would be able to repay its debt in a particular year from cash accrual generated during that period. On the other hand, an entity with a ratio less than 1 time may have insufficient accrual to meet all debt obligation, and hence has a higher probability of default. Crisil Ratings, however, views a low DSCR in conjunction with the company's financial flexibility, because:

Debt contracted for a project is often of a shorter tenure than the payback period of the project. This implies that the company will refinance maturing debt with fresh debt, and not necessarily with cash accrual.

A growing company will constantly require debt to meet its business needs. The company may not use all of the cash it generates to repay debt, but would, instead, plough part of it back to expand capacities or business. The company will

[6] CRISIL Ratings, in its computation of PBDIT, includes recurring non-operating income, but excludes one-time, extraordinary income or expense

[7] Non-funded capitalised interest relates to financing costs due to borrowed funds attributable to construction or acquisition of fixed assets for the period up to the completion of construction or acquisition, which are not funded as part of the project cost. Typically, these arise when the project faces time and cost overruns, and the contingencies built into the project cost are exhausted

then use fresh debt (or equity) not only to refinance maturing obligation but also to finance part of the capacity expansion. This is particularly true for Indian companies that are in rapid expansion mode.

Temporary shortfalls in cash accrual in a year may result in a DSCR of less than 1 time. However, the company may tide over the exigency by using its financial flexibility to borrow fresh loans to repay existing loans. Crisil Ratings recognizes that companies need to refinance debt. Hence, low DSCRs may not necessarily have an unfavorable impact on ratings; the company's ability to replace its existing debt with fresh funds may act as a balancing factor.

The equation for calculating CDSCR is as follows:

CDSCR = [profit after tax + depreciation + interest charges – 25% of incremental net working capital] / [debt payable within one year + interest and finance charges]

Debt payable within a year primarily constitutes the present portion of long-term debt (the portion that is slated to mature during the ongoing year) and short-term debt obligation (debt that has an original tenure of less than one year, but excluding debt that is normally rolled over, such as working capital bank borrowings and commercial papers).

Box 2: Refinancing risk

Assessing the ability to refinance involves evaluating the fundamental credit profile of an entity. This assessment considers factors such as business and financial strength, cash flow generation, debt servicing capability, and overall creditworthiness. However, in addition to these fundamental aspects, Crisil Ratings also takes into account practical considerations when assessing the ability to refinance.

In case of presence of large repayment obligations, which are expected to be refinanced, Crisil Ratings understands the refinance plan from the management. Crisil Ratings will also factor in forex risk in case of refinancing from overseas market. The refinancing plan is required to be credible and one that enables the issuer to meet the obligations well in time. The plan is tracked closely for the timely progress and adherence to the same. Failure to demonstrate a credible refinancing plan as one moves closer to the bond/term debt maturity could lead to downside rating pressure. In such a situation, Crisil Ratings may take appropriate rating action.

Networth

A company's networth represents shareholders' funds that do not have fixed debt obligation, thus providing cushion against adverse business conditions. As explained earlier, Crisil Ratings calculates adjusted networth after adjusting for revaluation reserves and miscellaneous expenditure that have not been written off. The adjusted networth, therefore, represents the true equity that is available for absorbing losses or tiding over temporary financial problems. Crisil Ratings believes a company's networth is a reflection of its size: a large networth usually denotes strong market position and economies of scale, and also enhances financial flexibility, including the company's ability to access capital markets. A strongly capitalised company will thus be more resilient to economic downturns. In Crisil Ratings' experience, all other parameters remaining the same, a large company is less likely to default than a smaller one.

Box 3: Impact of share buyback

Share buyback involves a company buying back its shares from existing shareholders, thereby reducing equity float in the market. Companies initiate buyback for many reasons, such as sending a signal to market about stock being undervalued, rewarding investors in a tax-efficient way, and warding off potential takeover threat.

To buy back shares, a company utilises its available liquidity through either the tender route (fixed price) or the exchange route (market-determined prices). From a financial risk perspective, buyback has the following implications:

- Networth decreases
- Leverage levels may increase
- Financial flexibility could reduce, since regulations do not allow a company that has opted for a buyback to reissue similar kind of shares within six months of completion of buyback. While regulations do not allow companies to borrow funds from banks and financial institutions for the purpose of buyback, companies can contract capital market debt to fund buyback
- However, RoCE is likely to increase as capital base reduces

On account of the aforementioned factors, if a company opts for buyback, its financial risk profile could get impacted. The magnitude of this impact would depend on several factors – quantum of shares being bought back, cash outflow, and nature of funding adopted by the company. However, it is usually the financially strong companies that opt for share buyback. Therefore, share buyback or its announcement does not necessarily result in a rating action. It will be evaluated on a case-specific basis, considering the existing cash flows of the company, its cash-generating ability, plans to fund the buyback, and management's philosophy regarding buyback. Through aspects such as quantum and frequency of buyback, Crisil Ratings tries to ascertain if the management is prioritising shareholders' interests over debt holders' and factors the same in the entity's management risk.

Profit margin

Profit margin broadly indicates both a company's competitive position in an industry, and the segment's characteristics in terms of strength of competition, pricing flexibility, demand-supply scenario, and regulation. A company's profit performance is a strong indicator of its fundamental health and competitive position. Profit margin, observed over a period of time, also indicates whether a company can sustain its present cash accrual. A profitable company exhibits the ability to generate internal equity capital, attract external capital, and withstand business adversity. From a rating point of view, profit after tax (PAT) margin (ratio of PAT to operating income) is an important profitability ratio. Although other ratios such as operating profit before depreciation, interest, and tax (OPBDIT) to operating income, or operating profit before tax (OPBT) to operating income are also evaluated, these ratios tend to be influenced by industry-specific characteristics, and hence do not lend themselves to comparison across industries. A high PAT margin offsets, to some extent, the effect of business risk and the corresponding financial risk. However, when used in evaluating low value-added industries such as trading, PAT margin also tends to have industry-specific characteristics. This is appropriately factored in while analysing such industries. The PAT margin is defined as follows:

PAT margin = profit after tax/operating income

RoCE

The RoCE indicates the returns generated by a company on the total capital employed in the business. The ratio comprehensively indicates how well the company is run by its managers and is unaffected by the extent of its leveraging or by the nature of its industry. A consistently low RoCE reflects the company's poor viability in the long term.

The RoCE is computed as:

RoCE = profit before interest and tax (PBIT) / [total debt + adjusted networth + deferred tax liability]

NCATD ratio

The NCATD ratio indicates the level of cash accrual from a company's operations in relation to its total outstanding debt. Looked at from a different perspective, the inverse of this ratio reflects the number of years a company will take to repay all its debt at present cash generation levels. The ratio is computed as follows:

NCATD = [PAT - dividend + depreciation] / adjusted total debt (short and long term, including off-balance sheet debt)

Crisil Ratings may also consider the debt-to-PBDIT ratio, on a case-to-case basis, to assess debt protection.

Debt/PBDIT = Adjusted total debt / PBDIT

Current ratio

Current ratio indicates a company's overall liquidity. It is widely used by banks in making decisions regarding the sanction of working capital credit to their clients. Current ratio broadly indicates the matching profiles of short- and long-term assets and liabilities. A healthy current ratio indicates that all long-term assets and a portion of the shortterm assets are funded using long-term liabilities, ensuring adequate liquidity for a company's normal operations.

Current ratio is computed as follows:

Current ratio = current assets (including marketable securities)/current liabilities (including current portion of long-term debt, that is CPLTD)

Besides these ratios, Crisil Ratings also considers inventory and receivables days. Inventory days indicate time required for a company to convert its inventory into sales, whereas receivables days represent the company's collection period. Crisil Ratings also analyses gross current assets (GCAs), which is another important financial parameter. It is an indicator of working capital intensity and represents how quickly a company is able to convert its current assets into cash. Crisil Ratings computes GCAs as follows:

GCAs = total current assets related to operations/operating income

Box 4: Analytical treatment on account of migration to Indian Accounting Standards (Ind AS)

The migration to Ind AS, which was initiated in fiscal 2017, has led to better disclosures and brought financial statements closer to economic reality. These accounting changes have, however, not impacted business fundamentals and the underlying cash flows of an entity. Crisil Ratings has always made adequate analytical adjustments to the reported financials of rated entities to reflect their accurate financial position and factored them in its analysis.

For a more detailed understanding on the impact of Ind AS, please refer to Crisil Ratings' article titled 'Ind AS Impact' available at www.Crisilratings.com

Conclusion

While the eight parameters mentioned above are crucial in analysing a company's credit quality, they do not by themselves capture the company's financial health in its entirety. To assess a company's overall financial risk profile, Crisil Ratings also takes into account its track record and projections on a number of other financial parameters. Strong financial flexibility, the ability to access capital markets, and stable cash flows may, to an extent, compensate for poor financial ratios. On the other hand, a company's strong financial risk profile may be overshadowed by a weak or declining business risk profile. Crisil Ratings' analysis considers these aspects while assigning credit ratings. However, Crisil Ratings does not perform a forensic analysis of financial statements, audited results from the starting point for credit assessments. The final rating assessment, therefore, is a complex exercise and involves an assessment of not just financial risks but also of other key risk elements such as business, project, parentage, and management.

Section V. Crisil Ratings methodology for the materials sector

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 methodology 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 methodology used for all manufacturing companies, which includes evaluating the management philosophies, strategies and risk appetite of the company.

Scope

While the broader criterion of manufacturing companies is applicable to the materials sector, this section[8] 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 section 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.

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[8] *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/crisil-ratings-criteria-for-the-materials-sector-feb2024.pdf*

Methodology 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.

Methodology 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.

Methodology 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.

Crisil Ratings

Methodology 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.

Methodology 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.

Crisil Ratings

Methodology 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

Methodology 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 methodology remains the same as that for rating manufacturing and corporate service sector companies, Crisil Ratings considers the industry-specific factors discussed in this section to assess the business risk profiles of companies from different industries in the materials sector.

Section VI. Crisil Ratings methodology for the industrial sector

Executive summary

The industrial sector is key to the growth of manufacturing and allied sectors, and thus to the overall economic development of a country. Since growth in the industrial sector follows business cycle with a lag, policy measures play a key role in shaping the sector. Multi-year order books, long product cycles, replacement demand, and large working capital requirement are some of the characteristics of the industrial sector.

For rating companies in this sector, Crisil Ratings evaluates their business, management and financial risk profiles. The key parameters for analysing business risk profile are market position and operating efficiency. Market position covers order book, expertise, client profile, diversification in terms of products/projects and end-user industries, and the extent of competition in the industry. Analysing operating efficiency involves control on input costs, working capital management, and technology adopted.

For financial risk assessment of engineering companies, Crisil Ratings follows the standard methodology used for all manufacturing companies wherein the sustainability and adequacy of cash flows is evaluated with particular emphasis on debt-servicing ability. The assessment also covers how the business strengths of a company translate into its current and future financial performance, and its financial flexibility, mainly liquidity and timing of cash flows.

For management risk assessment, Crisil Ratings follows the standard methodology used for all manufacturing companies, which include evaluation of management philosophies, strategies/policies, and risk appetite.

These are presented in detail (above) in the Crisil Ratings publications, ‘Crisil Ratings methodology for manufacturing and corporate services sector companies’ and ‘Crisil Ratings methodology for financial ratios’.

Crisil Ratings analyses financial risk for construction companies broadly in line with the methodology adopted for other manufacturing companies. Accounting quality and cash flow and liquidity analysis are additional parameters considered for construction companies.

Construction companies that follow a consistent, transparent and conservative policy on financial accounting tend to be viewed more favourably than those that do not. As construction companies can and do adopt varying accounting policies for income and profit recognition, analysis of accounting policies is a critical first step in their financial risk analysis.

The revenue and cash flow of construction companies could be lumpy given the nature of business. Additionally, there could be a sharp distinction between cash flow and accrued income. Therefore, conventional techniques of ratio analysis are often not sufficient to ascertain the credit worthiness of a construction company. Crisil Ratings tends to focus on a cash-based analysis of revenue, expenses and other financial indicators. Assessment of the working capital cycle and cushion available in bank limit carry significant weightage. Construction companies that have stronger liquidity and more predictable project cash flow are viewed more favourably from a credit perspective. Predictability of cash flow is often supported by project, geographic and customer diversification. Hence, companies with diversified revenue streams may be viewed more favourably than those with concentrated revenue streams.

Scope

While the broader criterion of manufacturing companies is applicable to the industrial sector, this section[9] details the factors specific to the following industries:

- Engineering

[9] *For accessing the previously published document on the rating criteria for the industrial sector, kindly follow the link:* *https://www.crisilratings.com/content/dam/crisil/criteria_methodology/industrials/archive/crisil-ratings-criteria-for-the-industrial-sector-feb2024.pdf*

- Construction

The section 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.

Methodology for the engineering industry

Background

Engineering companies derive the bulk of their revenue from the manufacture, sale and servicing of production equipment used in a variety of end-user industries such as power, mining, oil and gas, consumer goods, construction, and the general manufacturing sector. The engineering sector is characterised by cyclicality in new orders, which is partially offset by fairly stable replacement demand.

Crisil Ratings evaluates a number of engineering companies in sub-sectors such as cutting tools, engines, boilers, abrasives, pumps, compressors, construction equipment and industrial components. While each sub-sector is an industry in itself because of varying market dynamics, there are similarities in demand patterns, operating mechanics, and end-user profiles. Crisil Ratings evaluates the business risk of an entity by analysing its market position and operating efficiency.

Business risk

Market position

Stability of revenue

Unlike most manufacturing entities, the revenue of an engineering company tends to be bunched up depending on the order book and delivery schedule. The extent of fluctuation in revenue depends on the sub-sector. For instance, the revenue pattern of a mining equipment manufacturer would be linked to orders from mining companies. As the need for equipment depends on new mining activity, there could be years when there is no additional equipment demand. On the other hand, availability of extensive financial assistance could trigger mining activity, thereby creating demand for mining equipment. Sub-sectors such as engines and other industrial components have more stable revenue compared with equipment manufacturers.

Crisil Ratings analyses the current and emerging demand drivers for the products offered by the company. As demand for engineering products is derived demand, the analysis focuses on demand forecasts for end-user products. It also considers economic factors and international market conditions.

Where the demand is fairly established, the future price of the product could be a variable. Here, the company’s bargaining power with its clients and its ability to negotiate price escalation clauses would become important determinants of sales growth. Other factors that improve stability and quality of revenue are exports, a reasonable proportion of spare parts sales, ability to increase penetration into higher-value added (higher-margin) products, new geographies and service-related income for products sold in the past. Crisil Ratings assesses these factors to determine the sustainability of future sales growth.

Crisil Ratings also uses the following indicators as revenue visibility measures:

- New orders and order backlog
- Book-to-bill ratio
- Unit volume and production line rates
- Bidding success rates (where relevant)

Client profile

Many engineering companies depend on a few clients for the bulk of their businesses, and hence are vulnerable to the performance and sourcing strategies, pricing decisions, and overall business plans of these customers. Apart from client diversity and the extent to which the customers are dependent on the engineering company, Crisil Ratings examines the business strategies and financial performance of key customers.

Typically, the client concentration risk is minimised if a company is present in the replacement market, which has a large number of buyers. Crisil Ratings, nevertheless, assesses client credit quality, as the likelihood of late and poor recoveries is fairly high. Receivables from each customer are compared with industry norms to ascertain the strength of client relationships as well as the credit policy of the engineering company. Exports provide significant client diversity, though they carry country and currency risks.

Market presence and competition

The market share of an engineering company in various product categories indicates its strength on the ground. Factors that result in a robust market share include presence in relevant sub-sectors, access to good technology, product quality and client relationship.

In high-technology areas, multinationals typically offer stiff competition to home-grown engineering firms. For low-technology products, there could be intense competition from unorganised players. In the original equipment manufacturer (OEM) segment, clients demand a high-quality product at an optimal price, while the replacement market is often driven by price rather than quality. Also, with spares/service sales fetching higher margins, players with significant market presence focus on improving revenue share from this stream. Technology and ease of use being at the forefront for such services, players are increasingly investing in technology.

An engineering company can distinguish itself by offering custom-made products and providing total solutions encompassing product design, service and implementation. Companies with established presence across the entire value chain and that provide total solutions would have stronger market positions and enjoy higher profit margins than those that only focus on manufacturing

Diversification of end-users

Engineering goods and services are used in the mining, power, refinery, fertiliser, textiles, plastics processing, chemicals, construction and defence sectors. An engineering company, however, cannot cater to all these end users because of product and technology constraints. That said, ability to service several end-user segments is a positive in the assessment of market position, as diversified end-user profiles would help withstand the impact of a slowdown in one or two segments.

Distribution network and after-sales service

The geographical spread of end-user segments demands an efficient and effective distribution network. For OEM clients, timely supply of spare parts and after-sales service quality would be critical for future business. In the replacement segment too, reach is important as products that find shelf space are more likely to sell.

On the whole, a strong after-sales service network to provide spare parts, repair and maintain equipment, and offer technical assistance services is an important distinguishing factor in the engineering industry.

Operating efficiency

Technology employed

Technology is a crucial element in operations. By possessing a strong technology in a niche area, a company can dominate a segment or, at least, have a strong market position.

Historically, multinational subsidiaries have enjoyed access to high-technology products from their parents. There have been a number of indigenous technology developments and more companies have started focusing on research and development (R&D) for innovation, facilitating energy savings, and reducing costs.

Making smart technology available at optimum price points is also critical to drive market position, especially in segments where customers are price-sensitive.

While assessing the operating efficiency of a company, Crisil Ratings places a lot of emphasis on its access to technology, R&D capability and new initiatives, and their bearing on cost-competitiveness and output quality.

Key cost drivers

High fixed costs in the engineering industry make cost control crucial for profitability. A company that continuously focuses on cost control would be better equipped to withstand an economic downturn.

Also, with raw materials comprising a larger share of costs, assessing the ability of players to pass-on raw material prices to customers is also critical in operating efficiency evaluation. Here, besides market position, the extent and intensity of competition in the particular industry/sub-sector is also a key determinant.

Crisil Ratings evaluates the efforts taken for cost optimisation and the extent of cost control achieved in the past. The flexibility of the system in terms of facilitating future cost control is also analysed.

An engineering company has to contend with the following key cost heads:

- **Inputs**: Raw materials, mainly equipment components and steel sheets, account for 55-60% of operating income.
- Moreover, the average raw material inventory holding is over three months. Hence, improving the bottom line through cost-cutting initiatives such as vendor management systems and supply chain initiatives has an important bearing on the ratings.
- **Labour:** Rationalising the workforce by deploying it optimally across the facility or pruning excess manpower through voluntary retirement schemes would indicate the level of labour cost optimisation.
- **Indirect costs:** The industry has a high interest incidence given its large working capital requirement and sizeable debt.

Efficiency improvements

The other factors that determine operating efficiency are:

- Level of automation to improve productivity
- Flexibility in operations through techniques such as flexible manufacturing systems
- Pruning inefficient and low-priority capital expenditure plans
- Developing superior engineering capabilities and project execution skills through training and development and benchmarking exercises

Methodology for the construction industry

Background

The construction segment supports a large number of upstream and downstream industries and has strong linkages with the overall economy. Hence, it has a high economic multiplier effect. The Indian construction industry can be classified into three broad sub-groups:

Category	List of construction activities
Residential and commercial/industrial	Residential and commercial buildings and complexes such as houses, offices, hospitals, restaurants, shops and shopping complexes
Infrastructure	Roads, ports, bridges, flyovers, dams, power plants, telecommunication facilities, and oil and gas plants and refineries
Urban infrastructure	Municipal roads, water supply, sewerage and drainage, sanitation, and solid-waste management systems

The construction industry has many entities of various sizes and competencies. Other than a few large and medium-sized players, the majority are small contractors and their activities are restricted to constructing residential and commercial units.

Business risk

Market position

Area of expertise and business potential therein

It is undeniable that the physical infrastructure in India needs significant improvement. This includes roads, ports, energy, and housing, with each sector carrying a demand potential that would call for an expenditure of several billion rupees. The timing and extent of activity in each sector would depend on the interplay of numerous factors. Using its knowledge and understanding of the economic environment, Crisil Ratings continually attempts to identify segments of the construction industry that are likely to witness more activity than others. This view is coupled with the area of expertise of individual construction companies to assess their order book build-up in the long term. For near-term revenue visibility, the size of the current order book in relation to revenue is studied. Furthermore, it is important to look at the quality of order book in terms of stage of projects, as a skew towards projects in nascent stage or nearing completion may impact revenue over the medium term.

Diversity and dispersion of project portfolio

Construction companies that have a diversified project portfolio, both across sectors and geographies, have an edge over companies with a concentrated portfolio. Quality of order book in terms of counterparties, funding, approval status, and price escalation clauses will also determine timeliness of execution and payment. All other things remaining equal, a company with a diversified order book would be viewed more favourably from a credit perspective than one with a concentrated one, provided the former has adequate resources. This is because diversity and dispersion enable the company to better withstand unforeseen adverse developments in any project being implemented. However, domain expertise, environmental constraints, and the as yet nascent level of construction activity in the country could limit the extent of portfolio diversity achievable.

Operating efficiency

Track record and implementation expertise

Construction companies that have a strong track record of project implementation adhering to the required quality standards and without cost or time overrun have strong prospects of winning future business in their areas of expertise. This is because most construction projects are awarded through tenders, where experience in the sector is a prerequisite for bidding. Experience also enhances execution skills, which is why construction companies tend to operate in their respective areas of expertise. Some large players, however, have been able to establish project management expertise spanning a wide range of technical skills.

Cost structure and operating philosophy

Cost structure is an important determinant of operating efficiency. A high fixed cost structure will make it unviable to quote aggressively for projects until operating leverage sets in, and thereby affect the success ratio. An aggressive quote may not cover costs. Therefore, several companies operate extensively through subcontractors to increase the variable element of their cost structures. Thus, an optimum cost structure is critical for the long-term viability of a construction entity. While analysing operating efficiency, Crisil Ratings considers the operating philosophy, cost structure, past track record in tenders, and reasons for losing tenders.

Knowledge of the local environment

Construction companies that are more aware about the environment they operate in are significantly better equipped to handle uncertainties and potential surprises that are a part of all construction projects. With increasing globalisation, most businesses have crossed national and regional boundaries. However, this process has been particularly slow in the construction industry, which has retained its predominantly local character in most markets. This is likely to continue over the medium term, given the importance of awareness of nuances of the local environment for a project to be successfully implemented. Consequently, all other things remaining equal, a player having knowledge of the local environment by virtue of experience of executing projects in the geography would have an edge over other players.

Working capital management

Construction companies have sizeable funds tied up in working capital. Thus, their ability to manage working capital is a critical parameter in evaluating their operating efficiency. Crisil Ratings evaluates the working capital management of construction companies by analysing gross current assets, mobilisation advances received, among others.

Conclusion

To rate companies operating in the industrial sector, Crisil Ratings evaluates their business, management and financial risk profiles. The key parameters considered for analysing business risk profile are market position and operating efficiency. Crisil Ratings also considers the sector-specific factors that affect the market position or operating efficiency of the entities operating in the engineering and construction industries.

Section VII. Crisil Ratings methodology for automotive and automotive component companies

Crisil Ratings

Executive summary

The Indian automotive (auto) sector is a large employment driver and a key contributor to the economy. The auto supply chain is vast, complex and highly integrated, comprising original equipment manufacturers (OEMs) and component suppliers. The sector itself is cyclical and influenced by several factors, including retail demand, economic activity and export opportunities.

For rating auto OEMs and component suppliers, Crisil Ratings evaluates their business, management 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 covers cost position, capacity utilisation and working capital management.

For financial risk assessment, Crisil Ratings follows the standard methodology used for all manufacturing companies, which assesses the sustainability and adequacy of an entity's cash flows 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, with particular emphasis on its liquidity.

For management risk assessment, Crisil Ratings follows the standard methodology used for all manufacturing companies, which includes evaluating an entity's management philosophies, strategies/policies and risk appetite.

These are also covered above in detail in the Crisil Ratings publications, 'Crisil Ratings methodology for manufacturing and corporate service sector companies' and 'Crisil Ratings methodology for financial ratios'.

Scope

While the broader methodology for manufacturing companies[10] is applicable to the auto sector, this section11 details the industry-specific factors impacting the business risk profiles of different segments in the auto sector.

It covers the following segments of the auto sector.

- Auto component suppliers
- Two-wheeler OEMs
- Commercial vehicle OEMs
- Tractor manufacturers

This section 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.

[10] *Kindly refer to Section I on 'CRISIL Ratings methodology for manufacturing and corporate services sector companies' and section IV on 'CRISIL Ratings methodology for financial ratios''.*
[11] *For accessing the previous published document, kindly follow the link: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/automotive-and-automotive-component-companies/archive/criteria-for-rating-automotive-and-automotive-component-companies-feb2024.pdf*

Methodology for auto component suppliers

Background

India's auto component industry is intensely competitive with a large unorganised sector. By global standards, the domestic industry is small despite steady growth in revenue and increasing production of automotives. Significant improvements in quality have helped meet the requirements of the increasingly quality-conscious Indian consumer. Global demand has also been on the rise.

Growing competition from China and Thailand has prompted domestic component suppliers to streamline cost structures to remain competitive. Pricing pressure and cyclicality in demand from the OEM market continue. While demand from the aftermarket has been steadier than from OEMs, competition from the unorganised sector and from imports persists. Increase in the prices of commodities and rising employee and power costs have also affected operating profitability. Some players have, however, offset cost pressure through growth in volume and passing on increasing input costs.

India's auto component exports have increased over the years and account for 18-20% of the component demand. Given the cost advantage and longstanding relationships with overseas customers, Indian suppliers should continue to benefit from the outsourcing initiatives of global OEMs. New product launches and steady aftermarket and global demand will also drive growth for component suppliers.

Business risk is evaluated using two crucial factors — operating efficiency and market position. The factors evaluated under market position are geographic presence, customer profile and diversity, the aftermarket and export potential, market share, product profile, and importance in the overall value chain. Operating efficiency is largely a function of the ability to manufacture at low cost, technological superiority of products, and efficiency in working capital management.

Business risk

Market position

Diversity in customer base

Diversity in customer base helps mitigate the impact of cyclicality, downturns in the fortunes of OEMs, or moderation in demand from a vehicle segment. It also strengthens bargaining power when negotiating supply contracts. Diversity may, however, be less of an issue for players with an especially strong market position and high share of business with key OEM, particularly if the products address high-growth areas and have better technological intensity.

Component suppliers with a preferred supplier status to several OEMs are viewed favourably as they are important to, and have greater negotiating power with, the principal. Longstanding relationships make it difficult for the principal to switch suppliers, and result in greater inter-dependence.

Location

Major OEMs are located in clusters, prominent being Chennai, the National Capital Region (NCR), Pune and Karnataka. Proximity of the component suppliers to these clusters is viewed favourably as it facilitates early turnaround.

Presence in the aftermarket and export markets

Presence in the aftermarket and export markets adds stability to revenue streams and cash flows. Demand from the aftermarket segment tends to be steady, offsetting occasional decline in domestic OEM offtake. The aftermarket segment is also more profitable as it is less susceptible to pricing pressure compared with supplies to OEMs. Exports enhance diversity and stability in revenue profile because this revenue is not linked with the fortunes of the domestic auto industry.

On the flipside, exports expose the component supplier to volatility in foreign exchange (forex) rates and extended receivable cycles.

Market share

Business share in the OEM and aftermarket segments reflects strongly on market position. A healthy market position, in turn, helps withstand pricing pressure from the OEMs and command a premium in the aftermarket segment. It also strengthens relationships with customers and hence, ability to win orders. A strong market share generally translates into larger business volume, thus helping players benefit from economies of scale (through better coverage of overheads) and compete better on prices.

Product complexity

Auto OEMs have significantly pruned the number of component suppliers they source from, in line with the global trends. Tier 1 suppliers, on account of their direct interface with OEMs and larger number of value-added offerings, have better bargaining power and operating margins than other suppliers. Tier 2 and 3 suppliers, on the other hand, typically supply the required components and sub-assemblies to Tier 1 players.

The complexity in manufacturing the component and its criticality determine the importance of the component supplier in the supply chain and, consequently, its credit risk profile. Product complexity is measured by the extent of research and development involved, product validation, precision in shape forming and machining operations, and component assembly. Product complexity also limits the risk of price erosion and discourages new entrants, thus strengthening the supplier’s market position. Diesel fuel injection systems, for instance, have a high degree of design and manufacturing complexity, thus strengthening the market position and pricing power of manufacturers.

Component suppliers concentrating on engine and related parts face higher risk of obsolescence. This may become increasingly important as electric vehicles (EVs) become more prevalent and the auto-component ecosystem changes considerably.

Operating efficiency

Cost structure

The fortunes of auto component suppliers are linked to those of the auto OEM industry. This constrains a supplier’s bargaining and pricing power. The key to improving profitability is, therefore, cost efficiency, which is attained through process control, low defect rate, automation and sourcing efficiency. Operational efficiency helps sustain market position in a competitive environment. It is measured in terms of labour productivity, capacity utilisation and cost structure, which together influence the overall cost of production. Operationally efficient suppliers have cost- effective production practices that help attract cost-focused OEMs, and are better placed to withstand pricing pressure. Operational efficiency is, therefore, a key driver of credit quality.

Technology

The technology gap between Indian and foreign automotives has narrowed in recent years mainly due to strategic tie-ups with technology partners. The fuel consumption, emission and safety norms introduced by the Government of India as part of BS VI norms have compelled domestic component suppliers to adapt to the latest technology, in line with their counterparts elsewhere.

Companies with strong in-house component development teams or quick access to technology from collaborators or technology partners are better placed to procure orders and survive in a competitive market. Technology partners have greatly influenced OEM decisions in finalising auto component vendors, especially when the former are suppliers to the concerned OEMs. Consequently, companies with access to component technology, including from overseas partners, stand to benefit. Moreover, companies focusing on technology-intensive products with indigenous manufacturing, which act as substitutes for imports, may have the added advantage of various fiscal incentives from the government, including the Production Linked Incentive (PLI) Scheme.

Working capital management

Typically, component suppliers predominantly dependent on OEMs for revenue have smaller working capital requirements. This is because the OEMs follow just-in-time practices in procurement, and make prompt payments. Component suppliers selling largely to the aftermarket and export segments, on the other hand, have larger working capital requirements, given the longer payment cycles involved. Efficient working capital management and adequate working capital limits are, therefore, critical for auto component suppliers.

Methodology for two-wheeler OEMs

Background

The Indian two-wheeler industry — comprising motorcycles, scooters and mopeds — is fairly developed, with a large network of manufacturers, vendors, ancillaries, dealers, retailers and spare parts dealers. The market for two- wheelers is under-penetrated at 30-40% in India, indicating long-term potential. It is expected to clock steady growth in the coming years.

Business risk

Market position

Product profile and sales break-up

Each product category in the two-wheeler industry (motorcycles, scooters and mopeds) has a different growth rate. Furthermore, the growth rate has varied based on engine type. For instance, electric two-wheeler growth has been far better than that of its internal combustion engine (ICE) counterparts with rising EV penetration. Increasing competition has resulted in proliferation of products with differing features and aesthetic qualities, and forced manufacturers to introduce products at various price points, particularly in the motorcycle market, and to focus on exports. The Crisil Ratings analysis of the market position of a company in the two-wheeler industry takes into account its presence across product categories and price points, and track record of product launches. Export initiatives and sales trends are studied to understand the extent of risk diversification and potential for revenue growth.

Demand-supply dynamics

The domestic demand-supply dynamics constitute an important part of the Crisil Ratings analysis. The fortunes of the two-wheeler industry are driven by 'right products' in terms of utility, price (capital), and operating cost to meet the demand from middle-class consumers in urban, semi-urban and rural areas. Steady growth has resulted in many players increasing their capacities. As part of its analysis, Crisil Ratings arrives at future demand-supply scenarios to better understand the business pressures each company and its competitors will face at various times.

Competition

Competitor analysis and positioning is an important constituent of market analysis. Crisil Ratings identifies the various market segments the company is present in and its current and future market positions compared with rivals. The ability of the company and its competitors to regularly introduce products/variants is taken into account, given the decreasing life cycles of models and increasing demand for replacement. This helps Crisil Ratings form a view of the company's present and expected competitive position.

Distribution network

An effective service network is an important requisite for the two-wheeler industry. Crisil Ratings analyses how effective the network is in terms of reach, availability of spare parts, support extended by the company, exclusivity, service provided and credit period extended. Crisil Ratings also takes into account the performance of the distribution networks of competitors on each of these parameters.

Price trends

To estimate the extent of a company’s pricing flexibility, Crisil Ratings analyses its pricing strategy. The company's market position assessment also factors in its pricing power.

Operating efficiency

Location

Crisil Ratings considers locational importance from the standpoint of proximity to major vendors, ancillaries and customer markets. Each of these factors has implications for the financial viability of the business and incidence of freight costs on an ongoing basis.

Level of integration

Crisil Ratings also assesses the extent of integration in manufacturing operations. This provides a better view of the cost structure and return on investment. It also helps estimate and assess capital expenditure decisions. The fixed cost in operations will also have an important implication for break-even analysis. Crisil Ratings analyses the company’s cost competitiveness by studying profitability margins at the operating level across entities and years.

Capacity utilisation and flexibility in manufacturing

Crisil Ratings assesses capacity utilisation as a means of evaluating the efficiency of operations. It also assesses the versatility of operations by analysing flexibility to switch between various range of products.

Ancillary and vendor network

In conjunction with the extent of integration, Crisil Ratings analyses and assesses ancillary and vendor network. These are examined from the point of view of available capacity, and ability to deliver on time, maintain quality and upgrade with changes in the basic models. For small players, Crisil Ratings also analyses the level of indigenisation and vendor rationalisation. For big players, benefits accruing from global sourcing of components and economies of scale are considered.

Raw material

For a better view of a company's cost structure, Crisil Ratings analyses its raw material requirement from the perspective of price movement and availability. It also assesses the import content, both of the company and its major vendors. The geographical spread of vendors and import content may have a bearing on the company’s inventory and stocking policy. Working capital requirement will directly follow from any such policy decision.

Channel inventory

This helps assess the actual retail demand and any possible impact of carrying costs on the manufacturer.

Technology

Crisil Ratings analyses the company's product development ability in terms of technological capability and styling skills. Technological capability is assessed on the basis of ability to launch models with different performance characteristics (such as power and fuel efficiency), while styling skills are judged by market response to the aesthetic features incorporated in models introduced in the past. Access to a parent's technology or in-house research and development capability, and ability to comply with regulations are also taken into account

This becomes especially critical as emission norms have evolved from BS[12]-IV to BS-VI from April 2020 and require a significant upgrade in the manufacturing ecosystem.

[12] *Bharat Stage*

Productivity and quality issues

Productivity and labour relations are integral to the operations of a company. Poor labour relations can lead to stalling of operations and consequently, loss of productivity. Crisil Ratings also analyses factors such as consistency and improvement in quality in terms of usability and costing.

The Crisil Ratings analysis, therefore, captures a mix of factors that are important from the business risk perspective in determining the ability to generate cash flow from core operations. The focus is on analysing the basic factors that contribute to such cash flow and its sustainability.

Methodology for the commercial vehicles industry

Background

The commercial vehicles (CV) industry was responsible for the transportation of over 70% of the total freight in the country in fiscal 2023.

As demand for transportation comes from all sectors, the performance of the CV industry mirrors the overall economic performance. In India, the CV industry is characterised by significant entry barriers, oligopolistic competitors and focus on volume. With improving road conditions, particularly inter-city roads, the average vehicle tonnage has increased to about 28 tonne currently from 20 tonne in early 2000s and 16 tonne in the late 90s.

Correspondingly, the intra-city average vehicle tonnage has reduced, thereby establishing a hub-and-spoke model for goods transportation. The shift implies that manufacturers with a wide range of products and the ability to develop new models based on customer needs are bound to gain volume share.

The parameters that are considered for evaluation of a CV manufacturer's business risk profile include the company's market position and operating efficiency. Market position assessment focuses on the company's ability to maintain high volumes in a wide variety of market segments. While analysing operating efficiency, Crisil Ratings assesses ability to manufacture technologically superior vehicles at low costs. Given the high fixed-cost of operations, well- engineered products and significant volumes are key factors.

Business risk

Market position

Product range

A diverse and broad product mix enables manufacturers to provide a wide variety of transportation solutions across different load levels, and helps build strong brand loyalty with the customer. On the other hand, a manufacturer with presence in one segment would be more susceptible to volume shocks and limitations related to overall volume and growth prospects within that segment. Furthermore, within the CV space, presence in the passenger transportation segment provides additional volume.

Sales and distribution networks

Traditional CVs are commonly used across the country. Hence, it is crucial that companies have widespread distribution and service networks as this enables them to develop a geographically diversified customer base, which is crucial for volume expansion. The CV is also a productive asset for the freight business and hence, to maximise the revenue potential of the asset, the spread of service networks and quality of service provided are crucial. Companies with wholly owned captive finance subsidiaries may benefit as this ensures easy access to funds for CV buyers and supports the business growth of the manufacturer. Also, exports would protect companies from domestic cyclicality.

Realisations and volume growth

Annual movements in a company's selling prices indicate its ability to increase prices and pass on input price hikes to customers. These figures, used in conjunction with volume growth, indicate the relative strength of the competitors and their overall market position. An analysis of the expected volume trends over the short-to-medium term and the sensitivity of the company's performance to these trends provide insights on the expected financial performance.

Competitor analysis

The CV market remains oligopolistic in India, but competition is expected to intensify in the long term. In its analysis, Crisil Ratings focuses on products, volumes, regional market shares and realisations. These parameters provide valuable inputs on the strengths and weaknesses of companies operating in the industry.

Operating efficiency

Product design and development capabilities

The company's ability to develop new products to serve emerging needs or enter new markets is crucial to the Crisil Ratings analysis. The time to market a new product can be minimised only if there are in-house product development capabilities. It is imperative that companies are able to re-engineer their products, be it in pricing, design or product specifications, to meet the changing needs of the consumer.

Technological capabilities, access to new technologies

Vehicle emission norms are getting increasingly stringent. Introduction of BS5-IV norms in fiscal 2018, BS-VI in 2020 and BSVI Phase II in 2023 is a case in point. Therefore, ability of manufacturers to introduce more technologically advanced engines to survive in the face of changing regulations and intense competition is key. Companies with access to international technologies are better placed to maintain their market positions. The extent of technological capabilities and availability of suitable technologies are, therefore, key inputs in the analysis of CV manufacturers.

Flexible manufacturing facilities

The CV market is becoming highly segmented and each segment responds differently to the overall economic performance. It is, therefore, important that manufacturers have presence in every segment or several segments to reduce their susceptibility to industry cyclicality and to maintain volume. Ability to manufacture a variety of models using the same manufacturing facilities enhances competitive edge, ensures better utilisation of resources, reduces capital costs, and helps improve asset turnover. In contrast, a company with dedicated manufacturing facilities for each of its products would be more asset- and fixed-cost-intensive, which would erode profitability and competitive position due to loss of flexibility in a dynamic market.

Indigenisation

CV manufacturers with higher use of imported components are susceptible to volatility in forex rates. Limited flexibility to pass on increasing costs in a competitive market may erode profitability severely. It is, therefore, imperative that companies maintain high indigenisation and commit resources appropriately.

Integration and fixed-cost intensity of operations

Unlike traditional commodity businesses where cyclicality in price is higher than that in volume, the CV industry faces high volume cyclicality. This makes fixed-cost intensity and in-house integration important considerations. The industry is extremely fixed cost-intensive, and high integration constrains the cost structure. Companies may perform extremely well during the growth phase with superior profitability. On the other hand, pressure on volume could lead to a sharp decline in profitability. Internationally, ancillarisation is the key to ensuring stability in earnings. It is, therefore, important that companies maintain the right balance between ancillarisation and internal integration

Methodology for the tractor industry

Background

India's tractor industry is concentrated in the 10-50 horse power (HP) range, which is distinct from tractors and farm equipment worldwide. The Indian tractor industry is dominated by domestic players which are price competitive. Sales are largely driven by bank credit. Factors such as government policy on agriculture, National Bank for Agriculture and Rural Development (NABARD) policies to promote farm mechanisation and bank credit extended towards the agricultural sector (primarily for tractor financing) are important influencers of demand for tractors. Use of tractors for haulage activities has also been increasing.

The key parameters in analysing business risk profile include the company's market position and operating efficiency. Market position assessment focuses on the company's product profile, its geographical reach, the demand pattern and level of competition. While evaluating operating efficiency, the company's cost structure is examined.

Business risk

Market position

Product profile

There are broadly four product categories in the tractor industry based on power delivered by HP: tractors delivering below 30 HP, those delivering 30-40 HP and 40-50 HP, and those delivering above 50 HP. The bulk volumes are in the 30-50 HP range. Each product category has varying growth rate and prospects. Crisil Ratings assesses the product profile of the company to estimate its likely growth rates.

Geographical coverage

Assessing the company's geographical reach is vital because each region in the country has its own sales pattern (in terms of volume) and growth potential depending on product requirement and soil patterns. Crisil Ratings also takes into account geographical diversity or concentration to a particular region while assessing the market position.

The company's export initiatives and its success and growth prospects in the international market are also studied.

Level of monsoon

Rainfall, both country-wide and region-wise, is vital as it has a direct impact on sales volume in the tractor industry.

Demand-supply equations

The demand for tractors is influenced by government policies pertaining to duties (mainly excise duties) and changes in diesel prices; other factors include government policy on agriculture, NABARD policies to promote farm mechanisation and bank credit extended towards tractors. Crisil Ratings also evaluates the product categories within which the players have expanded capacities, and their future competitive positions.

Competition

Studying the market segments that the company is present in, its position in each, the inherent competition, and likely changes in the market position help analyse the company's present and expected competitive status.

Distribution network

The reach of the distribution network, the support it extends to the company, exclusivity of the services provided, and the credit periods involved are important factors that contribute to healthy sales.

Operating efficiency

Location

Proximity to major vendors, ancillaries and important markets lends a competitive edge to players.

Capacity utilisation and flexibility in manufacturing

The flexibility of a company to switch between different product profiles, along with optimum capacity utilisation, help determine the versatility in operations.

Level of integration

Fully integrated operations ensure sustainability of supplies at various stages of the production chain and provide reasonable control over cost structure and product quality.

Ancillary and vendor network

The network's strength can be understood from the available capacities, ability to deliver high-quality products on time, and the ability to upgrade/change with the changing basic models.

Raw material

Raw material requirement is examined from the perspective of availability and price movements to understand the cost structure. Crisil Ratings also assesses the import content and vendors of the company.

Channel inventory

This helps assess the actual retail demand and the impact of carrying costs on the manufacturer.

Technology and product development

Ability to launch new models/upgrades with varying performance characteristics (for power and fuel efficiency) is an important constituent in the analysis. As most tractor manufacturers do not have foreign collaborations, they tend to outsource manufacturing of both components and aggregates. The company's product development efforts are calculated to evaluate the new features, market segments addressed, and price-cost issues involved.

Productivity and quality issues

Productivity and labour relations are integral to the business as they determine steady revenue flow and uninterrupted supply. Consistency and improvement in quality are also assessed from both the usability and costing angles.

Conclusion

For rating companies operating in the auto sector, Crisil Ratings evaluates their business, management 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 company's cost position, capacity utilisations and working capital management.

Section VIII. Crisil Ratings methodology for the consumer staples and discretionary sector

Executive summary

Consumer-oriented sectors such as fast-moving consumer goods (FMCG), consumer durables and organised retail play a significant role in the economic growth of a country. Private final consumption expenditure, which accounts for 60% of India's gross domestic product (GDP), indicates the demand in these sectors. These sectors are largely stable, but demand elasticity varies based on the discretionary nature of products.

For rating companies in the consumer staples and discretionary sector, Crisil Ratings evaluates their business, management and financial risk profiles. The key parameters considered for analysing the business risk profile are market position and operating efficiency. Market position covers market share, brand equity, diversity in product portfolio, and innovation and product differentiation capabilities. Operating efficiency covers efficacy of distribution networks, supply chain management, manufacturing facilities (both in-house and outsourced) and sourcing.

For financial risk assessment, Crisil Ratings follows the standard methodology used for all manufacturing companies, which assesses the sustainability and adequacy of 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, with particular emphasis on its liquidity.

For management risk assessment, Crisil Ratings follows the standard methodology used for all manufacturing companies, which includes evaluating the management philosophies, strategies/policies and risk appetite.

These are covered in detail above in Crisil Ratings publications, 'Crisil Ratings methodology for manufacturing and corporate services sector companies' and 'Crisil Ratings methodology for financial ratios'

Scope

While the broader methodology for rating manufacturing companies is applicable to the consumer staples and discretionary sectors, this section13 details the industry-specific factors impacting the business risk profile of different industries in the consumer sectors.

It covers the following industries:

- FMCG
- Consumer durables
- Cotton textiles
- Organised retail
- Sugar

The section 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

[13] *For accessing the previously published document on rating criteria for this industry, kindly follow the link: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/consumer-staples-and-discretionary/archive/crisil-ratings-criteria-for-the-consumer-staples-and-discretionary-sector-feb2024.pdf*

Methodology for the FMCG industry

Background

Crisil Ratings analyses aspects such as product mix, track record of innovation, differentiation, market share, pricing power and brand equity to evaluate market position. For operating efficiency, Crisil Ratings considers key aspects such as distribution network, raw material sourcing, supply chain management and manufacturing facilities.

Market position

Product mix

The product mix indicates the categories in which a player operates. Players in segments such as toothpastes, soaps and detergents, which are essential items and, therefore, in frequent demand, tend to have stable sales. On the other hand, those present in discretionary segments, such as perfumes and cosmetics, often report declining sales during times of recession. Presence in niche categories, where competition is fairly low, strengthens market position.

For each product category, the expected drivers of volume growth and their long-term sustainability are considered. New products that are closely linked to consumer needs, values and lifestyles tend to exhibit strong volume growth. It must be noted that the domestic market is extremely price sensitive. Products in the popular segment are targeted at the low- and middle-income groups and, typically, present a value-for-money proposition, whereas those in the premium segment are targeted at high-income customers. To cover the gap between these segments, players launch products at new price points, thus adding to the competitive pressure for products in the premium segment. The price sensitivity necessitates prudent product management, especially during a recession. A diversified portfolio, with products at a variety of price points, helps mitigate risks associated with any one segment.

A wide range of products enables balancing of growth objectives and competitive pressure. However, a small product portfolio is not necessarily viewed as an absolute negative as companies may dominate their chosen segments or straddle a niche. The success of players with smaller portfolios indicates that other factors also critically influence performance.

Innovation track record

To maintain customer interest and to stay ahead of the competition, companies need to periodically introduce new and better products. Product innovation capabilities and track record in creating successful brands are, therefore, taken into account. One good indicator of innovation is the contribution to revenue of brands introduced in the past 3-5 years. Product launches that provide an early-mover advantage in any category offer greater cash flow benefits than those that are minor variations of existing products.

Differentiation

A product's perceived benefits and differentiation over competing products is a key consideration. A product may be said to command a premium only if consumers are convinced of its superiority.

Market share

Crisil Ratings looks at the market share trends of each product. A consistently high market share has several advantages. It ensures a stable relationship with and better control over the distribution channel. Also, the company does not need to offer very high margins to the trade as this is compensated by higher volumes. Established products with a large market share also have lower marketing and advertising expenses as it is cheaper to maintain an established brand than to create a new one.

Acquisitions in the FMCG industry tend to outnumber those in other industries. Acquisitions strengthen the acquirer's business risk profile by enhancing product offerings and geographical reach. However, ability to integrate operations with those of the acquired firm is a critical factor.

Pricing power

Sizeable market share does not necessarily translate into price protection. Players with small market shares can pose strong price competition to market leaders. Therefore, Crisil Ratings evaluates not only the market share, but also the market dynamics to determine pricing power.

Brand equity

Brand equity is the degree of consumer loyalty towards a company's products. The presence of established brands serves as a formidable entry barrier for new brands. If brand loyalty is strong, consumers tend to be willing to pay a high price for the product and are reluctant to switch to competing products.

Brand-building capabilities are a key consideration. Factors such as the management's willingness and ability to spend on advertising and brand-building are examined. During periods of slow growth and economic recession, players tend to slash their advertising expenditure to boost short-term profits. Companies with successful brands have an edge over the competition, thanks to greater association with customers and lower advertising expenses.

Operating efficiency

Distribution reach, optimisation of cost-cutting initiatives and use of manufacturing capacity, and efficiency in raw material sourcing are critical elements considered under operating efficiency.

Distribution network

The distribution network's reach is assessed to ascertain the geographical diversity of sales. Greater sales diversity reduces geographical risks, especially those arising from changes in customer preferences in some areas. In India, a good rural-urban sales mix helps even out the effect of an uncertain monsoon on the purchasing power of consumers. A wide dealer network enhances the reach of products. Companies that can use the same network to distribute new products benefit from a head start. Those with products that have a strong export potential also have an advantage, especially during downtrends in the domestic market.

Supply chain management

Ability to offer a product when the consumer wants to purchase it is the most important factor that drives sales and promotes consumer loyalty. This is even more essential for products that are in seasonal demand. It also motivates retailers and wholesalers to stock the product. Several FMCG players in India have invested in supply chain-related information technology (IT) initiatives in recent years, enhancing inventory management and collection efficiencies

Manufacturing facilities

Manufacturing is not capital intensive in the FMCG industry. Most companies have a combination of in-house production and outsourcing. The decision to outsource or produce in-house depends on factors such as transportation costs and access to raw materials. Typically, high-technology products are made in-house, while others are sourced from vendors. The product's shelf-life determines whether a company will opt to set up a production facility of its own or to outsource production.

Raw material sourcing

Efficiency in management of raw material costs is an important consideration for FMCG companies, especially in the case of products that depend on commodities such as sugar, cereals and oil. Ability to source raw materials is essential, especially for businesses where the margins are thin. For items such as edible oil that are largely imported, effective risk management systems in procurement are critical, and are, therefore, analysed in detail. A wide sourcing base optimises the quality, quantity and pricing of purchase, and is considered a positive factor in the rating analysis. It also facilitates inventory management and reduces the impact of fluctuation in raw material prices on profitability

Methodology for the consumer durables industry

Background

Consumer durables comprise product categories such as televisions, refrigerators, air conditioners, washing machines and microwave ovens. The sector is intensely competitive, with new companies and technologies challenging incumbents. Demand for the products under this sector are driven by rising disposable incomes, growing consumer awareness, availability of credit, and shift in the perception of consumer durables as utility items rather than as luxury items.

While the growth will be driven largely by imports, many players in the sector have either set up local capacities or are undertaking capacity expansion to cater to domestic and global demand. On account of low penetration, rural India has emerged as a major market for several large players. The expansion in retail network and online retail has increased product accessibility even to the remotest areas of the country.

Crisil Ratings analyses aspects such as product mix, demand-supply equations, competitive landscape, innovation and brand equity to evaluate market position. For assessing operating efficiency, Crisil Ratings considers key aspects, such as raw material sourcing, distribution network, working capital management and operating margin.

Market position

Product mix

Growth rates and prospects may continue to vary from one product category to the next. Intense competition has spawned the proliferation of products with varying features and aesthetics. Analysis of the product portfolio includes evaluation of categories, features and track record of products launched. Diversity in the product mix minimises dependence on any single product for revenue and helps maintain steady operating income.

Demand-supply equations

Crisil Ratings factors in the product categories in which capacities are being expanded and the growth rates across categories, to assess future competitive position.

Competitive landscape: Market share and price protection

The trends in market shares of products are analysed, both by value and volume. A consistently high market share helps maintain a stable relationship with and better control over the distribution channel. Players do not need to offer high margins to traders, as these may be compensated by larger volumes. Established products with high market shares require lower marketing and advertising expenses, as it is cheaper to maintain an established brand than to create a new one. Nevertheless, new products with small market shares may pose strong competition to market leaders. Therefore, Crisil Ratings analyses the perceived benefits of the product over similar products in the market. A product may be said to command a premium only if consumers are convinced of its superiority.

Innovation track record

To sustain customer interest, companies need to launch new and better products ahead of the competition. Crisil Ratings, therefore, examines product innovation capabilities and track record of establishing successful brands.

One good indicator of innovation capability is the share in sales of brands launched in the past 3-5 years. Innovation should help players increase profitability, because consumers are willing to spend more for added features and capabilities.

Brand equity

Brand equity indicates the degree of consumer loyalty for the player's products. It is an important factor, as the presence of established brands acts as a high entry barrier. If brand loyalty is strong, consumers are willing to pay a higher price for the product and are less likely to switch to competing brands. Crisil Ratings examines factors such as the management's willingness and ability to spend on advertising and brand building. Also, the success of one brand may help grow similar products, by giving them an edge over the competition, and thus, lower advertising expenses. Established mother brands may be extended to other price points, thus helping create an umbrella portfolio that is much stronger than individual brands.

Operating efficiency

Product design and development capabilities

The ability of players to launch products to serve new needs and develop new markets is an important parameter for evaluating operating efficiency. In the past, market segments and client profiles were clearly defined. Now, the needs and requirements of consumers are ever changing. In the television segment, for instance, the last decade has seen a sharp proliferation of panel TVs and the near exit of cathode ray tube TVs. It has, therefore, become imperative for players to re-engineer their products to meet changing consumer needs on pricing, design or product specification. Research and development (R&D) plays an important role here, as products need to be updated on technology, so that innovations are meaningful and beneficial to the consumers.

Distribution network

The distribution network's reach is assessed to ascertain the geographical diversity in sales. Greater diversity in sales mitigates geographical risks, such as those on account of changes in customer preferences in some areas. A wide dealer network enhances the product reach. A company may use the same network to launch new products, and thus maintain a distinct competitive advantage. The advantages of having company-owned retail outlets over selling through multi-brand outlets are also factored in. Single-vendor retail stores attract a dedicated customer base and promote brand equity, leading to higher bargaining power and lower working capital requirement.

Raw material sourcing and cost structure

Raw material sourcing is an important aspect for consumer durables companies. A wide sourcing base helps optimise the quality, quantity and price of purchases. A low-cost structure strengthens the business risk profile, improves pricing ability and helps optimise capacity utilisation even during downturns. Crisil Ratings analyses past data to ascertain the ability of the company to pass on cost increases to consumers.

Capacity utilisation is analysed as a means to assess operational efficiency. Flexibility to switch production between a range of products is evaluated. Outsourcing of manufacturing operations, for instance, allows flexibility to ramp-up production quickly during festive seasons while maintaining a low-cost structure. As several countries are covered under Free Trade Agreements, the cost differential of outsourcing from such countries is also ascertained.

Working capital management

As in the case of other manufacturing companies, efficiency in working capital management is critical for players in the consumer durables industry. Ability to manage inventory, demand and payables (given the multiple channels involved) and the credit obtained from suppliers is evaluated. Multinational corporations (MNCs) typically receive substantial credit from their parents, a factor that is often a key rating strength.

Quality and customer orientation

Crisil Ratings evaluates consistency and improvement in quality, both in terms of costing and useability. Quality of the product and of services, in areas such as pre-sales, sales, installation and after-sales, is a major challenge for consumer durables players, and thus, a critical factor in the rating analysis.

Methodology for the cotton textiles industry

Background

India's cotton textile industry spans the entire textile value chain — from cotton production to garment manufacturing. The cotton yarn spinning industry is highly capital intensive, faces acute cyclicality, is extremely fragmented and intensely competitive on account of the commoditised nature of the product. Garment manufacturing is not as capital intensive as yarn spinning, but is fragmented with small capacities resulting in lower economies of scale. The fabric weaving and knitting sector has both large integrated players and small operators.

Crisil Ratings has rated several companies across the textile value chain and its experience shows that some players fare better at managing the inherent cyclicality in the industry, and simultaneously, at adding value by diversifying the product range. For instance, the established, vertically integrated companies have modernised their manufacturing facilities and are, therefore, able to enter new international markets.

Under business risk profile, Crisil Ratings factors in the market position and operating efficiency. The quality and count range of cotton, degree of diversification in product, clientele and geographical reach, and ability to capture new markets are evaluated under market position. While assessing operating efficiency, efficacy of raw material procurement and cost structure (mainly of labour and power), degree of modernisation in manufacturing facilities, and benefits from economies of scale are considered.

Market position

Product diversity and presence across the value chain

Companies that produce both cotton and blended yarn (blend of cotton and synthetic fibre) are better able to manage cyclicality than pure cotton yarn units. A diversified product mix, with textile variants in addition to yarn as well as forward integration, reduces the impact of cotton price fluctuations on profitability, Crisil Ratings takes a positive note of value addition in products, including twisted yarn, dyed yarn, gassed and mercerised yarn, and compact and melange yarn, as these fetch better realisations and help to capture niche markets, thereby strengthening the market position. Likewise, a wider range of fabrics, colours and designs helps forge strong relationships with garment exporters and international retailers, resulting in a preferred vendor status. In garmenting (the stitching of fabric into garments), the key strengths required are strong design capabilities and grasp of fashion trends and needs.

Quality and range

A key factor distinguishing players in the commodity yarn market is their count range. A tilt towards finer counts partly shields from cotton price fluctuations because yarn realisations in the finer counts are generally less elastic than cotton prices and are substantially higher than in coarser counts. Though the higher counts fetch better realisations, they have lower demand than medium counts. Crisil Ratings views presence across a wide count range positively. The key factors distinguishing players in the commodity fabric segment are the texture and colour ranges. The fabric that needs least processing before it can be used in garmenting will have the least price elasticity. This is applicable for woven and knitted fabrics. Garmenting is the final stage of manufacturing in the textile industry. This segment is generally not commoditised, and adding variety to the product range to cater to changing consumer preferences is key.

Geographical and customer profiles

Crisil Ratings believes geographical diversification helps minimise risks associated with a particular market or geography; such risks include political unrest or economic slowdown in any particular region.

Crisil Ratings also assesses the ability to capture new markets during periods of downturn in existing markets. Geographical diversification, recognition by large garment and fabric houses, and a steady customer base are key factors for long-term success in exports. Companies that have economies of scale, modern plants, effective cost-control measures and export thrust are better placed. In the fabric segment, manufacturers that offer services such as design development and weaving/knitting as per the requirements of garment exporters stand to benefit. Crisil Ratings expects garment exports to drive overall textile export growth, and integrated players to benefit on account of consistent quality and adherence to time schedules.

Crisil Ratings also views a diversified customer base positively, considering the minimal counterparty risks. If, for instance, the bulk of revenue is derived from a particular customer and the latter delays payment due to financial difficulties, overall working capital requirement may be stretched. In addition to the quality of the customer base, the length of relationships with key customers is also considered.

Operating efficiency

Cotton procurement

Most profitable textile companies are distinguished by their efficient cotton procurement strategies. Raw cotton, the primary input for spinning units, is the single largest cost component and has a significant impact on operational performance. As cotton is an agricultural commodity, it is exposed to factors such as crop area, monsoon and pest control. All other conversion costs and realisations remaining constant, fluctuations in cotton prices will result in a corresponding swing in operating profits.

Crisil Ratings also looks closely at factors such as the expertise of the cotton unit in cotton crop estimation, proximity to procurement areas, modes of purchase (whether in bulk with an assured uniform quality or staggered throughout the season), and stocking and price positions adopted. While cotton arrivals are spread over six months from October to March, quality cotton is usually available in the first few months. After the inventory losses incurred in the past, cotton spinners are cautious on stocking cotton for long periods. Thus, most have shifted to a leaner inventory cycle of 2-3 months since fiscal 2017, as against the earlier norm of six months. Crisil Ratings assesses the inventory policy and the ability to withstand the impact of sharp movements in cotton prices.

Crisil Ratings has noted that companies with strong financial positions and liquidity are able to source bulk quantities of quality cotton at the beginning of the season, which results in economies of scale.

Cost structure

Power and labour form the second largest chunk of cost. The cotton spinning industry is more power intensive than the other parts of the value chain, such as weaving, processing and garmenting, which are more labour intensive.

Labour: Unlike in developed countries, India’s textile industry is only partly mechanised and continues to employ a large workforce. Given the labour-intensive nature of the industry, an optimal workforce and cordial labour relationships help ensure uninterrupted operations and controlled labour costs. Companies with frequent labour problems have poor labour efficiency, leading to low profitability.

However, due to the faster rise in costs and higher government incentives for modernisation through the Technology Upgradation Fund Scheme (TUFS), the labour intensity has gradually declined. This has had only a minimal impact on operating margin, as several parts of the process chain, such as inter-process material transfer and packaging, remain labour intensive.

Power: For spinning mills, power costs typically account for 8-10% of the operating income and an uninterrupted supply of power is critical for consistent yarn quality. Power is a critical factor even for fabric manufacturers. Some large manufacturers also set up captive power plants, including windmills, to reduce power costs. Crisil Ratings considers factors such as efficiency in power consumption, captive generation facilities, power cost-reduction measures, and the resulting impact on overall operations. Apart from captive generation, companies have also begun to explore other avenues to reduce power costs. Some textile units rated by Crisil Ratings also enjoy concessional power from the state governments, which helps them manage increases in per unit costs.

Modernisation

Modernising a textile unit is capital intensive, and in general, India has lagged behind other cotton exporting nations in this respect, with only a few financially strong companies resorting to continuous modernisation. The spinning sector is more modernised than the weaving sector — capacity additions in the spinning sector were higher due to availability of higher subsidy through TUFS. Also, many states have provided attractive incentives to promote modernisation of plants and encourage setting up new capacities by offering various capital subsidy schemes.

However, the Indian spinning sector compares poorly with that of China and Southeast Asian countries, thus constraining global competitiveness. Crisil Ratings favourably evaluates companies in the spinning sector that have constantly focused on modernisation as a strategy to retain global competitiveness, and views investments that provide value addition or reduce dependence on labour positively.

Economies of scale

While scale of operations is a key factor in any industry, it assumes criticality in commodity industries such as cotton textiles, where profitability depends more on volumes than margins. Companies with higher capacities are likely to derive benefits of economies of scale. Large capacities also make future value additions economically viable. Furthermore, higher capacities in a single or near-by location can save costs. Hence, Crisil Ratings assesses the capacities of textile units and their ability to speedily shore up capacities to cash in on potential upswings in the market. Large-scale operations are also beneficial in fabric making and garmenting as they help in costing and in gaining a competitive advantage. Quick turnaround is a key differentiator for facilities with large capacities.

Crisil Ratings

Methodology for the organised brick and mortar retail industry

Background

Retailing is a distribution channel through which goods are sold in small quantities to the final consumer. A retailer is typically a reseller, who buys products from a manufacturer/supplier/distributor and sells them to customers, without altering the characteristics of the product significantly. Generally, retailers are at the end of the distribution channel. However, a manufacturer may also be a retailer if he sells products directly to customers.

Organised brick and mortar retailing can be defined as a form of retailing wherein the consumer can buy goods in a similar purchase environment, across more than one physical location. There are different verticals in organised brick and mortar retailing, including food and grocery, apparel, household appliances and footwear, and retailers operate through various formats such as specialty stores, department stores, supermarkets and hypermarkets.

The industry is characterised by intense competition from other organised retailers, local stores and the recently booming e-retailing segment. Increase in disposable incomes, growing urbanisation, higher GDP growth over the medium to long term, and implementation of goods and services tax (GST) are key macroeconomic factors aiding this growth.

Analysis of business risk of organised brick and mortar retailers comprises factors such as demand-supply dynamics, segments of presence and competition, pricing and brand equity, geographical coverage and scope of expansion, store profitability and overall profitability, leased vis-a-vis owned stores, and share of private labels.

The analysis covers different store formats, including single product stores, departmental stores, cash and carry, and malls. The analysis of goods retailed includes different product categories such as food and grocery, apparel, consumer durables, FMCG and footwear.

Market position

Demand-supply dynamics

This is an important constituent of the Crisil Ratings analysis of the business risk of players in the retailing industry. Key demand-side factors include favourable demographics, rising urban population and disposable incomes, increasing internet penetration and use of plastic money, changing consumer preferences, improving standard of living and better credit availability. These factors increase the spending power of consumers and encourage them to move from the unorganised segment towards the organised segment. Key supply side factors include rapid real estate infrastructure development, easier access to corporate credit and increased efficiency of the supply chain.

Crisil Ratings also believes that moves by the government can have implications for the sector. For example, any changes in foreign direct investment (FDI) policy for the brick and mortar retail sector or changes in regulations for online retail will impact competition.

While evaluating the industry risk, Crisil Ratings considers demand-supply dynamics of the product category in which the company has a presence as these affect growth prospects, barriers to entry and exit, and the extent of competition

Segments of presence and competition

Players in organised retail are present across multiple segments as setting up shop in one vertical would expose the retailer to the risk of cyclicality. Selecting the right format for a particular location with the right sized store is a key determinant of success. Analysis of competition is an important input for assessing market position. Crisil Ratings analyses the extent of competition and the market position of players in different retailing segments, as well as the present and future competition.

Brand equity and private labels

Crisil Ratings believes that as organised retailing is a business to consumer (B2C) activity, brand equity and positioning are crucial factors in attracting the right customers. For example, apparel retailers may position themselves as lifestyle or value players, and food and grocery retailers as offering value for money.

Crisil Ratings also considers the share of private labels to overall sales as private labels tend to generate better profitability than branded products of other manufacturers. Players with higher share of private labels have consistently seen their profitability expand as their brands also get established in more geographies through expansion.

In the non-food segment, retailers with strong brand portfolios or portfolios of private labels offering value for money tend to see strong demand and, therefore, maintain steady same-store performance and store productivity. However, demand and store productivity for food and grocery retailers are determined by the value (discount) offered, ability to realign with local consumer preferences, reputation and strong control over cost and procurement.

Entry barrier

Value retailing, which is built on price-based value propositions, may face more competition compared with lifestyle retailing, which requires strong brand and customer franchise (this takes a longer time to build which acts as a strong entry barrier). The current plans of large corporates in the retailing segment involve substantial capital outlay in the near future. Thus, any new player entering the retailing industry will require very large capital outlay to compete with existing players. This can restrict the entry of new players. The amount of capital and effort required for the development and implementation of a good supply chain management system successfully, in case of value retailing, will also add to the challenges for a new entity.

Presence in e-retailing segment

The e-retailing industry, although nascent in India, is likely to grow robustly on the back of increase in internet (broadband and 4G) penetration and changing consumer perception towards e-commerce. Consumers are developing confidence in online transactions, with many e-retailers providing the cash-on-delivery option.

The segment is expected to gain traction due to availability of a wider product portfolio and convenience offered to consumers including the ability to compare products and look for deals and discounts offered by sellers.

Crisil Ratings recognises the risk of increased competition from this segment. To mitigate the risk, brick and mortar retailers have entered the e-commerce space and are going omni-channel. However, the entry of brick and mortar players into e-commerce segment is currently only a reaction to online retailers, and these entities are yet to unleash the full potential of this channel, which includes augmenting the physical location experience, use of analytics and using the internet to lure customers.

Geographical coverage and expansions

Location and geographical coverage are critical aspects of market position. This is because sales patterns are likely to vary from region to region. The player’s geographical coverage is likely to determine sales volume, products sold and growth potential. Under geographical coverage, Crisil Ratings also factors in the entity’s business model and location (urban, semi-urban or rural). Strategic expansion can yield long-term benefits in the form of economies of scale and lower cost of sourcing from suppliers, in addition to customer loyalty. Crisil Ratings also considers the pace of store additions and method of funding, and recognises that sustainable growth is the key to a healthy credit profile.

Operating efficiency

Store level dynamics

Crisil Ratings considers the stores as a microcosm of the entity. Hence, factors such as like-to-like sales growth, revenue per square foot, inventory turnover, proportion of stores which have achieved breakeven, time to breakeven for new stores, growth in footfall, profitability of stores and aging of stores are considered. These parameters highlight the structural strength of the retailer. For example, an entity may have strong overall revenue growth on account of addition of new stores, but same-store revenue growth may be low, highlighting the risk of slowdown in revenue growth if new store additions reduce. Similarly, faster breakeven of new stores will reduce the drag on overall profitability.

Good catchment area, strong brand equity, along with value proposition, will not only determine store productivity (sales per square foot) and inventory turnover, but also help replicate it in various geographies, generating the benefits of economies of scale.

Ability to adapt to regional customer preferences

India has very high regional diversity and the ability of a retailer to adapt to this diversity and provide customers with the right products at the right price can be a key success factor. A retailer can decide on the size of the store and merchandise, based on the tastes and preferences of customers in a particular location. A study of the consumption pattern can help retailers adopt a suitable product mix and offer services to generate brand loyalty, thereby countering competition.

Marketing initiatives

Crisil Ratings considers marketing as both, a method to increase sales and improve brand positioning, and a cost centre impacting profitability. The success of a marketing campaign is judged based on the past performance of marketing campaigns, impact of marketing campaign on revenue in subsequent fiscals and increase in repeat sales seen via loyalty programs.

Supply chain management:

An analysis of supply chain management considers factors such as supplier network, inventory and working capital management and the ability to negotiate with suppliers.

Supplier network and infrastructure

One of the most important factors affecting retailers is the strength of the supplier network. The ability of suppliers to cater to the requirements of the retailing entity, including their ability to adapt quickly to changing needs, is critical.

To gauge the effectiveness of a retailer’s supplier network, Crisil Ratings analyses factors such as the number of suppliers and the extent of the retailer’s dependence on a few critical suppliers. Crisil Ratings also factors in the existence of strong infrastructure facilities in the form of a well-connected, enterprise resource planning (ERP) based network of suppliers that would be within easy reach of the retailer’s stores. Another key factor considered is shortening of supply chain, which enables efficiency in procurement, reduction in wastages, improved margins for participants in the chain and low prices for the final consumer.

Inventory and working capital management

Crisil Ratings analyses the supply chain management systems of companies and the infrastructure available for the same. This includes the ability to ensure ready availability of stock at all times. However, large inventory tends to increase working capital requirement. Players, therefore, need to optimise inventory to minimise working capital, while ensuring ready availability of stock at all times. This is a critical factor as it can significantly impact profitability. Inventory management also includes tackling obsolescence in stock, which impacts operations, especially in times of changing customer preferences. IT solutions help in timely dissemination of information across all levels, besides aiding sound inventory management. This enables a retailer to deal with stock-outs and seasonality in demand, transfer stocks from one store to another, and minimise slow-moving or dead stock. Therefore, Crisil Ratings analyses the retailer's ability to determine and maintain optimal inventory.

Ability to negotiate with suppliers

The ability of a retailer to negotiate and obtain better prices will affect its profitability.

Availability of skilled personnel: The ability to attract and retain skilled personnel is important for ensuring smooth operations. Given the increasing competition and expansion in the retailing industry, employee costs are expected to increase rapidly. Retaining employees and containing costs are, therefore, likely to be twin challenges for players in the retailing industry over the long term.

Pricing power and profitability: Sustainability of the business, especially in models such as supermarkets, depends on the player's ability to price products at a discount and still maintain profitability. For a specialty store, the ability to attract a premium for products will be determined by the degree of brand equity the player acquires over time, and its ability to maintain service quality. The long gestation period required to build a customer franchise leads to a longer breakeven time. The ability to establish strong private labels will impact profitability; private labels have a higher margin compared with branded products. Crisil Ratings considers improvement in both overall profitability and store level profitability for its analysis. It also considers cost reduction measures, such as reduction in cost through supply chain management and use of better technology, reduction in advertisement cost while maintaining revenue growth, and controlling rental expenses.

Methodology for the sugar industry

Background

Sugar is the most important agriculture-based industry in India, after textiles. India is the largest producer, after Brazil, and the largest consumer of sugar. Sugar production depends on sugarcane output, which depends on rainfall. Moreover, sugarcane prices are regulated by the government while sugar prices are market-driven but partly supported by minimum support prices since 2018. Also, the industry is cyclical and is susceptible to price fluctuations and trade regulations. While cane production is concentrated between September and April, demand for sugar lasts through the year.

Crisil Ratings evaluates the market position of a sugar company by its size, diversity in geography, recovery rates, proximity of the plant to sugarcane farms and sugar-deficient regions, and the extent of diversity through distillery or power generation. Crisil Ratings considers forward integration into power or distillery as a key differentiating factor while assessing sugar companies and has noted that companies with strong businesses and operational efficiency, and low interest cost, have consistently withstood sugar price downturns.

Market position

Government policies

The sugar industry is regulated extensively by the government. Hence, a sugar company's credit risk profile is significantly vulnerable to government policies. These policies influence cost through cane pricing and availability through the command area concept. The government also controls the import and export of sugar through imposition of duty.

Consequently, sugar companies do not have much control over the quantity, quality or cost of sugarcane they procure, or the quantity of sugar they sell. These factors significantly affect the economics of their operations.

Market share

In the highly fragmented sugar industry, size is an important determinant of a company's market position. Large companies typically have greater ability to withstand external shocks, easier access to capital markets and greater bargaining power, and consequently, tend to have strong credit risk profile. However, the benefit of size may be nullified by a weak capital structure or poor cost position.

Location

Freight is an important cost element. Companies with factories close to sugar-deficit regions command a better price and save on freight costs. Factories close to high-yielding sugarcane farms are also in a better position. Similarly, the longer crushing season in southern India enables better utilisation of fixed assets.

Proximity to ports is also a critical factor. Easy accessibility to ports enables import of raw sugar for processing during cyclical upturns, when sugarcane availability is expected to be lower. It also provides companies with greater flexibility to export during periods of low domestic prices.

Customer profile

Traditionally, sugar sales have been routed through dealers. Relationships with institutional customers may be viewed favourably, partly due to the benefits of regular liquidation of inventory outside the government's release mechanism

Relationships with farmers

Variability in monsoon and changing crop patterns impact cane output and consequently sugar production. This makes healthy relationships with farmers a crucial requirement for sugar companies, to ensure availability of cane. Hence, investments in sugarcane development activity and timely payments for sugarcane are considered pre- requisites for timely and adequate availability of cane.

Operating efficiency

Size of the plants

With prices of sugarcane being regulated through the fair and remunerative price (FRP) mechanism, operating efficiency (determined by recovery rate) and processing cost will determine the ability to withstand downturns. Crisil Ratings believes larger plants are better placed, as their conversion cost will be low.

Level of integration

Standalone sugar units are seldom viable and, therefore, integrated sugar units with distillery and power operations are the preferred option. Optimal utilisation of by-products such as molasses (used to produce ethanol) and bagasse (used to generate power), are the key differentiating factors among sugar units. It will enable companies to capture value across the production chain. An integrated sugar company functions on a de-risked model, which results in more stable revenue and less volatile profitability.

Working capital management

While cane production is concentrated between September and April, demand for sugar lasts through the year. Therefore, sugar producers have to efficiently manage their seasonal working capital requirements amidst fluctuating prices, a crucial credit differentiator.

Conclusion

Crisil Ratings believes the key determinants of success for the consumer staple and discretionary sector include sound pricing and branding strategy, strong brand equity, diverse product portfolio, well-managed supply chain management systems, diversified geographical presence, distribution reach, strong understanding of customer preferences, and ability to respond to changes in consumer behaviour.

Crisil Ratings

Section IX. Crisil Ratings methodology for the pharmaceutical industry

Executive summary

The Indian pharmaceutical industry comprises manufacturers of bulk drugs and formulations. Bulk drugs comprise active pharmaceutical ingredients used to produce formulations (end product). While multinational companies (MNCs) dominated the domestic pharmaceutical industry till the early 1980s, the late 1980s and early 1990s saw the emergence of Indian companies.

The pharmaceutical industry remains relatively immune to economic cycles, unlike other industries where demand is influenced by macroeconomic fundamentals. This is reflected in the steady growth rate of domestic pharmaceutical players. On the other hand, overseas markets, specifically the US generics market, have seen growth moderate in recent years owing to rising competition and pricing pressure. As a result, players are gradually diversifying into biosimilars and complex/specialty products, where competition is lower.

Scope

While the broader methodology for manufacturing companies14 applies to entities in the pharmaceutical sector as well, this section[15] focusses on the Crisil Ratings analysis of government policies and regulatory issues, and the market position and operating efficiency of pharmaceutical companies.

The section 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.

Business risk

Government policies and regulatory issues

Impact of changes in government policy and regulations

The pharmaceutical industry is highly regulated worldwide, by virtue of its direct bearing on public health. In India, too, government policies play a key role in regulating the performance of companies, with patents, prices and quality acting as the three cornerstones.

In January 2005, in compliance with the World Trade Organization, India shifted to the product patent regime from the process patent regime, thereby harmonising its patent regime with global markets.

Indian regulations explicitly regulate prices of some drugs through the Drug Price Control Order (DPCO), which ensures the drugs are available at reasonable prices. This restricts the pricing flexibility of companies, thereby affecting their profitability.

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[14] *The detailed methodology 'CRISIL Ratings methodology for manufacturing and corporate services sector companies' and 'CRISIL Ratings methodology for financial ratios' can be referred in above sections.*
[15] *For accessing the previous published document on 'Rating criteria for the pharmaceuticals industry', kindly follow the link: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/health-care/archive/crisil-ratings-crieria-for-the-pharmaceuticals-industry-feb2024.pdf*

The new pharmaceutical policy notified in 2013 brought 348 essential drugs in the National List of Essential Medicines under price control. More drugs were added subsequently to this list, bringing over a fifth of the pharmaceutical market by value under price control by fiscal 2023.[16]

For analysing the impact of pricing control on the profitability of a company, Crisil Ratings looks at the percentage of the company's sales under the purview of pricing controls. However, considering the large number of players, competitive pressures, rather than regulations, could be the key determinant of prices in many segments over the medium term.

In terms of quality, no drug can be imported, manufactured, stocked, sold or distributed in India unless it meets the quality standards specified in the Drugs Act, 1940. The Union Health Ministry banned 344 fixed-dose combination (FDC) drugs (including several antibiotics and analgesics) in 2016 and 14 additional FDCs in 2023 on the recommendations of an expert committee, as these FDCs had no therapeutic justification.

Furthermore, pharmaceutical companies exporting to developed markets (such as the US) need to comply with the United States Food and Drug Administration (US FDA) guidelines for manufacturing facilities and processes. They are subject to periodic inspection and scrutiny — any adverse observation could impact product supply and new product launches from those facilities. In response, the companies may have to incur remediation costs, which could impact their profitability. Moreover, restrictions on new product launches from the affected plants could constrain future revenue potential from the US market.

The impact of product patent regime

Product patents for pharmaceuticals were introduced in India on January 1, 2005, with an amendment to the Patents Act, 1970, in conformity with the Trade-Related Aspects of Intellectual Property Rights agreement. Indian companies are no longer allowed to introduce the latest patented drugs without licensing agreements with the patent owners. Earlier, India recognised only process patents, wherein patents were granted based on the production process and not the end product. The process patent regime helped manufacturers develop strong formulation skills. India’s entry into the product patent regime marked the end of the protected era and signalled a new phase in integration of domestic players into the global market.

This integration saw Indian manufacturers strengthening their presence in the domestic and international markets through various strategies, including:

- Setting up manufacturing and marketing joint ventures abroad
- Tapping the generic (patent expired) market of developed countries
- Conducting clinical trials in India, thereby reducing development cost for new drugs
- Research and development (R&D) tie-ups with international majors
- Forming alliances (co-marketing/licensing arrangements) with MNCs for new drug launches

Crisil Ratings considers the strategies that companies have adopted to maintain the pipeline of new products.

The total worth of drugs going off-patent globally and growing population of the aged in developed markets present a sizeable opportunity for Indian players to export bulk drugs and generics. Hence, Crisil Ratings considers the impact of such strategies on the financial structure and business prospects (such as exports) of the company.

Other issues

The Crisil Ratings analysis includes issues such as tariffs, taxes and non-tariff barriers such as reduction in customs duty and excise duty exemptions. It covers the impact of changes in indirect and income tax rules on competitiveness and

[16] *4 Source: CRISIL Research*

considers how sensitive the company's performance is to such changes. Crisil Ratings also assesses litigations and lawsuits pertaining to the developed markets and their impact on the company's financial risk profile.

Market position

Product mix

The market position of a pharmaceutical company is largely determined by its product mix and competitiveness. Crisil Ratings examines the overall sales mix of the company in terms of bulk drugs and formulations, and the break-up of sales between the domestic, regulated and semi-regulated markets.

Factors affecting market position for bulk drug manufacturers

- **Pricing ability:** Given the intense competition, market position is largely determined by pricing ability, which is linked to the company's operating efficiency and economies of scale.
- **Product quality:** Quality of products, reach of the distribution network and reliability of services are key differentiators.
- **Product range:** Product diversity and presence in molecules that are complex to manufacture significantly mitigate competitive pressures and support performance in terms of sales growth and profitability. This becomes more essential in the light of price caps and FDC bans, as reliance on a few products can adversely impact the company.
- **Geographical diversity:** Regulated markets (such as the US and Europe), which have high entry barriers, offer a premium over realisations in other markets. Exports to different markets not only enhance the credit profile of the company, but also minimise risks associated with adverse market conditions in any country.
- **Access to developed markets:** Given the intense competition in the domestic bulk drug market, access to developed markets lends significant business diversity. However, to tap such markets, Indian companies need to get their manufacturing facilities approved by regulatory agencies such as the US FDA and its counterparts in other markets. While compliance with current Good Manufacturing Practices requires higher capital and R&D investments, it enables pharmaceutical companies to file for Drug Master Files, which is necessary to tie up as a supplier to established drug manufacturers in developed countries. Crisil Ratings evaluates the company's strategy and progress on these fronts to determine future benefits.

Factors affecting market position for formulators

The formulations segment (both domestic and exports) has been witnessing pricing pressure (the quantum keeps varying) — due to addition of drugs under price control in the domestic segment, and due to buyer group consolidation, increased approvals of abbreviated new drug applications and intense competition in overseas markets. Some key determinants of performance are:

- **Geographical and product diversification strategy:** With increased competition in t h e developed markets, pharmaceutical companies have begun to focus more on complex generics, biosimilar products, niche molecules or therapeutic market segments, and growth through Para IV filings. Several companies also focus on select semi-regulated markets of Africa, Asia and Latin America, where out-of-pocket expenditure on healthcare is high. Penetration in these markets, in terms of distribution channels and product portfolio, is necessary to leverage this opportunity. On the domestic front, companies are targeting growth through new product launches and pushing volume by increasing sales efforts and consolidating their focus on a few key therapy areas. Furthermore, companies are focusing on niche segments of biosimilar and specialty products, which have lower competition and higher profit margin. Crisil Ratings evaluates the level of risk mitigation followed by companies in their growth strategies and considers the diversity in revenue streams from different product segments and geographies.

- **Distribution set-up:** For domestic and semi-regulated markets, Crisil Ratings assesses the company's marketing and distribution set-up in terms of geographical reach and linkage between the medical representative sales force and doctors. Productivity of the sales force is also considered.
- **Therapeutic segment coverage:** A unique feature of the formulations business is the number of therapeutic segments. Each segment assumes characteristics of a separate industry and varies in terms of growth rate, loyalty of usage, rate of new drug discovery and competitive pressure. Crisil Ratings assesses the company's strategy to increase its presence in fast-growing segments.
- **Market share:** Crisil Ratings examines the company's position in therapeutic segments in terms of relative market share, growth rate and presence of strong brands.
- **Brand loyalty:** Another key feature of the formulations business is the premium and loyalty of the medical fraternity associated with brands. Large brands that are well entrenched in their respective therapeutic segments strengthen the company's business position and render stability to sales. In analysing the relative position of companies on this aspect, Crisil Ratings looks at the number of strong brands in the company's portfolio and their contribution to overall sales. In recent years, Indian companies operating in niche and complex molecule segments have started selling their own or acquired brands through their distribution channels in developed markets (such as the US).
- **New product launch:** In an industry driven by discovery of new product segments/therapies, which either replace older products/therapies or fulfil unmet therapeutic needs, presence of new therapies/products in the company's product basket is another key determinant of the overall competitive position. Newer therapies/molecules, specifically in the biosimilar and specialty pharmaceutical segments, typically command a premium over older therapies and witness higher growth rates, often at the expense of older therapies. This has implications on the company's growth and profitability prospects. To assess the company's capabilities in this respect, Crisil Ratings looks at its track record of introducing new products and their contribution to overall turnover. For Indian subsidiaries of international pharmaceutical majors, the level of new product launches is guided by research strengths of the parent company and the latter’s policy of differential pricing for developing countries such as India. Crisil Ratings also examines various strategies adopted by the company, such as co-marketing and licensing arrangements with patent holders of new generation drugs.

Operating efficiency

Technological capability

Manufacturing involves two stages, the first where bulk drugs are produced, and the second where these bulk drugs are formulated into various dosage forms such as tablets, capsules and syrups. Manufacturing of bulk drugs is technology- and capital-intensive, whereas making formulations is simpler and involves physical processes such as mixing, adding binders and packaging, with relatively small capital requirement.

In analysing the operating efficiencies of a bulk drugs manufacturer, Crisil Ratings considers the chemical synthesis capabilities and process complexities. A product with high manufacturing complexity, such as that involving fermentation technology in bulk drugs as well as biosimilars, typically has high entry barriers and hence fewer players.

Extent of backward integration

Crisil Ratings also looks at the level of backward integration for formulation companies and flexibility to manufacture a wide range of bulk drugs. Backward integration helps improve operating margin, pricing flexibility and control over quality standards, compared with smaller players. On the flip side, it may constrain ability to capitalise on cheaper intermediate and raw material sources.

Cost of production

Given the commoditised nature of certain bulk drugs, analysis of the company's operating efficiency is incomplete without a comparative assessment of the costs of production vis-à-vis the landed costs of imports.

Quality standards

While assessing the operating efficiency of a formulator, Crisil Ratings considers the level of automation and certification of the company's facilities by regulatory authorities in the US and Europe. This is critical, given the increasing focus of Indian companies on exports and the higher regulatory scrutiny by the US FDA after the implementation of the Generic Drug User Fee Act.17

R&D

Internationally, lifecycles of pharmaceutical products necessitate that companies keep up a steady stream of new product launches. This is critically linked to the company's R&D capability. Consequently, most leading companies dedicate a large proportion of their resources (in terms of people, funding and time) for discovering new molecules that will drive future growth. Resource commitment to R&D is justified by the high return on investment on account of pricing flexibility and patent protection for new products.

In the past, R&D by most Indian companies was restricted to process reengineering for new drugs introduced worldwide, development of new dosage forms and better drug delivery mechanisms. However, with the changes in the patent regime (to product from process) in 2005, importance of basic R&D in the Indian context has increased. Pharmaceutical companies have made concerted efforts to step up their R&D activity. Apart from getting a regulatory clearance for generic introductions in the regulated markets, companies are focusing more on new drug delivery systems, biosimilars and new chemical entity research.

Some of these activities involve large expenditure with uncertain outcomes. Companies have been managing this risk through various strategies, which include partnering and out-licensing. International pharmaceutical companies have also begun to focus on collaborative research and outsourcing of research activities to contract research organisations to reduce overall R&D cost. This offers ample opportunities for Indian companies, given their process strengths and access to skilled manpower at a lower cost. For assessing a company's ability to capitalise on these opportunities, Crisil Ratings examines the quality of scientific and technical manpower, annual spend on R&D, and adequacy of R&D facilities. Crisil Ratings also examines the risk-mitigation strategies followed in undertaking large R&D expenditure, given the long gestation, including monetisation of pipeline or finding a strategic partner for joint development.

Financial risk

For the analysis of the financial risk profile of a pharmaceutical company, Crisil Ratings follows the standard methodology used for all manufacturing companies. The methodology is covered in detail above sections on ‘Crisil Ratings methodology for manufacturing and corporate services sector companies' and 'Crisil Ratings methodology for financial ratios'.

[17] *Generic Drug User Fee Amendment – A law introduced by the US FDA that requires the industry to pay user fee to supplement costs of reviewing generic drug applications and inspecting facilities*

Management risk

To analyse the management risk of a pharmaceutical company, Crisil Ratings follows the standard methodology used for all manufacturing companies, as detailed in section above on ‘Crisil Ratings methodology for manufacturing and corporate services sector companies’.

Conclusion

Crisil Ratings believes that the key success factors for the pharmaceutical sector include:

- Strong R&D capabilities
- Diversity in product mix and presence of molecules involving complex manufacturing
- Geographical diversity and brand equity

Section X. Crisil Ratings methodology for software industry

Executive summary

Our credit risk assessment of a software company involves evaluation of its business, financial and management risk profiles. Business risk analysis covers market position and operating efficiency. Evaluation of the market position entails assessing revenue, scale of operations, presence in the overseas market, client profile and diversification and strategy for mergers and acquisitions. Operating efficiency includes assessment of productivity parameters such as revenue and profitability per employee. It also covers human resources (HR) and knowledge management, systems and processes, employee utilisation rate, offshore -onshore employee mix, attrition rate and contract mix. While assessing the financial and management risk profiles of a software company, we follow the standard methodology used for all services sector companies.

Scope

While the broader methodology for services sector companies[18] apply to software companies, too, this section19 details the industry-specific factors affecting their credit risk profiles.

The section 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.

Assessment of software companies

The Indian software industry has strong international linkage as exports are its major revenue source. The industry is marked by low capital intensity, dependence on a steady supply of trained manpower and susceptibility to risks related to technology, exchange rate movements, end-user industry demand and growth in key geographies of the US and EU. Post the pandemic, work from home (WFH) and demand for non-contact services boosted the revenue growth to a strong 18-20% during fiscals 2022 and 2023 as against ~12% during fiscals 2015-2020 (~6% in the pandemic-impacted fiscal 2021). Sudden demand also led to advance hiring and talent hunt leading to a spike in employee addition and manpower costs, which impacted the margin in fiscals 2022 and 2023. However, macro-economic concerns in the US and EU, high inflation and growth moderation in key end-user industries, especially the banking, financial services and insurance (BFSI) segment, began to impact growth from late fiscal 2023. These concerns are expected to drive the growth slowdown to 10-12% in fiscal 2024 before any possible improvement next fiscal on. Domestic demand, on the other hand, is led mainly by government expenditure on digitalisation, while private sector prioritises spends on banking, cybersecurity and artificial intelligence (AI)/ machine learning (ML)-based mass personalisation products.

The value chain of software services and products comprises data processing, application outsourcing, maintenance, systems integration, consultancy and products. Traditionally, Indian software services export is driven by rising spend in the BFSI, retail and healthcare sectors. Increasing investments in automation of manufacturing operations, energy and mining, digital solutions for engineering research and development (R&D), telecom and media, and auto and electric vehicles are also driving demand. Nevertheless, the BFSI sector will continue to dominate and drive IT offshoring in the country.

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[18] The detailed methodology is covered above in various sections titled as — CRISIL Ratings methodology for manufacturing and corporate services sector companies and CRISIL Ratings methodology for financial ratios

[19] For accessing previous published document on Rating criteria for the software industry, kindly follow below mentioned link:
https://www.crisilratings.com/content/dam/crisil/criteria_methodology/information-technology/archive/crisil-ratings-crieria-for-the-software-industry-feb2024.pdf

The sector also has a geographic skew with the US accounting for a large chunk of exports. This dependency could reduce as the players explore new geographies in Europe and the Asia-Pacific. They are also likely to focus on non-linear[20] streams of revenue, including digital services, analytics and AI/ML-led products and platforms to diversify and drive revenue growth, and thereby improve efficiency. The companies provide custom application development (CAD) services, infrastructure management services (IMS) and application management services (AMS).

The industry faces challenges related to macroeconomic uncertainty and protectionist measures in key geographies, intensifying competition from global services vendors and a potential resource crunch as services provided become complex.

Software companies are evolving from being pure-play service providers to end-to-end project implementers. We believe their ability to customise solutions and provide value-added services will help maintain growth over the long term. Growth in digital services will remain a key monitorable over the medium term.

The other key success factor for an industry player is the ability to attract, train and retain professionals.

Our analysis of the management and financial risk profiles of software companies follows the standard methodology for the assessment of manufacturing and corporate services sector companies. The key parameters we consider while evaluating a software company's business risk profile are its market position and operating efficiency.

Business risk

Market position

Scale of operations

Scale of operations is critical. The larger the scale, the greater the benefits of economies of scale and the ability to withstand profitability pressures. We believe the ability to provide complete solutions and win large global orders for high-end services hinges on the scale of operations. We also consider benefits of a company's niche focus areas in our assessment. For example, consider engineering design for a specific industry segment. This may provide a small company considerable competitive advantage over its larger peers. A large base of available employees provides flexibility to deploy staff across projects being simultaneously implemented, while leaving sufficient resources to undertake new contracts on short notice.

Revenue mix

We analyse the various vertical and horizontal segments in which a company operates.

Vertical segments are defined in terms of client industries such as manufacturing, insurance, banking, telecom and travel/tourism. We analyse the business prospects of key segments in these industries. Presence in diverse segments lends stability to earnings. However, most IT services companies tend to focus on verticals in which they have expertise and seek to build a significant presence in those verticals. Most of them operate in horizontal segments such as training, software projects and services, consultancy, products and customised services. Companies that are proactive in expanding the scope of their services to include emerging segments and increasing focus on non-linear revenue streams are better placed to have stable revenue. To grow, the companies not only focus on new client/ logo additions but also on increasing wallet share of customers.

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[20] *Includes cloud-based offerings and services, platform-based business process outsourcing (BPO) services and products, and intellectual property (IP)-based solutions*

Given the rapidly changing business dynamics and emerging divergent trends in the growth of traditional IT services and digital services, we also analyse their ability to innovate and adapt to changes.

Within each area, specific platforms and technologies used are analysed in terms of technology risks, growth potential and user base.

We also examine a company's revenue mix for the nature of the contracts it implements. Onshore contracts, which generally offer lower margins, bear risks related to restrictions in the number of visas granted to professionals (such as the H1B visas in the US) but provide a strong platform to showcase capability. Offshore projects, on the other-hand, are higher-margin and critical to drive size and scale with services delivered from low -cost locations such as India and the Philippines . A higher proportion of onshore contracts ensures sharp sales growth, whereas that of offshore contracts results in better operating margin. A software company must strike a balance between offshore and onshore contracts to ensure growth and stability in operating margin. Maintaining a right balance is particularly important given the changing regulations on immigration and increasing contribution of digital and consulting-led contracts that require higher onshore deployment.

Contracts could also be classified as time-and-material contracts and fixed-price (or full time equivalent [FTE]) contracts. Fixed-price contracts require more project management expertise than time-and-material contracts but may have a higher operating margin if the company's project management skills and automation capabilities are sound. Time-and-material projects are less risky as time and cost overruns do not affect the service provider. However, the potential upside in profitability is lower than fixed-price contracts. The IT services industry has seen a rise in fixed-price contracts over the past five years.

Billing rates

IT service providers operate on an hourly billing rate model, under which the client is billed for each man hour provided in time-and-material contracts and for a pre-decided number of hours in fixed-price contracts. India’s IT vendors have traditionally focused on providing low-end services, such as CAD. However, owing to low billing rates and the commoditised nature of CAD services, the players have begun to realign their efforts towards high-end (non-discretionary) services to be able to command higher billing rates. The ability to provide innovative solutions becomes critical for retention of clients and to enjoy pricing power. We believe IT companies with a strong position in the high-end digital services market will command higher billing rates from customers and may, thus, maintain higher operating margin even in a challenging economic environment.

The companies are also sharpening focus on consulting services on a fixed-fee basis or digital deals that link part of the vendor’s remuneration to actual realisation of the project’s benefits in transformational projects that solve specific business problems through IT. Fixed-fee or risk-sharing IT consulting contracts are mostly for projects with well-defined outcomes. Such a billing arrangement requires controlling of cost by increasing the utilisation rate. At the same time, a high level of expertise is required to execute the project within specified timeline without cost overrun or else profitability may be impacted.

Geographic diversity

The geographic spread of revenue is an important parameter in analysing a company's business risk. Overseas markets account for most of the domestic software industry’s growing turnover. The US (accounts for ~55-60% of the sector’s revenue) and Europe including the UK (~30%) are the main export markets. Although geographic diversity mitigates business risk, the skew is unavoidable as the US has the largest IT spend in the world. However, if there is a slowdown, geographic concentration poses risks related to spending in the company's key markets and other factors such as visa restrictions for software professionals. The recent change in US visa norms have only magnified these concerns.

As domestic software companies derive most of their revenue overseas, it is crucial that they develop a strong marketing base in these regions. The business is essentially relationship-driven and clients need to be assured of the service provider's capabilities before they decide to outsource critical aspects of their IT initiatives. Hence, we examine whether a company's revenue is geographically diversified and assess the geographical diversity of delivery centres. This plays an important role in mitigating business continuity risks, which could entail high monetary costs and increases the reputation risk for a company.

Client profile

Our analysis of highly rated software companies indicates that they have established relationships with large clients, which lead to repeat business and provide stability to earnings. However, dependence on a single client increases risks as in case the company loses that client, it could be a major setback. New client acquisitions and quality of such clients are indicators of a company's marketing and delivery capabilities. Trends in the proportion of business that a company generates from its top 5-10 clients, the proportion of repeat business, the number of new clients added every year, and improvement in diversification are analysed to determine a company's business risk profile.

Mergers and acquisitions

Many domestic companies are acquiring companies in the US and other countries to capitalise on existing client relations and to acquire domain expertise. Successful and speedy integration of the acquired company is critical for this strategy to yield optimal gains. We assess new acquisitions based on the acquiree company's ability to successfully integrate the acquired companies and their synergy with the existing business strategy. Also, inorganic growth will remain a key driver, with companies specialising in artificial intelligence, machine learning, automation and analytics becoming targets. The companies are now focusing on smaller-sized capability-driven acquisitions as opposed to large sized acquisitions in the past. Given that acquisitions are critical to growth, understanding acquisitive stance of a company is also key to assessing its financial risk profile.

Operating efficiency

Productivity

We believe intensifying competition will constrain billing rates, both in India and overseas. Rising employee cost and the necessity to retain quality talent will squeeze operating margin. Conversely, the increased use of automation should improve productivity. In this scenario, the key variables that the companies will be able to control are productivity and time taken to implement projects.

We try to understand a company's software engineering process and project management abilities. These are essential to ensure completion of projects within the budgeted cost and time. We also assess productivity parameters such as revenue and profitability per employee. Many companies follow a library approach to reduce development time by using standardised codes for repetitive tasks. Other ways of minimising development time and cost are also examined.

Employee utilisation rates, offshore-onshore employee mix, contract mix

Employee utilisation rate, offshore-onshore employee mix and contract mix are the typical levers that IT companies deploy to improve efficiency. While each of these can help increase operating margin, each has its own attendant risks, too. For instance, while an increase in utilisation rate results in better operating margin, it impairs the company's ability to quickly deploy bench workforce for potential large contracts. Similarly, while offshore employees can help increase profitability, an adequate number of employees onshore is essential for critical transition work. Also, by ensuring that all contracts are on time-and-material basis, the players may have a low operating margin but are susceptible to fewer risks than fixed-priced contracts. With increasing share of digital services in the recent years, the industry has been facing shortage of 'digital' skilled employees. As a result, the companies are investing in up-skilling their employees in relevant domains. They also resort to sub-contracting in case they face capability- or delivery-related challenges, although margins in such projects are lower.

Another parameter that we evaluate as a measure of an IT company's operating efficiency is support staff and selling expenses as a percentage of revenue. This typically declines with increasing scale of operations. However, companies with many offshore development centres and sales teams across geographies tend to have large support and selling expenses, unless they take proactive steps to improve efficiency.

A software company's most important assets are HR and accumulated knowledge. The outflow of software professionals from India to developed markets has a two-fold impact on domestic firms: high employee attrition and increasing wage.

Given the high employee attrition in the industry, it is important that we study the HR policies of the company we assess. Ability to attract, train, motivate and retain quality manpower is critical to the IT business. Attrition rates at various levels are compared with industry trends. Companies with sound HR sourcing strategies are better placed to minimise the impact of high employee attrition. The attrition rate, which had historically been 10-15%, shot up to ~20-23% after the onset of the pandemic owing to a spurt in the demand for IT services. This impacted the operating margins of domestic IT companies. The rate began to moderate from the last fiscal.

The pandemic also forced the companies to reduce lease rentals by closing or shifting office infrastructure from Tier-1 to Tier 2 and 3 cities. While the companies have returned to work-from-office, WFH and hybrid work culture are expected to continue over the medium term. Companies that can efficiently manage lease rentals while continuing to provide flexibility to employees will be better placed to retain employees in the industry.

Systems and processes

Many software companies began as small firms run by a group of people. They relied on a few individuals who guided the organisation through various stages of its evolution. As the companies grow, they establish systems and processes and, hence, their reliance on individuals decline. This ensures a degree of replication in its software development methodologies.

We assess the extent to which processes are documented, standardised and improved continuously. One of the indicators of the quality of an organisation's processes is the Capability Maturity Model developed by Carnegie Mellon University's Software Engineering Institute. Indian companies have taken a lead in this area and have been accorded the highest possible Level 5.

Another critical aspect that is assessed is the implementation of secure back-ups and disaster recovery centres to alleviate data loss risks.

Financial risk

For the analysis of the financial risk profile of a software company, we follow the standard methodology used for all corporate service sector companies, articulated in above sections on 'Crisil Ratings methodology for manufacturing and corporate services sector companies' and 'Crisil Ratings methodology for financial ratios'. We also consider the cash buffers maintained by companies to guard against exigencies while managing their acquisition plans.

Management risk

For assessing the management risk profile of a software company, we follow the standard methodology used for all corporate service sector companies, presented in detail in above section on 'Crisil Ratings methodology for manufacturing and corporate services sector companies'.

Conclusion

We believe the crucial factors that will ensure the success of a software company are:

- Scale of operations
- Optimal revenue mix
- Diversity in product/ service offering: digital/ traditional, industry vertical, client, and geography
- Position in value chain in service offering
- Extent of repeat business
- Ability to improve billing rate with higher share of digital services
- Ability to successfully integrate mergers and acquisitions
- High employee utilisation and retention of work force
- Use of automation in work processes
- Optimal offshore-onshore employee mix and contract mix
- HR and knowledge management
- Systems and processes

Section XI. Crisil Ratings methodology for mobile telephony services

Crisil Ratings

Executive summary

Mobile telephony services made a modest beginning in India in 1996, and have come a long way since. Administrative allocation of spectrum has been replaced by spectrum auctions. Feature phones have given way to smartphones. Most consumers have leapfrogged from 2G to 4G, significantly changing the mobile phone's end use.

The regulatory landscape has evolved, too, bringing clarity on issues such as spectrum trading/sharing, mergers and acquisitions, and mobile number portability. Entry of a new player with 4G -only offering at lower prices has paved the way for consolidation. A market that once had 9-10 players has now contracted to three private players.

The sector has undergone a raft of changes and the credit risk profiles of operators have fluctuated a lot, necessitating continuous monitoring.

Crisil Ratings assesses the credit quality of mobile telephone operators by analysing their business and financial risks. When scrutinising business risks, Crisil Ratings considers factors such as the ability of the operator to improve/maintain revenue as well as subscriber market share, upgrade network infrastructure to withstand competition and adopt new technologies, manage average revenue per user (ARPU), and adapt to the evolving regulatory environment.

When assessing financial risks, Crisil Ratings considers the present and future financial positions of the operator, financial flexibility to refinance or fund capital expenditure (capex) and the ability of the promoters to infuse funds. The ratings are forward-looking, with special attention on the outlook for such services within the boundaries of regulatory considerations, promoter profiles and the geographical market for mobile telephone operators.

Scope

Though the broader methodology for manufacturing companies[21] applies to entities in the mobile telephony services sector, this section[22] outlines the methodology used by Crisil Ratings to evaluate and rate mobile telephone operators. Crisil Ratings gives due importance to both the business and financial risk profiles of operators in its rating process.

The section 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.

Business risk

While assessing the business risk profiles of mobile telephone operators, Crisil Ratings first evaluates risk factors that are common to the entire industry and then analyses the specific issues that define an operator's market position. Given that the mobile telephony industry in India continues to evolve, risk factors are many, some of which are important from the credit perspective:

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[21] *The detailed methodology is covered above in various sections titled as — CRISIL Ratings methodology for manufacturing and corporate services sector companies and CRISIL Ratings methodology for financial ratios*

[22] *For accessing the previous published document on the ratings criteria for mobile telephony services, kindly follow the link: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/telecommunication-services/archive/crisil-ratings-crieria-mobile-telephony-services-feb2024.pdf*

Operating efficiency

Operating costs for telecommunication (telecom) operators include network operating expenses, license fees and spectrum usage charges, marketing expenses, employee benefit expenses and other operating expenses.

The network operating expenses, license fees and spectrum usage charges contribute majorly to the cost structure of mobile telephone operators. Network operating expenses primarily comprise costs relating to access charges, including interconnection traffic for calls originating but not terminating on own network and roaming costs relating to services provided by other network operators. Network operating expenses also include site lease, rental, fuel and security costs. The license fees and spectrum usage charges are variable and telecom operators are required to pay revenue share in the form of license fees at 8% of adjusted gross revenue and spectrum usage charges at 3-5% of adjusted gross revenue from the wireless access subscribers. Marketing expenses include costs incurred to acquire and retain customers. These include marketing, advertising, sales commissions and the cost of devices or equipment provided to new subscribers. Marketing and advertising costs may encompass expenses for campaigns across various channels, such as TV, radio, digital and print media. Overall, these costs are essential for telecom operators to attract and retain customers in a competitive market. Because of capital intensity, operating margin needs to be high to earn a reasonable return on capital employed.

Regulatory risk

Crisil Ratings believes that, like other private sector infrastructure entities in the country, mobile telephony operators have been strongly influenced by the regulations governing their rights and obligations. Changes in regulations and their impact on businesses are duly factored in. Key areas governed by the Department of Telecommunications, in consultation with the Telecom Regulatory Authority of India, are interconnect usage charges, spectrum usage charges, spectrum auctions, mergers and acquisitions, spectrum sharing and trading. Presence of an independent regulator and substantial clearing up of the regulatory landscape augur well for the industry. Regulation has lagged technological change in this sector even in developed countries, and this seems to be the case in India as well.

Technology risk

Mobile telephone technology has rapidly evolved in the recent past. While 3G technology did not find many takers, the introduction of Long-Term Evolution (LTE) or 4G technology at lower cost saw customers leapfrogging a generation from 2G to LTE. However, incumbent operators struggled to keep up with the competition arising from the new technology that had superior features and lower costs, which led to significant consolidation in the industry. The key challenge for an operator, therefore, is the ability to upgrade network to match the features being offered by competitors and remain cost-competitive. Hence, networks with cheaper and easier migration path towards higher versions such as 5G will be at a significant advantage.

Market position

The competitive scenario plays an important role in defining the characteristics of any industry. Thus, entry of new operators, pace of expansion by existing operators, and the consequent impact on tariffs, net subscriber addition share, customer acquisition cost and industry ARPU are factored in while assessing the business risk profiles of mobile telephone operators.

As industry risks are common to all mobile telephone operators, Crisil Ratings analyses the market position of operators based on the profiles of their service areas, performance track record, subscriber and revenue market share in their areas of operations, and marketing strategies vis-à-vis competitors. An operator’s ability to maintain momentum in subscriber additions and garner a higher share of the net subscriber additions reflects its competitive position. Demographic and income profiles of the operational circles are also taken into account as they have a direct impact on the ARPU.

The target consumer mix, divided into prepaid and post-paid customers, is an indicator of the operator's likely average tariff as well as ability to extract more through service differentiation. As prepaid ARPU is lower than post- paid, prepaid customers are more price-sensitive while post-paid customers are service-oriented and stickier. Therefore, a larger share of post-paid customers in the overall subscriber mix is viewed favourably by Crisil Ratings.

An operator's business risk profile is also influenced by its ability to manage ARPU by having the right post-paid- prepaid mix, 2G-3G-4G mix, as well as ability to charge slightly higher tariffs while maintaining market share on the back of better coverage and service, and superior churn-management strategies. The overall footprint is also considered as larger operators benefit from lower operating cost per subscriber due to economies of scale.

Crisil Ratings holds the view that the ability of a mobile telephone operator to continuously attract new customers, uptrade existing customers to higher technologies, mitigate subscriber churn through healthy additions, manage ARPU and derive economies of scale from a growing customer base will have a critical impact on its credit quality.

Financial risk

Existing financial risk profile

Crisil Ratings analyses the capital structure of mobile telephone operators, including equity and debt financing. The proportion of deferred payment liabilities, adjusted gross revenue (AGR) and related liabilities in total debt is also assessed as such liabilities have favourable repayment terms.

Moreover, Crisil Ratings assesses interest coverage and debt to earnings before interest, tax, depreciation and amortisation (Ebitda) ratios.

Future financial position

Crisil Ratings analyses projected financials with reference to an operator's plans, funding requirement for expansion of infrastructure as well as for rolling out new technologies, and coverage and profitability ratios.

Cash flow adequacy and financial flexibility

Crisil Ratings pays special attention to the financial strength of promoters and their ability to infuse need-based funds. In several cases, debt-financing facilities are contingent on specified performance and capital structure requirements and may involve additional equity infusion by the promoters. Crisil Ratings specifically assesses the ability of the promoters to address all performance and capital structure covenants and maintain a steady drawdown from specified debt facilities. The manner in which a promoter intends to fund initial losses and the contingencies available, in case the gestation period is longer than anticipated, would be a critical consideration.

Funding requirements of group companies and the importance of the mobile telephone venture to the promoters are also evaluated.

Crisil Ratings also analyses the flexibility of the promoters to defer capex and delay roll-out. This recognises the modular nature of telecom technology, whereby an operator can delay a part of capex in case of resource constraints and limited business opportunities.

Management risk

To analyse the management risk profile of a mobile telecom operator, Crisil Ratings follows the standard methodology used for all manufacturing companies, which is covered in above section on- ‘Crisil Ratings methodology for manufacturing and corporate services sector companies’.

Conclusion

Crisil Ratings believes the credit quality of a mobile telephone operator is determined by its ability to maintain/improve revenue market share and achieve operating efficiency amid competition. The ability to adapt to an ever-changing technological landscape and regulatory overreach are also critical factors. An operator’s existing and future financial positions and financial flexibility also play a role in the rating.

Section XII. Crisil Ratings methodology for the oil and gas sector

Crisil Ratings

Executive summary

The oil and gas industry includes the upstream exploration and production (E&P) and downstream petrochemicals sectors.

The petrochemicals sector comprises commodity product lines and bulk chemicals. The high-volume and low value-added products are used extensively in various end-user segments. Given the integration of global players across oil E&P and refining, the industry is intensely competitive — mostly price-based in the absence of any significant product differentiation. Regional demand-supply imbalances can impact international prices. For instance, a plant shutdown or commencement of production of new capacities or seasonal demand in a region may affect international prices.

Petrochemical products are prone to business cycles and are vulnerable to volatility in crude oil prices. Around 50% of the global cracking capacity is based on naphtha, which is derived from crude oil, thereby imparting volatility to the prices of petrochemical products. Basic petrochemicals and intermediates see higher price volatility than polymers and downstream organic chemicals, given their close linkages with crude oil and lower trade.

E&P depends on the demand for petroleum products, which is determined by economic growth. National oil companies such as Oil and Natural Gas Corporation Ltd and Oil India Ltd have undertaken E&P activities since inception. After the liberalisation of the petroleum sector in the 1990s, the government encouraged participation of foreign and Indian companies in the E&P sector to increase crude oil production in the country. The New Exploration Licensing Policy (NELP) provided an equal platform to public and private sector companies. In 2016, the Hydrocarbon Exploration Licensing Policy (HELP) replaced NELP and altered the system from profit-sharing to revenue-sharing. HELP was launched to sustain production growth and attract foreign investment. It provides a uniform licensing system to cover all hydrocarbons.

In its analysis of players in the oil and gas sector, Crisil Ratings broadly covers the business, financial and management risks.

The analysis of the business risk profile covers operational and marketing risks. For petrochemical companies, Crisil Ratings focusses on understanding cyclicality, pricing, product diversity, capacity utilisation, cost structure and plant efficiency. For companies engaged in E&P of hydrocarbons, Crisil Ratings analyses the sensitivity of their performance to volatile global hydrocarbon prices, apart from evaluating the risks associated with estimation of hydrocarbon reserves and the cost of tapping them, their size, location, and diversity, as well as the ability of the player to effectively exploit reserves and consistently replace them.

For financial risk assessment, Crisil Ratings evaluates accounting policies, current and future financial position, and financial flexibility. The current financial position covers past performance and considers parameters such as trends in revenue from operations, cost and profitability analysis, management of receivables and payables, and capitalisation. The future financial position focusses on operational and financial forecasts to assess the degree of certainty in cash flow projections. Crisil Ratings analyses the adequacy of projected cash flows to meet financial obligations after covering operational expenses, and capital and working capital requirements. Crisil Ratings also assesses flexibility to raise funds from conventional and alternative sources.

Capital structure is a key parameter in the financial risk assessment of E&P players. This is because an E&P company requires substantial capital if several of its fields are in the exploratory or developmental stage. Also, the ability to raise the required capital will have a significant bearing on the company’s rating. A large proportion of producing wells will not only generate cash flow to support exploratory and developmental operations, but will also considerably enhance the ability to raise capital (debt and equity).

For management risk assessment, Crisil Ratings follows the standard methodology used for all manufacturing companies, which includes evaluating the company's management philosophies, strategies/policies, and risk appetite. This is covered above in section titled 'Crisil Ratings methodology for manufacturing and corporate services sector companies'.

Scope

This section[23] covers the methodology for rating companies operating in the following industries:

- Upstream oil & gas
- Petrochemicals

The section 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.

[23] *For accessing the previous published document on the rating criteria for this industry, kindly follow the link:* *https://www.crisilratings.com/content/dam/crisil/criteria_methodology/oil-and-gas/archive/crisil-ratings-criteria-for-the-oil-and-gas-sector-feb2024.pdf*

Crisil Ratings

Methodology for the upstream oil and gas sector

Background

The analysis of the business risk profile covers operational and marketing risks. For Crisil Ratings, the primary criterion for rating companies engaged in E&P of hydrocarbons is the sensitivity of their performance to volatile global hydrocarbon prices. Other parameters include the risks associated with the estimation of hydrocarbon reserves and the cost of tapping them, their size, location, and diversity, as well as the ability of the player to effectively exploit reserves and consistently replace them.

Business risk

An E&P player faces risks pertaining to operations while it explores and develops hydrocarbon reserves. Once production commences, it faces risks related to marketing of the output and profitability. Crisil Ratings analyses each aspect of these risks as briefly discussed below:

Diversity of fields

The diversity in fields provides a hedge against disruption in production in any one field. Geographical diversity offers a hedge against operational risks, as well as local demand-supply and evacuation risks.

Ratio of oil and gas

If a company's portfolio of producing fields contains a concentration of either gas or oil, its performance will be vulnerable to swings in the price of that commodity. A balance in the reserve and production profile between these commodities will provide a hedge against volatility in the price of either.

Operator's credentials

A company's track record and experience in producing oil and gas and in developing reserves are key factors in the rating decision. Capabilities are indicated by the oil and gas reserves that a company currently manages, and the trends in oil and gas production across its operational areas around the world.

Percentage of proven reserves that are developed

The higher the proportion of proven reserves developed, the lower the capital requirement (and the lower the risk) associated with bringing additional production on-stream.

Reserve replacement prospects

In the E&P business, a healthy portfolio of producing, developmental (short- to medium-term), and exploratory (medium- to long-term prospects) fields ensures a strong business position. In such a portfolio, cash flow from producing fields could help fund capital required for development and exploration. A company's reserve replacement ability, that is, success in replacing reserves, is measured in terms of its finding, development and acquisition (FD&A) costs. As this measure can be skewed in a given year, the average FD&A cost over 3-5 years, and the trends in the cost are used to assess how economically a company adds to its reserves.

Marketing risk

Prices of oil and gas

The most important factor affecting an E&P company's cash flow is the price of oil and gas. Given the volatility in oil prices, Crisil Ratings stresses the cash flow for different pricing scenarios to determine sensitivity to such movements. The price of gas is either benchmarked to a basket of fuel oil prices with a floor and ceiling set in the contract or is based on a formula submitted by the field operator subject to review by the government. As with oil, Crisil Ratings stresses the cash flow to determine sensitivity to gas prices.

Operational risk

Reserve risk

Estimated oil and gas reserves of a field will critically determine its production life and profile. An independent estimation of reserves by a reputed agency through advanced valuation techniques, such as three-dimensional seismic surveys, increases the level of confidence in the estimate. A large reserve implies economies of scale and superior operational flexibility. The quality of reserves is important as lighter oils command a premium over heavy ones.

Purchaser's creditworthiness

As long as the deficiency in the supply of oil and gas in India continues, the government is likely to stipulate that private sector E&P players sell their output to government-nominated entities. The ability of the nominees to clear dues on time will have a bearing on an E&P company's liquidity. Hence, the creditworthiness of these nominees is a key factor in the rating analysis.

Evacuation arrangements

Appropriate evacuation arrangements for the offtake of oil and gas are essential for smooth operations. In general, a pipeline from the field to the delivery point is the cheapest and most reliable mode of transport for both oil and gas. Tankers are also a reasonably reliable mode of transport for offshore oil. The availability of adequate pipeline capacity over the life of the field, therefore, needs to be studied.

Political risk

On many occasions, governments tend to influence the E&P business through policy decisions. For instance, the government controls gas prices, which constrains the pricing flexibility of E&P companies. Export embargoes imposed by the government preclude companies from realising the full price potential of their products in the global market. At times, the government instructs E&P companies to share the under-recovery of cooking and transport fuels. A company's ability to manage these constraints is a critical determinant of the rating.

Profitability

Crisil Ratings evaluates the profitability of E&P operations and their sensitivity to price fluctuations. As mentioned earlier, a balance between oil and gas production provides some stability to cash flow if the price of either commodity declines. The cost structure of operations is also analysed. Several factors are considered, including:

- **Location of proven reserves:** The closer the proven reserves are to the market, the lower the transportation cost.
- **All-inclusive production cost:** A company's production efficiency is compared to the industry average and to that of other producers in the region. Crisil Ratings also considers anticipated volume increase, if any, as these will help bring down the cost of production per barrel.
- **Overheads:** The player's overheads are compared, based on production per unit, with those of other producers.

The upstream oil and gas sector was decontrolled under NELP, where fields were allocated based on competitive bidding. This system continues under HELP. The field development plans of winning entities are evaluated to ascertain the terms of cost recovery, investment multiples, and the share of profit from petroleum to ascertain the profitability and cash flow of production from HELP fields.

In general, the analysis aims to identify factors that result in lower cost than the industry average as these will indicate an ability to withstand downward movement in price.

Conclusion

Crisil Ratings believes the key determinants of the credit quality of companies in the E&P sector are:

- Price of oil and gas
- Size and quality of reserves, and the ability to constantly replace exploited reserves
- Diversification in asset portfolio
- Mix of hydrocarbons
- Cost structure

Methodology for the petrochemicals industry

Background

In its analysis of the business risk profile of petrochemicals companies, Crisil Ratings covers the aspects of market position and operating efficiency that are specific to the industry.

Business risk

Market position

The market is characterised by extreme cyclicality and limited product differentiation, resulting in price-based competition. Moreover, domestic prices are determined by the corresponding rates prevailing in the international market. Each of these (and other related) factors will be examined to analyse the market position and its sustainability.

Cyclicality

The petrochemicals industry tends to make sizeable investment to set up plants and expand capacity when product prices are exceptional. The high gestation period for setting up plants and uneven expansions could result in over-capacity, especially during weak economic cycles. Crisil Ratings considers this trait as a negative and analyses a company's performance through several such cycles.

Demand-supply equation

Crisil Ratings analyses the existing and emerging demand-supply situation in the industry, and its likely impact on product prices. Traditionally, India has been in deficit in this regard and a significant proportion of the total domestic demand is met through imports. While capacity additions have reduced the dependence on imports in certain segments, the lag in the demand-supply situation is yet to be sorted efficiently.

Domestic demand is likely to increase over the medium term, aided by large population and healthy economic growth.

Price movements and tolling margin trends

The competition in the local industry is price based, driven by the absence of any significant product differentiation. The selling prices are highly volatile as they are determined by global supply and demand dynamics. Crisil Ratings analyses historic domestic and international price fluctuations for various products, as well as price variation of upstream and downstream products.

Import duty and exchange rate as determinants of pricing

The domestic prices of various petrochemical products are linked to the landed cost of imports. Crisil Ratings analyses the trend in import duties and its impact on the company's earnings. The rupee-dollar exchange rate forms an important macroeconomic variable, influencing the pricing of petroleum products. Devaluation of the rupee enhances the protection available to domestic producers, while its appreciation may reduce realisation in the local market.

Product slate diversity and size

A diversified product mix (which may include polymers, fibres and intermediates) helps a company combat the risks associated with cyclicality in individual products through different end-user segments. A larger product portfolio also enhances pricing power in the commoditised petrochemicals industry. Other parameters such as the ability to export and expand geographically should continue to support the business.

Operating efficiency

Capacity utilisation

The level of capacity utilisation (usually referred to as the operating rate) is a key determinant of a company’s market position and profitability.

Economies of scale in manufacturing

Economies of scale emanating from a large manufacturing plant significantly reduce operational costs. Low capital costs for large plants also improve pricing ability. Crisil Ratings believes it is becoming imperative for local players to match their manufacturing economies of scale with global standards, owing to the strong linkages between the domestic and global petrochemical markets.

Cost structure

In an industry characterised by pricing volatility, a low-cost structure enhances a company's market position, improves its pricing ability, and enables a higher operating rate during downturn. In this regard, Crisil Ratings analyses a company’s access to (and cost of) feedstock, raw material sourcing ability, manufacturing capability, and the extent of vertical integration.

Security of feedstock

Feedstock rates form an important component of manufacturing cost in the petrochemicals industry. Integrated producers in India primarily use naphtha and natural gas as primary feedstock (for cracking), while non-integrated players use basic building blocks or downstream products (such as ethylene), depending on the product mix and level of integration.

The choice of feedstock usually depends on its availability, cost, and a company's downstream product mix. Natural gas prices are relatively stable compared with crude prices. Furthermore, natural gas prices are controlled by the government, and thus provide a competitive advantage to players with access to natural gas as feedstock. Crisil Ratings examines a company’s access to feedstock at competitive costs. The historical price trends of feedstock, and the sensitivity of a company's cost structure to any adverse price fluctuation is critical.

Crisil Ratings also examines the company's access to port infrastructure as this aids in sourcing feedstock/raw materials

Technology and plant efficiency

A commercially proven technology for producing basic petrochemical products is usually available from major international players (on licensing basis) and is not a major entry barrier. A technology is chosen based on its cost competence, product yields, and plant-efficiency levels.

Degree of vertical integration

Crisil Ratings believes advanced integration helps a company benefit from timing differences in movements of various upstream/downstream product prices. Higher vertical integration can improve cost structure by allowing the company to maintain a higher-than-average operating rate during weak market conditions.

Crisil Ratings

Conclusion

Crisil Ratings believes the key success factors for the petrochemicals sector are:

- Backward and forward integration of operations
- Economies of scale in manufacturing
- Efficient capacity utilisation
- Diversity in product portfolio

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