Rating Methodology - Sugar Sector

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Industry Overview

Globally, sugar is produced either from sugar beet or sugarcane. In India, sugarcane is the prime source of sugar, which is cultivated in almost all parts of India due to favourable climatic conditions of the country, with Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu and Punjab being the major producing states. The sugar industry is an agro-based industry, which impacts rural livelihood of about 50 million sugarcane farmers and also a large number of workers who are either directly employed in the sugar mills or engaged in various ancillary activities relating to transport, trade, servicing of machinery and supply of agriculture inputs. India is the second-largest producer of sugar across the globe, after Brazil, and the largest consumer of sugar as well. The production of sugar is seasonal, as it is crushed from November to April; however, the demand for sugar lasts through the entire year. The supply of sugar is dependent on a number of factors, including sugarcane production, sugarcane utilisation for sugar production, duration of the sugar season, sugar recovery rates and cane pricing. The sugar industry is cyclical in nature and is susceptible to price fluctuations and it is also highly regulated in India ranging from allocation of sugarcane to cane pricing and by-product pricing. The sugarcane prices are regulated by the government while sugar prices are market-driven. In the process of manufacturing sugar, various by-products are derived, viz, press mud, bagasse and molasses. Bagasse and molasses are the two primary by-products of the sugar industry.

Bagasse

Bagasse is the dry pulpy fibrous residue left after sugarcane is crushed to extract its juice. Sugar mills generally use it as a captive raw material source of generating power and steam required during the process of manufacturing sugar. The surplus bagasse available after meeting the captive power and steam requirement is either sold to the paper manufacturers, as bagasse can also be used for manufacturing paper and particle boards, or utilised for generating electricity. The bagasse-based co-generation projects help the sugar mills in arresting the cyclicality of the sugar industry by generating a stable source of revenue. Power is insulated from the price fluctuations and is not cyclical in nature. This helps the sugar mills to protect their overall margins during the down cycle of the sugar business.

Molasses

Molasses is also derived during the process of manufacturing sugar and is a by-product of sugarcane. Molasses is used to manufacture potable alcohol, industrial alcohol and ethanol. Ethanol can be used as an automotive fuel and it can also be mixed with the petrol to make it relatively environment-friendly fuel. Thus, to promote use of environment-friendly fuel and reduce the dependence on imported fuel, Government of India (GoI) first introduced compulsory blending of ethanol and petrol programme in the country in January 2003. However, with renewed focus of the government on the ethanol, changes have made in the ethanol blending programme (EBP) from time to time.

Rating methodology

CARE Ratings Limited (CARE Ratings) has a detailed methodology for rating of the companies belonging to the manufacturing sector. CARE Ratings' rating process begins with the evaluation of the economy/industry in which the company operates, followed by the assessment of the business risk factors specific to the company. This is followed by an assessment of the financial and project-related risk factors as well as the quality of the management.

This methodology is followed while analysing all the industries that come under the purview of the manufacturing sector. However, considering the size and diversity of the manufacturing sector, CARE Ratings has developed methodologies specific to various industries within the sector. These methodologies attempt to bring out factors, over and above those mentioned in the broad methodology, which are considered while analysing companies belonging to a particular industry. CARE Ratings considers the following factors as important determinants of credit risk associated with Indian sugar companies.

A. Industry risk

CARE Ratings' analysis of the industry risk for the sugar sector focuses on the following factors-

1. Climatic risk

Sugarcane crop is vulnerable to the climate change directly through changes in temperature and/or precipitation/monsoon and indirectly through pest-related attacks. The sugar industry is directly dependent on the sugarcane crop and its yield and is hence prone to the climatic risks. The optimum productivity or the yield of the sugarcane basically depends on the climatic conditions (availability of abundant rainfall) and soil quality, which leads to fluctuating trends in sugar production in different regions.

Thus, CARE Ratings evaluates the extent of exposure of the sugar entity to these climatic risks and also examines the geographical dispersion of their capacities which could help them to mitigate the negative impacts of climate change in a particular area.

2. Demand – supply cycle

Traditionally, the sugar industry was cyclical in nature. It is a typical cycle which is affected by cane supply and sugar demand, though largely driven by the supply-side dynamics. Higher production leads to increased availability of sugar, thereby resulting in the declined sugar prices. This leads to lower profitability for the companies and consequently delayed payment to the farmers. Due to higher sugarcane arrears, the farmers switch to other crops which lead to a fall in the area under cultivation for sugar. This further leads to lower production and lower sugar availability, followed by higher sugar prices, higher profitability and lower arrears, and thus the cycle continues. In India, sugar production usually follows a three to five-year cycle. However, the cyclicality in the industry has moderated in recent years with the adoption of better-yielding cane varieties, favourable government policies which has enhanced the diversion of excess sugarcane/sugar for ethanol production and also trade interventions which has helped in rationalising the sugar inventory levels.

The Indian sugar industry is fully supply-driven, as steady growth is observed in the sugar consumption. For determining the sugar supply situation for a given sugar season along with the sugar prices, CARE Ratings tracks and assesses factors like opening sugar stock levels, expected domestic sugar production for the upcoming sugar season, the demand-supply scenario globally along with the prevalent global sugar prices. Furthermore, government's policies on export and import to/from India are also assessed.

3. Regulatory risk

The sugar industry in India is extensively regulated by the government starting from the procurement of sugarcane to the sale of sugar. The industry is subject to the government policies which influence cost through cane availability through the command area concept, cane price (state-advised price [SAP]/ fair and remunerative price [FRP]), imports and export of sugar to/from India, monthly quotas, minimum support prices (MSP), by-product pricing, etc. In India, sugar mills are not allowed to own sugarcane fields. They mandatorily need to procure the entire sugarcane production from the specific area assigned to them, known as the command area, which leads to considerable variability in their inventory-holding patterns and management of working capital for a sugar mill. Furthermore, cane prices are controlled by the government. Currently, there are two cane-pricing regimes in the country- the state-advised price (SAP) regime, announced by state governments and the fair and remunerative price (FRP) regime, suggested by the Commission for Agricultural Costs and Prices (CACP) and announced by the central government. Among the major sugar-producing states, Uttar Pradesh, Tamil Nadu, Uttarakhand, Punjab and Haryana follow the SAP regime, while Maharashtra, Karnataka, Gujarat and Andhra Pradesh follow the FRP regime. With no linkage between the sugar realisations and FRP/SAP, the profitability of the sugar mills remains vulnerable to supply-demand dynamics.

The government also controls import/export of sugar through imposition of duty as and when required through export ban, duty-free import quota in scenario of sugar shortage, levy of import duties and export incentives for sugar exports in years of surplus sugar production. The government also regulates the pricing of the by-product, ethanol. Government has notified administered price of ethanol since 2014. However, renewed focus of the Government of India on EBP through various incentive & schemes and also by offering better pricing policies have resulted in increased participation by the industry players in the EBP programme. Government has also resorted to measures like setting up of minimum support prices and monthly release quotas, etc. The extents of these measures vary with the demand and supply situation in the domestic market and are generally to support the sugar mills.

Sugar companies do not have much control over all these factors which significantly affect the economics of their operations. CARE Ratings closely monitors the key policy decisions taken by the Government. Hence, CARE Ratings believes the credit risk profile of a sugar company's credit risk profile is vulnerable to change in the government policies.

B. Business and Operating Risk

1. Market position and size

In the highly fragmented sugar industry with organised and unorganised players, size is an important determinant of a company's market position. The size of an entity is measured in terms of its crushing capacity and also the level of forward integration. Large companies, if not highly leveraged, typically have greater ability to withstand external shocks, better access to capital markets and consequently tend to have strong credit risk profile vis-à-vis small unorganised players. Entities which have dominant market position & larger capacities are considered favourably by CARE Ratings.

2. Level of forward integration

The sugar industry is forward integrated into ethanol/alcohol production from molasses & power co-generation through bagasse. The integrated sugar mills generally exhibit higher degree of sustainability in cash flows and hence are viewed more favourably as they are in a stronger position to handle the volatility of the sector. Optimal utilisation of by-products such as molasses and bagasse enables the companies to capture value across the production chain. The revenues from by-products on an average ranges from 15% to 25% of the total revenues for the large sugar mills, however, the percentage contribution from by-products to total operating profits is much higher. The average revenue contribution from the by-products might, however, change for the sugar mills that are diverting B-grade heavy molasses and direct sugarcane juice to produce ethanol after the introduction of the National bio-fuel policy, as such diversion would result in lower recovery rates from sugarcane and consequently lower sugar production.

Fully integrated players are viewed more favourably from the credit perspective by CARE Ratings, as fully-integrated model helps the mills to generate additional revenue and to partially mitigate the risk of fall in profitability margins arising from the downturn of the sugar business. Furthermore, in cases of integrated mills which sell power to state-owned discoms, CARE Ratings also evaluates timely receipt of receivables from them by taking into account their past payment track record, credit rating of the state discoms, their financial profile, etc.

3. **Sugarcane (raw material) availability and operating efficiency**

Sugarcane is the basic raw material for producing sugar. For the optimum operations of a sugar mill, its access to sugarcane is considered critical. Adequate cane availability also aids in optimally utilising the co-gen and distillery plants for the integrated sugar mills, which results in better profitability. Sugar mills in collaboration with farmers undertake various cane developmental activities to ensure quality raw material availability.

Operating efficiency of a sugar entity is primarily determined by the recovery rate, which is also crucial for the credit profile of a sugar company. The recovery rate is the proportion of sugar extracted per tonne of sugarcane crushed and is determined by the factors such as sucrose content of the sugarcane which depend on the variety of cane, climatic conditions, conditions of soil, etc. The sucrose content of sugarcane tends to reduce if the sugarcane is kept for a longer duration after harvesting (sugarcane needs to be crushed within 24 hours of harvesting to get optimum recovery).

CARE Ratings evaluates the above risks by looking at the history of timeliness of cane payments, the area under cane development, and trends in cane diversion for other uses. From the credit perspective, sugar companies with healthy capacity utilisation of the sugar mill and better cost structure through consistently high recovery rates are better placed compared to others.

4. **Working capital management**

The demand for sugar lasts throughout the year; however, the production is concentrated between September and April. Given the seasonality involved in the industry, most of the sugar companies hold sugar inventory varying from 4 to 6 months as on March-end. Sugar companies have large working capital requirements during the peak season compared to their average requirements.

Sugar companies need to have sufficient liquidity cushion at any point in time to meet both- their operational expenses and debt obligations. In years of surplus production, sugar companies have to resort to additional working capital borrowings in order to fund the high level of inventory (which sugar entities are carrying if they are unable to dispose the excess stock due to stock holding limits/monthly sales quota imposed by the government), which leads to increase in its working capital intensity. High repayment obligations, especially at the time when companies are holding excess inventory, can be a cause of concern. Hence, efficiently managing of the seasonal working capital requirements amidst fluctuating prices in a regulated environment is a critical factor for all sugar companies, which CARE Ratings analyses.

Key ratios

CARE Ratings follows its standard ratio analysis methodology for manufacturing companies as per CARE Ratings' criteria on Financial Ratios-Nonfinancial Sector (Refer to Financial Ratios – Nonfinancial Sector for this section on our website www.careratings.com in order to assess the operational and financial risk of companies in the sugar sector apart from the following ratios, which are looked into for some sector-specific points.

1. **Revenue and profitability**

   In a sugar company, the degree of stability to revenue and profits is of high importance. The sales and profitability varies depending on location, demand and supply scenario, operating efficiency and even the government measures. Furthermore, higher proportion of revenue from the integrated segments also improves the profitability and smoothens out revenue volatility. Healthy profitability reflects the ability to generate cash accruals to support business operations and fund ongoing expansion/capex requirements, if any. The profitability margins also vary across sugar mills, depending on the level of forward integration.

   Furthermore, the recovery rate also plays as a key factor in the overall profitability of a sugar mill. High recovery rates result in lower cane cost in comparison to sugar mills with lower recovery rates within the similar region/territory. The recovery rate apart from the cane variety would also depend on the extent of cane diversion towards B-heavy molasses for ethanol production (after the introduction of Bio-fuel policy by GoI in 2018). While the contribution margin from sugar could be lower in cases of an entity which diverts more sugar towards ethanol, the contribution margin from ethanol would be higher given the higher yields of ethanol (from B-heavy molasses or direct sugarcane juice). Hence, the profitability margins for a sugar entity shall be assessed in relation to overall margin contribution by sugar and its by-products segments like Co-gen, Ethanol/distillery, molasses, bagasse, etc.

2. **Leverage and debt servicing**

   The sugar industry is characterised as a capital-intensive industry and also has high working capital requirements. High leverage reduces financial flexibility of a sugar company due to possible level of stress on operational cash flows, particularly in cyclical downturns. Furthermore, owing to capex-related incentives and low-cost funding to support cane payments; the leverage is high for the players in the sector. CARE Ratings evaluates a sugar company's total debt position vis-à-vis gross cash accruals to ascertain the adequacy of its cash flows to service debt repayment obligations. Furthermore, total outside liabilities to tangible net worth is also a key indicator observed by CARE Ratings. The entities with low leverage have a greater financial flexibility due to relatively lower debt servicing requirement especially during any downturns and are hence viewed more positively by CARE Ratings.

3. **Liquidity and inventory valuation**

   CARE Ratings, while evaluating the liquidity of a sugar entity, analyses the available cash balances, ability of an entity to generate consistent levels of internal accruals, debt repayment obligations, un-utilised working capital limits (by drawing a comparison between working capital utilized against lower of the sanctioned limits or drawing power). Sugar companies have high working capital requirements owing to seasonality in its nature of operations and also at times on account of government's regulations (like stock holding limits, maintenance of buffer stock, etc); hence, its working capital intensity level is examined to understand the company's efficiency in managing its overall liquidity. CARE Ratings keeps in view that drawing power in the respective periods is a function of the inventory valuation, and hence, it is imperative that it should be seen in relation to the value that can be realised more importantly in situations when the sugar prices are falling. Since the prices of sugar are fluctuating and they depend on a lot of factors, the carrying cost of sugar inventory is to be analysed for any given period in relation to the realisable value and possibility of inventory losses & unrealised gains is to be ascertained.

C. Assessment of Environmental, Social and Governance (ESG) Risks

The sugar sector faces risks emanating from the Environmental & Social factors (E&S). Over the past few years, CARE Ratings has been keenly examining the impact of several ESG factors on the overall sustainability of business operations and the financial impact of the same on the entity. In addition to the impact of ESG risks, CARE Ratings has also been monitoring the steps taken towards mitigating these risks in future. CARE Ratings continues to monitor these factors to understand the possible future impact of these factors on the credit profile of the entity.

Sugarcane is an agri-commodity and prone to climatic risks. The climatic conditions along with pests' attacks and other factors, can affect sugarcane productivity, recovery and in turn have an impact on an entity's profitability. The sector is also exposed to tightening regulations regarding discharge or treatments of effluents. Opex and capex cost might be required in terms of complying to different Environmental guidelines, which also vary from location to location. Social risk also emanates as the sector is associated with large number of cane growers. The relationship with cane growers is to be checked.

The social risk emanates from qualitative factors including health and safety standards for employees and labour and reduce social disparity. Furthermore, on account of rising health awareness in the society, there are transitioning trends towards less sugar intensive food products. However, any such change is not going to put any material impact on the credit profile of the players as such as change is happening at a low pace. CARE Ratings assesses the impact of the steps required to be taken to mitigate the E&S risks enumerated above, on revenue/cash flows of the entity.

The factors considered for governance risks includes transparency and disclosure standards in terms of quality/timeliness and granularity of data, independence of the board of directors and its rotation, and cases filed against the management for unfair trade practices.

Conclusion

The rating process is ultimately an assessment of the fundamentals and the probabilities of change in the fundamentals. The rating determination is a matter of experienced and holistic judgment, based on the relevant quantitative and qualitative factors affecting the credit quality of the issuer.

Overall credit risk profile of the companies in sugar sector is driven by its relative position in the market as reflected by their scale of operations, level of forward integration, operating efficiencies and the ability to handle the regulatory challenges and effectively manage their working capital requirements. CARE Ratings analyses each of the above factors to arrive at the overall assessment of credit quality of the Issuer. Credit rating is a futuristic assessment, and the rating outcome is ultimately an assessment of the fundamentals and the probabilities of change in the fundamentals in future. Moreover, for arriving at the rating outcome, CARE Ratings also considers future estimation of the company's financials based on past trends and future strategies, competition, industry trends, economic condition and other considerations.

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CARE Ratings Limited

Corporate Office: 4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway, Sion (East), Mumbai - 400 022

Phone : +91 - 22 - 6754 3456 | CIN: L67190MH1993PLC071691

Connect :

Locations: Ahmedabad | Andheri-Mumbai | Bengaluru | Chennai | Coimbatore | Hyderabad | Kolkata | New Delhi | Pune

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