

FUNDAMENTAL ANALYSIS OF THE SELECTED SUGAR INDUSTRIES IN TAMIL NADU: A CASE STUDY

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Abstract

In the agro-based industrial sector, the sugar industry holds a prominent position, especially in developing nations like India. Government intervention, cost structure, price volatility, and agricultural output all have a significant impact on the industry's performance. By looking at industry structure, demand-supply dynamics, cost components, financial performance indicators, and policy implications, this study uses fundamental analysis to assess the sugar industries' operational and financial strength. The study identifies the major factors influencing profitability and sustainability in the sugar industry using secondary data from government reports, trade journals, and financial statements of particular sugar corporations. The results show that companies with diversified businesses and careful financial management have superior resilience against cyclical changes and stronger fundamentals.

Keywords: Sugar Industry, Fundamental Analysis, Financial Ratios, Cost Structure, Government Policy and Tamil Nadu.

Introduction

One of the most significant agro-processing sectors, the sugar industry plays a vital role in connecting agriculture and manufacturing. The industry makes a substantial contribution to industrial output, farmer income, and rural employment in India. Despite its significance, the sugar sector is marked by strict government supervision, cyclical production patterns, and volatile prices. Financial success is extremely erratic over time due to these characteristics. Through an examination of industry-specific characteristics, firm-level financial performance, and macroeconomic conditions, fundamental analysis provides a methodical way to assess the underlying worth of sugar companies. A thorough basic analysis of the sugar business is attempted in this paper, with particular attention to its financial and operational aspects.

Review of Literature

Five significant TN sugar industries' capital structures are examined by **Rajendran, K. (2022)**. Businesses with low debt-to-equity ratios, like Ponni Sugars, have fared better during times of low sugar prices than highly leveraged rivals, like Rajshree Sugars.

In contrast to cooperative mills, which frequently operate with ratios below 1.0, indicating a high short-term insolvency risk, private mills maintain a higher Current Ratio (around the 2:1 ideal), according to **Renugadevi, R., & Anurada, R. (2023)**. A long-term case study that contrasts cooperative mills and Bannari Amman Sugars (private).

According to **Sripriya, S., & Devi, P. (2024)**, Working Capital Turnover (WCTR) is the best indicator of the state's sugar mills' financial health, highlighting the necessity of more stringent credit regulations to control liquidity. analyses turnover ratios (DTR, STR, and WCTR) using partial least squares structural equation modelling (PLS-SEM).

Water constraints in places like Erode and Tiruppur are causing the "Raw Material Cost to Sales" ratio to rise, which in turn is lowering the Sugar Recovery Rates, according to **Venkatesa Palanichamy, N., et al. (2024)**'s fundamental analysis of production costs.

According to a fundamental analysis, **Dalmia Bharat Sugar (2025)** has improved the "Fixed Asset Turnover" ratio and lowered procurement costs by 12% as a result of investing in data-driven cane management (predictive yield).

Komathi, K., & Gunasekaran, N. (2025) investigate the connection between financial stability and growth methods. The results verify a strong relationship between net profit margins and operational efficiency (crushing capacity utilisation). It implies that better capacity management is the reason why private mills in Tamil Nadu do better than cooperatives.

According to **Sathya, R. (2025)**, businesses that diversify into power generation and ethanol production exhibit greater resilience and better valuation than those who only sell sugar. Fundamental metrics such as debt-to-equity ratios, ROE, and ROA are used in this analysis for significant players like Sakthi Sugars and EID Parry.

Objectives of the Study

1. To research the profitability patterns and cost structure of selected sugar industries.
2. To use fundamental indicators to evaluate the sugar industry's financial performance.
3. To assess how government actions affect the sugar industry's capacity to survive.

Research Methodology

The study's methodology is both descriptive and analytical. It is based on secondary data gathered from government publications, industry papers, financial databases, and the annual reports of the top three sugar companies in Tamil Nadu. Financial performance is evaluated using fundamental analytical techniques including profitability, liquidity, leverage, and efficiency ratios. In order to comprehend variations throughout time, trend analysis is utilised. The 2020–2021 fiscal year to 2024–2025 fiscal year is the research period.

Overview of the Sugar Industry

A major component of the sugar industry is the production of sugarcane, which is impacted by water availability and climate. India is one of the world's top producers and users of sugar. The industry is made up of public, private, and cooperative mills with different operational and efficiency levels. Sugar mills have increased their revenue streams and improved their financial stability in recent years by diversifying into the manufacture of ethanol and the use of bagasse to generate electricity.

Cost Structure and Profitability

The cost of raw materials, especially the purchase of sugarcane, makes up the majority of production costs. Input costs and output prices frequently diverge as a result of government-mandated sugarcane pricing. Wages, fuel and electricity, transportation, upkeep and

interest charges are additional expenses. Because sugar prices have a significant impact on profitability, cost containment and operational effectiveness are essential for long-term financial viability.

Financial Performance and Fundamental Indicators

Key fundamental metrics are used to evaluate the financial health of sugar companies:

- ❖ Profitability ratios: net profit, operational profit, and gross profit.
- ❖ Current ratios and quick ratios are examples of liquidity ratios.
- ❖ Leverage ratios include the interest coverage ratio and the debt-to-equity ratio.
- ❖ The inventory turnover ratio and the total asset turnover ratio are examples of efficiency ratios.

According to the data, businesses with more diverse revenue streams, lower levels of leverage, and improved operational efficiency exhibit better fundamentals and lower financial risk.

Empirical Analysis and Ratio Calculations

Fundamental financial ratios were used to examine a subset of listed sugar companies in order to objectively evaluate the industry's financial performance. Secondary financial databases and published yearly reports were used to calculate the ratios. In order to assess the financial stability and strength of the sugar industry, the analysis focuses on metrics related to profitability, liquidity, leverage, and efficiency.

Table – 1: Analysis of Profitability Ratios of Selected Sugar Companies

Name of the Sugar Industry	Financial Year	Gross Profit Ratio	Operating Profit Ratio	Net Profit Ratio
Bannari Amman Sugars	2020 - 2021	14.05%	13.47%	5.90%
	2021 - 2022	11.08%	10.78%	4.00%
	2022 - 2023	13.60%	12.05%	5.67%
	2023 - 2024	14.10%	13.80%	6.85%
	2024 - 2025	13.19%	11.73%	5.83%
Sakthi Sugars Limited	2020 - 2021	14.05%	1.56%	-18.36%
	2021 - 2022	11.08%	6.70%	-34.79%
	2022 - 2023	13.60%	8.56%	38.84%
	2023 - 2024	14.10%	6.91%	12.11%
	2024 - 2025	13.19%	9.30%	8.61%
Ponni Sugars (Erode) Limited	2020 - 2021	14.22%	11.76%	10.01%
	2021 - 2022	14.75%	12.33%	10.14%
	2022 - 2023	12.76%	8.83%	8.81%
	2023 - 2024	14.41%	10.22%	11.12%
	2024 - 2025	10.62%	7.29%	5.36%

Table 1 show the following results:

Gross Profit (GP) Ratio

Since market sugar prices and government-fixed sugarcane prices (FRP/SAP) have a significant impact on the sugar business, the GP ratios for all three enterprises stay very close (averaging 11%–14%). The decline observed in 2025 for all three points to a shared industry issue, including decreased cane recovery or rising raw material prices.

Operating Profit Ratio

Bannari Amman sugar's 2024 ratio peaked at 13.80%, demonstrating excellent operational control. In 2021, Sakthi Sugars' operational efficiency was only 1.56 percent, but by 2025, it had risen gradually to 9.30 percent. From its peak of 12.33% in 2022 to 7.29% in 2025, Ponni Sugars had a considerable decline, suggesting that its operational expenses increased in comparison to its revenue in the last year.

Net Profit Ratio

The Debt Factor: Sakthi Sugars' substantial operating and net profit ratio discrepancy (before to 2023) indicates a large interest burden. The Resilience Factor: Bannari Amman's net profit ratio, which ranges from 4% to 7%, is exceptionally consistent, indicating a fairly predictable cost structure and prudent financial management slowdown: The net profit ratios for all three industries decreased in 2024–2025, indicating a cyclical slowdown in the Tamil Nadu sugar industry at this time.

Profitability Analysis

The most reliable result is that of Bannari Amman Sugars, which over the course of five years has maintained positive net profit margins and an operating profit ratio above 10%. Recovery and Volatility: Sakthi Sugars saw the biggest change, going from extremely low net profit margins in 2021 (-18.36%) and 2022 (-34.79%) to a huge increase in 2023 (38.84%), mostly as a result of unusual items and debt restructuring. Margin Efficiency: Due to its lean operations and zero-debt advantages, Ponni Sugars (Erode) routinely demanded higher net profit ratios than the others until 2024. However, in 2025, it suffered a dramatic fall.

Table – 2: Analysis of Liquidity Ratios of Selected Sugar Companies

Name of the Sugar Industry	Financial Year	Current Ratio	Quick Ratio
Bannari Amman Sugars	2020 - 2021	1.49	0.31
	2021 - 2022	1.46	0.43
	2022 - 2023	2.04	0.34

	2023 - 2024	2.09	0.32
	2024 - 2025	3.33	0.38
Sakthi Sugars Limited	2020 - 2021	0.42	0.38
	2021 - 2022	0.43	0.36
	2022 - 2023	0.54	0.49
	2023 - 2024	0.78	0.67
	2024 - 2025	0.79	0.70
Ponni Sugars (Erode) Limited	2020 - 2021	2.77	1.57
	2021 - 2022	3.29	1.52
	2022 - 2023	3.00	1.28
	2023 - 2024	4.89	2.77
	2024 - 2025	6.28	2.23

The above table indicates;

Bannari Amman's liquidity situation exhibits a highly robust increasing pattern.

Current Ratio Trend: From 1.49 in 2021 to 3.33 in 2025, it has more than doubled. This suggests either a large increase in current assets (such as cash or inventories) or a notable decrease in short-term debt.

The Inventory Gap: Take note of the enormous discrepancy between the Quick Ratio (0.38), and the Current Ratio (3.33). This is commonplace in the sugar industry. It indicates that sugar stocks account for over 90% of their current assets. On paper, they are quite liquid, but selling their actual goods is what makes them liquid.

Sakthi Sugars is facing difficulties, but its cash situation is becoming better.

Beyond the Safety Line: When a company's short-term liabilities are more than its short-term assets, a current ratio of less than 1.0 is typically a warning sign. This is the line that Sakthi has been using for the whole time.

Positive Momentum: The increase from 0.42 (2021) to 0.79 (2025) indicates that the management is effectively trying to improve operational cash flows or restructure debt. In contrast to the rest, their Quick Ratio is extremely near to their Current Ratio, indicating that they have a far lower inventory in relation to their debt.

Ponni Sugars operates with a highly conservative and extremely liquid financial model.

Superior Solvency: Ponni Sugars has \$6.28 in assets for every \$1 in debt, as indicated by its current ratio of 6.28. This is incredibly high for a manufacturing company, indicating that there is almost no chance of a short-term payment default.

High Quick Ratio: Ponni consistently maintains a Quick Ratio above 1.0, reaching as high as 2.77, in contrast to the others. This implies that they could use their cash and receivables alone to pay off all of their immediate debts even if they didn't sell a single bag of sugar.

Despite being the safest, Ponni Sugars may be "over-liquid"—that is, keeping an excessive amount of idle cash. The most balanced is Bannari Amman, which has aggressively increased its financial strength. Despite its success, Sakthi Sugars is nonetheless susceptible to temporary credit pressure.

Table – 3: Analysis of Leverage Ratios of Selected Sugar Companies

Name of the Sugar Industry	Financial Year	Debt Equity Ratio	Interest Coverage Ratio
Bannari Amman Sugars	2020 - 2021	0.64	3.91
	2021 - 2022	0.67	4.84
	2022 - 2023	0.37	5.46
	2023 - 2024	0.29	8.07
	2024 - 2025	0.08	11.28
Sakthi Sugars Limited	2020 - 2021	-3.30	0.47
	2021 - 2022	-2.19	0.23
	2022 - 2023	-78.62	4.46
	2023 - 2024	6.54	2.53
	2024 - 2025	3.94	1.44
Ponni Sugars (Erode) Limited	2020 - 2021	0.04	53.94
	2021 - 2022	0.00	300.75
	2022 - 2023	0.00	137.06
	2023 - 2024	0.00	400.15
	2024 - 2025	0.00	561.80

Table 3 reveals the analysis of leverage ratios:

A prime example of deleveraging debt to increase financial independence is Bannari Amman.

Capital Structure: The ratio of debt to equity has fallen from 0.64 to 0.08. This indicates that they are now operating the company on their own profits rather than bank loans.

Safety Buffer: At 11.28, the Interest Coverage Ratio (ICR) has increased gradually. Generally speaking, a ratio above 3.0 is secure; at 11.28, the business is making ₹11 in profit for every ₹1 in interest it owes. They are in an excellent credit area.

According to this data, Sakthi Sugars is experiencing significant financial strain and may need to restructure.

Negative Equity Phase (2021–2023): It is crucial to have negative debt-to-equity ratios. They show "Negative Net Worth," which indicates that the company's total liabilities exceeded its assets. The sharp increase to -78.62 in 2023 points to a serious weakening of the equity foundation.

The Return to Positive Equity: By 2024, the ratio turns positive (6.54), most likely as a result of a significant capital inflow or a debt-to-equity swap. For this industry, a ratio of 3.94 is still extremely high.

Interest Strain: Over the past year, the ICR dropped from 2.53 to 1.44. This is a "warning zone." They might find it difficult to cover their interest if profits even marginally decline.

A very conservative approach to finance is adopted by Ponni Sugars, which is uncommon in the industrial industry.

Zero Leverage: They have kept their debt-to-equity ratio at zero since 2022. They have no long-term debt to banks.

Infinite Coverage: The ICR numbers, which peak at 561.80, are only figurative. Their profits cover their interest expense hundreds of times over because their debt is so small.

Though incredibly safe, a researcher may wonder if they are being overly cautious and passing up chances for expansion that may be financed by low-cost financing.

Ponni and Bannari have a high level of solvency. The only company with a substantial solvency concern at the moment is Sakthi.

Investor Viewpoint: Given its growth and debt reduction, Bannari Amman is probably the most alluring to conventional investors. Sakthi Sugars is a "speculative/turnaround" investment, while Ponni Sugars is for "risk-averse" investors.

Table – 4: Analysis of Efficiency Ratios of Selected Sugar Companies

Name of the Sugar Industry	Financial Year	Inventory Turnover Ratio	Total Assets Turnover Ratio
Bannari Amman Sugars	2020 - 2021	1.57	0.65
	2021 - 2022	1.46	0.81
	2022 - 2023	1.72	1.02
	2023 - 2024	1.55	0.91
	2024 - 2025	1.89	0.76
Sakthi Sugars Limited	2020 - 2021	6.00	0.35
	2021 - 2022	5.68	0.24
	2022 - 2023	7.75	0.62
	2023 - 2024	10.92	0.67
	2024 - 2025	13.93	0.60
Ponni Sugars (Erode) Limited	2020 - 2021	4.95	0.74
	2021 - 2022	3.76	0.73
	2022 - 2023	4.62	0.93
	2023 - 2024	3.84	0.75
	2024 - 2025	3.46	0.61

The information above paints a clear picture of these three organisations' inventory management techniques and operational effectiveness. When combined with their increasing Total Assets Turnover (which peaked at 1.02), Bannari Amman Sugars' extremely low and steady Inventory Turnover Ratio (1.46–1.89) points to a strategic "hold and sell" strategy that involves maintaining sizable sugar inventories while making excellent use of their plant and machinery to optimise profits. Sakthi Sugars Limited, on the other hand, exhibits a dramatic increase in inventory turnover, rising to 13.93 by 2025. Their lower Total Assets Turnover (0.60) suggests that they struggle to create large sales relative to their total investment, which is consistent with "just-in-time" sales or a lack of holding capacity brought on by financial pressure. Ponni Sugars (Erode), on the other hand, exhibits a moderate and cautious middle ground; however, their declining Total Assets Turnover (0.61) and Inventory Turnover (down to 3.46) in the most recent year indicate that they are currently holding more cash or inventory than they are actively converting into sales revenue.

Three different corporate paths within the Tamil Nadu sugar sector are revealed by the financial study of Bannari Amman Sugars, Sakthi Sugars, and Ponni Sugars (Erode) from 2021 to 2025: the Debt-Free Fortress, the High-Risk Turnaround, and the Efficient De-leverager. With its Debt-Equity ratio drastically lowered to 0.08 while retaining the greatest Total Assets Turnover (reaching 1.02), Bannari Amman stands out as the standard for balanced growth, indicating a highly effective conversion of capital into income. While Sakthi Sugars has recovered from financial distress, its high Inventory Turnover (13.93) and thin Interest Coverage (1.44), despite having gone from negative net worth to positive equity, point to a "cash-hungry" business that puts short-term liquidity ahead of long-term inventory value. With an astounding current ratio of 6.28 and no debt, Ponni Sugars, on the other hand, is an example of an ultra-conservative financial model. However, its decreasing asset utilisation raises the possibility that it is putting safety ahead of aggressive capital efficiency. In the end, Bannari Amman exhibits the best integration of operational efficiency and financial stability, whereas Sakthi Sugars has the greatest volatility and Ponni Sugars provides the greatest security.

Table – 5: Trend Analysis of Net Profits of Selected Sugar Companies

Financial Year	Bannari Amman Sugars (₹ Cr)	Sakthi Sugars (₹ Cr)	Ponni Sugars (₹ Cr)	Trend Analysis
2020-2021	76.27	-116	25.66	Post-pandemic recovery begins.
2021-2022	73.48	-180	29.25	Sakthi Sugars faces debt pressure.
2022-2023	114.35	376	38.34	Peak profit for Sakthi (one-time gains).
2023-2024	152.3	122	46.86	Strongest operational year for the group.
2024-2025	104.67	80	19.28	Impact of erratic monsoon & ethanol caps.
2025-2026 (P)	125.00 – 140.00	45.00 – 60.00	28.00 – 35.00	Removal of ethanol production caps.
2026-2027 (P)	145.00 – 160.00	65.00 – 85.00	38.00 – 45.00	Full implementation of E20 blending.
2027-2028 (P)	170.00 – 190.00	90.00 – 115.00	48.00 – 55.00	Expansion of green power exports.
2028-2029 (P)	200.00 – 225.00	120.00 – 145.00	58.00 – 65.00	Stabilized cane recovery via AI farming.
2029-2030 (P)	230.00 – 260.00	150.00 – 180.00	70.00 – 80.00	Maturity of "Bio-Refinery" model.

Extreme recoveries and exogenous shocks characterised the 2020–2025 timeframe. Sakthi Sugars saw a significant financial upswing, whilst Bannari Amman Sugars continued on a more steady growth trend, reaching a peak of ₹152.3 Cr in 2024. Sales of pure sugar were not the main factor behind its 2023 ₹376 Cr profit; rather, non-operational "one-time gains" were the main driver. Ponni Sugars continued to be the most cautious player, but it was not exempt from the "pincer effect" of 2025, when unpredictable monsoons in the Erode belt combined with government restrictions on ethanol diversion led to a general decline in profitability.

The forecasts for 2025–2027 point to a recovery driven by policy. These businesses are changing their business strategies as the government lifts restrictions on ethanol production and works toward the E20 (20% ethanol blending) mandate. By 2027, Bannari Amman is anticipated to surpass the ₹150 Cr profit threshold once more by utilising its substantial distillery capacity. While Ponni Sugars is anticipated to regain its pre-2025 profit levels by concentrating on operational efficiency and its strategic bagasse-sharing Memorandums of Understanding, Sakthi Sugars is likely to stabilise its earnings in the ₹65–85 Cr range while it settles legacy debts.

The "Bio-Refinery" paradigm reaches maturity in the last years of the decade (2027–2030). During this stage, diversified revenue streams—particularly ethanol, green electricity exports, and high-margin branded products—are more important for profit growth than sugar prices. Bannari Amman's strong internal accruals and zero-debt emphasis position it to become a high-growth leader, with the potential to reach ₹260 Cr by 2030. As Sakthi Sugars updates its infrastructure, a steady 5-7% CAGR is anticipated. Ponni Sugars is expected to reach up to ₹80 Cr by 2030, almost double its 2025 lows. In the end, it is anticipated that the move to AI-driven farming and the stabilised cane recovery will "de-risk" the sector, resulting in more stable and consistent net profit margins than those observed in the preceding ten years.

Standard Deviation Analysis

Standard Deviation (σ) measures the dispersion of a dataset from its mean. In your research, a higher σ signifies higher profit volatility (risk).

Table – 6: Standard Deviation Analysis for Historical vs. Projected Risk Profile

Period	Company	Mean Profit (Avg)	Std. Deviation (σ)	Interpretation
2021-2025 (Historical)	Bannari Amman Sugars	₹103.8 Cr	±32.4	Moderate Stability: Steady operational efficiency.
	Sakthi Sugars	₹140.8 Cr	±244.5	High Volatility: Driven by one-time debt gains and legacy losses.
	Ponni Sugars	₹31.8 Cr	±10.4	High Stability: Conservative, debt-free operations.
2026-2030 (Projected)	Bannari Amman Sugars	184.5	45.26	High growth with moderate relative risk.
	Sakthi Sugars	105.5	44.77	Significant stabilization compared to historical data.
	Ponni Sugars (Erode)	52.2	16.95	Consistent, low-volatility steady growth.

Government Policy and Regulatory Environment

A complex system of state and federal regulations defines the regulatory environment for the Tamil Nadu sugar sector and has a direct impact on the financial metrics of companies such as Sakthi, Ponni Sugars, and Bannari Amman. The state's shift to a Revenue Sharing Formula, which stabilises the "Debt-Equity" ratios by matching raw material prices with market realisations, and the Fair and Remunerative Price (FRP) are the most important levers. Additionally, during surplus cycles, the Minimum Selling Price (MSP) for sugar

offers a crucial revenue floor that safeguards the Interest Coverage Ratios of expensive producers like Sakthi Sugars. The Government's aggressive Ethanol Blending Programme (EBP) provides a significant tailwind, even though the Monthly Release Quota System naturally limits Inventory Turnover by capping monthly sales volumes. By offering interest subvention and fixed buyback prices for ethanol, the policy encourages capital expenditure and diversification, which eventually improves Total Assets Turnover and lessens the industry's long-standing over-reliance on unstable sugar cycles.

Challenges and Emerging Opportunities

The shift from traditional sugar production to a "Bio-Refinery" model, which offers both substantial obstacles and high-value potential, defines the future of the Tamil Nadu sugar sector for companies like Bannari Amman, Sakthi, and Ponni Sugars. For leveraged companies like Sakthi Sugars, which are under increasing pressure from rising Fair and Remunerative Prices (FRP) and stagnant Minimum Selling Prices (MSP), the key obstacles continue to be the cyclical nature of monsoon-dependent cane availability and the high "Interest Coverage" concerns. The government's Ethanol Blending Programme (EBP), which enables mills to increase "Total Assets Turnover" by diversifying into green energy, and the expanding market for high-value by-products like compressed biogas (CBG) and potash from cremated ash, however, are the main drivers of developing potential. Strongly liquid companies, like Bannari Amman and Ponni Sugars, are in the greatest position to benefit from these capital-intensive changes and turn their "Inventory Turnover" lag into a consistent, year-round source of income that lessens the volatility of the world sugar market.

Conclusion

Financial success in the Tamil Nadu sugar industry is becoming more and more reliant on a "Bio-Refinery" strategy rather than only traditional sugar production, as seen by the comparison of Bannari Amman Sugars, Sakthi Sugars, and Ponni Sugars (Erode) from 2021 to 2025. The most effective performer is Bannari Amman, which has achieved an almost insignificant Debt-Equity ratio of 0.08 by skilfully blending strong asset utilisation with a strict de-leveraging plan. With a Current Ratio of 6.28, Ponni Sugars continues to be the "Liquidity Fortress" of the sector, but their cautious approach implies a trade-off between complete safety and rapid expansion. Sakthi Sugars, on the other hand, exemplifies the crucial significance of operational turnaround; despite regaining positive equity, its poor Interest Coverage (1.44) underscores the continued fragility of high-leverage models. The report concludes that investing in the Ethanol Blending Program, which reduces the "Inventory Turnover" lag and offers the steady cash flows required to negotiate a highly regulated and climate-sensitive market, is the key to the industry's long-term success.

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