

A Study on Financial Performance of Selected Co-Operative Sugar Companies of Gujarat

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ABSTRACT

The sugar business is a significant part of the agricultural sector that has an effect on the way of life in rural areas for over 50 million sugarcane growers and approximately 5 lakh workers who are directly employed in sugar mills. As of the 31st of July, 2017, the country has a total of 732 operational sugar factories, each of which had adequate crushing capacity to generate around 339 lakh MT of sugar. The capacity is more or less split evenly between the units that belong to the private sector and the units that belong to the cooperative sector. The objective of the study was to investigate the profitability of sugar cooperatives located in the state of Gujarat. The sugar business is fundamentally unstable, and it engages in the commercial exploitation of rural resources in order to satisfy the demand for sugar while simultaneously producing surplus energy in order to satisfy the growing need for energy. For the purpose of this investigation, three cooperative businesses situated in Gujarat were chosen. In this study, an analysis was performed using the financial data of three different co-operative sugar enterprises for the years 2016–2017 through 2020–21. In order to conduct an examination of the financial data of three different co-operative sugar businesses, the techniques of ratio analysis and ANOVA testing were utilised.

Keywords: Sugar Industry, Financial Ratio, Analysis

INTRODUCTION

India is the world's second-largest producer of sugar, ranking behind only Brazil. During the 2015–16 fiscal year, India's sugar production accounted for fifteen percent of

the total sugar output worldwide (United State Department of Agriculture, 2017). In the fiscal year 2015-2016, the states of Maharashtra (33.29 percent), Uttar Pradesh (27.32 percent), and Karnataka were the top three producers of sugar in India. (16.63 percent). Nevertheless, the Punjab sugar industry was only responsible for 2.4% of India's total sugar production (Global Agricultural Information Network, 2017). It demonstrates that even if the sugar industry in India is thriving, the sugar mills in Punjab are unable to make a substantial contribution to the overall sugar production in the country. Malwa, Majha, and Doaba make up the three distinct regions that make up the state of Punjab (NIDM, 2012). There are two distinct kinds of sugar mills located in these various parts of the Punjab: co-operative sugar mills and private sugar mills (Randhawa and Gupta, 2014). There are eleven sugar mills located in the Malwa region, and six of them are currently in the process of shutting down. One of the six sugar mills that make up the Majha region is currently going through the process of being closed down and liquidated. However, there are three mills, one each in the cooperative and private sectors, and all of them are active. These mills are located in the Doaba region (Statistical Abstract of Punjab, 2016). In this part of the world, the performance of private sugar mills is superior to that of cooperative sugar mills in regards to several different sugar mill components. The following table presents, for the calendar year 2016, the various components of both

private and co-operative sugar mills located in the Doaba district of Punjab.

The sugar industry in India is essential because it services the largest domestic market in the world, which in turn provides for the livelihoods of fifty million farmers and their families. The supply chain for the conventional sugar industry, on the other hand, is characterised by contentious relationships between many of the industry's stakeholders. This has led to each stakeholder developing their own systems for their own benefit, without regard for the goals of the larger industry as a whole. The farmers are the first link in the supply chain. They are responsible for delivering the sugar cane to the sugar mill in the shortest period of time feasible in order to maximise both the quantity and quality of sugar that is produced. After being extracted from the cane, the juice is subsequently filtered, crystallised, and treated before being offered for sale on the domestic market.

It is usual practise to make use of bagasse as a fuel source for the generation of heat and power, both of which are essential components of this process. Surpluses of electricity are sold to local consumers of electricity as well as businesses in the surrounding area. The residual molasses that is left over following the crystallisation process is used in mill-owned distilleries and standalone distilleries to produce alcohol. This alcohol is then put to use as an industrial solvent or in the creation of beverages. Sugar is an essential commodity, and because of this, the government controls the pricing of sugarcane, as well as the procurement of sugarcane, the manufacturing of sugar, and the sales of sugar mills in both domestic and international markets.

LITERATURE REVIEW

In his address to the 70th annual convention of the Sugar Technologists Association of India (STAI), the former President of India, Abdul Kalam, A.P.J. (2009), emphasised that the sugar industry should strike a balance between the production of sugar, ethanol, and alcohol. This will lead to revenue

maximisation for both the sugar industry and the farmers.

The Indian Sugar Industry is India's second largest agro-based processing industry after the cotton textiles industry. According to Pandey (2007), who wrote the article "Indian Sugar Industry - A Strong Industrial Base for Rural India," the Indian Sugar Industry is playing a significant role in the process of industrialization and bringing about socio-economic changes in rural areas. Sugar mills, both cooperative and commercial, as well as state mills, have been instrumental in the launch of a variety of entrepreneurial endeavours in India's rural areas. The author described the difficulties that the Indian sugar sector is facing as a vicious cycle that includes a shortage of sugarcane followed by a glut of sugarcane, a lower sugarcane yield, a lower sugar recovery rate, ever-increasing production costs, and mounting losses. According to the findings of the study, in order to boost production and productivity, quality management should be implemented at all levels of activity. In addition to this, it is necessary to focus on reducing costs as much as possible and carrying out activities involving the processing of by-products.

In their 2007 study titled "Estimation of Economic efficiency of sugar industry in Uttar Pradesh; A frontier production function Approach," Singh N.P, Paramatma Singh, and Suresh pal analysed the efficiency of sugar plants located in various locations of the state of Uttar Pradesh. They employed frontiers production function and came to the conclusion that the co-operative sectors mills in the eastern zone had obtained higher average crushing capacity than the mills in the western zone and the eastern zone combined. When considering economies of scale, sugar production facilities in the private sector are in a favoured position. The amount of sugar recovered by processing units in Uttar Pradesh ranged from 9.15 to 9.60 percent, and the researcher discovered that there was no substantial variation in the amount of sugar recovered between the locations.

Dilipsinh R. Thakar's (2014) research investigated the dynamics of the sugar industry's expansion and progression in the state of Gujarat. In this study, seventeen working units from the state of Gujarat were investigated, covering the years 2002-2003 to 2012-2013. In this study, he proposed increasing plant capacity while simultaneously lowering the overall cost of sugar production by lowering the price of sugarcane as a component of the total cost of sugar production. In addition, the study stressed the importance of making better use of by-products in order to boost revenue.

Dilip S. Palil's (2017) case study, "Cost Reduction in Sugar Mill," studied the final manufacturing report to determine the condition and performance of a sugar plant from a monetary standpoint. He advised that by comparing the physical characteristics for cost reduction, reducing loss due to downtime, increasing sugar recovery percentage in sugarcane, increasing sugar recovery percentage in sugarcane, cost reduction through effective use of store, and using maximum crushing capacity. In addition to this, he brought up the notion that a sugar mill can evaluate how well it uses its resources and personnel in order to maximise its profits.

In his article titled "Financial Performance of the Indian Sugar Industry," which was published in 1999, Chandrasekaran measured a variety of ratios, such as profitability ratio, coverage ratio, liquidity ratios, and turnover ratios, over the course of a period of five years spanning from 1990-1991 to 1995-1996. With the exception of the 1993-1994 fiscal year, it was noticed that the sugar business had a moderate to poor financial performance. According to the survey, some of the issues facing the sugar business include excessive leverage, high fluctuation of profitability, high coverage ratios, high stocks of completed goods, and trouble controlling cost structure. Average to

low coverage ratios were also mentioned. The author comes to the conclusion that cyclicity is induced within the sector as a result of cane payment arrears, which arose as a result of a lack of alignment between sugarcane and sugar prices. This weakened the sector revenue.

In their study titled "Financial Efficiency of Sugar Industry in Tamilnadu," Renugadevi and Anurada Rajendran (2008) covered the period covering six years from 1998-99 to 2003-04 and assessed the financial efficiency of the selected sugar mills in Tamilnadu. In order to construct a variety of ratios, the article made use of secondary data obtained from the database maintained by the Centre for Monitoring the Indian Economy (CMIE) and Capitaline. According to the findings of the study, despite all of the challenges facing the sugar sector, its future is in fact quite bright due to the presence of a massive domestic market, an adequate supply of raw materials, sufficient labour, and a great untapped potential of byproducts. They came to the conclusion that the sugar policies, such as partial control and a dual pricing system, were successful in protecting and balancing the interests of the sugar sector, consumers, and farmers.

RESEARCH OBJECTIVES

1. To study the financial performance of selected 3 co-operative sugar companies of Gujarat.
2. To do comparison of financial performance of selected 3 co-operative sugar companies of Gujarat.

SAMPLE SIZE

In this study 3 sugar companies have been taken

1. Bardoli Sugar Factory
2. Gandevi Sugar Factory
3. Madhi Sugar Factory

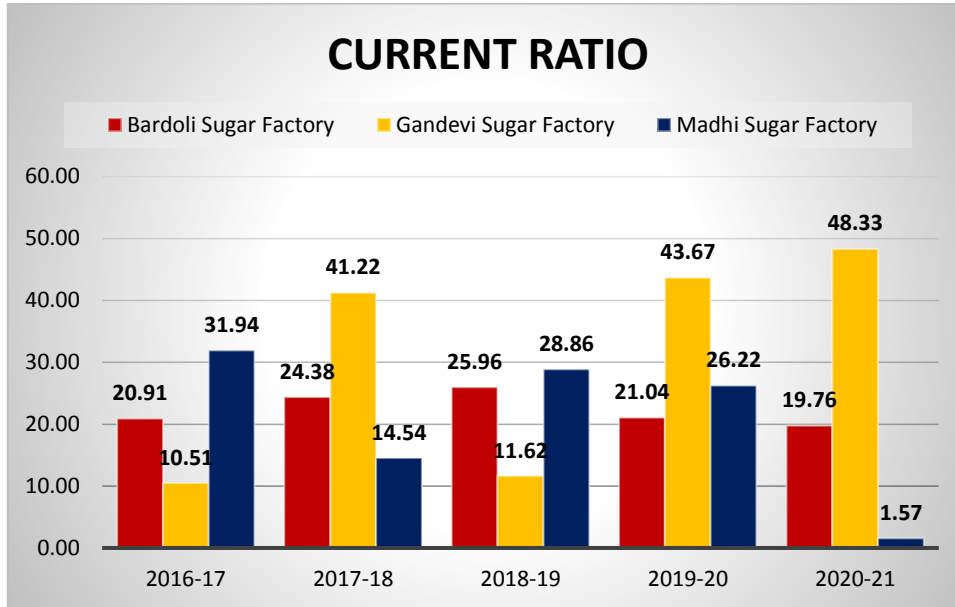
PERIOD OF STUDY

Financial data of 2016-17 to 2020-21 have been analysed in this study

DATA ANALYSIS

1. CURRENT RATIO

CURRENT RATIO						AVERAGE
COMPANY	2016-17	2017-18	2018-19	2019-20	2020-21	
Bardoli Sugar Factory	20.91	24.38	25.96	21.04	19.76	22.41
Gandevi Sugar Factory	10.51	41.22	11.62	43.67	48.33	31.07
Madhi Sugar Factory	31.94	14.54	28.86	26.22	1.57	20.62
AVERAGE	21.12	26.71	22.15	30.31	23.22	24.70



INTERPRETATION

The current ratio is used to assess a company's capacity to service its current debt. It can be deduced from the following tables and graphs that certain sugar firms have higher current ratios than in past years. Sugar companies have higher current assets

to meet current debt in recent years than in past years, based on these current ratios. Sugar companies have the greatest current ratio in 2016-17. 2019-20 was the year with the lowest current ratio. Bardoli Sugar Factory has the lowest current ratio, while Madhi Sugar Factory has the highest.

ANOVA: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Bardoli Sugar Factory	5	0.016335	0.003267	7.05E-06		
Gandevi Sugar Factory	5	0.049671	0.009934	6.16E-06		
Madhi Sugar Factory	5	0.070497	0.014099	2.58E-05		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.000299	2	0.000149	11.4914	0.001629	3.885294
Within Groups	0.000156	12	1.3E-05			
Total	0.000454	14				

HYPOTHESIS

H0: There is no significant difference between current ratio of selected 3 co-operative sugar companies of Gujarat

H1: There is significant difference between current ratio of selected 3 co-operative sugar companies of Gujarat

From above table for 2 and 12 degree of freedom.

Fcal is 11.49 and Ftab is 3.88.

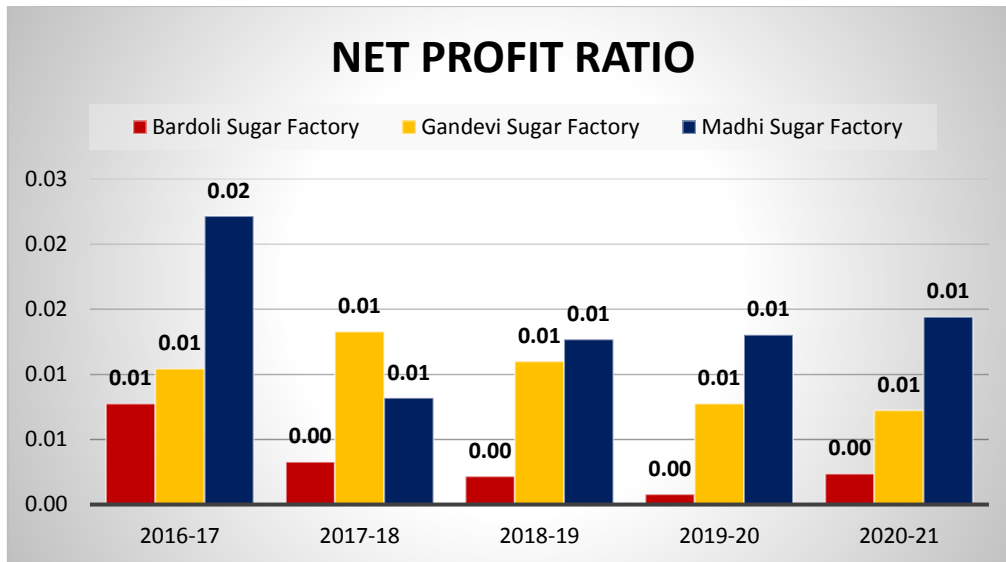
Thus, Fcal > Ftab and p-value is less than specified α of 0.05.

So, H0 is rejected and H1 is accepted, it is concluded that there is significant difference between current ratio of selected 3 co-operative sugar companies of Gujarat.

ANALYSIS

2. NET PROFIT MARGIN (%)

NET PROFIT RATIO						AVERAGE
COMPANY	2016-17	2017-18	2018-19	2019-20	2020-21	
Bardoli Sugar Factory	0.01	0.00	0.00	0.00	0.00	0.00
Gandevi Sugar Factory	0.01	0.01	0.01	0.01	0.01	0.01
Madhi Sugar Factory	0.02	0.01	0.01	0.01	0.01	0.01
AVERAGE	0.01	0.01	0.01	0.01	0.01	0.01



INTERPRETATION

The above charts and tables show a zigzag pattern. This ratio reveals how much of the revenue generated is kept as net profit by the company. A higher ratio indicates that the company is keeping more revenue as net income, whereas a lower ratio indicates that the company has no future projects that will require investment or that it wants to display

more profit and distribute dividends to shareholders. Sugar firms had a very strong financial position in 2019-20, but their financial condition in 2016-17 was the poorest of all time. The lowest net profit margin ratio belongs to Madhi Sugar Factory, while the greatest net profit margin ratio belongs to Gandevi Sugar Factory.

ANOVA: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Bardoli Sugar Factory	5	112.0535	22.4107	6.910708		
Gandevi Sugar Factory	5	155.3464	31.06928	340.1606		
Madhi Sugar Factory	5	103.1223	20.62446	156.815		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	312.0934	2	156.0467	0.929059	0.421562	3.885294
Within Groups	2015.545	12	167.9621			
Total	2327.639	14				

HYPOTHESIS

H₀: There is no significant difference between net profit margin ratio of selected 3 co-operative sugar companies of Gujarat

H₁: There is significant difference between net profit margin ratio of selected 3 co-operative sugar companies of Gujarat

ANALYSIS

From above table for 2 and 12 degree of freedom.

F_{cal} is 0.92 and F_{tab} is 3.88.

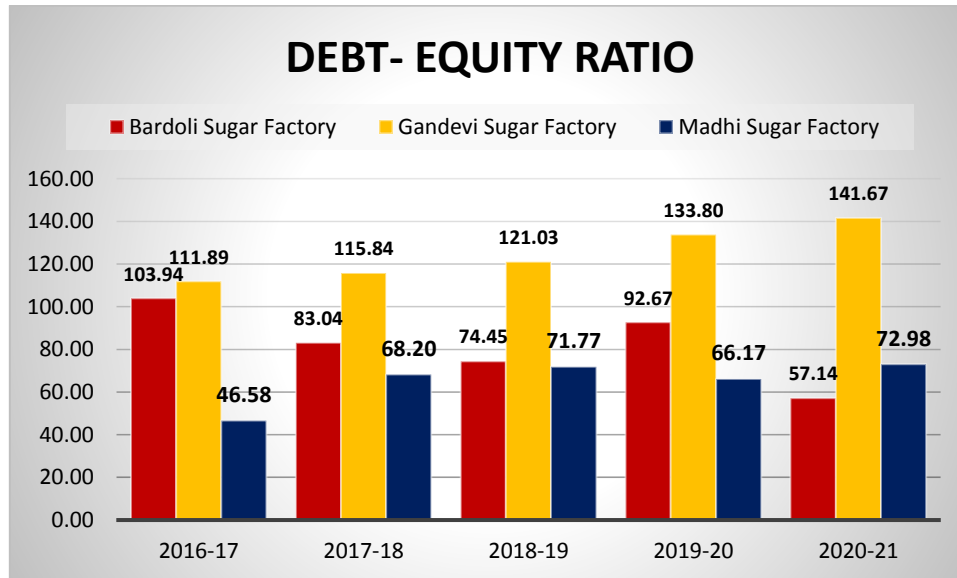
Thus, F_{cal} < F_{tab} and p-value is higher than specified α of 0.05.

So, H₀ is accepted, it is concluded that there is no significant difference between net profit

margin ratio of selected 3 co-operative sugar companies of Gujarat.

3. DEBT- EQUITY RATIO

DEBT- EQUITY RATIO						AVERAGE
COMPANY	2016-17	2017-18	2018-19	2019-20	2020-21	
Bardoli Sugar Factory	103.94	83.04	74.45	92.67	57.14	82.25
Gandevi Sugar Factory	111.89	115.84	121.03	133.80	141.67	124.85
Madhi Sugar Factory	46.58	68.20	71.77	66.17	72.98	65.14
AVERAGE	87.47	89.03	89.08	97.54	90.60	90.74



INTERPRETATION

The debt-equity ratio is a measure of the relative contribution of the creditors and shareholders or owners in the capital employed in business. Simply stated, ratio of the total long term debt and equity capital in the business is called the debt-equity ratio. A low debt-equity ratio is favorable from investment viewpoint as it is less risky in

times of increasing interest rates. It therefore attracts additional capital for further investment and expansion of the business. Sugar companies have the greatest debt-equity ratio in 2019-20. 2016-17 was the year with the lowest debt-equity ratio. The highest debt-equity ratio belongs to Gandevi Sugar Factory, while the lowest belongs to Madhi Sugar Factory.

ANOVA: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Bardoli Sugar Factory	5	411.2333	82.24665	317.7622		
Gandevi Sugar Factory	5	624.233	124.8466	156.6965		
Madhi Sugar Factory	5	325.6985	65.13969	115.0957		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	9453.865	2	4726.933	24.05342	6.33E-05	3.885294
Within Groups	2358.218	12	196.5181			
Total	11812.08	14				

HYPOTHESIS

H0: There is no significant difference between debt-equity ratio of selected 3 co-operative sugar companies of Gujarat

H1: There is significant difference between debt-equity ratio of selected 3 co-operative sugar companies of Gujarat

ANALYSIS

From above table for 2 and 12 degree of freedom.

Fcal is 24.05 and Ftab is 3.88.

Thus, $F_{cal} > F_{tab}$ and p-value is less than specified α of 0.05.

So, H_0 is rejected and H_1 is accepted, it is concluded that there is significant difference between debt-equity ratio of selected 3 co-operative sugar companies of Gujarat

CONCLUSION

Based on the above data analysis it can be concluded that selected 3 co-operative sugar companies of Gujarat have the greatest current ratio in 2016-17. 2019-20 was the year with the lowest current ratio. Bardoli Sugar Factory has the lowest current ratio, while Madhi Sugar Factory has the highest. There is significant difference between current ratio of selected 3 co-operative sugar companies of Gujarat. Sugar firms had a very strong financial position in 2019-20, but their financial condition in 2016-17 was the poorest of all time. The lowest net profit margin ratio belongs to Madhi Sugar Factory, while the greatest net profit margin ratio belongs to Gandevi Sugar Factory. There is no significant difference between net profit margin ratio of selected 3 co-operative sugar companies of Gujarat. Sugar companies have the greatest debt-equity ratio in 2019-20. 2016-17 was the year with the lowest debt-equity ratio. The highest debt-equity ratio belongs to Gandevi Sugar Factory, while the lowest belongs to Madhi Sugar Factory. There is significant difference between debt-equity ratio of selected 3 co-operative sugar companies of Gujarat

Declaration by Authors

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