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A STUDY ON SOLVENCY AND PROFITABILITY POSITION OF PRIVATE SUGAR MILLS IN TIRUCHIRAPPALLI DISTRICT

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Abstract
In the present scenario, the sugar industry is suffering from various problems. Out of which, problem relating to financial aspects like inadequate working capital, inappropriate capital structure, excess or low liquidity, low profit margins, low return on equity and financial health affect the overall performance of sugar industry. Hence, the study on solvency and profitability position of two private sector sugar mills in Tiruchirappalli District, namely EID Parry Sugars and Kothari Sugars of Tamil Nadu to identify the important problems dealt with sugar industry on remedial measures to overcome the problems which leads to the better performance of the industry as a whole. It also useful to government and management of the sugar companies for taking various decisions relating to finance and investments. Altman Z-Score Model of solvency prediction and Du Pont Analysis of profitability were used for this study.

Key words: Sugar Industry, Profitability, Solvency Prediction.

INTRODUCTION
India has been the second largest producer of sugar after Brazil for a long time and accounts for around 11 per cent of global production. Sugar industry is the backbone of any nation with agricultural back ground. Among different industries in India sugar industry is the second largest organized industry followed by textile industry. India is the largest single producer of sugar. Indian sugar has three forms; they are Jaggery, Khandasari and White Sugar. Tamil Nadu accounts for nearly 10 per cent of the total output of sugar in India, which is also forefront in the per hectare production of sugar cane. Majority of sugar units of Tamil Nadu are with co-operative and private sectors. There are 39 sugar mills in Tamil Nadu of which 16 are in co-operative sector, 20 in the private sector and 3 in public sector. It plays a vital role in the economic development of the state and particularly in rural areas. It provides large scale direct employment and indirect employment to lakh of farmers and agricultural labourers in the rural areas who are involved in cultivation of sugarcane, harvesting, transport and other services. The total crushing capacity of the 38 factories in Tamil Nadu is 1, 04,550 Tonnes Crushing per Day (TCD). It is about 180 lakh tonnes per annum.

Globalization has brought a number of opportunities but at the same time posed certain challenges before sugar industry. It has been facing problems relating to raw material, labour, and resource as well as infrastructural facilities. Most of the sugar units in India utilize production capacity below 50 per cent. It has undergone a significant change during the past few decades. The industry does not suffer from capacity constraints and it has more to do with the cyclical nature of the industry. The increasing price realization on sugar, because of lower production of sugarcane has improved the viability of sugar factories to clear their cane price arrears. But around 176 sugar factories were closed down because of cane shortages and financial crisis, specifically the Co-operative sector has struggled and sweated out in recent years. But the private sector was able to survive and sustain due to the efficient management. In this challenging situation the study of the sugar industry in India has special significance. Increasing input costs, numerous cane price, dual pricing of sugar, high cost of labour and faulty government distribution policies have simply added to the problems of the industry. The Private Sugars mills of EID Parry Sugars and Kothari Sugars of Tiruchirappalli district are working efficiently and are earning profit.

STATEMENT OF THE PROBLEM
The sugar industry has been assigned a significant role in the development of our country. India ranks first in sugar consumption and second in sugar production of the world. But its share in global sugar trade is below 3 percent. Sickness in sugar industry has reached to an alarming proportion. Indian sugar industry has been cash starving for decades. Low cash inflow due to piling stocks leads to serious financial crisis and finally to closing sugar factories. The sugar price has been affected by political issue. Many a time it worsens economy of sugar factories. The sugar industry is still subjected to control measures, even after liberalization and globalization of trade by the government. Sugar industry needs more competitive edge which can be given by way of modernization, enhancing productivity, and manufacturing excellent quality sugar at competitive prices. It needs quality management at every level of activity to enhance its performance.

SCOPE OF THE STUDY
The present study can contribute to knowledge in the area of financial management in sugar mills. This study exhibits the solvency and profitability position of private sugar mills in Tamil Nadu. It can be extended to other states of the country and

other sectors of Co-operative and Public sector sugar mills. This study can be extended to various by- product units of sugar mills.Specific study on working capital management, cash management, demand and supply of sugar cane, problems of sugar cane producers, comparative study of Indian and foreign sugar mills are the scope for future research in this area.

OBJECTIVES OF THE STUDY

1. To study the origin, growth, progress of sugar mills in general and study area in particular.
2. To analyze the profitability of the sample units.
3. To assess the short-term and long-term solvency position of select sugar mills

RESEARCH METHODOLOGY

Sources of Data

The study is mainly based on the secondary data which were collected from the annual reports, journals, and periodicals, publications of sugar industry, business newspaper and magazines.

Collection of Data

Census method is adopted for the study. There are two private sugar mills operating in Tiruchirappalli district namely EID Parry Sugars and Kothari Sugars.

Period of the Study

The study period is confined to 10 years from the financial year 2001-2002 to 2010-2011.

Framework of Analysis

In order to achieve the objectives of the study, the present study evaluates the data drawn from the said resources in different ways. The data obtained have been duly edited, classified and analyzed as per the requirements of the study. Various financial and statistical parameters are used in this study for the purpose of detailed analysis. The statistical significance of compound growth and linear trend is ascertained using t-test.

Du Pont Analysis

To analyze the company's return on equity (ROE) Du Pont Analysis is used. To calculate a firm's ROE through Du Pont Analysis, multiply the profit margin (net income divided by sales), asset turnover (sales divided by assets) and leverage factor (total assets divided by shareholders' equity) together. The higher the result, the higher will be the return on equity.

Altman Z-Score Model

Altman (2003) combined a number of ratios and developed an insolvency prediction model called Z-Score model. The Z-score results usually have the following "Zones" of interpretation.

- Z score above 2.99 - "Safe" Zones. The company is considered 'Safe' based on the financial figures only.
- 1.8 < Z < 2.99 - "Grey" Zones. There is a good chance of the company going bankrupt within the next 2 years of operations.
- Z below 1.80 – "Distress" Zones. The score indicates a high probability of distress time period.

Results of Revised Altman Z-Score Model for select the sugar Industrial units from 2001-02 to 2010-2011

Year	EID Parry Sugars	Kothari Sugars
2001-02	2.72	0.37
2002-03	2.45	0.43
2003-04	1.78	0.62
2004-05	2.32	2.24
2005-06	2.33	2.52
2006-07	1.51	1.5
2007-08	0.73	1.5
2008-09	2.88	1.53
2009-10	1.41	1.92
2010-11	1.07	1.37
Mean	1.92	1.40
CAGR	-8.002	16.395
t-Value	-1.942	2.569
Prob.	.088*	.033**

*Significant at 10% level, **Significant at 5% level, Source: Computed from annual reports.

From the table, it is observed that the Z values for Kothari Sugars was in Grey zone from 2004-05 to 2005-06 and in Distress zone during the remaining years. EID Parry Sugars was found to be Grey in 2007-08, became unpredictable to rest of the years. On the other hand, Z scores for the two sugar mills were in distress throughout the period of study except 2007-08 as a Grey zone. Due to presence of, the financial healthiness of two sugar mills was found to be in financially distress for most of the years but became unpredictable overall during the period. There was financially in a miserable situation throughout the period under study.

Results Du Pont analysis for select the sugar industrial units from 2001-02 to 2010-2011

Du Pont Analysis	Nos.	EID Parry Sugars	Kothari Sugars
Operating profit margin ratio	1	0.28	0.09
Assets turnover ratio	2	1.074	0.84
ROROA (1*2)	3	0.228	0.08
Interest (Adjusted)	4	0.031	0.03
Total assets to Equity(Multiplier)	5	59.015	1.68
ROROE (3-4)*5		**12.529**	**0.11**

Source: Computed from annual reports

The weak ratios for each sugar industrial units may be decayed into workings to decide the potential sources of the weakness. To improve asset turnover EID Parry Sugars needs to increase production efficiency or price levels or reduce current or non-current assets. To improve profit margins, Kothari Sugars needs to increase production efficiency or price levels more than costs or reduce costs more than revenue.

FINANCIAL HEALTHINESS OF STUDY UNITS

Solvency prediction using Altman Z-score model reveals that EID Parry sugars in Grey Zone (Unpredictable) for eight financial years out of ten financial years of the study and Distress Zone (future failure) for two financial years whereas Kothari sugars at Grey Zone for a period of seven financial years and Distress zone in remaining years. Therefore both sugar units are unpredictable zone in most of the years.

Financial Strength and weakness through Du Pont Analysis reveals that EID Parry Sugars has a stronger operating profit margin ratio with stronger asset turnover compared to Kothari Sugars.

SUGGESTIONS

- Setting of ancillary units, by-product utilization and sale of by products will improve the profitability of the sugar units.
- Increased Co-generation power a unit helps to overcome the problems of power shortage.
- Sugar mills should go for branded sugar sales like EID Parry in order to improve their profitability.
- To boost the sugar industry in India, the central and state governments have to relax the controls on sugar industry and they have to fix a remunerative cane price to encourage the sugar cane cultivation.

CONCLUSION

Cane is produced primarily in nine states of our country but cane based products are consumed across the country; it needs to be regulated in a unified manner. Cane is also increasingly being viewed as a strategic crop due to the emergence of ethanol and cogeneration. In order to meet the future expected demand of 28.5 million MT by 2017, the government support is greatly expected. Lower returns of the sector leads to lower investments. Large investments are needed for realizing the complete potential of by-products. Unless the sustainability of mills can be improved through a viable cane pricing model, these investments may not be possible. The independent regulator could play this role in the future.

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