



CAPITAL STRUCTURE AND ITS IMPACT ON PROFITABILITY: EVIDENCE FROM SELECTED PRIVATE SUGAR COMPANIES IN INDIA

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Abstract:

The purpose of this study is to determine the relationship between the two capital structure (ROCE, ROE and ICR) in the model of the four selected private sugar companies in India from the financial year 2010-2020. Data are analyzed using descriptive statistics and correlation analysis to find the correlation between variables. The results show that the capital structure has a significant impact on the ROCE when it is insignificant with ROE. The results also show that interest coverage ratio is negatively related to debt to total funds. These results are consistent with previous empirical studies. Further, recommendations are presented in the research.

Key Words: Capital Structure, Profitability Ratio, Correlation.

Introduction:

The capital structure is one of the most confusing issues in the corporate financial literature (*Braunen & Eichholtz, 2001*). Each business needs adequate funds to run its business efficiently and effectively. The main issue of the debate revolves around the optimal capital structure. A firm can raise funds from different sources and take different forms. Capital structure refers to the way a company finances itself through debts, equity or hybrid securities. A combination of debt and equity requires a company to finance its assets. The capital structure of a company is the composition or 'structure' of its debts. Profit is the ability to generate a company net income on a consistent basis, and ratios are used as an index to evaluate a company's performance. Hence, ratios help summarize large amounts of financial data and provide quality judgment about a company's profitability. Capital structure decision is therefore very important as the profitability of a company is directly affected by such decision. Therefore, proper care and attention should be given while determining the capital structure decision. According to Brealey, Myers and Marcus (2001) capital refers to the long-term financial resources of a company, which is the manager's obligation to pay for investment in real assets. The capital structure decision is very important as such performance directly affects the performance of a company. The goal of a capital structure decision is to determine the financial leverage of the company to increase its value or reduce the weighted average cost of capital. Another, major drawback that affects the capital structure decision is the presence of bankruptcy cost. If a company fails to fulfill its obligation, it will result in a financial crisis, which can lead to bankruptcy because debt is a major contributor to financial distress. *Jensen & Meckling (1976)* put forward the idea of agency spending, which recognizes that a conflict of interest and managers and shareholders' interest may be the key monetary policy decision such as selecting the capital structure. *Myers (1977)* mentions another type of agency debt cost, which arises from the investment problem. This study analyzed the impact of capital structure on the profitability of selected private sugar companies in India. The relationship between the capital structure and profitability has received considerable attention in the financial literature. The modern industrial companies have to conduct their business in a highly complex and competitive business environment. Therefore, these types of research results are useful in selecting the capital structure to achieve the optimum level of profitability of the company. This study shows the statistical analysis that seeks to find out whether there is any relationship between the capital structure and profitability of the selected private sugar companies in India.

Objectivities of the Study:

- To identify the relationship between the capital structure and profitability of the selected private sugar companies in India.
- To find an optimal capital structure associated with optimal performance.
- To find out the impact of capital structure on profitability.

Review of Literature:

Year	Author	Objectives	Data and Research Methodology	Findings
2019	Anindita Chakrabarti , Ahindra Chakrabarti	To study the various factors affecting the capital structure decisions of the Indian energy companies	Correlation, Regression	This results indicated firm age, asset turnover ratio, liquidity and firm size to be significant sales growth, non-debt tax shield and tangibility ratio to be insignificant determinants.
2018	Tuba Gulcemal	To analyze determination of capital structure of listed firm	Correlation, Regression	The growth is significantly and negatively related with leverage ratio. Firm's profitability is negatively and significantly related to leverage. This paper shows the debt ratios are affected by profitability, growth opportunities and earnings volatility.
2019	Narinder Pal singh, Mahima Bagga	To identify their optimal capital structure in order to maximize the value of the firm.	Descriptive statistics, Correlation, Regression	This study found that debt ratios (AST, TAX, LIQ, BR, TLTA, TETA, IR) has a negative impact on ROA and ROE. So, it was found the infer that capital structure has a significant impact on profitability.
2016	Chaklader and Chawla	To explore the impact of indepence of financial efficiency and test Pecking order theory of trade-off theory of capital structure	Descriptive statistics, Regression	This study supports the trade-off theory for all variables such as growth, profitability, size, tangibility and non-debt tax shield. LIQ is the dependent variable that goes according to the Pecking order theory. Thus, this study is more inclined toward the trade-off theory.
2016	Nasimi	To explore the effect of capital structure on firm profitability	Descriptive statistics, Chi-square, Correlation, Regression	The results revealed that interest coverage ratio has positive significant impact on ROA, ROE and ROIC where DE has positive significant impact on ROE but negative significant impact on ROA and ROIC. The study concluded that an optimal level of capital structure, effective utilization and allocation of resources shall be employed to achieve the targeted level of efficiency in business.

Operationalization:

Concept	Variable	Measurement
Capital Structure	Debt/Equity	Debt/Equity *100
	Debt to Total funds	Debt/Debt + Equity*100
Profitability	Return on capital employed (ROCE)	Operating profit/Capital employed*100
	Return on equity (ROE)	Net income/Average shareholders*100
	Interest coverage ratio (ICR)	EBIT/Interest*100

Hypotheses of the Study:

- H1: There is a positive relationship between debt to equity and ROE
- H2: There is a positive relationship between bet to equity and ROCE
- H3: There is a positive relationship between debt to equity and Interest coverage ratio
- H4: There is a positive relationship between debt to Total funds and ROE
- H5: There is a positive relationship between debt to Total funds and ROCE
- H6: There is a positive relationship between debt to Total funds and Interest coverage ratio

Methodology:

Data Collection:

This study uses secondary data for analysis. The income statements of the sample reports and the financial statements of the balances were the main sources of data for the study. These were obtained from the annual reports of the companies listed by the respective companies. In addition to, intellectual articles from academic journals, relevant text books, and interest search engine were used. In particular the financial statements of the companies in the sample were collected during the period 2010-2020.

Sampling Design:

The sample of this study covers the four selected private sugar companies in India and the ten years from 2010-2020. The following four selected private sugar companies in India belonging to this sector was selected to conduct the research; EID parry(India)Ltd, Bannariamman sugars, Dalmia Bharat sugar and Industries, Uttam sugar mills.

Research Model:

A correlation analysis is used to investigate a variable from one or more other variables. The analysis was done to identify the impact of capital structure on profitability. To test the relationship between capital structure and profitability, the following function was considered.

$$P = f(\text{ROCE, ROE and ICR})$$

It shows that profitability is a function of the capital structure. Here the capital structure measured with the help of the Debt to equity ratio and Debt to total funds ratio. It should be noted that profitability is measured with the help of three ratios, namely return on capital employed, return on equity and Interest coverage ratio.

Results and Analysis:

Descriptive Statistics of the Variables:

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROCE	4	-311.0680	100.1731	11.104368	55.7738858
ROE	4	1408.0760	17605.9900	5079.694818	3334.4477647
Interest Coverage Ratio	4	-18.6194	537.4644	39.053804	95.4836215
Debt Equity	4	1408.0760	17605.9900	5079.694818	3334.4477647
Debt To Total Funds	4	93.3690	99.4352	97.235702	1.6765671
Valid N (List Wise)					

Under the study of the above descriptive figures, the profitability ratios measured by return on capital employed, return on equity and Interest coverage ratio averaged 11.10, 34290.31 and 39.05 respectively. The debt/equity ratio was 5079.69 and the average debt to total funds was 97.23. This is an indication that about 97% of the total assets in the Indian private sugar companies are represented by debt, which confirms that sugar companies are most concerned companies. The maximum and minimum values for the debt/equity ratio indicate that the debt/equity structure varies considerably among selected private sugar companies in India.

Table 2: Correlations Matrix for Capital Structure and Profitability

		Debt to Equity	Debt to Total Funds Ratio	ROCE	ROE	Interest Coverage Ratio
Debt to Equity	Pearson Correlation	1				
	Sig.(2-tailed)					
Debt to Total Funds Ratio	Pearson Correlation	.790**	1			
	Sig.(2-tailed)	.000				
ROCE	Pearson Correlation	.033	.095	1		
	Sig.(2-tailed)	.832	.540			
ROE	Pearson Correlation	.100	.268	.007	1	
	Sig.(2-tailed)	.517	.079	.965		
Interest Coverage Ratio	Pearson Correlation	.003	.119	.043	.517**	1
	Sig.(2-tailed)	.982	.443	.782	.000	

**Correlation is significant at the 0.01 level (2-tailed)

Correlation analysis was constructed in order to test the linear relationship between the various independent variables used in this study. The table above shows the relationship between the debt/equity ratio and the return on equity. The correlation value is .007 and this is not significant. The debt/equity ratio shows a weak negative correlation with return on capital employed. The correlation value between debt to total funds and return on capital employed is .095, which is significant at the level of 0.01. This reveals a not significant relationship between debt to total funds and return on capital employed. The correlation value between debt/equity ratio and return on equity is .100 and which is not significant. This shows that there is a weak positive correlation between debt/equity and return on equity. The table above illustrates the relationship

between debt to total funds and Interest coverage ratio. The correlation value is .003, which is significant at 0.01 level. This shows that there is a not significant relationship between debt to total funds and Interest coverage ratio.

Hypotheses Testing:

No	Hypotheses	Results	Tools
H1	There is a positive relationship between debt to equity and ROE	Rejected	Correlation
H2	There is a positive relationship between debt to equity and ROCE	Rejected	Correlation
H3	There is a positive relationship between debt to equity and Interest coverage ratio	Rejected	Correlation
H4	There is a positive relationship between debt to Total funds and ROE	Rejected	Correlation
H5	There is a positive relationship between debt to Total funds and ROCE	Rejected	Correlation
H6	There is a positive relationship between debt to Total funds and Interest coverage ratio	Rejected	Correlation

Conclusion and Recommendation:

Many studies have been conducted on the impact of capital structure on sugar company’s profitability, but there are mixed results in different ideological legal works. Sugar companies are playing an important role in the economic development of every country. An important decision, sugar companies facing the debt-equity choice. Among other things, this choice is necessary to determine the profitability of companies. This mean that sugar companies that on make their financial decisions wisely will have a competitive advantages in the industry, resulting in higher profits. Nevertheless, we need to recognize this decision sugar companies can only make wise decisions if they know how debt policy affects their profitability. This study examined the relationship between capital structure and profitability in selected private sugar companies in India. The study covers four sugar companies between 2010 and 2020. The analysis of the listed sugar company’s show that the debt-equity ratio is negatively associated with all profitability ratios such as return on equity, return on capital employed and interest coverage ratio. Total debt was found to be not significant in determining the return on capital employed in the Indian private sugar companies. Debt to total funds ratio is not significant with ROE, ROCE and interest coverage ratio.

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