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# IMPACT OF LEVERAGE AND ASSET STRUCTURE ON PROFITABILITY OF SELECTED PRIVATE SUGAR COMPANIES IN TAMIL NADU

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**Abstract:**

The financial decision of any corporate house depends on the capital structure. The right capital structure (optimum capital structure) can increase the wealth of the shareholders, often managers used debt to increase returns to shareholders and if over used by debt it may lead to increase financial expense and financial risk to the company. So, Leverage is one of the main factors which can affect company's profitability. In the present competitive business era, the ability of company to increase revenue largely depends on efficient use of leverage. The successful selection and utilization of capital is one of the key components of a company's financial strategy. Therefore, proper maintenance and attention needs should be given when deciding on a capital structure. Hence, this study made an attempt to investigate the impact of leverage and asset structure on profitability of selected private sugar companies in Tamil Nadu by using 11 years data (2009-2020) extracted from the financial statements of the five companies. The study found that the variables, like leverage, asset structure, growth in asset, inventory turnover ratio and intrinsic value of shares are significant with ROE during the period of the study.

**Key Words:** Leverage, ROE, Operating Profit, Growth, Asset Structure, Intrinsic Value, Firms

**Introduction:**

The company's total capital is made up of debt financing, which increases the company's overall risk and return. Leverage is one of the main factors that can affect a company's profitability. The financial leverage states the amount of money the company has used borrow to finance its capital structure. Capital structure is one of the most confusing issues in corporate finance literature (Brounen & Eichholtz, 2001). The capital structure of a firm is generally described as the combination of debt and equity that makes total capital of firms. Each individual company should pay special attention to the most important questions about the amount of debt funds, is associated with capital beach and their impact on the firm's profitability. Corporate capital structure decisions are not only important for firms to maximize their value but also for the growth and stability of firms (Jensen and Meckling, 1976); Benito, 2003). So the capital structure has proper care and attention should be considered. One ultimate goal of a company is to maximize wealth or the value of that company (Mliller & Modigliani, 1958, 1963, Miller, 1977). In an unplanned capital structure companies may not be able to finance using their money. As a result a company is increasingly realizing that it needs to plan its capital structure to maximum the utilization of funds and adapt more easily to changing conditions (Pandey, 2009). Companies often take money from borrowers to increase sales volume, which leads to higher returns, and money taken by such a company from the borrowers result in the financial leverage associated with that company. Profitability is one of the most crucial measures for the survival and growth of companies. Profitability for a company is the most crucial variation because when a company's profits are high and regular, lenders shareholders and investors will be interested in that company. (Miller 1977, Myers 1948; Sheel 1944) Historical studies have shown that financial influence triggers cost of capital, with profits and stock prices last leaning. The trade-off theory of capital structure states that companies can prefer debt to enjoy a significant return. Debt is one of the tools used by many companies to leverage their capital in order to increase profit. One of the best way in which company can increases its profit by using financial leverage. The company accepts more debts which reduce the amount of income tax but on other hand increase the financial risk. Debt is useful if a company makes excessive profits which improve returns for shareholders. Debt helps a company in drawing future plans because the cost of debt is usually determined in advance, which agrees to be an efficient plan because the cost is already known to the company. Leverage comes under a strategic plan, which helps to increase the rate of return by earning more return on the money borrowed than the cost of using that money. Hence the discussion in this study is impact of leverage and asset structure on profitability of the firm. The relationship between capital structure and profitability is one that has received considerable attention in the financial literature. This study will find the impact of leverage and asset structure on profitability of selected private sugar companies. The modern industrial company must conduct its business in a complex and competitive business environment. Therefore, these types of research results are beneficial in selecting the capital structure to achieve the optimal level of profitability of the company. This study used Correlation to find the relationship between dependent variables and independent variables, Regression used to find the association and determinants of all variables.

**Research Objectives:**

- To find out the relationship between leverage and profitability
- To understand the extent to which leverage impact the profits of selected companies.
- To suggest the companies a way to increase profitability through adapting a better strategic framework of capital structure.

**Literature Reviews:**

Tariq Naeem Awan, Majed Rashid, Muhammad Zia-Ur-Rehman (2011) found that the variables like profitability, tangibility, and growth (all are independent variables) have impact on the leverage (dependent variables) position of the company. This result also found that the optimal capital structure if firm needs a change in the capital structure. High cost of bankruptcy is not a big threat for state- owned firms on Pakistan to have high leverage level. Majority of empirical studies that include the data from developing countries find a positive relation between size and financial leverage.

Amer Azlan Abdul Jamal, Rosle mohidin, et al (2011) found that Growth and tangibility have positive significant relationship with leverage while liquidity has negative significant relationship with leverage. The positive relationship between tangibility and leverage exhibits that firm with more tangible assets issue high level of debt while the positive relationship between growth opportunities and leverage indicates that firms with high growth rate tend to issue more debt. The negative relationship between liquidity and leverage exhibits that company with high liquidity level issue less debt-profitability and firm size however does not have significant relationship with leverage

Faiza Saleem, et al (2013) analyzed tangibility and Size is positively correlated with leverage. Large firms in Pakistan borrow more and small firms are fearful of more debt. Growth is negatively related to leverage in Pakistan that uses more of equity and less debt to finance the new investment opportunities. Tangibility is significantly related to debt. Larger firms tend to be more active in the debt markets while smaller firms tend to be moderately more active in the equity markets.

Yusuf Ibrahim Karaye, et al (2015) identified that tangibility is negatively related with leverage. Higher tangible firms that can lead to dilution of control by having more debts than equity in their capital structure mix. Profitability is negatively related with leverage. Size form a motivation for firms to be highly levered, if decision is taken recklessly. Firm size has increased the return of other shareholders fund in listed food / beverage and tobacco firms in Nigeria through lending. This study helps to prevent abuses and other irregularities by the firm in sourcing the financial mix of this company and generate employment, revenue and increase Industrial development.

Sohail YOUNUS, et al (2014) found that there is Weak and positive relationship between capital structure and gross profit. ROE and GP have high mean values, DE has the minimum mean value, NP has high mean value and the performance variable ROE has more variation Capital structure and financial performance has weak positive association and co-efficient of determination is .125 with F is 28.060 and T-value is -5.297. It shows the insignificant in sugar companies in KSE Pakistan.

**Methodology:**

Secondary data required for research were collected from the official web sites of sugar companies in Tamil Nadu. Data were used on various financial statements of five companies.

**Regression Model:**

The Multiple Regression models have been followed to test the empirical relationship between the leverage and characteristics of the firm.

$$Y= a+b_1X_1+b_2X_2+b_3X_{3+}b_4X_4+b_5X_5+b_6X_{6}\ldots\ldots\ldots\ldots (1)$$

**Table of Variables:**

Table 1

| Variables | Definition | Abbreviation | Types of Variables |
|---|---|---|---|
| Return on equity | Net income/Average shareholders' equity | ROE | Dependent |
| Leverage | Total debt / Total equity | LEV | Independent |
| Current ratio | Current assets / Current liabilities | CR | Independent |
| Inventory turnover ratio | Cost of goods sold/ Average inventory | ITR | Independent |
| Growth in fixed assets | Total fixed assets – Accumulated depreciation | GFA | Independent |
| Assets structure | Fixed assets / Current assets | AST | Independent |
| Intrinsic value of shares | Intrinsic value business / No. of outstanding shares | IV | Independent |
| Operating profit | Revenue – operating costs | OP | Independent |

**Results of the Study:**

**Results of the Correlation:**

Table 2

| **Variables** | **R** | **$R^2$** |
|---|---|---|
| Leverage | 0.773 | 0.597529 |
| Current ratio | -0.146 | 0.021316 |
| Inventory turnover ratio | -0.111 | 0.012321 |
| Growth in fixed asset | 0.868 | 0.753424 |
| Asset structure | -0.301 | 0.090601 |
| Intrinsic value | -0.104 | 0.010816 |
| Operating profit | 0.518 | 0.268324 |

The table 2 above represents the relationship between the various independent and dependent variables used in this study. From this table it is clear that the variables growth in fixed asset has strong positive association with ROE. Leverage has a positive association with ROE. Operating profit has highly associated with ROE. Whereas the variables like asset structure, Current ratio, leverage and intrinsic value were negatively associated with ROE. So, we conclude that all the select variables have associated with profitability in sugar companies during the study period.

**Results of the Regression:**

Table 3: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .947[a] | .898 | .888 | 181.8894887 |
| a. Predictors: (Constant), Intrinsic value, Growth in Fixed Assets, Inventory turnover ratio, Asset structure, Leverage | | | | |

The model summary table illustrates the magnitude of the variance in the dependent variables as described by the independent variables. The value of the R-Square is 0.898, which is approximately the dependent variable 89.8% variance of the "ROE" are explained by independent variables of profitability ratios.

Table 4: ANOVA[a]

| **Model** | | **Sum of Squares** | **Df** | **Mean Square** | **F** | **Sig.** |
|---|---|---|---|---|---|---|
| 1 | Regression | 15661329.173 | 5 | 3132265.835 | 94.677 | .000[b] |
| | Residual | 1786524.450 | 54 | 33083.786 | | |
| | Total | 17447853.623 | 59 | | | |
| a. Dependent Variable: Return on equity | | | | | | |
| b. Predictors: (Constant), Intrinsic value, Growth in Fixed Assets, Inventory turnover ratio, Asset structure, Leverage | | | | | | |

ANOVA test to find out whether the regression model is valid or not. F-statistics is 94.677 which are very high and have a significant value of less than 5% which indicates that the testing of ANOVA is highly significant and that the model is valid from the given predictors.

Table 5: Regression Coefficients of Select Sugar Companies

| **Variables** | **Model** |
|---|---|
| **(constant)** | |
| Un-standardized Co-efficient | 316.855 |
| Standard error | 88.653 |
| T-value | 3.574 |
| **P-value** | **0.001** |
| **(Leverage)** | |
| Un-standardized Co-efficient | -4.742 |
| Standard error | 2.419 |
| T-value | -1.96 |
| **P-value** | **0.055** |
| **(Inventory turnover ratio)** | |
| Un-standardized Co-efficient | 15.862 |
| Standard error | 8.951 |
| T-value | 1.772 |
| **P-value** | **0.082** |
| **(Growth in fixed asset)** | |
| Un-standardized Co-efficient | 1.501 |
| Standard error | 0.138 |
| T-value | 10.859 |
| **P-value** | **0** |
| **(Asset structure)** | |
| Un-standardized Co-efficient | -0.32 |

| | |
|---|---|
| Standard error | 0.004 |
| T-value | -7.173 |
| **P-value** | **0** |
| **(Intrinsic value)** | |
| Un-standardized Co-efficient | -1.084 |
| Standard error | 0.268 |
| T-value | -4.037 |
| **P-value** | **0** |

The parameter of the regression model above the table is related. The table No: 4.4 of shows the significance of the individual independent variable in interpreting the dependent variable. The un-standardized Co-efficient (B) value shows the magnitude and relationship between dependent variable ROE and independent variables of profitability ratios, if the value is positive relationship between the predictor and the dependent variable. If the value is negative, then it is in our case, which means there is a negative relationship between the predictor and the dependent variables. The regression Co-efficient Growth in fixed asset with ROE. Tornyiva (2013) found a negative correlation between growth and leverage. The regression Co-efficient Asset structure positively related with ROE. Asset structure is a leading factor in deciding its debt equity mix employ as the capital of the business, Titman & Wessels (1988). The regression Co-efficient Leverage positively associated with ROE. A higher level of leverage is considered a high risk. In particular, firms rely on high leverage for future development. Rajan & Zingales (1995) indicate that the choice of leverage depends on the purpose of the analysis. The regression Co-efficient intrinsic value have positively related with ROE. The Inventory turnover ratio has not significant with ROE.

**Conclusion:**

The purpose of this research study is to investigate the relationship between financial leverage and profitability of the selected private sugar companies. For this purpose five private sugar companies have been selected from Tamil Nadu as study sample and data is collected (2009- 2020) and processed by using statistical tools. The study found that the R values are highly and positively significant between leverage (0.773), growth in fixed assets (0.868), operating profit (0.518) with ROE. Current ratio (-0.146), inventory turnover ratio (-0.111), asset structure (-0.301), intrinsic value (-0.104) have negatively correlated with ROE. This shows highly levered firms have lower profitability and low levered firms have higher profitability. Further, the results of this study are consistent with the results of previous studies Titman and Wessels (1988), Wald (1999), Sheel (1994). But the results of this study are inconsistent with the results of previous studies conducted by Larry and Stulz (1995) in which he found a significant positive association between leverage and profitability.

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