

A STUDY ON PROFITABILITY ANALYSIS OF BIRLA CORPORATION LIMITED IN INDIA

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Abstract:

The purpose of this study is to Profitability relationship between the dependent (Debt Equity Ratio) and independent variables (Current Ratio, Return on Assets, Asset on Structure, Return on Equity, Interest Coverage Ratio) in the model of the Birla Corporation Limited in India from the financial year 2015 - 2024. Data are analyzed using Correlation and Regression analysis to find the association between the variables. The results shows that Return on equity have a significant impact on Debt Equity Ratio. The results also show Current Ratio, Return on Assets, Asset Structure and Interest Coverage Ratio negatively associated with Debt Equity Ratio. These results are consisting with previous empirical studies. Further, recommendations are presented in the research.

Key Words: Debt Equity Ratio, Interest Coverage Ratio, Fixed Asset, Profitability, Gross Profit.

Introduction:

Birla Corporation Limited is an Indian-based company of the M.P Birla Group, founded by Ghanshyam Das Birla in the late 1910s and carried on Madhav Prasad Birla. In the 1890s, Birla Corporation was a jute manufacturing company, but over time, it grew to operate four main divisions: cement, jute, linoleum, and auto trim. It is not a part of the Aditya Birla Group, a multinational conglomerate with products ranging from metals, cements, textiles, agricultural businesses, telecommunications, IT, and financial services. Formerly known as Birla Jute Manufacturing Company Limited, with the expansion of divisions, the company changed their name in 1998 to Birla Corporation Limited.

Profitability is measured with income and expenses. Income is money generated from the activities of the business. For example, if crops and livestock are produced and sold, income is generated. However, money coming into the business from activities like borrowing money do not create income. Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important. Expenses are the cost of resources used up or consumed by the activities of the business. For example, seed corn is an expense of a farm business because it is used up in the production process. Resources, such as a machine whose useful life is more than one year are used up over a period of years. Repayment of a loan is not an expense, it is merely a cash transfer between the business and the lender.

Research Objectives:

- To find the relationship between Debt equity ratio and profitability ratio.
- To suggest the industry a way to increase profitability through adapting a better strategic framework.

Review of Literature:

Prabalchakraborty and Naresh Gupta (2017) the study on "Profitability analysis of steel authority Indian Limited". To measure the profitability performance of steel authority and to examine the growth of steel authority. The study was based on secondary data. The main source is collected national stock exchange. A sample of 5 companies has been selected for this study. Current ratio and Net profit margin is considered as the dependent variable. Return on asset and Operating profit ratio and Gross profit ratio are considered the independent variable. Descriptive, Mean, Correlation, Regression is used for analysis. The result reveals the SAIL have significant impact on protection by steel authority. Profitability of the firm is highly influenced by internal and external variables. The efficiency of any organization can be judged through its profitability.

Bhumi Kothari and Pares Shah (2018) the study entitled "A Comparative Study of Profitability and Liquidity of Selected Textile Companies of India", To profitability with reference to return on capital in textile and offer suggestions. The study was based on secondary data. The main sources of data is collected national stock exchange. A sample of 3 companies has been selected for this study. Return on asset and debt equity ratio is considered the dependent variable. Operating profit ratio and return on net worth and earning per share are considered independent variables. Mean, standard deviation, ANOVA is used for analysis. In this study, she founded the profitability of more less dependent upon the better of selected cement companies during the period of study. Return on Capital Employed Ratio as p value 0.042 is less than 0.05 this shows that there is a significant difference between return on capital employed for selected companies. Net Profit Margin: p value 0.021 is less than 0.05 so there is significant difference. In Current Ratio, Debt to Equity Ratio and Fixed Asset Turnover Ratio, p value is 0.000 which shows a significant difference in values of all companies.

Preeti Premsingh and Hosmani (2018) the study on "Profitability of selected cement companies in India". To find the profitability of selected cement companies in an equity and to examine the return on investment of selected companies. The study is based on secondary data. The main source of data is collected national stock exchange. A sample of 2 companies has been selected for this study. Assets turnover ratio and return on investment is considered the dependent variable. Return on asset ratio and return on equity ratio are considered the independent variable. Percentage, Correlation and Regression is used for analysis. The ACC ltd followed by CCI among the selected cement companies ratios, indicates the management ability to operate sufficient

success. They founded the Return on investment among the selected companies. Profit earning is considered essential for survival of the business. The operating profit ratio and net profit ratio are comparatively lower in the ACC Ltd followed by CCI Ltd.

Mubashir Hassan and Shrivastava (2019) carried out their study on working capital management and its impact on the profitability of Tata motors. To analysis identify the variables that most affect the profitability of Tata motors and statistically infer on the relationship between working capital management and profitability of Tata motors. The study was based on Secondary data. The main source of data is collected national stock exchange. A sample of Tata motors for a period of five years from 2013 to 2017 has been selected for this study. Return on asset (ROA), net income is considered dependent variable. Average conversion period (ICP), Average payment period (APP) are considered independent variable. Descriptive were used for the analysis. He found the results of the research paper suggest that working capital management has a statistically strong impact on the profitability of Tata motors. Significant negative relation is found between average collection period. Findings of shin and Soenen (1998) and Lazaridis and Tryfonidis (2006) and many other. These results demonstrate that the company's profitability is increased by decreasing average payment period and inventory conversion period. The negative relationship between average payment period and profitability leads to the fact that Tata Motors has a strong market standing and reputation which facilitates it to defer its obligations without any adverse effect on its profitability.

N. Vani July (2021) carried out their "study on Impact of capital structure on profitability - A study on Tata motor's". To analysis study the correlation between the profitability and the return on the various capital sources and the impact of capital structure on profitability of firm. The study was based on Secondary data. The main source of data is collected National Stock exchange. A sample of Tata motor's for the period range of March 2021 to March 2019 has been selected for this study. Return on asset, net profit margin is considered dependent variable. Capital structure are considered independent variable. Correlation and regression were used for the analysis. She found it can be inferred that when the profits are positivity correlated to capital ratios and short term debt ratio is positively related to profitability ratio, the slight negative correlation is brought about by the long term debt of the companies. it can be concluded that if the industry slightly reduces its component of long term debt and increases the equity then there will be positive correlation among the variables.

Salma Banu (2022) carried out their "A study on profitability analysis of sugar industries". To analysis the profitability position. To assess the profitability and performance. The study was based on secondary data. The main source of data is collected national stock exchange. A sample of 2 companies has been selected for this study. Return on equity and debt equity ratio is considered the dependent variable. Return on asset and operating profit ratio and return on net worth considered independent variables. Descriptive, statistical, tool used for the analysis. In This study, they has founded the company profitability is more dependent on the advisable resources. There was no relation between sales and gross profit, since the increased sales did not lead to increase in gross profit in the industry and in all the selected factories.

Sathish Kumar and Uma Maheswari Kanaga Durga Devi (2022) the study on "profitability analysis of sugar manufacturing companies". To measure the operational indicator of company. The evaluate Non operational indicator of the company. The study was based on secondary data. The main source is collected national stock exchange. A sample of 9 companies has been selected for this study. Current ratio and net profit margin is considered as the dependent variable. Return on asset and operating profit ratio and gross profit ratio are considered the independent variable. Correlation, ANOVA is used for analysis. Interest Coverage Ratio shows negatively correlate with expenses on fixed interest cover.

Anitha and Thayumanavar (2023) carried out their "A study on profitability analyse of Indian cement limited". To analyze the profitability position. To assess the profitability and performance. The study was based on secondary data. The main source of data is collected national stock exchange. A sample of 8 companies has been selected for this study. Return on equity and Debt equity ratio is considered the dependent variable. Return on asset and Operating profit ratio and Return on net worth are considered independent variable. Descriptive, statistical tool, variance used for the analysis. In this study, they have founded the company's profitability is more depend on the advisable utilization of resources. They say Finance is the blood of business. Financial analysis used to find out the profitability of the company. It reveals that Compound Annual Growth Rate of Return are showing the positive results in the case of all Profitability Ratio during the study period 2012-2013 to 2016-2017.

Rajiben and Vagh (2023) carried out their study on "The Profitability analysis of selected cement limited in India. To analyse the profitability of companies. To identify the profitability of selected cement companies. This study was based on Secondary data. The main source of data is collected national stock exchange. A sample of 5 companies has been selected for this study. Return on asset and net profit ratio is considered the dependent variable and Current ratio and Gross profit ratio are considered independent variable. ANOVA test is used for the analysis. In this study, he has been founded that there is significance difference between in gross profit and net profit ratio of selected cement companies of India. During the study period the efficiency and growth of any company can be assumed through its profitability. The company should try to improve its financial position.

Viyayapriya and Krishna Moorthy (2023) in his study on profitability and Liquidity Analysis of TVS motor Company Ltd. To measure the profitability of TVS motor company Ltd. And to analyze the financial efficiency of the TVS motor company Ltd. The study was based on secondary data. The main source of data collected NSE. This research is analysis using various financial ratio Analysis to know the profitability and liquidity for the period of 10 years. Dependent Variable is considered the Return on Assets, Return on Equity, and Return on Capital Employed. And Independent Variable and considered the Current Ratio, Liquidity Ratio. Standard deviation. Co-Efficient of Variation were used the analysis. In his/her founded the interest coverage ratio is at all the greatly satisfactory. It is concluded that the TVS motor company limited should improve the financial passion of the company in the future.

Priya and Muthupriya (2024) she their studies on profitability Analysis of AB Clothing Co at Bangalore. And to study the financial strength and weakness about the products. And to analyze the income and expenditure pattern and its impact on the total profits of the company. The study was based on secondary data. The main source of data is collected NSE. A sample of date period of 5 years has been this study. Dependent Variables is considered the Total assets, Net profit ratio. And Independent Variables are considered the Current ratio, Liquidity ratio. Trend analysis, Descriptive, Correlation, Standard deviation were used

for the analysis. She founded the present study attempts to obtain a general view of the analysis practice in Ab clothing company. The study will enable the company to plan for future financial analysis and helps to analyze the firm's profitability over time.

Methodology:

Secondary data required for research were collected from the official web sites of cement industries in India. Data were used on various financial statements of Birla Corporation Limited in India (2015 to 2024).

Regression Models:

The multiple regression models have been followed to test the empirical relationship between the dependent and independent variables of the firm.

$$\text{Debt-Equity Ratio} = a + b_1\text{CR} + b_2\text{ROA} + b_3\text{AS} + b_4\text{ROE} + \text{ICR} + e$$

Where,

- DER = Debt Equity Ratio
- CR = Current Ratio
- ROA = Return On Asset
- ROE = Return On Equity

- AOS = Asset On Structure
- ICR = Interest Coverage Ratio
- e = Error term

Dependent Variables:

Debt Equity Ratio:

The debt-to-equity (D/E) ratio is a financial metric that compares a company's debt to its equity, or the amount of money it has from investors. It's calculated by dividing a company's total liabilities by its shareholder equity. The D/E ratio is a key indicator of a company's financial health.

$$\text{Debt to Equity Ratio} = \text{Total Debt} / \text{Share Holder's Equity}$$

Independent Variables:

Current Ratio:

The current ratio is a liquidity ration that measures a company's ability to per short-term obligations or those due within one year. It calculated by dividing a company's current assets by its current liabilities.

$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$$

Return on Assets:

Return on assets (ROA) is a type of return on investment (ROI) metric that measures the profitability of a business in relation to its total assets. The ratio indicates how well a company is performing by comparing the profit its generating to the capital it invested in asset.

$$\text{Return on Assets} = \text{Net Income} / \text{Average Total Assets}$$

Asset on Structure:

Asset structure refers to the combination of all assets a company owns and uses to run its business .It includes both current assets and fixed assets, and can have a significant impact of a company s financial stability, growth and success. Balance sheet asset components make up the firm's overall asset structure.

$$\text{Asset Structure} = \text{Fixed Asset} + \text{Total Current Asset}$$

Return on Equity:

Return on equity (ROE) is profitability metric that shows how efficiency a company uses its asset to produce profits.

$$\text{Return on Equity} = \text{Net Income} / \text{Shareholders Equity} * 100$$

$$\text{Net Income} = \text{Revenue} - \text{Total Expenses}$$

Interest Coverage Ratio:

The Interest Coverage Ratio (ICR) is a financial metric that measures a company's ability to pay interest on its debt. It's also known as the "times interest earned" (TIE) ratio. The ICR is calculated by dividing a company's earnings before interest and taxes (EBIT) by its interest expense for a given period.

$$\text{Interest Coverage Ratio} = \text{EBIT} / \text{Interest Expenses}$$

Results of the Study:

Table 1: Results of the Correlation

Variables	R	R ²
Current ratio	-0.536	0.287
Return on asset	-0.400	0.16
Asset structure	0.693	0.480
Return on equity	-0.92	0.846
Interest coverage ratio	-0.647	0.418

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

* Correlation is significant at the 0.05 level (2-tailed).

Above the table 1 represent the relationship between the variable independent and dependent variables used in the study. From this table it is clear that the variables asset on structure has positive association with Debt Equity Ratio, whereas the variables like Current Ratio, Return on Asset, Return on Equity, Interest Coverage Ratio were negatively associated with Debt Equity Ratio. So we conclude that all the select variables have associated with profitability ratio in Birla Corporation Limited.

Results of the Regression:

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.987 ^a	.974	.942	.06594

a. Predictors: (Constant), Interest Coverage Ratio, Current Ratio, Return on Equity, Asset on Structure, Return on Asset

The model summary table illustrate the magnitude of the variance in the dependent variables as described by the independent variables the values of the R-square is 0.974 which is approximately the dependent variable 97.4% variance of the Debt Equity Ratio explained by independent variables of profitability ratios.

Table 3: ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.655	5	.131	30.130	.003 ^a
	Residual	.017	4	.004		
	Total	.672	9			

a. Predictors: (Constant), Interest Coverage Ratio, Current Ratio, Return on Equity, Asset On Structure, Return on Asset.

b. Dependent Variable: Debt Equity Ratio.

ANOVA test to find out whether the regression model is valid or not. F- Statistics is 30.130 which are high and have a significant value of loss than 5% which indicates that the testing of ANOVA is significant and that the model is valid from the given predictors.

Table 4: Regression Coefficients of Select Birla Corporation Limited

Variables	Model
(Constant)	
Un-standardized coefficient	0.295
Standard error	0.437
T-Value	0.675
P-Value	0.537
(Current Ratio)	
Un-standardized coefficient	0.229
Standard error	0.96
T-Value	2.383
P-Value	0.76
(Return on Asset)	
Un-standardized coefficient	-0.61
Standard error	0.124
T-Value	-4.842
P-Value	0.008
(Asset on Structure)	
Un-standardized coefficient	0.093
Standard error	0.099
T-Value	0.939
P-Value	0.401
(Return on Equity)	
Un-standardized coefficient	0.249
Standard error	0.58
T-Value	4.732
P-Value	0.003
(Interest Coverage Ratio)	
Un-standardized coefficient	-0.066
Standard error	0.023
T-Value	-2.860
P-Value	0.046

The Parameter of the Regression model above the table is related. The Table 4 shows the significance of the individual independent variables in interpreting the dependent variable. The Un-Standardized Co-efficient (B) value shows the magnitude and relationship between Debt Equity Ratio and independent variables of Profitability Ratio. The Regression Co-efficient value shows the relationship between Return on Equity and Debt Equity Ratio. Other variables like Current Ratio, Return on Assets, Asset Structure and Interest Coverage Ratio not significant with Debt Equity Ratio.

Conclusion:

The purpose of this research study is to investigate the relationship between Debt Equity Ratio and Profitability ratios. For this purpose Birla Corporation Limited industry has been selected from India as study sample and data is collected 9 years (2015-2024) and processed by using statistical tools. The study found that the R values of Asset Structure (0.693) positively significant with Debt Equity Ratio. Current Ratio (-0.536), Return on Asse t(-0.400), Return on Equity(-0.92), Interest Coverage Ratio (-0.647) shows negatively correlate with Debt Equity Ratio. Asset Structure affects a company's financial stability, growth potential and overall success. It also impacts a company's capital structure.

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