

A Study on Capital Structure Analysis and Profitability of Indian Tyres Industry

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Abstract

Capital structure is an important decision of the business to fix the mixture of debt and equity capital of the company. This study is on capital structure analysis and its impact on profitability of tyres industry in India. Researcher has taken 14 tyres companies listed under BSE and NSE. By studying Debt-Equity ratio.

Objectives: Here major objective of this study is to know the relationship between Capital Structure and Profitability of Tyre Industry in India by studying all the listed companies in BSE and NSE. Study was undertaken by using five years data starting from 2009-10 to 2013-14.

Methodology: As far as Research Methodology is concern here study is based on descriptive and analytical research design, by using convenient sampling, by using secondary sources of data and Durbin-Watson Statistics for testing hypotheses.

Findings: From the study it is found that there was a significant relation between Capital structure (Debt-equity ratio) and Profitability of tyre companies. MRF, Apollo Tyres, Dunlop India and Modi Rubber are showing that relationship that ideal debt equity ratio helps to increase profitability of company.

Scope of the Study: Study will be implemented and helpful to corporate managers, investors, researchers and management for framing and formation of capital structure of their company.

Key Words: Capital Structure, Debt-Equity Ratio, Profitability, Net Profit, Return on Net worth, Return on Capital Employed, R-Square, Durbin Watson.

Introduction

India is a one of the most growing economies in the world. Commercialization and industrialization are key areas of progress and growth of the economy. For the rapid industrialization and commercialization it is necessary to have a quick transport and logistics facilities. So tyre industry is a key variable for enhancing speed in the logistic and transport industry. So ultimately tyre industry is a key success factors for rapid industrialization and commercialization.

Indian is one of the 6th tyre makers in the world. The growth of tyre industry in India is growing at the rate of 11-12% in this year.

Capital structure is an important decision of the companies for growth and expansion of the business. To decide the portion of the debt and equity capital in the capital structure is crucial and complex decision so every company has to take this decision by seeing past data about profitability and debt-equity capital of the companies.

This study is on Impact of Capital Structure Analysis and Profitability of Indian Tyres Industry (14 listed tyre companies in BSE and NSE in India) For the Period of 2009-10 to 2013-14. For analysis and Interpretation purpose Researcher have used Debt-equity ratio and ratio of Profitability like Net Profit Ratio, Return on Investment ratio and Return on Capital Ratio of all companies, all the data was collected from the secondary sources of BSE, NSE and other Websites. Researcher has used Regression and Durbin Watson statistics for testing the hypothesis.

Study is based on following Listed Tyre companies on BSE and NSE.

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|--------------------|----------------------|
| 1. MRF | 2. Apollo Tyres |
| 3. Balkrishna Ind | 4. Ceat |
| 5. JK Tyre & Ind | 6. Goodyear |
| 7. TVS Srichakra | 8. Dunlop India |
| 9. PTL Enterprises | 10. Falcon Tyres |
| 11. Modi Rubber | 12. Govind Rubber |
| 13. Krypton | 14. Surya Industries |

Review of Literature

For the study of analysis of capital structure profitability researcher has studied much literature about the same topics. But still very few researchers have been made research on tyre industry in India. For the study purpose researcher has taken following literature for this paper.

Dr. Khalid Ashraf Chisti, Prof. Mouh-I-Din Sangmi and Dr. Khursheed Ali (2013) This paper is also based on study of 10 automobile companies for the period of five years. This study is also based on secondary data. In order to achieve the objectives of the study, the researchers have employed the analysis of various ratios. The findings of the study have put forth that capital structure do have statistically significant impact on the profitability of firms.

Ishaya Luka Chechet and Abduljeleel Badmus Olayiwola (2014): This work examined capital structure and profitability of the 70 Nigerian listed firms from the Agency Cost Theory perspective for a period of ten years: 2000 - 2009 with the aid of the NSE Fact Book covering the Period under review. Panel data for the firms are generated and analyzed using fixed-effects, random-effects and Hausman Chi Square estimations. The study by these findings, indicates consistency with prior empirical studies and provides evidence against the Agency Cost Theory.

Nirajini, A and Priya, K B (2013) In this study, an attempt has been made to analyze the Capital structure and financial performance during 2006 to 2010 (05 years) financial year of listed trading companies in Sri Lanka. For the purpose of this study, the data was extracted from the annual reports of sample companies. Correlation and multiple regression analysis are used for analysis. The results revealed that there is positive relationship between capital structure and financial performance.

Prof. Gurmeet Singh (2013) this study is based on determination of a company's capital structure constitutes a difficult decision, one that involves several and antagonistic factors, such as risk and profitability. This study analyses how far the capital structure (cs) affects the Profitability (p) of corporate firms in India. The study tries to establish the hypothesized relationship as to how far the cs affect the business revenue of firms and what the interrelationship is between cs and Profitability. Regression Analysis in addition to descriptive statistics such as Mean, Standard Deviation, and Ratios has been used. The study proves that Capital Structure has significant influence on Profitability, and increase in use of debt fund in Capital Structure tends to minimize the net profit of the Manufacturing firms listed in Bombay Stock Exchange in India.

A.M. Goyal 2013: *The paper seeks to study the impact of capital structure on profitability of public sector banks in India listed on national stock exchange during 2008 to 2012 methodology-Regression Analysis has been used for establishing relationship between Return on Equity, Return on Assets & EPS with capital structure Results- The findings reveal positive relationship of short term debt with profitability as measured by ROE, ROA & EPS.*

John Gartchie Gatsi and Richard Kofi Akoto: They studied capital structure and profitability in Ghanaian banks using panel data methodology was employed. Capital structure theories have been utilized to provide the theoretical basis for the work. The study covered 14 banks over the period 1997-2006. It was observed that 87% of the total capital of banks in Ghana is made up of debt. Of this, 65% constitute short-term debts while 22% is made up of long-term debts. This has re-emphasized the fact that banks are highly levered institutions and also highlights the importance of short-term debts over

long-term debts in bank financing in Ghana. This finding agrees with previous studies such as Abor (2005) and Amidu (2007) in stressing the importance of short-term debt in firm financing in Ghana. This significant negative relationship between bank 1 size and profitability suggests that larger banks tend to exhibit lower margins and is consistent with models that emphasize the negative role of size from scale inefficiencies.

Jacque Dreyer (2010) this research project set out to determine whether there is a relationship between the observed leverage levels of South African companies, their profitability, and earnings volatility and the probability of financial distress. The relevant body of knowledge against which to execute this research project is known as capital structure theory Capital structure theory deals with the way in which firms finance them. It is concerned with the relationship between the structure of debt, equity and hybrid securities found on the right hand side of the firm's balance sheet.

Research Methodology

Research methodology is systematic collection and analysis of data for the study. This study is based on descriptive and analytical research design. For this study Researcher has selected all the tyres companies listed under BSE and NSE. Sampling unit is Tyres Company. Researcher has used secondary data for this study from

annual reports of the companies, journals, other government and non government publication. Regression analysis was used for the analysis and interpretation of data. It is necessary for the researcher to know not only the research methods/techniques but also the methodology.

Objectives Of The Study

To know the Debt-Equity ratio of listed tyre Companies.

To measure profitability of tyre industry.

To measure impact of debt-equity ratio on profitability of listed companies in the tyre industry.

Hypothesis:

H₀: There is no significant relationship between Debt Equity ratio (D/E) and Profitability (NPM, RoE, ROCE,).

H₁: There is a significant relationship between Debt Equity ratio (D/E) and Profitability (NPM, RoE, ROCE,).

Data Analysis And Interpretation

After collection of data it is necessary to analyze and interpret data for final results and findings. Here researcher has used Debt-Equity Ratio, Net Profit Ratio, Return on Equity Ratio and Return on Capital Employed Ratio for finding ratiion between Debt-Equity Ratio and Profitability. All the calculation was carried out by using Microsoft Excel-2007

Table-1 Coefficient and Intercept

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.28	0.67	1.93	0.08	-0.20	2.77	-0.20	2.77
Net Profit Ratio (%)	-0.02	0.02	-1.54	0.16	-0.06	0.01	-0.06	0.01
Return on Net worth (%)	0.03	0.03	1.11	0.29	-0.03	0.10	-0.03	0.10
Return on Capital Employed (%)	-0.02	0.03	-0.81	0.43	-0.08	0.04	-0.08	0.04

Table-2 RESIDUAL OUTPUT

Observation	Predicted Debt Equity Ratio	-	Residuals	Standard Residuals	DW Numerator	DW Denominator
1	1.20		-0.73	-0.73		0.53
2	1.18		-0.41	-0.42	0.10	0.17
3	1.38		-0.25	-0.25	0.03	0.06
4	1.20		-0.08	-0.08	0.03	0.01
5	1.24		-0.01	-0.01	0.01	0.00
6	1.11		-1.11	-1.12	1.21	1.23
7	1.43		0.38	0.38	2.21	0.14
8	1.53		-0.78	-0.79	1.34	0.61
9	0.81		0.09	0.09	0.76	0.01
10	1.79		1.10	1.11	1.01	1.20
11	1.69		-1.02	-1.03	4.48	1.04
12	1.50		2.71	2.74	13.95	7.37
13	1.12		-0.39	-0.39	9.61	0.15
14	-0.50		0.50	0.50	0.78	0.25
Total					35.52	12.77

$$d = \frac{\sum_{t=2}^T (e_t - e_{t-1})^2}{\sum_{t=1}^T e_t^2},$$

D=2.78

Table value of dL = 0.767, dU = 1.779 (Confidence level=0.05)

Interpretation

Here calculated value of Durbin Watson Statistics (d) = 2.78 which is above the Table value Upper limit dL = 0.767, dU = 1.779 so here null Hypothesis (H₀) is rejected so there would be significant impact of capital structure on profitability of tyre companies.

Findings

Here it is found that debt-equity ratio of the company is having significant impact on profitability of tyre companies in India.

MRF, Apollo Tyres, Dunlop India and Modi Rubber having Ideal capital structure so respectively they are having good profitability.

Suggestions

It is suggested to CEAT, JK Tyres, TVS Srichakra, Falcon Tyres and Govind Rubber to decrease amount of debt so it significantly affects to its profitability of company. So they have to maintain ideal debt-equity ratio.

Conclusion

From this paper it would be concluded that there would be a significant relation between capital structures (Deb-Equity Ratio) on profitability (Net Profit Ratio, ROI, ROCE) of tyre companies in India. If company maintains ideal capital structure (Deb-Equity Ratio) its helps to generate more profit and vice versa.

By studying capital structure and profitability of 14 listed tyres companies of India. It is found that there is a significant relation

between capital structure and Profitability. Durbin Watson test has rejected null hypotheses (H_0) and accepted alternate hypothesis (H_1).

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Abbreviation

BSE	: Bombay Stock Exchange
D/E	: Debt-equity Ratio
EPS	: Earning Per Share
MRF	: Madras Rubber Factory
NPM	: Net Profit Margin
NSE	: National stock exchange
ROA	: Return on Assets
ROCE	: Return on Capital Employed
ROE	: Return on Equity
TVS	: Trichur Vengaram Sundaram