DOES CAPITAL STRUCTURE DECISION AFFECTS PROFITABILITY? A STUDY OF SELECTED AUTOMOBILE COMPANIES IN INDIA

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Abstract

The study has aimed at capital structure decision has affects the profitability of automobile companies in India. For this purpose has selected eight companies with the help of stratified random sampling techniques and this study purely empirical and analytical nature. The study extensively used for secondary data which are collected from CMIE-PROWESS published annual reports and the select companies and statistical techniques such as correlation and regression were used. The relationship between capital structure and profitability of selected variables has mixed effects of both positive and negative association. The study also found that capital structure strongly and significantly affected the profitability of the automobile companies.

Key Words: Capital Structure, Profitability, Financial Performance, Automobile.

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Introduction

In the context of capital structure, financial leverage is quite significant area of study. Financial Leverage can be defined as the degree to which a company uses fixed-income securities such as debt and preferred equity. With a high degree of financial leverage come high interest payments. As a result, the bottom-line earnings per share are negatively affected by interest payments. As interest payments increase as a result of increased financial leverage, EPS is driven lower. As mentioned previously, financial risk is the risk to the stockholders that is caused by an increase in debt and preferred equities in a company's capital structure. As a company increases debt and preferred equities, interest payments increase, reducing EPS. As a result, risk to stockholder return is increased. A company should keep its optimal capital structure in mind when making financing decisions to ensure any increase in debt and preferred equity increase the value of the company. Strength of financial position of an organization is called financial performance.

Review of Literature

Modigliani and Miller (1958) attempted to look into the relationship between capital structure and earnings/market value. Their argument was that in an economy without corporate and personal taxes, capital structure had no effect on firm value. In other words under some given restrictive assumptions, an un-leveraged firm had the same market value as a leveraged firm. **Mittal and Singla (1992)** conducted a research on the Determinant of Debt-Equity Mix. The main variables identified were size, fixed assets, debt service capacity, and business risk and growth rate. A multiple regression model was framed to test the effect of debt-equity on the variables. It was reported that only asset composition had a positive correlation while other variables were found to be significant in the opposite direction while in the automobile industry business risk was found to be significant. **Rahul Kochhar (1997)** his study related conceptual arguments regarding financial policy decision on capital structure to the resource based perspective of competitive advantages to examine some implications for the firm performance. **Fakher Buferna, et.al., (2005),** provided empirical evidence for theories of capital structure that firms of developed countries. Results showed that private companies have tended to rate the highest average growth and more assets than public companies. **Sriram and Shankar (2006)** in their article stated that the company had managed its funds efficiently and had depended on internal funds to meet its financial requirements. The Company could think of adding a small

portion of debt in the capital structure as a levered firm had tax benefits of what percent of debt to be added was depend on the company's requirement and the industry standard. **H.J. Aliahmed and N.H. Ab Razak Sr. (2008)** examines the relationship between ownership structure and company performance has been issue of interest among academics, investors and policy makers because of key issue in understanding the effectiveness of alternative governance system in which government ownership serve as a control mechanism. **Neha Mittal (2011)** had studied the determination of the capital structure choice of the selected Indian industries. The main objective had to investigate whether the main structure theories could explain the capital structure choice of Indian firms. It is concluded that the main variables determining capital structure of industries in India were agency cost, assets structure, non-debt tax shield and size. **Puwanenthiren Pratheepkanth (2011),** his study on capital structure and financial performance of selected companies in Sri Lanka. Hence, Business companies mostly depend on the debt capital. Therefore, they have to pay interest expenses much. **Liaqat Ali (2011)** his study examined the determinants of leverage of Indian textile firms using panel data analysis. The sample of the study covers 170 Indian textile companies listed on the Bombay Stock Exchange covering the period from 2006 to 2010. This study also adds to the existing literature on the relationship between the firm specific factors and leverage. The results of the present study have delivered some insights into the financing behavior of Indian textile firms.

Rametulla Ferati and Elsana Ejupi (2013) their study the determination of a company's capital structure constitutes a difficult decision, one that involves several and antagonistic factors, such as risk and profitability. The results of the work showed a great dispersion among the several capital sources used by the Macedonian companies, exception to the equity, the main component, and the one that presents smaller variability. **Mehdi Mohammedzadeh et.al., (2013),** their study seeks to examine the relationship between the capital structure and the profitability of pharmaceutical companies in Iran. In this study, the net margin profit and debts to asset ratio were used as indicators of profitability and capital structure, respectively and sales growth was used as a control variable. Results showed that there was significant negative relationship between the profitability and the capital structure which means that the pharmaceutical companies have established a Pecking Order Theory and the internal financing has led to more profitability. **Nirajini and Priya (2013)** studied the relationship between capital structure and

financial performance of Sri Lanka's companies. They used correlation and multiple regression method to prove the relationship between debt equity ratio, debt asset ratio and long term debt with different determinant of financial performance and proved that capital structure is positively correlated with firm's financial performance.

Statement of Problem

The automobile industry is one of India's most vibrant and growing industries. This industry accounts for 22 per cent of the country's manufacturing gross domestic product (GDP). India is presently the world's third largest exporter of two-wheelers after China and Japan. According to a report by Standard Chartered Bank, India is likely to overtake Thailand in global auto-export market share by the year 2020. The capital structure is playing a most important role in the firm's financial decision making process along with other resources. The term capital structure is used to represent the proportionate relationship between debt and equity. Equity includes paid-up share capital, share premium and reserve and surplus. The Company financing decisions involve a wide range of policy issues. Such decisions affect capital structure, corporate governance and company development. The main problem of this research is to study how the capital structure negatively or positively influences on financial performance of the Automobile companies in India. The financial management techniques of Capital Structure analysis and value analysis in order to identify the impact of profitability position of selected automobile industry in India. This study also pursues to find the relationship between profitability, capital structure. Therefore, this study is carried out to evaluate that what the extent to which capital structure decisions affects their financial performance in the aspects of profitability.

Objectives of the study

1. To find out relationship between Capital Structure and profitability of the selected automobile companies in India.
2. To analyze the impact of Capital structure decisions on the profitability of the selected automobile companies in India.

Hypothesis of the study

H01- There is a significant negative relationship between Debt to equity and Operating profit, Net profit, Return on Capital Employed, Return on Equity and Return on Total Assets.

H02- There is a significant negative relationship between Debt to Total Fund and Operating profit, Net profit, Return on Capital Employed, Return on sEquity and Return on Total Assets.

H03- Return on Equity of the selected automobile companies does not depend significantly on Debt-Total Fund Ratio, Debt-Equity, Capital Gearing and Interest Coverage.

H04- Return on Total Assets of the selected automobile companies does not depend significantly on Debt-Total Fund Ratio, Debt-Equity, Capital Gearing and Interest Coverage.

Methodology

The study was extensively used for secondary data which are collected from CMIE PROWESS for the published annual reports. This study has empirical and analytical in nature. In order to identify the sample among the automobile companies, using stratified sampling techniques has been adopted. Initially, to identify the population of 124 companies which are listed in Bombay Stock Exchange in Automobile Sector were selected. Then after screening the companies audited annual reports having the incomplete data and insufficient information available were not included in the sample and finally 20 firms were selected. For the purpose of the study has met the criterion of market capitalization represents more than Rs. 10000 crores were selected and included in the sample. Finally, eight companies were selected these are: These are Tata Motors Limited, Eicher Motors Limited, SML ISUZU Limited, TVS Motor Company Limited, Maruti Suzuki India Limited, Hero MotoCorp Limited, Atul Auto Limited and Bajaj Auto Limited.

Tools for Analysis

The techniques such as Mean, Standard deviation, Co-efficient of variation, Growth rates, Correlation and Regression were used.

Scope of the study

Each and every study has its own scope. This study intends to study the profitability and Capital Structure of the automobile industries in India. The study has presenting the financial performance in the aspects profitability of selected automobile companies and the problems being faced by selected units without making any in-depth enquiry into the inter-relationship associated with the levels of operating efficiency and their sequential impact on financial

performance. The scope is to extend embraces on various aspects of industry's performance covering a period of ten years from 2003-2004 to 2012-2013.

Limitations of the study

1. Analysis of the study is based on financing data collected from CMIE Prowess Package. The quality of the study depends purely upon the accuracy, reliability and quality of secondary data.
2. The firms chosen are restricted to eight companies due to limitations such as lack of continuous listing, non-availability of data pertaining to those firms in the data source.

Analysis and Interpretation

Relationship between Capital Structure and Profitability (Correlation Analysis)

Correlation is concern describing the strength of relationship between two variables. In this section the correlation co-efficient analysis is under taken to find out the relationship between capital structure and profitability. It shows the amount of relationship exist between capital structure and profitability of selected Automobile Companies**.** In order to find out combined effect on the association with Correlation analysis was carried out to identify the relationship between capital structure and profitability of Industry average shown in Table 1.1.

Table 1.1
Relationship Between Capital Structure and Profitability of selected Automobile Companies in India

Capital Structure	Profitability	Correlation	p value (sig. 2 tailed)	Result	Remark
Debt-Equity	OPR	-0.585	0.076	H1: Rejected	Not Significant
	NP	-0.561	0.091	H2: Rejected	Not Significant
	ROCE	-0.913**	0.000	H3: Accepted	Significant**
	ROE	-0.377	0.283	H4: Rejected	Not Significant
	ROTA	-0.855**	0.002	H5: Accepted	Significant**
Debt to Total Fund	OPR	-0.501	0.140	H6: Rejected	Not Significant
	NP	-0.507	0.135	H7: Rejected	Not Significant
	ROCE	-0.844**	0.002	H8: Accepted	Significant**
	ROE	-0.405	0.246	H9: Rejected	Not Significant
	ROTA	-0.797**	0.006	H10:Accepted	Significant**

Note: (*) indicates significant at 0.05 level and (**) at 0.01 level.

Table 1.1 shows the linear correlation coefficients of the variables. From this table it is clear that the association was found to be negative for all the independent and dependent variables used.

Return on Capital employed (-0.913) and Return on Total Assets (-0.855) were highly negative correlated with debt-equity and found to be significant at 0.01 level. Operating Profit margin (-0.585), Net profit margin (-0.561) and Return on Equity (-0.377) were moderately negative correlated with debt-equity and found to be not significant. Similarly, Return on Capital employed (-0.844) and Return on Total Assets (-0.797) were highly negative correlated with debt to total fund and found to be significant at 0.01 level. Operating Profit margin (-0.501), Net profit margin (-0.507) and Return on Equity (-0.405) were moderately negative correlated with debt to total fund and found to be not significant.

Impact of Capital Structure on Profitability (Regression Analysis)

The selected dependent and independent variables have been selected on the basis of previous studies and framed the models undertaken were:

Model 1: ROE = b0 + b1 DTFUND + b2 DE + B3 CG + B4 ICR

Model 2: ROTA = b0 + b1 DTFUND + b2 DE + B3 CG + B4 ICR

Return on Equity

The multiple correlation coefficients between the dependent variable ROE and the independent variables DTFUND, DE, CG and ICR taken together were 0.339. It indicates that the profitability was less influenced by its independent variables. It is also evident from the value of R Square that 11.5% of variation in ROE was accounted by the joint variation in all the independent variables. Standard error (11.963) of estimate was flawlessly associated with regression analysis. The combined predictable power of the model or the adjusted coefficient of multiple determinations (Adj. R^2) indicates that about 6.7% of the changes in ROE were explained by the independent variables. Besides, the specification of this model is not fair as signaled by the F value (ANOVA table) of 2.249 which is found to be not significant at 0.05 level (p value <0.01). Based on the above result, the null hypothesis is accepted.

Table 1.2
IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY
(Regression Analysis)
(Model 1: ROE = b0 + b1 DTFUND + b2 DE + B3 CG + B4 ICR)
Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
0.339	0.115	0.067	11.963	0.411	2.249	0.055

Co-efficient

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.944	5.078		2.352	.021
Debt to Total Fund Ratio	-3.067	35.892	-.043	-.085	.932
Debt - Equity Ratio	-6.267	11.984	-.234	-.523	.603
Capital Gearing Ratio	.040	.148	.052	.271	.787
Interest Coverage Ratio	.001	.002	.075	.567	.573

Note: p value < 0.01 Significant at 1 per cent level.

From the Table 1.2 also evident that the index Debt to total fund ratio and Debt-Equity were explanation power in the model, and its negative sign indicates an inverse relationship with Return on Equity. The result indicates that the return on equity were inversely proportional to the debt to total fund and debt-equity, in other words, the larger the debt, the lower is the profitability. The remaining variables that Capital Gearing and interest coverage ratio were identified as positive relationship with return on equity. The standardized coefficients are -0.043, -0.523, 0.271 and 0.567 for Debt to Total Fund Ratio, Debt – Equity Ratio, Capital Gearing and Interest Coverage ratio respectively, their p- values standing at 0.932, 0.603, 0.787 and 0.573 which were not significant at 0.01 and 0.05 levels, signaling the fact that decreases and increases in Debt to Total Fund Ratio, Debt-Equity Ratio and Capital Gearing do not significantly affect profitability.

Return on Total Assets

The multiple correlation coefficients between the dependent variable ROTA and the independent variables DTFUND, DE, CG and ICR taken together were 0.669. It indicates that the profitability was moderately influenced by its independent variables. It is also evident from the value of R Square that 44.7% of variation in ROTA was accounted by the joint variation in all the independent variables. Standard error (5.805) of estimate was flawlessly associated with regression analysis. The combined predictable power of the model or the adjusted coefficient of multiple determinations (Adj. R^2) indicates that about 41.8% of the changes in ROTA were explained by the independent variables. Besides, the specification of this model is good as signaled by the F value (ANOVA table) of 15.169 which is found to be significant at 0.01 level (p value <0.01). Based on the above result, the null hypothesis is rejected.

Table 1.3
IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY
(Regression Analysis)
(Model 2: ROTA = b0 + b1 DTFUND + b2 DE + B3 CG + B4 ICR)
Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
0.669	0.447	0.418	5.805	0.808	15.169	0.000

Co-efficient

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	16.710	2.464		6.781	.000
Debt to Total Fund Ratio	-26.990	17.417	-.623	-1.550	.125
Debt - Equity Ratio	.528	5.815	.032	.091	.928
Capital Gearing Ratio	-.023	.072	-.048	-.318	.752
Interest Coverage Ratio	.002	.001	.254	2.441	.017

Note: p value < 0.01 Significant at 1 per cent level.

From the Table 6.5 also evident that the index Debt to total fund ratio and Capital Gearing were explanation power in the model, and its negative sign indicates an inverse relationship with Return on Total Assets. The result indicates that the return on total assets were inversely proportional to the debt to total fund and capital gearing, in other words, the larger the debt, the lower is the profitability. The remaining variables that Debt-Equity and interest coverage ratio were identified as positive relationship with return on total assets. The standardized coefficients are -0.623, 0.032, and -0.048 for Debt to Total Fund Ratio, Debt – Equity Ratio and Capital Gearing respectively, their p- values standing at 0.125, 0.928 and 0.752 which were not significant at 0.01 and 0.05 levels, signaling the fact that decreases and increases in Debt to Total Fund Ratio, Debt-Equity Ratio and Capital Gearing do not significantly affect profitability. The Interest Coverage Ratio (0.017) shows a positive but significant at 0.05 level effect on Return on Total Asset.

Conclusion and Recommendation

Return on Equity of the selected automobile companies does not depend significantly on Debt-Total Fund Ratio, Debt-Equity, Capital Gearing and Interest Coverage. On the other hand Return on Total Assets of the selected automobile companies does depend significantly on Debt-Total Fund Ratio, Debt-Equity, Capital Gearing and Interest Coverage. Many of the Automobile companies, having the high burden of debt capital and has been met out fixes interest cost that has resulted in fluctuation of the financial performance. Thus, Equity capital should be increased. Because, it help to increase the financial performance measures. Due to this, financial performance is stimulated.

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