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Study concludes that capital structure (Debt/Equity) is negatively associated with the profitability, which implies that an increase in debt capital caused a decrease in the profitability of the firms and vice versa. These results are supportive for the business companies during the financing of capital.

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Muhammad Nauman Sadiq [α] & Fateh Sher [σ]

Abstract- In finance literature capital structure received considerable attention as factor affecting the profitability of firms. The aim of this paper is to contributes to literature on this factor (Capital structure) and evaluate its impact and nature of relationship with the profitability of Automobile companies listed in Karachi stock exchange.19 companies were selected as sample. Data is extracted from the publications of the relevant companies and website of stat bank of Pakistan from 2006-2012.Regression analysis and correlation test is used with the help of statistical package SPSS in order to predict the result.

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I. Introduction

Automobile sector is a hurriedly growing and active sector in Pakistan but due to high competition it did not conquer its due place in international market. Automobile sector started its operation in 1953 with the assembling of Bedfordat the NML (National motors limited) in Karachi. Later on this plant assembled many other vehicles.

Auto mobile sector in Pakistan observed very ups and down since 1953 till now. Before 1990 this sector was highly regulated. After 1990 the competition was created in the sector after the entrance of foreign manufacturues. At the beginning of 21 century tragedy of 9/11 caused an increase in home remittances in Pakistan which makes the markets more liquid resulting an increase in the demand of vehicles.

During 2006 and 2007 car industry acquired loan of 70-80%of its total capital for expanding their production level to meets the demand .Due to this financing car industry reached at peak level of his life.

During 2008-2009 world financial crises also affect the performance of the automobile sector and caused a decrease in the units of production however firms recovered themselves very soon. Now motorcycle producing companies also growing very fastly due to high demand in the country. During 2010-2011 motor-cycle producing companies reached at the boom by producing 1.5 million units.

Auto mobile industry in Pakistan playing an important role in the development of the economy, after petroleum sectors, it pays higher indirect taxes. And employed about 192,000 people directly and 1.2 million people indirectly.

In finance literature capital structure acknowledged significant consideration as factor affecting the profitability of firms. Profitability of a firm is a key performance measuring and reputation enhancing factor. It also increases stakeholders and investor's value. However Profitability of the firm is influenced by many internal and external factors. Capital structure is also included in these factors which significantly influenced the profitability of firms.

The term "Capital structure" represents the proportion of capital used by the company during its operation. Companies either used equity or debt capital or the mixture of both in order to finance assets. Work on capital structure initially presented by the Modigliani & miller (MM) (1958). Later on different research papers are conducted to identify the effect of capital structure on financial performance of companies and shown contradictory results. But a comprehensive and detailed study has not been conducted in Pakistan, especially in automobile sector. Present study is based on the secondary data extracted from the automobile companies listed in Karachi stock exchange in order to determine the effect of capital structure on the profitability of these companies.

II. Literature Review

Capital structure received considerable attention in finance literature as factor affecting the value of firms. This debate is started by researchers after the work of (Modigliani and Miller (1958).Different studies have been conducted to shown how capital structure is irrelevant or relevant to the financial performance of companies under different conditions. The aim of all these studies is to find the better capital structure which generates maximum profit.

Research explored that proportion of equity and debt financing used by the company can affect its value and rate of returns (Lara & Mesquita 2003). Debt

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financing has negative and positive effects on the firm value; it depends upon the investment opportunities that firms avail in future (Stulz 1990). Frangouli & ventoura concluded that firms using more debt financing are earning less profit as compare to the firms having equity finance. Debt finance caused the payment of interest which reduces the profit (Frangouli & ventoura, 2011). Further studies also examine that debt ratio has negative impact on the profitability of the firm. (Onaolapo, 2010).

Contradictory results shown that companies using only equity financing having weak financial position and low credit rating Coyle (2000).This reveals that negative correlation is exist between equity financing and profitability (Efobi, 2008).

Study conducted on the impact of capital structure on profitability of manufacturing companies of Sri Lanka shown that debt equity ratio is positively correlated with the profitability (Nimalathasan and Valeriu 2010).

Research conducted on the Business companies of CSE Sri Lanka explore that negative association is existed between the capital structure and financial performance(Pratheepkanth 2011). Further a research on the petroleum sector of Pakistan explored that there is significant positive impact of capital structure on the profitability of the companies (Ali et al 2012).

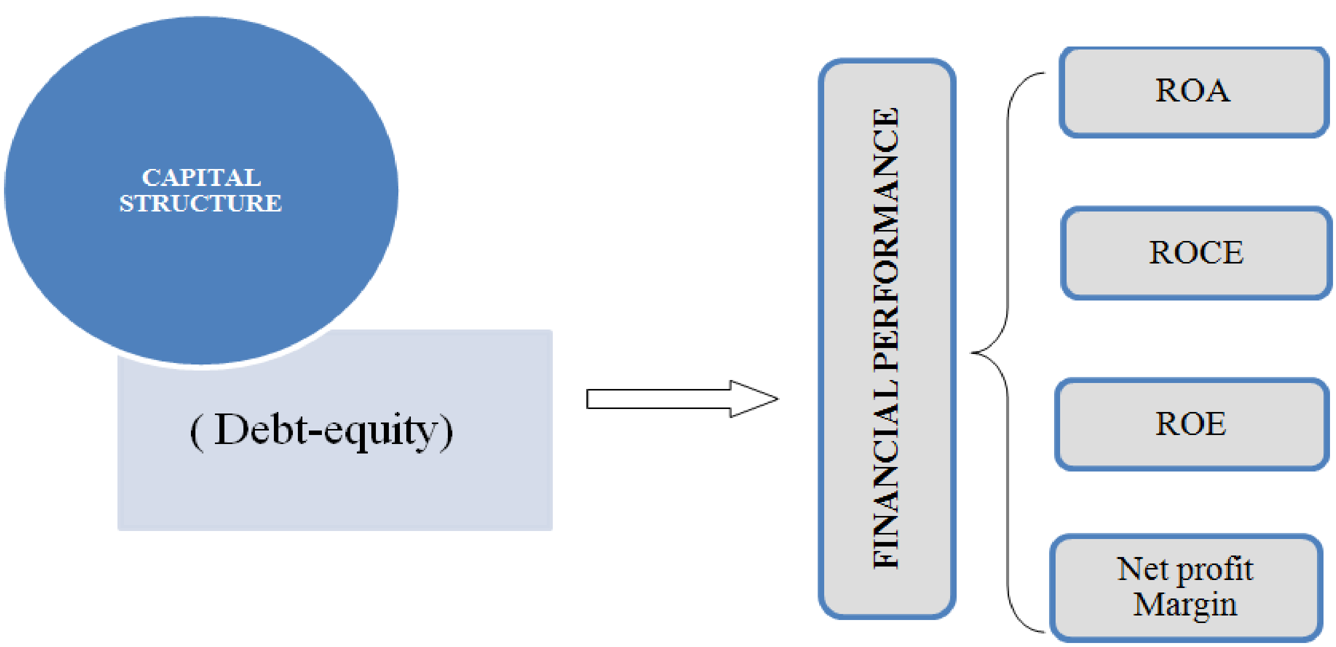
Research conducted on the Indian manufacturing companies listed in BSE shows that strong relationship is exist between capital structure and firm profitability, more and more use of debt capital caused the reduction in the net profit of companies (Singh 2013).

Study conducted on the sugar companies listed in KSE explored that long term debts have positive impact on the performance of the firms and short term debts have negative impact on the performance of the firms. They further suggested that firms should use long term debt capital in order to increase the profitability (Roy et al, 2013).

III. Objectives of the Study

Primary objective of the present study is to contributes to literature on this factor(Capital structure) and analyze its effect and nature of relationship with the profitability of Automobile companies listed in Karachi stock exchange and provide necessary suggestions in order to increase their profitability.

Conceptual Framework



IV. Hypotheses

Following hypothesis is framed for the present study:

H0:- There is no significant association between capital structure and the profitability of firms.

H1:- There is significant association between capital structure and the profitability of firms.

V. Methodology

The aim of the study is to determine the impact of the capital structure on the profitability in the automobile sector of Pakistan. The number of total companies is 22, out of which19 companies are selected as sample. Other 3 companies are excluded due to continuous loss.

Capital structure (Debt to equity ratio) is used as dependent variable while profitability ratios return on assets; return on capital employed, return on equity and net profit is used as dependent variable

Data is extracted from the publications of the relevant companies and website of stat bank of Pakistan from2006-2012.

In order to statistically check the significance of the study and to predict the nature of association between dependent and independent variables regression analysis and correlation test is used with the help of statistical package SPSS.

Relationship between Capital Structure and Return on Assets

Table 1 : Correlations

		ROA	Capital structure
ROA	Pearson Correlation	1	-.344**
	Sig. (2-tailed)		.000
	N	114	114
Capital structure	Pearson Correlation	-.344**	1
	Sig. (2-tailed)	.000	
	N	114	114

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

Table 1: shows Correlation results between the Capital structure and Return on assets .The coefficient is Negative and highly significant (at 0.01 level of significant) which shows significant and Negative relationship between ROA and Capital structure.

Table 2 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.344a	.119	.111	12.93774

Table 2 Presents the Model Summary, Which shows the value of R, R Square and the adjusted R square. R Square value shows that11.9 % impact on profitability is caused by Capital structure and other 89% is caused by other variables.

Table 3 : Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.689	2.108		8.864	.000
	Capital structure	-5.717	1.472	-.344	-3.883	.000

a. Dependent Variable: ROA

In table 3 t value also show the significant negative impact of capital structure on the Return on the assets.

Relationship between Capital Structure and Return on Capital Employed

Table 4 : Correlations

		Capital structure	ROCE
Capital structure	Pearson Correlation	1	-.231*
	Sig. (2-tailed)		.013
	N	114	114
ROCE	Pearson Correlation	-.231*	1
	Sig. (2-tailed)	.013	
	N	114	114

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

Table 4: shows Correlation results between the Capital structure and Return on capital employed .The coefficient is Negative and highly significant which shows significant and negative relationship between return on capital employed and Capital structure. Which means an increase in debt to equity ratio caused a decrease in the return on capital employed.

Table 5 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.231[a]	.053	.045	25.28898

Table 5 Presents the Model Summary, which shows the value of R, R Square and the adjusted R square. R Square value shows that5.3% impact on profitability is caused by Capital structure and other 94.7 % is caused by other variables.

Table 6 : Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.353	4.121		7.365	.000
	Capital structure	-7.229	2.878	-.231	-2.512	.013

Above table shows the significant negative relationship between capital structure and the Return on capital employed.

Relationship between Capital Structure and Return on Equity

Table 7 : Correlations

		Capital structure	ROE
Capital structure	Pearson Correlation	1	-.227*
	Sig. (2-tailed)		.015
	N	114	114
ROE	Pearson Correlation	-.227*	1
	Sig. (2-tailed)	.015	
	N	114	114

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

Table 7: shows Correlation results between the Capital structure and Return on equity .The coefficient is Negative and highly significant which shows significant and negative relationship between return on equity and Capital structure. Which means an increase in debt to equity ratio caused a decrease in the return on equity.

Table 8 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.227[a]	.052	.043	26.55655

Table 8 Presents the Model Summary. Which shows the value of R, R Square and the adjusted R square. R Square value shows that5.2% impact on profitability is caused by Capital structure and other is caused by other variables

Table 9 : Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.047	4.328		7.405	.000
	Capital structure	-7.470	3.022	-.227	-2.472	.015

Above table shows the significant negative relationship between capital structure and the Return on equity.

Relationship between Capital Structure and Net Profit Margin

Table 10 : Correlations

		Capital structure	NPM
Capital structure	Pearson Correlation	1	-.327**
	Sig. (2-tailed)		.000
	N	114	114
NPM	Pearson Correlation	-.327**	1
	Sig. (2-tailed)	.000	
	N	114	114

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

Table 7: shows Correlation results between the Capital structure and Net profit margin .The coefficient is Negative and highly significant which shows significant and negative relationship between return on equity and Capital structure. Which means an increase in debt to equity ratio caused a decrease in the Net profit margin.

Table 11 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.327a	.107	.099	7.83629

Table 11 Presents the Model Summary. Which shows the value of R, R Square and the adjusted R square. R Square value shows that10.7% impact on profitability is caused by Capital structure and other is caused by other variables

Table 12 : Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.612	1.277		7.527	.000
	Capital structure	-3.263	.892	-.327	-3.660	.000

Above table shows the significant negative relationship between capital structure and the Net profit margin.

VI. Conclusion

This study involves determining the relationship between capital structure (Debt/equity) and profitability of the automobile companies listed in Karachi stock exchange. Capital structure shows a significant negative relationship with all profit measuring ratios (return on assets; return on capital employed, return on equity and net profit margin).

So we reject our null hypothesis in all cases and conclude that debt capital is negatively associated with the profitability. An increase in debt capital caused a decrease in the profitability of the firms and vice versa. These results are similar with the results of Onaolapo, 2010: Pratheepkanth 2011: Singh :2013).

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