IMPACT OF FINANCIAL LEVERAGE ON FINANCIAL PERFORMANCE OF SELECT INDIAN AUTOMOBILE COMPANIES- AN EMPIRICAL STUDY

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Abstract

Any Organization while practicing Capital Restructuring, the issue of proper mix of debt along with equity will arise. Financial leverage is one of the globally accepted issues. Correct proportion of debt and equity in Capital Structure will enhance profitability and thus it helps to increase the financial performance. Moreover financial leverage is a tool to enhance financial performance. Hence this study aims "To find out the impact of financial leverage on financial performance of Select Indian Automobile Companies". Automobile Industry is a major contributor to Nation's Gross Domestic Product. A sample of 9 Automobile companies listed in Bombay Stock Exchange & National Stock Exchange and who's Average Market Capitalization above Rs.10000 Cr were selected. A Study Period of 10 Years from 2011-12 to 2020-21 is taken. The Debt Ratio and Debt Equity Ratio were selected- independent variable to measure financial leverage. To weigh the financial performance the selected dependent variable are Current ratio, Interest Coverage Ratio, Total Asset Turnover Ratio, and Net Profit Margin as an indicator of Liquidity, Solvency, Efficiency and Profitability respectively. Descriptive Statistics like Variance, Skewness, Standard Deviation, Mean and Kurtosis is used to know the nature of selected Variables. Panel Data Regression Analysis (Breusch-PaganTest, Hausman Test) is applied to find out the impact. The findings of this study are presented in this research paper. The financial performance of Automobile firms in Automobile Industry will improve by proper implementation of capital restructuring and financial leverage.

Keywords: Financial leverage, Financial Performance, Liquidity, Solvency, Efficiency, Profitability, Panel Data Regression Analysis.

INTRODUCTION

Corporate financial operation involves capital restructuring which is significantly changing the compound of debt and equity in the execution of financial management. An organization while implementing the operation of funds, capital structure should be carefully analysed. Optimum capital structure maintaining is the major objective of firm's financial decision. Asset of any firm is financed either by decision of involving debt or shareholders fund in the form of equity & preference capital (Goel et al. 2015). In capital structure, if a firm use high debt financing, then it is understood that it involves high leverage which is one of the tool required to enhance company performance (Kenn-Ndubuisi. 2019). The usage of debt and preference capital which is called as fixed-charges sources of fund with equity in the finance

decision is called as capital gearing or trading on equity or financial leverage (IM Pandey. 2015). Financial Leverage means how much a business is using borrowed money to finance its assets (Adenugba et al. 2016). A company has two main benefit from the usage of debt, one is tax shield which increases the value of firm and another is it disciplines managers. Moreover debt capital is good from the shareholder's view point as it increase shareholder's value and from the company side, it will get tax advantages (Barakat, 2014). The primary purpose of financial leverage is to maximize the shareholders' return under optimistic economic conditions (Dr.MohdTaqi et al 2020). Margaritis and Psillaki, 2010 applied Trade-off theory and pointed positive effect between leverage and firm performance. But the study made by Baker and Martin (2011) found contradictory result by using pecking order theory.

Furthermore, evidences are available to prove that the relationship is not true universally, hence it depends upon situation.

Financial Leverage is a World Wide issue faced by many business organization. The Decision committee in any business firm must try to know and accept the challenge of using optimum debt and equity level (Al-Tally, 2014). The study on relationship between leverage and firm performance is done by financial experts andit is found that the firm value is directlyrelated to its performance. Hence numerous studies are made on this title, still among the investor, researchers and public. It left very interesting topic to research especially in Automobile sector which is the important contributor to Nation's GDP (www.makeinindia.com). Adding to it, financial leverage is the main widely unsettled problem identified in corporate finance. The present research study consequently is carriedout on "Impact of Financial Leverage on Financial Performance of Select Indian Automobile Companies".

The Short term and long term Debt have a little impact on ROA, ROE, Gross Profit Margin in the capital structure decision by analysing 164 companies for 5 years from 2014 to 2018 K. Rajamani (2021).Financial leverage has pessimistic and insignificantly related to the corporate performance (ROE, ROA, Tobin's Q) by Kingsley OpokuAppiah (2020).Financial leverage has positive effect on ROE measures of financial performance of 16 concerns from Indian Power Sector (AbhijitSinha. 2019). There is a positive significance on ROE in his work "Impact of Financial Leverage on Firm Performance" (UmerIqbal. 2018). Prakash Pinto, 2017 indicated that there the capital structure has a significant influence on ROCE, NP and NIM of 21 banks financial performance in India.

Ngoc BaoVuong, 2017 proves there is no link between capital structure and ROE, ROA, EPS. Overall financial performance decrease due to high short term and long term loans (AwaisMustabsar, IqbalWateen, 2015).PerinpanathanRajkumar, 2014 study proves that financial leverage has effect on Net Profit, ROE and ROCE variables for financial performance.

Syed Shah Fasih, 2013 found negative interrelation of debt equity ratio with (EPS, ROE, NPM) financial performance. A firm by involving high level of leverage can improve performance (ROA, ROE, Dividend cover ratio, dividend ratio to equity, net profit margin,

EPS before tax, EPS after tax, sales growth, sales to total asset, EPS before tax growth) and having optimistic relationship between them (ShehlaAkhtar. 2012).

Based on the literature review, the research gap is found. There are countless studies relating to the determinants of financial leverage, financial leverage effects- profitability, shareholders value, firm value, shareholder wealth. The studies of financial leverage impacts on financial performance are very few in number especially in Indian Automobile Companies. Even among those few researches, variables focused on financial performance is mainly Return on Equity (ROE), Earnings per Share (EPS), Sales Growth, Return on Asset (ROA), (ROCE) Return on Capital Employed. For assessing, financial status and performance/result of a firm, ratio is used as a benchmark in financial analysis. (IM Pandey, 2015). The short term, long term investors, owners and managers are interested in financial analysis and significantmeasure of financial performance. The major four categories are Liquidity, Solvency, Efficiency and Profitability (IM Pandey, 2015). So to fill this gap this research is indeed important and the mainly focused variables are Liquidity (CR), Solvency (ICR), Efficiency (TATR) and Profitability (NPM).

MATERIALS AND METHODS

Objective:

The proposed objective framed for this research is to estimate the impact of financial leverage on financial performance of Select Indian Automobile Companies.

Hypothesis:

H_01: There is no impact of financial leverage on financial performance H_1: There is an impact of financial leverage on financial performance Breusch-Pagan LM Test:

H_02:If P>0.05, there is no significance so Pooled OLS Regression is accepted

H_2: If P<0.05, there is a significance so Random Effect Model/ Fixed Effect Model is accepted.

Hausman Test:

H_03: If P>0.05, there is no significance so Random Effect Model is accepted H_3: If P<0.05, there is a significance so Fixed Effect Model is accepted

Sample: A1: Nine Automobile companies in India were chosen for the present research based on the succeeding criteria,

- Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) listed companies.
- Average Market Capitalizationabove Rs. 10000 Crores (AMFI- January to June 2021 Report).

Nature: Data of secondary nature is included in the research. The required information is gathered from Annual Reports on Websites such as NSE, Money Control, AMFI, and Capitaline. Other publications, the internet, and websites were also consulted to gather more research-related material.

Period: A 10-year span is used for analysis, from 2011-12 to 2020-21.

Tools and Techniques: To study the behaviour and nature of selected variables, Descriptive statistics like Mean, Skewness, Variance, Standard Deviation, and Kurtosis were used. To observe the impact-financial leverage on financial performance, Panel Data Regression Analysis is applied through E-Views Software.

Variables and Model framed:

A2: variables used for the study are selected from IM Pandey book, 2015. To test the hypothesis and to find the impact of independent variables on dependent variables, following models were framed for the study,

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}$$

Where, Y represents Dependent Variable, the indices i and t refers to individuals and time, α and β are coefficients, X means to Independent Variable and finally ε is error term.

$$CR_{it} = \alpha + \beta_1 DR_{it} + \beta_2 DER_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots(1)$$

$$ICR_{it} = \alpha + \beta_1 DR_{it} + \beta_2 DER_{it} + \varepsilon_{it}\dots\dots\dots\dots\dots(2)$$

$$TATR_{it} = \alpha + \beta_1 DR_{it} + \beta_2 DER_{it} + \varepsilon_{it}\dots\dots\dots\dots(3)$$

$$NPR_{it} = \alpha + \beta_1 DR_{it} + \beta_2 DER_{it} + \varepsilon_{it}\dots\dots\dots\dots (4)$$

Results

A3: Table-3 portrays the behaviour of selected variables. The Selected Automobile Companies' acquires debt along with asset is 18% and debt involved along with equity is 39% which means less than half percentage. ICR mean value alone less than its standard deviation. So it is understood that they are not closely related. Averages of all the other selected variables are greater than its respective standard deviation. From this it means they are closely related. Again mean values of all the selected variables are greater than its variance value, so there present a consistency in Coverage of interest, Current obligations, Profit earnings Acquiring debt and Asset turnover. DER, CR and ICR are highly skewed because they are greater than one and all are positively skewed. TATR and NPR are platykurtic as they have negative kurtosis. DER, CR and ICR are Leptokurtic, as they have kurtosis value greater than one which means highly peaked.

A4: From table-4, it is understood that probability value of BP test shows significant in cross-section. "Hence null hypothesis H_{02} is rejected and alternative hypothesis, If $P<0.05$, there is a significant so Random Effect Model/ Fixed Effect Model is accepted". Hausman test shows insignificant value (0.4160). "Hence alternative hypothesis H_3 is rejected and null hypothesis, If $P>0.05$, there is no significant so Random Effect Model is accepted".

A5: In table-5, the predictors Debt Ratio and Debt Equity Ratio account for $R^2=0.018729$ or 2% of variance in Current Ratio. At 5% level, p value of DR is 0.8484 and DER is 0.9382 which is greater than .05. "Hence alternative hypothesis H_1 is rejected and null hypothesis, There is no impact of financial leverage on financial performance is accepted". The model is not appropriate as the F statistic value (0.830267) with the p value (0.439357) isnot significant.

A6: Table-6 shows insignificant probability value in BP test for both cross section (0.2491) and time (0.6631). "Hence H_2 alternative hypothesis is rejected and null hypothesis, If$P>0.05$, there is no significant so Pooled OLS Regression is accepted".

A7: Again in table-7, both DR (0.1256) and DER (0.3403) shows insignificant impact on ICR. "Hence alternative hypothesis H_1 is rejected and null hypothesis, There is no impact of financial leverage on financial performance is accepted". R square value is 0.074126 which indicates that only 7% of variance made by financial leverage on ICR. The data fits this model at 5% level, as the F statistic value (3.482625) with the p value (0.035076) is significant.

A8: Table-8 portrays that the BP LM test p value< 0.05 in cross section, "Hence null hypothesis H_{02} is rejected and alternative hypothesis, If $P<0.05$, there is a significant so Random Effect Model/ Fixed Effect Model is accepted". Again p value < 0.05 in Hausman test, "Hence null hypothesis H_{03} is rejected and alternative hypothesis, If $P<0.05$, there is a significant so Fixed Effect Model is accepted".

A9: Table-9 displays that DR (0.0179) and DER (0.0109) is negatively significant at 5% significant level. "Hence null hypothesis H_{01} is rejected and alternative hypothesis, There is an impact of financial leverage on financial performance is accepted". 80% of variations in TATR is made by financial leverage as the R square value is 0.802276. the model is fit at 1% significant level as f statistic value is 32.05471.

TATR= 1.349622 -3.728555DR -1.272737DER

A10: In table- 10, it is understood that the p value (0.0000) of Breusch pagan test shows

significant in cross section. "Hence null hypothesis H_{02} is rejected and alternative hypothesis, If P<0.05, there is a significant so Random Effect Model/ Fixed Effect Model is accepted". The probability value (0.1737) of Hausman test shows insignificant. "Hence alternativehypothesis H_3 is rejected and null hypothesis, If P>0.05, there is no significant so Random Effect Model is accepted".

A11: Table-11 displays that the financial leverage variables (DR= 0.0864 and DER= 0.0018) are significant to NPR at 10% and 1 % significant level respectively. "Hence null hypothesis H_{01} is rejected and alternative hypothesis, There is an impact of financial leverage on financial performance is accepted". The R square value is 0.392569 indicates that the presents of variation is 39%. The f statistic value (28.11303) with p value (0.000000) fits the model well. NPR=0.099235 -0.215629DR -0.127366DER.

DISCUSSION

There is no impact of DR and DER on Liquidity of Automobile companies, so it is understood that if there is any changes in the quantum of debt will not directly affect the liquidity of Automobile Companies. Because the automobile companies can easily convert assets into ready cash for operating short term obligations effectively and efficiently. Similarly financial leverage has no impact on Solvency, because these companies operating profits are good and so they are able to meet the interest of borrowed capital till now. The selected Automobile companies' efficiency in easy conversion of asset into cash to meet its short term operations effectively and moreover cover the interest imposed by its good current available earnings. So the quantum of debt has no direct impact on Liquidity and Solvency. Efficiency and Profitability of Automobile companies have impact of financial leverage. In automobile company, asset involving debt affect its revenue and thus affect profitability also. It is established that financial leverage have a significant impact on financial performance. Overall efficiency of the firm is examined by total asset turnover ratio as it includes non- current assets and current assets. Company acquire asset only to generate more revenue by sales. In Automobile companies, the assets financed by debt have impact on Asset Turnover ratio. Net profit margin indicates the overall profitability of the company. Profitability is enhanced by the use of debt, only when the company's earnings are higher than the borrowed fund interest. In automobile companies there is a negative relationship between these two concepts. If debt enlarges, after a point the profitability starts decreasing and there is also an impact of debt on profitability. Current ratio examined the overall liquidity and accurately reflects the short term solvency of the company. So it is suggested to maintain the present condition by not allowing the debt to affect its smooth current working financial situation.The company capacity to pay off its debt is ascertained by Interest coverage ratio. In other words, from the available earnings, it can pay its present interest payments. It is found to be a good suggestion to other companies of different industries also. The Overall turnover from the acquired assets can also be increased by way of increasing sales. Inspite of debt, better management of company's inventory will also increase the turnover from assets. The borrowers like bank and other financial institution can provide low interest debt to attract the companies, or the company can negotiate for low interest debt, better term payments, amortization schedules etc. Then it will be of a great help to the companies to increase its earnings, efficiency and overall financial performance.

CONCLUSION

The Empirical study about financial leverage and financial performance is carried out. It is

found that there is an impact of leverage on efficiency and profitability. Liquidity andsolvency found no impact by leverage. The results of Panel Data Regression Analysis indicates that Random Effect Model is appropriate for CR and NPR. Pooled OLS model is fit for ICR. TATR is apt with Fixed Effect Model. Additional variables and more samples canbe included for further research under this industry is left for future researchers. By which it triggers the interest more about this topic in Indian Industry. Value of asset and the earnings will decrease due to the increase of debt of selected Automobile companies. This particular industry debt borrowing does not have impact on CR and ICR. The overall finding is by reducing the debt to slender portion, this particular industry can avoid the negative impact. This study helps the decision makers to decide financial management accordingly and helpsto build a strong capital structure. The financial performance of Automobile firms in Automobile Industry will improve by proper implementation of capital restructuring and financial leverage. It will help to develop the Automobile Industry and the economy of India.

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A1: Table-1 Automobile companies with Average Market Capitalization

S.No	Automobile Companies	Average Market Capitalization Amount (Rs in Crores)
1	Mahindra & Mahindra Ltd	100735.79
2	MothersonSumi Systems Ltd	66328.45
3	Balkrishna Industries Ltd	35239.55
4	Bharat Forge Ltd	29683.53
5	TVS Motor Company Ltd	28078.56
6	Sundram Fasteners Ltd	14746.07
7	Minda Industries Ltd	14684.13
8	Amara Raja Batteries Ltd	14583.45
9	Apollo Tyres Ltd	14052.52

Source: AMFI January to June 2021 Report

A2: Table-2 Variables Description

Concept	Variables	Measures
Financial leverage (Independentvariable)	Debt Ratio	Debt to Total asset
	Debt Equity Ratio	Debt to Equity
Financial Performance (Dependent variable)	Current Ratio- Liquidity	Current Asset to Current Liability (measures short term solvency)
	Interest Coverage Ratio - Solvency	Earnings before Interest &Tax to Interest (measure debt servicing capacity of the firm)
	Total Asset Turnover Ratio- Efficiency	Sales to Total Asset (measure of firm's ability in generating sales from asset)
	Net Profit Ratio- Profitability	Net Profit to Sales (measure firm's overall profitability).

Source: IM Pandey book (2015)

A3: Table-3 Descriptive Statistics

Variables	Observation	Mean	Standard Deviation	Variance	Skewness	Kurtosis
DR	90	0.18	0.11	0.01	0.79	0.66
DER	90	0.39	0.31	0.10	1.49	2.84
CR	90	1.34	0.46	0.21	1.13	1.25
ICR	90	69.81	282.94	8.01	8.13	70.90
TATR	90	1.17	0.48	0.23	0.53	-0.33
NPR	90	0.09	0.05	0.00	0.41	-0.32

Source: Computed data

A4: Table-4 Breusch Pagan and Hausman Test for Current Ratio

	Cross section	Time	Both
Breusch pagan statisticsProb.	187.8196 (0.0000)	3.597394 (0.0579)	191.4170 (0.0000)
	Chi sq.	**d. f**	**Prob.**
Hausman test	1.754069	2	0.4160

Source: computed data

A5: Table-5 Random Effect Model for Current Ratio

Dependent Variable: Current Ratio		
Sample : 2012 to 2021		
Total Observation: 90		
	Coefficient	**Prob.**
C	1.412807	0.0000
DR	-0.303175	0.8484
DER	-0.039222	0.9382
R-Sq. value		0.018729
Adj. R-Sq. value		-0.003829
F statistics		0.830267
Prob.		0.439357

Source: computed data

A6: Table-6 Breusch Pagan Test for Interest Coverage Ratio

	Cross-section	**Time**	**Both**
Breusch pagan statistics	1.328334 (0.2491)	0.189738 (0.6631)	1.518072 (0.2179)

Source: computed data

A7: Table-7 Pooled OLS Model for Interest Coverage Ratio

Dependent Variable: Interest Coverage Ratio		
Sample : 2012 to 2021		
Total Observation: 90		
	Coefficient	**Prob.**
C	218.7647	0.0012
DR	-1597.633	0.1256
DER	360.0970	0.3403
R-Sq. value		0.074126
Adj. R-Sq. value		0.052841
F statistics		3.482625
Prob.		0.035076

Source: computed data

A8: Table-8 Breusch Pagan and Hausman Test for Total Asset Turnover Ratio

	Cross-section	**Time**	**Both**
Breusch pagan statistics	93.67489 (0.0000)	1.106203 (0.2929)	94.78109 (0.0000)
	Chi-sq.	**d.f**	**Prob.**
Hausman test	8.148370	2	0.0170

Source: computed data

A9: Table-9 Fixed Effect Model for Total Asset Turnover Ratio

Dependent Variable: Total Asset Turnover Ratio		
Sample : 2012 to 2021		
Total Observation: 90		
	Coefficient	**Prob.**
C	1.349622	0.0000
DR	-3.728555	0.0179
DER	-1.272737	0.0109
R-Sq. value		0.802276
Adj. R-Sq. value		0.777248
F statistics		32.05471
Prob.		0.000000

Source: computed data

A10: Table-10 Breusch Pagan and Hausman Test for Net Profit Ratio

	Cross-section	**Time**	**Both**
Breusch pagan statistics	185.0723 (0.0000)	1.393335 (0.2378)	186.4657 (0.0000)
	Chi-sq.	**d.f**	**Prob.**
Hausman test	3.500434	2	0.1737

Source: computed data

A11: Table-11 Random Effect Model for Net Profit Ratio

Dependent Variable: Net Profit Ratio		
Sample : 2012 to 2021		
Total Observation: 90		
	Coefficient	**Prob.**
C	0.099235	0.0000
DR	-0.215629	0.0864
DER	-0.127366	0.0018
R-Sq. value		0.392569
Adj. R-Sq. value		0.378605
F statistics		28.11303
Prob.		0.000000

Source: computed data