Financial Leverage: A Study based on Indian Automobile Industry

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ABSTRACT

Survival of a company not only depends on earning potential but also it depends on its capital structure. Any company should design their capital structure considering their present financial solvency position, earning potential and future growth opportunity that prevails for their company. Further, the capital structure not only determines the future survival of the company but also it determines the long-term solvency and earning potential of the company. Thus, the management should design their capital structure in a manner, where their long-term financial solvency and earning potential may be maximized to a maximum extent. Thus, in this study an attempt has been made to ascertain the financial leverage of Indian automobile industry. The result of the study disclose that return on investment, size of the company, liquidity, asset structure, growth in sales and tax provision determines the financial leverage of Indian automobile industry.

Keywords: Financial Leverage, Automobile Industry, Long-term Solvency.

INTRODUCTION

The financial success of a firm depends mainly on its capital structure. Firms with unplanned Capital Structure can prosper in short run but face difficulties in mobilizing additional funds and in increasing the value of the business in the long run. The choice of debt and equity in the capital structure of corporate firms is an important financial decision because it influences both the return and the risk of shareholders. The excessive use of debt may endanger the survival of the corporate firm, at the same time; non-use of debt prevents the firm from an opportunity to enhance the rate of return to its equity holders. It is generally understood that the optimal capital structure of a firm is the composition of debt and equity which results in the minimum cost of capital and thus determination of an optimal capital structure is not an exact science. The firms have to analyze a number of factors such as the firm's business risk, its financial flexibility, shareholders' wealth maximization, source of funds, acquisition and maintenance of a good rating in the market, profitability and growth rate before deciding upon an appropriate capital structure. All these factors are a pointer to one important fact that companies will have to search for the right capital structure which enhances its value while minimizing costs. A company's capital structure depends on tangibility of asset (Vunyale Narebder abd Abhinar Sharma, 2006), Size of the firm (Murray Z. Frank and Vidhan K. Goyal, 2007), Profitability (Hanjoon Kim, Paul D Berger, 2008),

liquidity (Raghvir Kaur and Krishnaa Rao, 2009), Tax Rate (Ayesha Mazhar and Mohamed Nasr, 2011), availability of growth opportunity for the firm (Wafaa Sbeti and Imad Moosa, 2012). Thus, in this chapter an attempt has been made to ascertain the financial leverage of selected companies and also factors influencing the financial leverage.

REVIEW OF LITERATURE

Booth, Aiazian, and Kunt demirgne, and Maksimoie (2001) in their study titled "Capital Structure in Developing Countries" ascertains that optimal capital structure choice in developing countries is strongly influenced by factors such as size, asset structure, profitability and short term financial distress cost. Saumitra N Bhaduri (2002) in her study entitled "Determinants of Corporate Borrowing: Some Evidence from the Indian Corporate Structure" identifies that growth, size cash flow, uniqueness, and industry character influences the capital structure of corporate firms. Mohanty (2003) in his study captioned "A Review of Research on the Practices of Corporate Finance" finds that companies that spend a large sum of money on advertisement and Research and Development expenditure are least levered. Voulgaris and Asteriou (2004) in their study captioned "Size and Determinants of Capital Structure in the Greek Manufacturing Sector" identifies that profitability is a major determinant of the capital structure. The efficient assets management and asset growth are found essential for the debt structure of LSEs and the current assets, size, growth and fixed assets, which were found to affect the SMEs group. Sahoo and Omkarnath (2005) in their study captioned "Capital structure of Indian Private Corporate Sector: An Empirical Analysis" reveals that non-debt tax shield, asset structure and profitability are the most important factor in the determinants of long term capital structure.

Alexander Kurshev and Ilya A. Strebulaev (2006) in their study titled "Firm Size and Capital Structure" observe that the firm size has been empirically found to be strongly positively related to capital structure. The small firms choose more debt financing than equity. But large firms will prefer more on equity which indicates lead to lower or average leverage. Martin Hovey (2007) in his study captioned "Leverage, Profitability and the Ownership Structures of Listed Firms in China" ascertains that profitability, growth opportunities, size, age and non-debt tax shields are found to be significant with leverage. Hanjoon Kim, Paul D Berger (2008) in their study entitled "A Comparison of Capital Structure Determinants: The United States and Republic of Korea" finds that profitability was the only significant determinant of the leverage ratios, Raghvir Kaur and Krishnaa Rao (2009) in their article entitled "Determinants of Capital Structure: Experience of Indian Cotton Textile Industry" finds that profitability, growth opportunities, liquidity and business risk are the most important determinants of capital structure. Ayesha Mazhar and Mohamed Nasr (2011) in their study captioned "Determinants of Capital Structure Decisions Case of Pakistani Government Owned and Private Firms" observes that Size, Growth Rate, and Tax rate are positively related with leverage. Wafaa Sbeti and Imad Moosa (2012) in their study titled "Firm specific factor as Determinants of Capital Structure in the absence of Taxes" indicate that growth opportunity and profitability are important determinants in determining capital structure.

STATEMENT OF THE PROBLEM

Financial Strength indicates the financial position of the enterprise. An enterprise is deemed to be financially sound if it is in a position to carry on its business smoothly and meet all its obligations both long-term as well as short-term without strain. The evaluation of financial strength of an enterprise is useful for all the parties interested in the enterprise directly or indirectly such as share-holders, creditors, investors, deposit-holders, financial institutions, Government, economists, trade unions, employees, public and researchers etc. Long-term financial strength depends on the structure that has been imposed on the business in financing more permanent asset requirements.

The long-term creditors such as shareholders, debenture holders and long-

term lenders are most concerned with the long-term financial strength. They are primarily interested in whether the enterprise has ability to pay regularly interest due to them and to repay the principal at the maturity date. Therefore, for the long-term financial strength of the enterprise, the capital structure of the enterprise is to be taken into consideration. Thus, in this study an earnest attempt has been made to identify factors influencing financial leverage for the effective functioning of automobile industry.

OBJECTIVE OF THE STUDY

- To examine the Long-term Financial Strength of the select units in the Indian Automobile Industry.

SCOPE OF THE STUDY

Financial analysis is the procedure of ascertaining the operating and financial characteristics of a firm from accounting and financial statements point of view. The aim of the analysis is to determine the effectiveness or performance of a firm's management as reflected in the financial records and reports. The analyst endeavours to determine the Indian Automobile Industry long-term solvency position and to prove that their business is conducted in a rational and normal way and built a confidence in the minds of their shareholders that they may receive expected rate of return, thereby they try to maintain its market value.

Keeping in view the interest of investors and the society as a whole, the present study has been confined to Automobile Industry comprising of 23 companies for the period ranging between 2008 and 2017.

RESEARCH METHODOLOGY

The present study is analytical in nature. The variables used in the study have been selected after a detailed survey of the available literature on the subject and discussions with several knowledgeable persons in the field of finance.

Data

Data used for the study are secondary in nature. Secondary data are collected from Capitaline Plus data base. The variables used in the study have been selected after a detailed survey of the available literature on the subject and discussions with several

knowledgeable persons in the field of finance.

Sampling

The first step in selecting companies has been the identification of a global set from which all further selections have been performed. A list of companies that constitutes the population has been drawn from the Capitaline plus database. The present study is based on a composite sample of 55 companies with five sectors ranging in size from four to six companies. The sample has been chosen on the basis of purposive sampling. Companies for which information relating to profit and loss account and balance sheet is available for most of the years under study have been included in the sample. Initially, 55 companies, comprising of 11 Commercial Vehicles, 5 Motor Cycles/Mopeds, 15 Passenger Cars, 14 Scooters and Three Wheelers and 10 Tractor, have been identified. But, on scrutiny, it has been found that some companies have data for the entire study period, while the others do not.

S.No.	Company Name
Light Commercial Vehicle	
1	Ashok Leyland Ltd.,
2	Eicher Motors Ltd.,
3	Force Motors Ltd.,
4	SML ISUZU Ltd.,
5	Tata Motors Ltd.,
Scooters and Three Wheelers	
1	Scooters India Ltd.,
2	Atul Auto Ltd.,
3	LML Ltd.,
4	Maharashtra Scooters Ltd.,
Passenger Cars	
1	Hindustan Motors Ltd.,
2	Honda Siel Cars
3	Hyundai Motor India Ltd.,
4	Maruti Suzuki India Ltd.,
Motorcycles / Mopeds	
1	Hero Motocorp Ltd.,
2	Kinetic Engineering Ltd.,
3	Majestic Auto
4	TVS Motor Company Ltd.,
Tractors	
1	Escorts Ltd.,
2	HMT Ltd.,
3	International Tractors Ltd.,
4	Mahindra and Mahindra Ltd.,
5	Tractors and Farm Equipment Ltd.,
6	VST Tillers Tractors Ltd.,

The inclusion of companies having data for a heterogeneous period of time would

undoubtedly distort the method of analysis. As such, the sample finally holds 23 companies for which the much-needed financial information is available for the entire study period. Thus, companies selected for the study are:

Period of Study

The study covers period of ten years from 2008 to 2017. The financial year runs from 1st April to 31st March every year.

Framework of Analysis

The statistical tools used to analyze the data include (i) Correlation and (ii) Multiple Regression.

LIMITATIONS OF THE STUDY

Financial information collected for the present study is entirely secondary in nature. In such a case, the study carries all the limitations inherent with the secondary data and financial information.

The study is restricted to select companies for the period of ten years. While computing the data for the purpose of analysis, the approximation of decimal places leads to minor variations in ratios as well as percentage analysis and hence these are bound to exist in the present study.

Further, the annualized data are unlikely to reveal the true financial performance of the sample companies. The hidden inconsistencies of the financial statements are not probed into. While extending the results of the study, one should be careful to use the same judiciously by taking the limitations into consideration.

FINDINGS

Nature of Association of Select Variables with Financial Leverage

Data of Light Commercial Vehicle, Motor Cycle Companies, Passenger Car Companies, Scooter Companies and Tractor Companies are pooled together and named as Automobile Industry. In order to examine the nature and quantum of association of variables with financial leverage, correlation analysis is used. Debt Equity ratio has introduced as Dependent Variable, for measuring financial leverage of the company. Return on Investment, Size, Liquidity, Cost of Debt, Asset Structure, Growth in Sales and Tax Provision are introduced as Independent variables. Out of seven variables selected six variables are found to be significant. Return on Investment, Size, Liquidity, Asset Structure and Tax Provision are found to be significant at one per cent level. Growth in Sales is found to be significant at five per cent level. The findings of the study are similar to the findings of Toy et al (1974), Carelton and Siberman (1997), Voulgaris and Asteriou (2004), Chandra Sekhar Mishra (2005), Mallikarjunappa, Goveas and Carmelita (2007), Erdinc Karadeniz, Serkan Yilmaz Kandir, Mehmet Balcilar, Yildirim Beyazit Onal (2009).

Table 1: Variables associated with Financial Leverage

Variables	r	r^2
Return on Investment	-0.326**	0.107
Size	0.224**	0.050
Liquidity	-0.308**	0.095
Cost of Debt	0.011	0.000
Asset Structure	0.249**	0.062
Growth	-0.176*	0.031
Tax Provision	-0.209**	0.044

* Significant at five per cent level
**Significant at one per cent level

i. Return on Investment

Return on Investment and financial leverage are negatively correlated. This shows that level of financial leverage is more with companies, where Return on Investment is low. The coefficient of determination (r^2) shows that Return on Investment accounts for 10.70 per cent of the variation in the financial leverage.

ii. Size

Size and financial leverage are positively correlated. This shows that level of financial leverage is more with large size companies. The coefficient of determination (r^2) shows that size accounts for 05.00 per cent of the variation in the financial leverage.

iii. Liquidity

Liquidity and financial leverage are negatively correlated. This shows that financial leverage will be high for companies with low liquidity. The coefficient of determination (r^2) shows that liquidity accounts for 09.50 per cent of the variation in the financial leverage.

iv. Asset Structure

Asset Structure and financial leverage are positively correlated. This shows that increase in fixed asses leads to increase in financial leverage. The coefficient of determination (r^2) shows that asset structure accounts for 06.20 per cent of the variation in the financial leverage.

v. Growth in Sales

Growth in Sales and financial leverage are negatively correlated. This shows that decline in sales leads to increase in financial leverage. The coefficient of determination (r^2) shows that growth in sales accounts for 03.10 per cent of the variation in the financial leverage.

vi. Tax Provision

Tax Provision and financial leverage are negatively correlated. This shows that reduction in tax rate provision leads to increase in financial leverage. The coefficient of determination (r^2) shows that tax provision accounts for 04.40 per cent of the variation in the financial leverage.

Determinants of Financial Leverage

In order to find out the variables that determine financial leverage, all the variables included for correlation analysis have been regressed on Debt Equity Ratio. The following regression equation has been framed to ascertain the impact of the variables on financial leverage:

FL= a + b₁ LEV+ b₂ S + b₃ AG + b₄ WCR + b₅ ETIR + b₆ GIS + b₇ ATR + e

Where,

FL	=	Financial Leverage
a	=	Intercept Term
b₁....b₇	=	Regression Coefficients
ROI	=	Return on Investment
S	=	Size
Li	=	Liquidity
COD	=	Cost of Debt
AS	=	Assets Structure
GIS	=	Growth in Sales
TP	=	Tax Provision
e	=	Error Term

The results of regression analysis are consolidated in Table 2. Out of seven variables introduced, only two variables are found to significant. Return on Investment and Liquidity are found to be significant at one per cent level. The result of the study is similar to the result of Carelton and Siberman (1997).

Table 2: Determinants of Financial Leverage

Variables	Regression coefficient	Standard error	t
Return on Investment	-0.022**	0.008	-2.722
Size	-0.001	0.000	-1.349
Liquidity	0.601**	0.174	3.447
Cost of Debt	-0.001	0.003	-0.229
Asset Structure	0.007	0.020	0.354
Growth	-0.004	0.004	-0.901
Tax Provision	-0.008	0.006	-1.216

* Significant at five per cent level
**Significant at one per cent level
Constant: 1.044, Std. Error of Estimate: 0.261, R²: 0.180, R²: 0.208**

i. Return on Investment

The regression coefficient indicates that Return on Investment negatively influence the financial leverage.

The value of regression coefficient indicates that a unit of decrease in Return on Investment shall increase financial leverage by 0.022 units. Reduction in return on investment leads to increase in financial leverage.

ii. Liquidity

The regression coefficient indicates that liquidity negatively influence the level of financial leverage. The value of regression coefficient indicates that a unit of decrease in Liquidity shall increase financial leverage by 0.601 units. Decrease in Liquidity leads to higher level of financial leverage.

The value of R^2 is found to be significant at one per cent level. This shows that the regression equation framed is a good fit.

Around 20.80 per cent of variation in level of financial leverage is due to the selected independent variables.

SUGGESTIONS

- When return on investment is low or deteriorating, it is advised to mobile cheap source of capital. Further, when return on investment is high, then company may mobilize more quantum of capital by issue of debentures and vice-versa.
- Small size companies are advised to collect their required amount of capital by issue of debentures than equity shares.
- Companies with low liquidity may choose cheap source of finance for mobilizing their capital
- High quantum of debt should be mobilized by the company, when the corporate tax provision is high, thereby cost of debt may be minimized

CONCLUSION

From the study it is inferred that company's financial leverage or capital structure of a firm depends on return on investment, size of the company, liquidity, asset structure, growth in sales and tax provision. Automobile companies considering the present financial and earning capacity and future growth potentials available for their industry should design their capital structure without affecting their short-term as well as long-term solvency position of the company.

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