DETERMINANTS OF CAPITAL STRUCTURE
WITH SPECIAL REFERENCE TO SELECTED
AUTOMOBILE COMPANIES

S.K.Kavitha¹ and Dr.V.Mohanraj
¹Ph.D Research Scholar
PG and Research Department of Commerce
Sri Vasavi college, Erode.

²Associate Professor
PG and Research Department of Commerce
Sri Vasavi college, Erode.

Abstract: This study aims to explore the various factors that determine the choice of financing sources for selected five Indian automobile companies. The effect of firm’s cost of debt, size, profitability, liquidity and collateral value of asset on capital structure of BSE listed five automobile companies is investigated. Panel data of five companies for ten years (2006-2016) is studied through regression analysis. It is found that capital structure has negative relation with liquidity while it is positively related with cost of debt, size of the business, liquidity, profitability and collateral value of asset.

Key words: liquidity, profitability, cost of debt, size and collateral value of asset.

1. Introduction:

Capital structure consists of debt and equity used to finance the firm. Capital structure in finance term means the way a firm finance his asset across the blend of debt, equity or hybrid securities. Capital structure decisions are vital for the financial soundness of the company. Inappropriate decisions about the capital structure may lead to financial distress and eventually to bankruptcy. India is an emerging market for worldwide auto giants. The Pharmaceutical industry is one of the key drivers of Indian economy, accounting for around 4 percent of India’s GDP.

The determinants of capital structure have been widely discussed subject in the finance literature. The purpose of this paper is to determine the relationship between the firm’s capital structure and its industrial cost of debt, size, liquidity, profitability and collateral value of asset.

2. Review of literature

A survey of literature shows that a large number of researchers have carried out extensive research in the field of capital structure. Some of them are, Mawih kareem AL ANI (2015) analysed determinants of capital structure of Omani Listed industrial companies and found that size and risk are negatively associated with leverage and profitability is positively associated. Dr. Rashmi Soni (2015) concluded in his study that there is no strong relation found between any determinants of capital structure of Indian automobile industry. Maryam masnoon(2014) in her study “determinants of capital structure of KSE listed automobile companies” found that none of the variables are strongly correlated with capital structure. Profitability and liquidity are reported to have
negative impact while size and tangibility have insignificant effect on capital structure. M.S. Ramaratnam(2013) tested the influence of determinants on capital structure and presented the result as net profit margin, tangibility ratio, return on total asset and total depreciation to total assets are the major determinants of capital structure. Prof. Nikhil Bhusan Dey (2013) in his study capital structure of selected petroleum companies in India he found that all the selected companies are running with low debt fund and employs largely shareholders fund. Ray sara priya(2012) in her study she revealed that the major determinants of capital structure in Indian aluminium Industry were tangibility, profitability, life growth, volatility and non-debt tax shields. Liaqat Ali(2011) in his result of the study which was based on the fixed effect estimation shows that all the five explanatory variables in the model. Firm size, growth, non-tax shield, profitability and asset tangibility have strong significant influence on financial leverage. Franklin John S & Muthusamy(2011) in their study in Indian pharmaceutical Industry concluded that variables like Interest, asset structure, retained earnings and intrinsic value of share are positively associated with leverage while cash flow and interest coverage is negatively associated with leverage. Amarjit Gill & Neil Mathur(2011) in their study in Canadian firm concluded that, Financial leverage of Canadian firms is influenced by the collateralized assets, profitability, effective tax rate, firm size, growth opportunities, number of subsidiaries and industry dummy. Vijay kumar(2009) he exhibited that Industry class, size and profitability are the most significant factors which influence to a great extent of the financial structure of Indian Automobile Industry.

3. Statement of the problem

The determinants of capital structure still remains elusive despite much research done over the past three decades. The pharmaceutical sector has not been widely studied in the context of capital structure. The relationships between a firm’s capital structure and its size, profitability and other similar operating characteristics have gained considerable importance. As a result of debt dominated capital structure the Indian corporate are expected to a very high degree of total risk as reflected in high degree of capital structure, only a few researches undergone taking cost of debt as one of the independent variable. Keeping in view an attempt is made to seek the extent up to which the factors are related to capital structure.

4. Objectives of the study:

The proposed research is intended to examine the determinants of capital structure in five Indian Automobile Companies.

Hypothesis:

Based on the objectives the following hypotheses are framed and tested.

[1] There is no significant relationship between Cost of Capital and Capital Structure.
[3] There is no significant relationship between Capital Structure and Liquidity.
[4] There is no significant relationship between Capital Structure and Profitability.
[5] There is no significant relationship between Capital Structure and Collateral Value of Asset.

5. Methodology

To analyse the factors determining the capital structure of Indian Automobile Companies, the secondary data have been collected from the CMIE Data Base maintained by Centre for Monitoring Indian Economy, Mumbai. For the purpose of analysis, five Indian Automobiles like Tata Motors Ltd, Mahindra & Mahindra Ltd, Maruti Suzuki Ltd,
Hero Motors Ltd and Bajaj Auto Ltd have been selected as Sample for the present study. The data have been collected for the period of ten years from 2005-06 to 2015-16. The statistical technique Multiple Regression Analysis has been applied.

6. **Determinants of capital structure**

In this part an attempt is made to measure the degree of relationship that exists between a firm’s capital structure and the different factors which have bearing on the capital structure. Multiple regression analysis has been applied to measure the effects of the independent variable on the dependent variable. The model to be estimated using from specific cross section data proposed is as follows

\[
CS = \beta_0 + \beta_1 COD + \beta_2 SIZ + \beta_3 LIQ + \beta_4 PROFIT + \beta_5 CVA + \varepsilon.
\]

Where,

- **CS** = Capital Structure
- **COD** = Cost Of Debt
- **SIZ** = Size
- **LIQ** = Liquidity
- **PROFIT** = Profitability
- **CVA** = Collateral Value of Asset
- **\varepsilon** = Standard Error

7. **Model specification**

**Cost of debt**

The cost of debt is the return that the firm’s creditors demand on new borrowings. In a capital structure, the company has to look to the factors of cost when securities are raised.

**Size:**

The cost of issuing debt and equity securities is also related to firms size. The bigger the size the wider its total capitalization.

**Liquidity:**

Liquidity ratios are mostly used to judge a firm’s ability to meet its short term obligations. It is measured as the ratio of current asset to current liabilities.

**Profitability:**

Profitability expresses the profit or gain of a firm indicating the firm is performing well or not. It is one of the factors affecting the capital structure of firm.

**Collateral value of asset:**
Issuance of debt secured by assets, the firm can avoid higher interest costs, and high issuing cost also. for these reasons, the firms with assets that can be used as collateral may be expected to issue more debt.

TABLE 1
FACTORS DETERMINING CAPITAL STRUCTURE OF SELECTED AUTOMOBILE COMPANIES – REGRESSION ANALYSIS

[DEPENDENT VARIABLE – CAPITAL STRUCTURE (CS)]

(CS = β0 + β1 COD + β2 SIZ + β3 LIQ + β4 PROFIT + β5 CVA)

<table>
<thead>
<tr>
<th>Co.Name</th>
<th>Const</th>
<th>COD</th>
<th>Size</th>
<th>Liq</th>
<th>profit</th>
<th>CVA</th>
<th>Adj R²</th>
<th>R²</th>
<th>F value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TML</td>
<td>0.79</td>
<td>0.000**</td>
<td>0.042</td>
<td>0.00</td>
<td>0.026**</td>
<td>-</td>
<td>0.98</td>
<td>0.96</td>
<td>45.23</td>
</tr>
<tr>
<td></td>
<td>0.000**</td>
<td>(0.999)</td>
<td>(3.87)</td>
<td>(0.37)</td>
<td>(1.449)</td>
<td>(-)</td>
<td>0.358</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MML</td>
<td>1.44</td>
<td>0.031*</td>
<td>0.182**</td>
<td>0.57</td>
<td>1.052*</td>
<td>-</td>
<td>0.99</td>
<td>0.97</td>
<td>52.87</td>
</tr>
<tr>
<td></td>
<td>(5.5)</td>
<td>(3.33)</td>
<td>(3.122)</td>
<td>(4.21)</td>
<td>(9.397)</td>
<td>(-)</td>
<td>(5.03)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSL</td>
<td>0.19</td>
<td>0.001***</td>
<td>0.002**</td>
<td>0.093**</td>
<td>0.100NS</td>
<td>-</td>
<td>0.81</td>
<td>0.56</td>
<td>3.35**</td>
</tr>
<tr>
<td></td>
<td>0.03</td>
<td>(1.787)</td>
<td>(0.03)</td>
<td>(2.690)</td>
<td>(0.409)</td>
<td>(-)</td>
<td>(0.167)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HML</td>
<td>0.89</td>
<td>0.000*</td>
<td>0.026</td>
<td>0.00</td>
<td>0.00</td>
<td>-</td>
<td>0.99</td>
<td>0.98</td>
<td>96.65</td>
</tr>
<tr>
<td></td>
<td>0.00</td>
<td>(2.584)</td>
<td>(15.3)</td>
<td>(0.02)</td>
<td>(0.829)</td>
<td>(-)</td>
<td>(0.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAL</td>
<td>0.50</td>
<td>0.002N NS</td>
<td>0.155***</td>
<td>0.157**</td>
<td>0.106**</td>
<td>-</td>
<td>0.99</td>
<td>0.97</td>
<td>56.06</td>
</tr>
<tr>
<td></td>
<td>0.106**</td>
<td>(1.308)</td>
<td>(2.535)</td>
<td>(2.350)</td>
<td>(1.798)</td>
<td>(-)</td>
<td>(6.33)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The estimated regression model for the capital structure is depicted in the table 1. It is found from the table the overall value of R2 is 95.2%. It suggests that variables cost of debt, size of the firm, liquidity, profitability and collateral value of asset explains 88 percent variation in the capital structure which is statistically significant in case of selected automobile companies. This is well evident from their respective F values. Regression analysis shows that the independent variable cost of debt is negatively related to capital structure but statistically significant in case of two companies and positively related to capital structure and statistically significant in three companies. Hence we reject the null hypothesis.

Size is negatively related to capital structure in two companies and statistically significant. It is positively related with capital structure in case of two companies, Tata Motors and Hero Motors which is statistically significant and hence the hypothesis is rejected.

It is clear from the table that variable liquidity is positively related to capital structure in three companies namely Mahindra & Mahindra, Tata Motors and Hero Motors. Liquidity is negatively related with capital structure in case of Maruti Suzuki and Bajaj Auto Ltd but statistically significant in which the hypothesis is rejected.

Regression analysis clearly indicates that profitability is negatively related to capital structure in four sample companies. The hypothesis that there is no significant relation between capital structure and profitability is rejected.
Collateral value of asset is negatively related to capital structure in three automobile companies. It is positively related to capital structure in case of Hero Motors and Bajaj Auto Ltd and hence the hypothesis is rejected.

8. Findings of the study

[1] The first hypothesis of this paper concerns that there is no significant association between a firm’s capital structure and its cost of debt. The current investigation rejects the hypothesis.

[2] It should be noted that the association between size and capital structure is significant for the sample companies selected so the null hypothesis is rejected.

[3] The third hypothesis of this paper deals with the relationship between a firm’s capital structure and liquidity. The regression analysis made clear that the relationship was significant in case of sample companies hence the alternative hypothesis is accepted.

[4] The association between the firm’s capital structure and their profitability shows that there is a significant relation between them and the hypothesis framed is rejected.

[5] The final hypothesis strongly confirms the relationship between collateral value of asset and capital structure for sample companies.

9. Conclusion

To find out the determinants of capital structure, top five Automobile companies based on total assets are selected. Panel data is used for the research and the time horizon selected is a period of ten years from 2006-2016. In this paper, factors which have significant influence on capital structure have been studied. For a regression model five independent variables cost of debt, size, liquidity, profitability and collateral value of asset are considered to predict capital structure. Regression analysis shows that cost of debt, size, liquidity and collateral value of asset have positive relationship. Profitability has negative relationship with capital structure. Therefore it is concluded that cost of debt, size, liquidity, profitability and collateral value of asset are strong determinants of capital structure of sample companies.

This is confined to top five Automobile companies it doesn’t represent for whole automobile industry. Further researchers may consider that there is a possibility of other determinants which might have a strong relation with the ones studied.

10. References


