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A study on capital structure analysis of Tata motors limited

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Abstract
The capital structure is an important decision of the business to fix the combination or mixture of debt and equity capital of the company. The study examines the influence of capital structure on the performance of the company. In order to analyze the capital structure of Tata Motors Limited, a study had been conducted with the help of secondary data for the period of 5 years (i.e.) 2012 to 2016. The company's performance is measured through financial tools such as, ratio analysis and leverage. The ratios and leverage are the most important and reliable indicators to measure the financial performance of a company, as they check the current performance of the company and are very helpful for the management to take remedial measure if there is a declining trend. There are a number of determinants that affect the decisions taken whole determining the capital structure like cost of capital, control, flexibility, etc. Hence, the decision regarding capital structure is the crucial decision which should be taken by every business, as the positives and negatives of these decisions plays an important role in determining the future of the business.

Keywords: capital structure, ratio, leverage, debt and equity capital, optimum capital structure

Introduction

Capital structure is the combination of debt and equity which influences the overall cost of capital. The decision regarding the capital structure is very important because it affects the earnings per share or wealth of the shareholders. Capital structure is the crucial decision to be taken by every business, the positives and negatives of these decisions plays an important role in determining the future of every business. Capital structure plays a vital role in financial decision making process, maximizing the firm's performance and its value. The capital structure is the mix of different securities issued by firms for raising funds. Funds used for firms' operations are generated internally as well as externally. When raising funds externally, firms choose between equity and debt. The overall objective of the companies is to reduce the cost of capital and to maximize the value of the firm. Determinants of capital structure are mainly short term debt to capital ratio, long term debt to capital ratio and total debt to capital ratio. Usually, capital structure policy depends upon the company's size, ownership, profitability, various costs, earning growth and liquidity of a company's assets. In developing countries, optimum benefits of the debt and equity depends upon the managers that are engaged in the management of the financial issues of the company. Most of the effort of financial decision making process is centred on the determination of the optimal capital structure of a firm.

Statement of the Problem

The financial success of every firm depends mainly on its capital structure. A good capital structure of the company leads to stable profit and high earnings to the shareholders. The choice of debt and equity in the firm's capital structure is an important financial decision which influences both the return and risk of the 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. The company's performance has been evaluated by analysing its financial statement. The financial condition and the liquidity status of the company are of fluctuating nature. The value of earning per share (EPS) varies highly due to the changes in the debt and equity mix in the recent years. Hence, the optimum capital structure can be obtained by appropriate capital decisions in order to standardize their earning capacity. In a developing country like India, it is more important to acquire funds economically and allocate them effectively for the optimal growth of the company. Thus, attaining an optimum capital structure is a vital challenge for every company.

Review of Literature

Kaur Raghvir and Rao N Krishnan (2009) [1], have made a study on "The Determinants of Capital Structure" with the objective to attain the optimum capital structure. The study is based on secondary data, it have been collected from various sources like articles, publications, journals, and annual reports of the company. Ratios and multiple regression have been used to analyse the data. The study has highlighted the profitability, growth opportunities, liquidity and business risk of the company. It focused on the multiple and step wise regression analysis which has been carried out taking total debt to equity ratio as the dependent variable. The study has concluded that the ratios and cost of debt and equity are the major determinants of capital structure. The study has suggested to minimize the overall cost of capital and to maximize the value of the firm.

In order to examine the "Determinants of Capital Structure: A case study of Automobile Manufacturing Companies listed in NSE" Riyazahmed (2012) [2] has made a study with an objective to identify the variables namely, size, business risk, growth, earning rate, dividend payout, debt service, capacity and degree of operating leverage to access the influence on capital structure. It has been identified that the appropriate combination of debt and equity capital could minimize the overall cost of capital and maximise the value of the firm. The study has concluded that the management of the firm prefers the internal equity financing, debt financing and finally external equity financing. The dividend payout, debt service capacity, degree of leverage and business risk is the statistically significant determinants of financial leverage.

Objectives of the Study

The following are the objectives of the study:

- To assess the changes in proportion of debt and equity.
- To determine the capital structure of TATA motors during the study period.

Research Methodology

The study is based on the secondary data which have been collected from various sources viz., published annual reports and records of the company, journal, websites, etc., for the period from 2011-12 to 2015-16. Ratio analysis and Leverage has been used to analyse the data.

Data Analysis and Interpretation

Ratio analysis

A ratio is a simple arithmetical expression of the relationship of one number to another. It may be defined as the indicated quotient of two mathematical expressions. A ratio analysis is a quantitative analysis of information contained in a company's financial statements.

Ratio of reserves to equity capital

This ratio establishes the relationship between the reserves and equity share capital. It indicates the amount retained by the firm for future growth. Higher the ratio better will be the position of the firm.

$$\text{Ratio of Reserves to Equity Capital} = \frac{\text{Reserves}}{\text{Equity share capital}} * 100$$

Table 1: Ratio of reserves to equity capital (In crores)

Year	Reserve (Rs.)	Equity capital (Rs.)	Ratio (In times)
2011-2012	18991.26	634.75	29.91
2012-2013	18496.77	638.07	28.98
2013-2014	18532.87	643.78	28.78
2014-2015	14218.81	643.78	22.08
2015-2016	21688.90	679.18	31.93

(***Source*:** www.moneycontrol.com)

From the above table, it is noted that the ratio of reserves to equity capital is high in the year 2015-2016 with 31.93 times, whereas, it is low in the year 2014-2015 with 22.08 times. The ratios had been in a fluctuating trend during the study period (2011 – 2016). The higher ratio shows a better financial position of Tata Motors Ltd. Hence, the reserves and equity capital has to be raised to a certain extent in order to maintain an increasing trend in future.

Current assets to proprietor's fund

The purpose of this ratio is to calculate the percentage of shareholders' funds invested in current assets. There is no 'rule of thumb' for this ratio. Depending upon the nature of the business there may be different ratios for different firms.

$$\text{Current Assets to Proprietor's Fund} = \frac{\text{Current Assets}}{\text{Shareholder's Fund}} * 100$$

Table 2: Current assets to proprietor's fund, (In crores)

Year	Current assets (Rs.)	Proprietor's fund (Rs.)	Ratio (In percentage)
2011-2012	13712.96	19626.01	0.69
2012-2013	10134.96	19134.84	0.52
2013-2014	6739.06	19176.65	0.35
2014-2015	8572.97	14862.59	0.57
2015-2016	10705.91	22368.00	0.47

(***Source*:** www.moneycontrol.com)

From the above table, it is found that the current assets to proprietor's fund ratio show a fluctuating trend. The trend has occurred because the ratio is higher in the year 2011-2012 with 0.69% and it is lower in the year 2013-2014 with 0.35%. The value of proprietor's fund had been remained more or less same during the first three years of the study. Therefore, the value of current assets should be increased and kept constant in order to overcome the fluctuating trend and to have a good financial performance in future.

Fixed assets turnover ratio

This ratio measures the company's return on their investment in property, plant and equipment by comparing its net sales with fixed assets. It is the relationship between sales or cost of goods sold and fixed/capital asset employed in the business.

$$\text{Fixed Asset Turnover Ratio} = \frac{\text{Cost of Goods Sold or Sales}}{\text{Fixed Asset/Capital}}$$

Table 3: Fixed assets turnover ratio, (In crores)

Year	Sales (Rs.)	Fixed assets (Rs.)	Ratio (times)
2011-2012	54005.40	19056.19	2.83
2012-2013	44373.04	20208.54	2.19
2013-2014	33906.97	21595.64	1.57
2014-2015	35890.50	21824.02	1.64
2015-2016	41948.00	22244.86	1.88

(***Source*:** www.moneycontrol.com)

From the above table, it is depicted that the fixed assets turnover ratio is increasing in the year 2011-2012 with 2.83 times whereas decreasing in the year 2013-2014 with 1.57 times. It has been found during the study that the ratio fluctuates. Hence, there had been a poor performance of Tata Motors Ltd for the last three years, as it has not properly utilized its fixed assets in generating the revenue.

Capital gearing ratio

The term "capital gearing" is used to describe the relationship between equity share capital including reserves and surpluses to preference share capital and other fixed interest – bearing loans.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Share Capital} + \text{Reserves \& Surplus}}{\text{Preference Capital} + \text{Long term debt bearing fixed interest}}$$

Table 4: Capital gearing ratio, (In crores)

Year	Equity capital (Rs.)	Reserve (Rs.)	Long term debt (Rs.)	Ratio (In times)
2011-2012	634.75	18991.26	8004.50	2.45
2012-2013	638.07	18496.77	8051.78	2.37
2013-2014	643.78	18532.87	9746.45	1.96
2014-2015	643.78	14218.81	12318.96	1.21
2015-2016	679.18	21688.90	10687.94	2.09

(***Source*:** www.moneycontrol.com)

From the above table, it is noticed that the capital gearing ratio shows a fluctuating trend. The ratio is higher in the year 2011-2012 with 2.45 times and it is lower in the year 2014-2015 with 1.21 times. There had been a little change in the value of equity capital over the period of study. Therefore, the ratio had depicted a healthier position of the company because the equity and reserves are more sufficient to meet out the fixed bearing expenses.

Debt equity ratio

Debt Equity ratio, is also known as External – Internal Equity ratio which is calculated to measure the relative claims of outsiders and the owners (i.e. shareholders) against the firm's asset. The two basic components of the ratio are outsider's funds (external equities) and shareholder's funds (internal equities).

$$\text{Debt Equity Ratio} = \frac{\text{Outsiders Fund}}{\text{Shareholders}}$$

Table 5: Debt equity ratio, (In crores)

Year	Outsider's Fund (Rs.)	Shareholders fund (Rs.)	Ratio (In times)
2011-2012	29187.04	19626.01	1.48
2012-2013	28885.25	19134.84	1.50
2013-2014	27806.55	19176.65	1.45
2014-2015	32363.3	14862.59	2.18
2015-2016	27433.63	22368.00	1.23

(***Source*:** www.moneycontrol.com)

From the above table, it is found that the debt equity ratio shows a fluctuating trend. The ratio is increasing in the year 2014-2015 with 2.18 times and it is decreasing in the year 2015-2016 with 1.23 times. There had been a sudden change in the value of outsider's fund and shareholders fund in the year 2014-2015 when compared to other years of the study. Hence, the expected debt equity ratio will depend upon the future borrowings of the Tata Motors Ltd.

Fixed assets to funded debt ratio

The ratio measures the relationship between the fixed assets and the funded debt and is very useful to the long term creditors.

$$\text{Ratio of Fixed Asset to Funded Debt} = \frac{\text{Fixed Assets}}{\text{Funded Debt}}$$

Table 6: Fixed assets to funded debt ratio, (In crores)

Year	Fixed assets (Rs.)	Long term debt (Rs.)	Short term debt (Rs.)	Funded debt (Rs.)	Ratio (In percentage)
2011-2012	19056.19	8004.50	3007.13	1011.63	1.73
2012-2013	20208.54	8051.78	6216.91	14268.69	1.42
2013-2014	21595.64	9746.45	4769.08	14515.53	1.49
2014-2015	21842.02	12318.96	7762.01	20080.97	1.09
2015-2016	22244.86	10687.94	3351.74	14039.68	1.58

(***Source*:** www.moneycontrol.com)

From the above table, it is depicted that the fixed assets to funded debt ratio is high in the year 2011-2012 with 1.73% and it is low in the year 2014-2015 with 1.09%. It has been found during the study that this ratio shows a fluctuating trend. Therefore, the future performance of Tata Motors Ltd can either grow or decline based on the funded debts and fixed assets of the future period.

Leverage

The term leverage is commonly used to describe the firm's ability to use fixed cost assets or funds to increase the return to its owners i.e. equity shareholders. It is the power and relationship between two inter-related variables and these variables can be of output, sales, cost and profit.

Financial leverage

Financial Leverage is known as trading on equity and it is used to magnify the earnings of the shareholders. Financial leverage is associated with financial activities and it results from the presence of fixed financial charges in the income with the firm's EBIT.

$$= \frac{\text{Earnings before interest and tax (EBIT)}}{\text{Earnings before tax (EBT)}}$$

Table 7: Financial leverage, (In crores)

Year	EBIT (Rs.)	EBT (Rs.)	Ratio (In Times)
2011-2012	4166.39	2947.77	1.41
2012-2013	3380.31	1992.55	1.69
2013-2014	2382.02	1044.50	2.28
2014-2015	240.18	-1371.50	-0.17
2015-2016	4085.25	2604.14	1.56

(***Source*:** www.moneycontrol.com)

From the above table, it is noted that the financial leverage is higher in the year 2013-2014 with 2.28 times and it is lower in the year 2014-2015 with -0.17 times. It had been found during the study that the financial leverage show a fluctuating trend. The ratio was negative in the year 2014-2015, as the earnings before tax (EBT) was negative in that particular year. Hence, the Tata Motors Ltd should try to lower the degree of financial leverage in order to lower the financial risk in the future.

Operating leverage

Operating leverage may be defined as "the firm's ability to use operating costs to magnify the effects of changes in sales on its earnings before interest and taxes".

$$= \frac{\text{Sales}}{\text{Earnings before interest and tax (EBIT)}}$$

Table 8: Operating leverage. (In crores)

Year	Sales	EBIT (Rs.)	Ratio (In times)
2011-2012	54306.56	4166.39	13.03
2012-2013	44765.22	3380.31	13.24
2013-2014	34288.11	2382.02	14.39
2014-2015	36294.74	240.18	151.11
2015-2016	42369.82	4085.25	10.37

(***Source*:** www.moneycontrol.com)

From the above table, it is found that the operating leverage is increasing in the year 2014-2015 with 151.11times and it is decreasing in the year 2015-2016 with 10.37 times. It has been found from the study period that the operating leverage shows a fluctuating trend. Hence, in future, the Tata Motors Ltd should use the maximum level of operating costs in order to meet the future effects of changes in sales on its earnings before interest and taxes.

Combined leverage

Both financial and operating leverage magnify the revenue of the firm. Since, both these leverages are closely related with the ascertainment of the firm's ability to cover fixed charges (fixed operating cost in the case of operating leverage and fixed financial costs in the case of financial leverage), the sum of them gives the total leverage or combined leverage.

Combined Leverage
= Operating Leverage x Financial Leverage

Table 9: Combined leverage

Year	Financial leverage	Operating leverage	Ratio (In times)
2011-2012	1.41	13.03	18.37
2012-2013	1.696	13.24	22.47
2013-2014	2.28	14.39	32.83
2014-2015	-0.17	151.11	-26.46
2015-2016	1.569	10.37	16.27

(***Source*:** www.moneycontrol.com)

From the above table, it is depicted that the combined leverage shows a fluctuating trend. The combined leverage is high in the year 2013-2014 with 32.83 times and it is low in the year 2014-2015 -26.46 times. The negative value of combined leverage in the year 2014-2015 was due to the negative value of financial leverage in that particular year. Therefore, the future combined leverage may be expected to increase or decrease depending on the future performance of operating and financial leverage of Tata Motors Ltd.

Findings and Suggestions of the Study
Ratio analysis

- The reserves to equity capital ratio are high in the year 2015-2016 with 31.93 times and it is lower in the year 2014-2015 with 22.08. The higher ratio shows a better financial position of the company.
- The current assets to proprietor's fund ratio are used to calculate the percentage of shareholders fund invested in current assets. This ratio is higher in the year 2011-2012 with 0.69% and it is lower in the year 2013-2014 with 0.35%. Therefore, the value of current assets should be increased and kept constant in order to have a good financial performance in future.
- The fixed assets turnover ratio is increased in the year 2011-2012 with 2.83 times and it is decreased in the year 2013-2014 with 1.57 times. This ratio shows a poor performance of the company, as it has not properly utilized its fixed assets in generating the revenue.
- The capital gearing ratio shows a fluctuating trend. The ratio is higher in the year 2011-2012 with 2.45 times and lower in the year 2014-2015 with 1.21 times. The ratio had depicted a healthier position of the company because the equity and reserves are more sufficient to meet out the fixed bearing expenses.
- The debt equity ratio is increased in the year 2014-2015 with 2.18 times and it is decreased in the year 2015-2016 with 1.23 times. The debt equity ratio will depend upon the future borrowings of the company.
- Fixed assets to funded debt ratio is high in the year 2011-12 with 1.73% and it is low in the year 2014-2015 with 1.09%. The future performance of the can either grow or

decline based on the funded debts and fixed assets of the future period.

Leverage

- The financial leverage is higher in the year 2013-2014 with 2.28 times and it is lower in the year 2014-2015 with -0.17 times. The company should try to lower the degree of financial leverage in order to lower the financial risk in the future.
- The operating leverage is higher in the year 2014-2015 with 151.11 times and it is low in the year 2015-2016 with 10.37 times. Hence, in future, the company should use the maximum level of operating costs in order to meet the future effects of changes in sales on its earnings before interest and taxes.
- The combined leverage is high in the year 2013-2014 with 32.83 times and it is low in the year 2014-2015 with -26.46 times. The future combined leverage may be expected to increase or decrease depending on the future performance of operating and financial leverage of the company.

Conclusion

Every concern has the aim to frame the optimum capital structure to its business as maximising the value of the firm and minimising the cost of capital. The study is aimed to analyse the capital structure of "Tata Motors Limited" for the period of 2012-2016. The study has given the knowledge about the application of financial tools, its importance and its usefulness in determining the capital structure of Tata Motors Limited. The study has concluded that the optimum capital structure of Tata Motors Limited could be ascertained by using various ratios and leverage. The overall results of the study have shown that the equity and reserves of the firm should be sufficient to meet out the fixed bearing expenses and it has to lower the degree of financial leverage in order to overcome the financial risk in future. Thus, the capital structure of the TATA MOTORS shows a satisfactory position.

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