

IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY WITH SPECIAL REFERENCE TO TELECOM SECTOR IN INDIA

Reema Monga

Assistant Professor, Management Department
Gitarattan International Business School
Guru Gobind Singh Indraprastha University
Delhi, India

Abstract: The objective of this study is to ascertain the impact of capital structure on firm's profitability. This study is focused on Telecom Sector and nine companies are taken as sample for the period of five years. For the study purpose, the data has been collected from the secondary sources i.e. from the annual reports of the selected sample companies. Regression and correlation is used to analyse the data. The variables used for the study are Debt to Capital Ratio as the independent variable and Gross Profit Ratio, Operating Profit Ratio, Net Profit Ratio, Return on Assets, Return on Capital Employed and Return on Equity as the dependent variables. Results of the analysis show that there is a negative association between capital structure and profitability except the association between capital structure and gross profit ratio.

Index Terms: Capital structure, Profitability, Debt, Equity, Regression.

I. INTRODUCTION

Capital is the Financing for a business and essentially, it is comprised of borrowed and owners' funds. Firms can either utilize debt or equity capital in order to finance their assets. Capital structure refers to the amount of debt or equity through which a firm finances its overall operations and growth. Debt includes long term loans, notes payable, debentures and bonds, while equity is classified as common stock, preferred stock and retained earnings. Capital structure has diverged combinations and it is required for the firm to identify the one which provides maximum return to its shareholders.

Capital structure decision is vital for business firms. This decision arise the importance of selecting optimal capital structure. Optimal capital structure indicates the best proportion of debt and equity which results in maximization of firm's value and minimizing overall cost of capital. Capital structure is very significant as it is associated with the ability of the firm to finance its assets. Profitability is the potential of the company to generate profits from its operations. Capital structure affects the profitability of the companies. A company having more debt in its capital structure leads to higher interest payments thereby reducing net profit. But on the other side, debt capital also has a positive effect on profitability as the interest payments are tax-deductible, thereby reducing overall burden of tax. On the other hand, equity share holders expect a return on their investments in the form of dividends. As compared to debt financing, equity affects profitability in a smaller proportion as the amount of dividend is paid only when the company earns profit. Thus, a company with high debt to equity ratio results in higher financial risk.

II. DESCRIPTION OF KEY RATIOS

2.1 Capital Structure: Debt to capital

This ratio is the standard measure of Capital structure. Debt includes long term obligations. Total capital includes debt and shareholder's equity. It measures as $\text{debt}/(\text{debt} + \text{equity})$.

2.2 Gross profit ratio

It is a profitability ratio that shows the relationship between gross profit and total net sales revenue.

2.3 Operating profit ratio

It measures the profit generated by the operation of the firm.

2.4 Net profit ratio

It expresses the relationship between net profit after taxes and sales. It shows the firms' overall efficiency.

2.5 Return on Assets

It measures how efficiently a company can manage its assets to generate profits during a period.

2.6 Return on capital employed

It measures how efficiently a company can generate profits from its capital employed. It compares net profit as a percentage of capital employed.

2.7 Return on equity

It is the amount of income earned as a percentage of shareholder's equity.

III. LITERATURE REVIEW

Velnampy and Niresh (2012) examined the relationship between capital structure and profitability in listed Sri Lankan banks. The study covered 10 listed banks over the period of 2002 to 2009. The study revealed that the total debt is negatively correlated to the net profit of the listed banks in Sri Lanka. The study results showed that mainly assets in the banking sector are represented by debt. In addition to these an increase in the level of debt also increases the riskiness of banks. An appropriate mix of capital structure should be adopted to increase the profitability of banks.

Singh and Singh (2016) in their paper evaluated the Impact of Capital Structure on Firm's Profitability. The study relied on secondary data collected from ten listed cement companies in India from the period 2009 to 2014. The study shows that the firms under consideration do not have sound debt – equity composition and hence, failed to avail the benefits of leverage properly. The study concluded that there was a negative relationship between debt and profitability.

Gupta and Gupta (2014), examined the capital structure of selected construction companies in India listed in the Bombay Stock Exchange between the periods 2009 to 2013. The study revealed that there is both positive & negative relationship between capital structure and financial performance. The study found that capital structure has very high significant impact on financial performance of the firms in case of Return on Capital Employed (ROCE) and Return on Assets (ROA) and capital structure has less significant impact on the financial performance of the firms in case of Gross Profit (GPM), Net Profit (NPM) and Return on Equity (ROE). The study concluded that whatever be the pattern of capital structure, the financial performance of the firms are changing due to other factors in the firms or in the economy. Thus, the firms should concentrate on the pattern of capital structure as well as on the other variables such as government policies, competition between rivalries, expansion of business etc. to earn profit and carry on their business successfully.

Mazumder, in his paper investigated the impact of Capital Structure on Profitability of Listed Indian Infrastructure Companies for the period of 10 years. The study found that the firms under consideration have moderate debt-equity composition in their capital structure and hence, should focus on improving their existing capital structure in order to avail the benefits of leverage.

Vijayakumar and Karunaiathal (2014) conducted the research “Impact of capital structure on profitability of Indian paper industry”. Using suitable financial ratios as proxies for variables under the study, regression model was employed to test the relationship. The study examined the overall analysis which reveals that operating profit margin, net profit margin and market price per share disclosed a positive and significant relationship with capital structure of majority of the selected companies during the study period. However, return on capital employed, return on net worth and earnings per share predicts a negative but statistically significant relationship with capital structure of majority of the selected companies during the period.

Nassar (2016) analyzed the impact of capital structure on the firm's performance of industrial companies in Turkey. The study relied on secondary data collected from the annual financial statements of 136 industrial companies listed on Istanbul Stock Exchange (ISE), which covers a period of 8 years from 2005-2012. The study states that the firm's capital structure is negatively and significantly associated with the firm's performance (EPS, ROE, and ROA variables). The study concluded that using a high level of debt negatively affects a firm's return on assets, earnings per share, and return on equity.

Sadiq and Sher (2016) conducted a study with a sample of nineteen companies in order to examine the Impact of Capital Structure on the Profitability of Automobile companies listed in Karachi stock exchange from 2006-2012. Techniques like correlation and regression were used and the researcher found that 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). It can be summarized that debt capital is negatively associated with the profitability as an increase in debt capital caused a decrease in the profitability of the firms and vice versa.

Sahni and Sharma (2017) analysed the performance of 5 companies from FMCG sector in India for the period 2012 to 2017. The study examined the relationship between capital structure and profitability of the companies. The researcher found that the capital structure creates an impact on profitability and Colgate Pamolive's capital structure has the most positive impact on profitability as compared to the rest four companies. The study concluded the fact that the company does not have debt capital as a source of long term funds which turns in a positive relationship between capital structure and profitability.

Shubita and Alsawalhah (2012) analyzed the Relationship between Capital Structure and Profitability of the industrial companies listed on Amman Stock Exchange. The sampling period was considered as year from 2004-2009 and consists of 39 companies. This study observed the significant negative relation between debt and profitability. The study found that an increase in debt position is associated with a decrease in profitability; thus, the higher the debt, the lower the profitability of the firm. The researcher also found that profitability increases with control variables such as size and sales growth. The study concluded that although financial leverage provides tax benefits to the corporations, but on the other hand, it increases default risk for the lending institutions such as banks, credit unions, and other private lenders.

Nirajini and Priya (2013) have done a research study based on the Capital structure and financial performance of the eleven listed trading companies in Sri Lanka for a period of seven years. The study showed that debt asset ratio, debt equity ratio and long-term debt was positively correlated with gross profit margin, net profit margin, ROCE, ROA & ROE at significant level of 0.05 and 0.01. The study observed that capital structure has significant impact on financial performance of the firm.

From these literatures, it is evident that capital structure has a significant impact on the financial performance of the firm. Different researchers tried to correlate Debt to equity and Debt to Asset ratios independently with the profitability ratios. In this

paper, this research gap has been tried to minimize by establishing relationship between Debt to capital and various profitability ratios.

IV. OBJECTIVES OF THE STUDY:

- 4.1 To study the relationship between capital structure and profitability.
4.2 To analyze the impact of capital structure on profitability.

V. SCOPE OF THE STUDY

The scope of the study is confined to nine telecom companies covering a period of five years from 2013-2017. Further to study the impact of capital structure on profitability of these companies, Gross profit ratio, operating profit ratio, net profit ratio, Return on Assets, Return on capital employed and Return on Equity have been taken as proxy financial ratios.

VI. HYPOTHESIS

- H₁:** There is impact of debt to capital on gross profit ratio of the selected Telecom Companies in India.
H₂: There is impact of debt to capital on operating profit ratio of the selected Telecom Companies in India.
H₃: There is impact of debt to capital on net profit ratio of the selected Telecom Companies in India.
H₄: There is impact of debt to capital on Return on Assets of the selected Telecom Companies in India.
H₅: There is impact of debt to capital on Return on Capital Employed of the selected Telecom Companies in India.
H₆: There is impact of debt to capital on Return on Equity of the selected Telecom Companies in India.

VII. RESEARCH METHODOLOGY

7.1 Methodology for Data Collection

The study is based on secondary sources for the purpose of data collection. Financial data are gathered from the company's balance sheet, annual reports and other relevant manuals and publications.

7.2 Methodology for Data Analysis

The data collected has been analysed using correlation and regression analysis with the help of SPSS. Correlation is the statistical tool used to describe the degree to which one variable is linearly related to another and regression attempts to determine the strength of the relationship between dependent variable and independent variables. A simple regression equation is modeled as $Y=a+b(x)$, where 'a' is the intercept and 'b' is the slope of the line, x is the independent variable and y is the dependent variable.

VIII. RESULTS AND DISCUSSION

Table 8.1: Correlation between Debt to Capital and Gross Profit Ratio

		Debt to Capital	Gross Profit Ratio
Debt to Capital	Pearson Correlation	1	.429
	Sig. (2-tailed)		.003
	N	45	45
Gross Profit Ratio	Pearson Correlation	.429	1
	Sig. (2-tailed)	.003	
	N	45	45

The result of Table 8.1 shows that Pearson Correlation coefficient is 0.429, signifying a moderate degree (for a range=0.5 to 0.3) of positive correlation between Debt to Capital and Gross profit ratio. Also, it shows that P value is 0.003 is less than 0.05, there is statistically significant relationship between Debt to Capital and Gross profit ratio of Telecom sector in India.

Table 8. 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.429	.184	.165	21.20249

Table 8.2 shows the coefficient value for the model. It depicts the R-square value which indicates the proportion of variance that is explained by independent variables. It is observed that approximately 18.4% of variability in dependent variable (gross profit ratio) is accounted by independent variable (Debt to Capital).

Table 8.3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	63.249	4.176		15.147	0.000
Debt to Capital	.171	.055	.429	3.117	0.003

Table 8.3 shows the coefficient value for the model. Based on this table, the equation for the regression line can be formed as: Gross profit ratio=63.249+0.171 (Debt to Capital)

This equation denotes that one % increase in Debt to Capital will bring a 17.1% increase in Gross profit ratio in case of Telecom Sector for the concerned period.

Also, here the significance value or p value tells the individual significance of Independent variable. It can be noted that the p value for Debt to Capital is 0.003 which is less than 0.05.

Further, the null Hypothesis for t-statistics is that coefficient=0, which can be rejected when $p < 0.05$. It is clear from the table that p value is less than 0.05 and thus, we accept the alternate hypothesis implying that Debt to Capital has statistically impact on Gross profit ratio.

Table 8.4: Correlation between Debt to Capital and Operating Profit Ratio

		Debt to Capital	Operating Profit Ratio
Debt to Capital	Pearson Correlation	1	-.342
	Sig. (2-tailed)		.021
	N	45	45
Operating Profit Ratio	Pearson Correlation	-.342	1
	Sig. (2-tailed)	.021	
	N	45	45

Table 8.4 explains that Pearson's coefficient of Correlation for Debt to Capital and Operating profit ratio is -0.342, which shows a moderate degree of negative correlation between the variable and the P value is 0.021 which is less than 0.05, so, we accept the alternate hypothesis implying that there is significant relationship between Debt to Capital and operating profit ratio.

Table 8.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.342	.117	.097	29.72599

In the Table 8.5, the value of the R-square is 0.117 which means that 11.7% of variability in operating profit ratio is accounted by Debt to Capital.

Table 8.6: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9.177	5.854		1.568	0.124
Debt to Capital	-.184	.077	-.342	-2.388	0.021

Extracting values from the Table 8.6, the equation for the regression line can be formed as:

Operating profit ratio = 9.177-0.184 (Debt to Capital)

This equation denotes that one % increase in Debt to Capital leads to 18.4% decrease in operating profit ratio for the concerned period.

Also, here the significance value or p value tells the individual significance of Independent variable. It can be noted that the p value for Debt to Capital is 0.021 which is less than 0.05. Further, the null Hypothesis for t-statistics is that coefficient=0, which

can be rejected when $p < 0.05$. It is clear from the table that p value is less than 0.05 and thus, the alternate hypothesis is accepted implying that Debt to Capital has statistically impact on Operating profit ratio.

Table 8.7: Correlation between Debt to Capital and Net Profit Ratio

		Debt to Capital	Net Profit Ratio
Debt to Capital	Pearson Correlation	1	-.265
	Sig. (2-tailed)		.079
	N	45	45
Net Profit Ratio	Pearson Correlation	-.265	1
	Sig. (2-tailed)	.079	
	N	45	45

Table 8.7, depicts that the value of Pearson correlation coefficient is -0.265, signifying a low degree of negative correlation between the Debt to Capital and Net profit ratio. Also, it shows that P value is 0.079 which is greater than 0.05, there is no statistically relationship between the Debt to Capital and Net profit ratio of Telecom sector in India.

Table 8.8: Correlation between Debt to Capital and Return on Assets

		Debt to Capital	Return on Assets
Debt to Capital	Pearson Correlation	1	-.304
	Sig. (2-tailed)		.042
	N	45	45
Return on Assets	Pearson Correlation	-.304	1
	Sig. (2-tailed)	.042	
	N	45	45

Based on the results of Table 8.8, it can be observed that the value of Pearson correlation coefficient of Debt to Capital and Return on Assets is -0.304 indicating a moderated degree of negative correlation between the two variables. It is statistically significant at 0.042 as the p value is less than 0.05. Additionally, it can be inferred that the alternate hypothesis is accepted meaning there is significant relationship between the variable under the study.

Table 8.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.304	.093	.071	7.17062

Table 8.9 indicates that the R square value for the model is 0.093 which means that 9.3% of variation in Return on Assets is explained by Debt to Capital.

Table 8.10: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.747	1.412		3.362	0.002
Debt to Capital	-.039	.019	-.304	-2.094	0.042

Table 8.10 shows the coefficient value for the model. Based on this table, the equation for the regression line can be formed as: Return on Assets = 4.747 - 0.039 (Debt to Capital)

This equation denotes that one % increase in Debt to Capital leads to 3.9% decrease in Return on Assets for the concerned period. Also, here the significance value or p value tells the individual significance of Independent variable. It can be noted that the p value for Debt to Capital is 0.042 which is less than 0.05.

Further, the null Hypothesis for t-statistics is that coefficient=0, which can be rejected when $p < 0.05$. It is clear from the table that p value is less than 0.05 and thus, we accept the alternate hypothesis implying that Debt to Capital has statistically impact on Return on Asset.

Table 8.11: Correlation between Debt to Capital and Return on Capital Employed

		Debt to Capital	Return on Capital Employed
Debt to Capital	Pearson Correlation	1	-.319
	Sig. (2-tailed)		.033
	N	45	45
Return on Capital Employed	Pearson Correlation	-.319	1
	Sig. (2-tailed)	.033	
	N	45	45

Table 8.11 explains that Pearson's coefficient of Correlation for Debt to Capital and Return on capital employed is -0.319, which is significant at 0.033 level conferring that there is statistically significant relationship between the variables. The direction of relationship is negative which means that both the variables tend to move in opposite direction.

Table 8.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.319	.102	.081	12.53872

Table 8.12 depicts the R-square value which indicates the proportion of variance of dependent variable that is explained by independent variables. It is observed that approximately 10.2% of variability in dependent variable (Return on Capital Employed) is explained by independent variable (Debt to Capital).

Table 8.13: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.539	2.469		3.053	0.004
Debt to Capital	-.072	.032	-.319	-2.208	0.033

Table 8.13 shows the coefficient value for the model. Based on this table, the equation for the regression line can be formed as: Return on Capital Employed = 7.539 - 0.072 (Debt to Capital)

This equation denotes that one % increase in Debt to Capital leads to 7.2% decrease in Return on Capital Employed for the concerned period.

Also, here the significance value or p value tells the individual significance of Independent variable. It can be noted that the p value for Debt to Capital is 0.033 which is less than 0.05. Further, the null Hypothesis for t-statistics is that coefficient=0, which can be rejected when $p < 0.05$. It is clear from the table that p value is less than 0.05 and thus, the alternate hypothesis is accepted implying that Debt to Capital has statistically impact on Return on Capital Employed.

Table 8.14: Correlation between Debt to Capital and Return on Equity

		Debt to Capital	Return on Equity
Debt to Capital	Pearson Correlation	1	-.125
	Sig. (2-tailed)		.413
	N	45	45
Return on Equity	Pearson Correlation	-.125	1

	Sig. (2-tailed)	.413	
	N	45	45

The result of Table 8.14 shows that Pearson Correlation coefficient is -0.125, signifying a negative correlation between Debt to Capital and Return on Equity. Also, it depicts that P value is 0.413 is greater than 0.05, there is no statistically significant relationship between Debt to Capital and Return on Equity of Telecom sector in India.

IX. MANAGERIAL IMPLICATIONS

In the dynamic environment, the most important objective is to earn profitability and in this competitive market, capital structure is one of the most important factor which affects profitability. In order to generate maximum profits, financial manager had to select optimum combination of debt and equity which results in maximization of firm's value and minimizing overall cost. Therefore, identifying best mix of debt and Capital is a vital exercise by the financial managers which in turn helps to increase the profitability.

X. CONCLUSION

The impact of capital structure on profitability of Indian Telecom Sector was examined using the technique of Correlation and linear regression model.

The correlation analysis showed that debt to capital ratio is correlated with gross profit ratio, operating profit ratio, Return on Assets and Return on capital employed.

Finally to conclude, there is both positive and negative relation between capital structure and profitability. Also, capital structure has significant impact on the profitability ratios except for Net profit ratio and Return on Equity.

REFERENCES

- [1] A, Nirajini. and KB, Priya. (2013). Impact of Capital Structure on Financial Performance of the Listed Trading Companies in Sri Lanka. *International Journal of Scientific and Research Publications*, 3(5), 1-9.
- [2] Gupta, Naresh Kumar and Gupta, Himani. (2014). Impact of Capital Structure on financial performance in Indian construction companies. *International Journal of Economics, Commerce and Management*, 2(5), 1-14.
- [3] Mazumder, Deepanjali Babu. The Impact of Capital Structure on Profitability of Listed Indian Infrastructure Companies. *IOSR Journal of Business and Management*, e-ISSN: 2278-487X, p-ISSN: 2319-7668.
- [4] S, Nassar. (2016). The impact of capital structure on Financial Performance of the firms: Evidence from Borsa Istanbul. *Journal of Business & Financial Affairs*, 5(2), 1-4.
- [5] Sadiq, Muhammad Nauman and Sher, Fateh. (2016). Impact of Capital Structure on the Profitability of Firm's: Evidence from Automobile sector of Pakistan. *Global Journal of Management and Business Research Volume*, 16(1), 61-68.
- [6] Sahni, Dilpreet. and Sharma, Upasana (2017). A study of the relationship between capital structure and profitability - case study of selected FMCG companies in India. *IOSR Journal of Business and Management*, 19(9), 27-31.
- [7] Shubita, Mohammad Fawzi. and alsawalhah, Jaafer Maroof. (2012). The Relationship between Capital Structure and Profitability. *International Journal of Business and Social Science*, 3(16), 104-112.
- [8] Singh, Bhushan. and Singh, Mohinder (2016). Impact of Capital Structure on Firm's Profitability: A Study of selected listed Cement Companies in India. *Pacific Business Review International*, 8(7), 46-54.
- [9] Velnampy, T. & Nireesh, J Aloy. (2012). The Relationship between Capital Structure & Profitability. *Global Journal of Management and Business Research*, 12(13), 67-74.
- [10] Vijayakumar, A. and Karunaiathal, A. (2014). The Effect of Capital Structure on Profitability - An Empirical Analysis of Indian Paper Industry. *International research journal of Business and Management*, 7(13), 28-42.