

Determinants of Capital Structure: Evidence from Selected Indian Companies

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Abstract: *Capital structure decision is one of the important financial decisions that a firm has to take in order to align the interest of shareholders and the business. An optimum capital structure should always be planned by a business in order to meet the objective of maximizing the economic interest of its shareholders. A number of factor influence capital structure decisions of a firm and they drive the profitability position. This study examines the determinants of capital structure of selected twenty companies in India using the emerging data set.*

Key Words: *Asset Tangibility, Capital Structure, Financing Decisions, Profitability*

1. Introduction

The requirement for funds is continuous for a business concern. It is required for all types of activities. Economists speak of 'Capital' as wealth which is used in the production of additional wealth. It is one of the most important elements of factors of production. Businessman frequently use the word capital in the sense of the total assets employed in a business. The accountant uses the word in the sense of net assets, or stockholders' interest as shown by the balance sheet or the net worth of shareholders' equity in law capital means 'Capital Stock'. The capital structure is made of debt and equity securities which comprise a firm's financing of its assets. It is the debt, plus preferred stock, plus net worth. The scientific analysis of these instruments and its mobilization has a considerable significance in the real life situation. An unplanned capital structure may yield good results in the short run it is dangerous in the long run. Hence, the study of capital structure becomes relevant.

Optimal Capital Structure is that amount of combination of capitalization which results in the les amount of cost and yields maximum profits. A financial manager defines the proper capital structure for his firm. He determines the mix of debt and equity which would maximize the value of equity stock.

Theoretically, the financial manager should plan an 'Optimal Capital Structure' for his company. The optimal capital structure is obtained when the marginal real cost of each source of fund is the same. In practical situation, determining an optimal capital structure is the same. In practical situation, determining an optimal capital structure is a difficult task, one has to consider number of factors other than theory. There are significant variations among industries and many individual companies within an industry with regard to capital structure. The judgment of a person taking the capital structure decision plays the most crucial part. The two similar companies may have different capital structure. Hence a uniform model or formula

cannot be adopted. It is influenced by a number of other factors which are highly psychological, complex and qualitative and do not always follow accepted theory, since capital markets are not perfect.

2. Review of Literature

The debate on determining the ideal capital structure and value of firms can be traced back to Modigliani and Miller (1958) who in their research concluded that the value of the firm is self-determining of capital structure and that the value of an unlevered firm is equal to that of a levered firm. The research was based on the assumption of absence of taxes. This assumption was considered unrealistic and in their subsequent research Modigliani and Miller (1963) took tax into consideration and concluded that because of tax shield on debt as a factor, the value of a levered firm was more than the value of an unlevered firm and that this value was equal to the value of the tax shield. Modigliani and Miller (1977) later modified their earlier research of 1963 and incorporated the effect of personal taxes. Personal taxes were classified into two categories, tax on income from holdings shares and tax on income from debt securities. In this research (1977), Modigliani and Miller identified certain special cases where gain from leverage became zero, giving the original (1958) result. Thus their results signify the existence of an optimal capital structure at the macro level but not at the micro level.

According to Jensen and Meckling (1976), the optimal capital structure is obtained by trading off the agency cost of debt against the benefit of debt. Here, Jensen and Meckling first identified disputes between shareholders and managers because of management's ownership being less than 100% of the equity. Jensen (1986) proposed that this problem could be reduced by increasing the percentage of shares owned by the manager or by increasing debt in the capital structure. This would result in the reduction of the amount of unused cash available to managers (Jensen, 1986 and Stulz, 1990). This would eventually benefit debt financing.

Agency models have shown a positive relation between leverage and firm value, regulatory abidance, probability of defaults, value at the time of liquidation, freely available cash flows and the significance of managerial reputation. Leverage is expected to be negatively correlated with interest coverage, growth opportunities, and possibility of reorganization following default. It has been said that firm value and leverage are positively associated because these two variables move together in response to some exogenous factors (Hirschleifer and Thakor, 1989). Agency theory has shed light on the theory of capital structure but does not elaborate on all the differences in capital structures observed in practice.

Apart from agency theory, previous research identifies a difference in information about projects or investment opportunities of firms as another theory to explain capital structure. Capital structure can be viewed as an indication given by managers to investors (Leland and Pyle, 1977) or as a way of reducing inefficiencies caused by information asymmetry. The mitigation literature starts with Myers and Majluf (1984).

Harris and Raviv (1990) in their research state that the optimal structure is obtained through a trade-off between liquidation decisions and higher investigation costs. They concluded that high leverage can be an outcome with large firm value, lower probability of reorganization following default, and higher debt level. Stulz (1990) stated that the optimal capital structure can be designed by a trade-off between benefit of debt and cost of debt. His arguments were based on the fact that managers issue debt only if they fear a takeover.

Diamond (1989), and Hirschleifer and Thakor (1989) in their research argued that the asset substitution problem (such as using debt to finance high risk projects instead of equity) could be reduced because of the management's reputation being at stake. While shareholders

preferred to maximize an expected return, managers maximized the possibility of being successful. Diamond (1989) argued that as a firm gets older, it chooses less risky projects, thereby reducing its defaults which would lead to a lower cost of debt. This theory suggests that younger firms will have less debt than older ones.

Myers and Majluf (1984) emphasized that if investors were less well informed than company insiders while equity was being issued, it would result in mis-pricing. Mis-pricing can be avoided if firms use external funds followed by low risk debt, and finally, equity to finance new investment. This is called the “pecking order theory” of financing. Krasker (1986) showed in his research that on announcement of equity issues, the price of equity will fall and new projects will be financed by internal funds or low risk debt. Korajczyk, Lucas, and McDonald (1990) argued that the underinvestment problem was less severe after information releases. It could be concluded that firms with less tangible assets in relation to the total firm value would tend to have more information asymmetries.

Copeland and Weston (1983) in their research emphasized that bankruptcy costs was one of the causes for differences in capital structure amongst firms. According to them if bankruptcy costs were not assumed away, an optimal capital structure could possibly exist, and lead to a substitution between leverage and likelihood of bankruptcy.

Anshu Hondoo and Kapil Sharma(2014);identified the important determinants of capital structure of 870 listed Indian firms comprising both private sector companies and government companies for the period 2001-2010. It concluded that factors such as profitability, growth, asset tangibility, size, cost of debt, tax rate, and debt serving capacity have significant impact on the leverage structure chosen by firms in the Indian context.

3. Statement of the Problem

The right capital structure planning increases the power of company to face the losses and changes in financial markets, helps in idea generation of new source of fund, helps in doing adjustment according to business environment, etc.

Successful corporate leaders must constantly consider factors such as the company and its management, the economy, government regulation and social trends, the state of capital markets, and industry dynamics. Thus, the study explores the determinants of capital structure in the Indian context using the emerging data set.

4. Objectives of the Study

The primary objective of this study is to identify factors that influence capital structure decisions (financing decisions) of selected companies. This objective is split into three specific objectives. They are:

- 1) To understand the impact of each independent variable while raising short term debt for selected companies.
- 2) To understand the impact of each independent variable while raising long term debt for selected companies
- 3) To understand the impact of each independent variable while raising total debt for selected companies.

5. Hypotheses

H011 There is no significant impact of profitability of selected companies on short term debt.

H012 There is no significant impact of growth of selected companies on short term debt.

H013 There is no significant impact of asset tangibility of selected companies on short term debt.

- H014 There is no significant impact of size of selected companies on short term debt.
H015 There is no significant impact of liquidity of selected companies on short term debt.
H016 There is no significant impact of tax rate of selected companies on short term debt.
H017 There is no significant impact of debt serving capacity of selected companies on short term debt.
H018 There is no significant impact of age of selected companies on short term debt.
H019 There is no significant impact of financial charges coverage ratio of selected companies on short term debt.
H021 There is no significant impact of profitability of selected companies on long term debt.
H022 There is no significant impact of growth of selected companies on long term debt.
H023 There is no significant impact of asset tangibility of selected companies on long term debt.
H024 There is no significant impact of size of selected companies on long term debt.
H025 There is no significant impact of liquidity of selected companies on long term debt.
H026 There is no significant impact of tax rate of selected companies on long term debt.
H027 There is no significant impact of debt serving capacity of selected companies on long term debt.
H028 There is no significant impact of age of selected companies on long term debt.
H029 There is no significant impact of financial charges coverage ratio of selected companies on long term debt.
H031 There is no significant impact of profitability of selected companies on total debt.
H032 There is no significant impact of growth of selected companies on total debt.
H033 There is no significant impact of asset tangibility of selected companies on total debt.
H034 There is no significant impact of size of selected companies on total debt.
H035 There is no significant impact of liquidity of selected companies on total debt.
H036 There is no significant impact of tax rate of selected companies on total debt.
H037 There is no significant impact of debt serving capacity of selected companies on total debt.
H038 There is no significant impact of age of selected companies on total debt.
H039 There is no significant impact of financial charges coverage ratio of selected companies on total debt.

6. Scope of the Study

The scope of the study is limited to analyse the determinants of capital structure of selected 20 companies for four year period from 2012-13 to 2015-16. The analysis is done using only 12 variables.

Table- 1 Sample for the Study

Sl. No.	Company	Sl. No.	Company
1.	Adani Enterprises Ltd.	11.	NTPC Ltd.
2.	Aditya Birla Nuvo Ltd.	12.	Power Grid Corporation of India Ltd.
3.	Bharat Heavy Electricals Ltd.	13.	Reliance Communications Ltd.
4.	Container Corporation of India Ltd.	14.	Reliance Industries Ltd.
5.	GAIL (India) Ltd.	15.	Steel Authority of India Ltd.
6.	Godrej Consumer Products Ltd.	16.	Tata Chemicals Ltd.
7.	Hindalco Industries Ltd.	17.	Tata Consultancy Services Ltd.
8.	Jindal Steel and Power Ltd.	18.	Tata Motors Ltd.
9.	JSW Steel Ltd.	19.	Tata Power Co. Ltd.
10.	Larsen and Toubro Ltd.	20.	Tata Steel Ltd.

7. Operational Definition of the Concepts

(a) Short term debt ratio: Short term debt is an account shown in the current liabilities of a company's balance sheet. This account is comprised of any debt or repayments incurred by a company that is due within one year. The debt in this account is usually made up of short-term bank loans taken by a company. The ratio is the calculation of debt payable within one year to total assets. The ratio indicates whether a firm will be able to satisfy its immediate financial obligations. It is computed as short-term debt to total assets.

(b) Long term debt ratio: The long term debt to total asset ratio, at the simplest, indicates the portion of a company's total assets that is financed from long term debt. The value varies from industry to industry and company to company. Comparing the ratio with industry peers is a better benchmark. Long term debt ratio is computed as long term debt/total assets.

(c) Total debt ratio: Total debt ratio is a financial ratio that indicates the percentage of a company's assets that are provided in comparison to debt. It is the ratio of total debt and total assets calculated by dividing total debt to total assets.

(d) Profitability: Profitability is the financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenditure, costs, and taxes needed to sustain the activity. Any profit that is gained goes to the owners of the business, who may or may not decide to spend it on the business. Operating profit rate of return (earnings before interest and taxes (EBIT)/total assets) is used as a measure of profitability. Other measures include return on assets and return on sales (profit margin).

(e) Growth: Firms with growth options are those that have relatively more capacity expansion projects, new product lines, acquisitions of other firms and maintenance, and replacement of existing assets. Firms with high growth options and high cash flow volatility have incentives to decrease debt in their capital structure over a period of time. Growth is measured by the growth rate in total gross assets. The growth factor is measured by the percentage change of assets.

(f) Assets tangibility: Asset tangibility refers to all types of tangible assets (e.g. land, building, machines and equipment) that possess some degree of debt capacity. The formula used in this study to measure the value of tangible assets of the firm is the ratio of net fixed assets to total assets.

(g) Size: Large firms are often more diversified and have more stable cash flows; the probability of defaults for large firms is smaller compared to smaller ones. Thus the financial distress risk can be considered lower for larger firms. The measure of a firm's size used in this study is the natural logarithm of its total assets.

(h) Liquidity: Liquidity is the ability to convert an asset to cash immediately. It is also known as "marketability". Liquidity was calculated by dividing the total current assets by the total current liabilities.

(i) Tax rate: Tax rate is a rate placed depending on the profit of a firm; different rates are used for different levels of profits. Corporate taxes are usually levied by all levels of government (i.e. state and country). Tax rate can be measured for each company by dividing its tax provision by profit before tax.

(j) Debt serving capacity: A high debt service capacity means that the firm can meet its interest obligation even if EBIT suffers a considerable decline. In other words, the higher the debt coverage, the greater is the likelihood of a firm having a higher debt component in its financial structure. So, the capacity of a firm to borrow will be directly proportional to its ability to honour its fixed payment obligation. Hence, higher the capacity of the company to service debt, the greater is the likelihood of the debt ratio being higher. The study proxies for debt with the ratio between profit before depreciation, interest and taxes to total interest.

(k) Age: Age is the number of years since the establishment of a company. The dummy variable takes the value one if the firm is below the age of 20 years and zero otherwise.

(l) Financial charges coverage ratio: The financial charges coverage ratio is used to examine the extent to which fixed costs consume the cash flow of a business. The ratio is most commonly applied when a company has incurred a large amount of debt, and must make ongoing interest payments. If the resulting ratio is low, it is a strong indicator that any subsequent drop in the profits of a business may bring about its failure. The ratio is typically used by lenders evaluating an existing or prospective borrower. To calculate the fixed charge coverage ratio, combine earnings before interest and taxes with any lease expense, and then divide by the combined total of interest expense and lease expense. This ratio is intended to show estimated future results, so it is acceptable to drop from the calculation any expenses that are about to expire. The formula is:

$$\frac{\text{(Earnings before interest and taxes)} + \text{Lease expense}}{\text{Interest expense} + \text{Lease expense}}$$

8. Methodology

To understand the determinants of capital structure of selected companies, three dependent variables and nine independent variables have been chosen for the study.

The dependent variables are:

- a. Short term debt ratio (STDR)
- b. Long term debt ratio (LTDR)
- c. Total debt ratio (TDR)

The independent variables are:

- a. Profitability (PROF)
- b. Growth (GROWTH)
- c. Assets tangibility (TANG)
- d. Size (SIZE)
- e. Liquidity (LIQUIDITY)
- f. Tax rate (TAXRATE)
- g. Debt serving capacity (DSC)
- h. Age (AGE)
- i. Financial charges coverage ratio (FCCR)

Firstly, cross-section analysis has been done to find the significance of these variables. Secondly, correlation analysis is done to understand the relationship between the variables. Finally, three regression models were run regressing one dependent variable at a time on the nine independent variables to understand the effect of independent variables listed above on short term debt, long term debt and total debt.

The three regression models are:

Model 1:

$$\text{Log STDR} = \alpha + \beta_1\text{PROF} + \beta_2\text{GROWTH} + \beta_3\text{TANG} + \beta_4\text{SIZE} + \beta_5\text{LIQUIDITY} + \beta_6\text{TAXRATE} + \beta_7\text{DSC} + \beta_8\text{AGE} + \beta_9\text{FCCR} + \varepsilon$$

Model 2:

$$\text{Log LTDR} = \alpha + \beta_1\text{PROF} + \beta_2\text{GROWTH} + \beta_3\text{TANG} + \beta_4\text{SIZE} + \beta_5\text{LIQUIDITY} + \beta_6\text{TAXRATE} + \beta_7\text{DSC} + \beta_8\text{AGE} + \beta_9\text{FCCR} + \varepsilon$$

Model 3:

$$\text{Log TDR} = \alpha + \beta_1\text{PROF} + \beta_2\text{GROWTH} + \beta_3\text{TANG} + \beta_4\text{SIZE} + \beta_5\text{LIQUIDITY} + \beta_6\text{TAXRATE} + \beta_7\text{DSC} + \beta_8\text{AGE} + \beta_9\text{FCCR} + \varepsilon$$

9. Data Collection

Secondary data is used for the purpose of this study. The data has been collected from the annual reports of selected companies from their respective websites. Besides, books, journals and websites were used to get the required data.

10. Sampling

This study focuses on the companies that are included in CNX100. To start with, there were 100 companies in the index; as common practice banking and financial companies are excluded. Of the remaining 78 companies, seven companies followed calendar year for preparing their financial statements. Of the remaining 71 companies, data for 16 companies were not completely available and hence were excluded. The final number stood at 55 companies. Out of these 55 companies, 20 companies are selected for the purpose of the study.

11. Plan of Analysis

The analysis of the study is carried out by collecting the annual reports of the sample companies. The data relating to dependent and independent variables selected for the studies are obtained from the annual reports for the four financial years ending March 2016. The data so obtained are tabulated and used for analysis. Microsoft Excel and SPSS 20.0 package were used for analyzing the data.

12. Limitations of the Study

The limitations of the study are:

- a) The sample selected is restricted to 20 companies includes in CNX100.
- b) The time frame of analysis is limited to recent four financial years ending March 2016.

13. Results and Analysis

Table 2 Impact of independent variables on short term debt: Regression Results

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Null hypothesis results
	B	Std. Error	Beta			
(Constant)	.315	1.363		.231	.822	
PROF	-6.641	2.526	-.754	-2.629	.025	Rejected
GROWTH	-.005	.003	-.344	-2.001	.073	Not Rejected
TANG	-1.341	.718	-.422	-1.867	.091	Not Rejected
SIZE	.041	.107	.067	.386	.708	Not Rejected
LIQUIDITY	-.436	.292	-.680	-1.494	.166	Not Rejected
TAXRATE	.093	.203	.079	.460	.656	Not Rejected
DSC	-.004	.004	-1.192	-1.146	.278	Not Rejected
AGE	-.274	.404	-.137	-.678	.513	Not Rejected
FCCR	.005	.004	1.485	1.140	.281	Not Rejected

PROF: Profitability; GROWTH: Growth; TANG: Assets tangibility; SIZE: Size; LIQUIDITY: Liquidity; TAXRATE: Tax rate; DSC: Debt serving capacity; AGE: Age, FCCR: Financial charges coverage ratio
Dependent variable: log STDR

Interpretation:

Objective 1 was "To understand the impact of each independent variable while raising short term debt for selected companies".

1. Profitability: From table 2, it can be observed that t value for profitability is -2.629 which is significant at .05 level. Therefore, the null hypothesis H_{011} namely, "There is no significant impact of profitability of selected companies on short term debt" is rejected and hence it can be concluded that profitability produced significant impact on short term debt.

2. Growth: it can be observed that t value for growth is -2.001 which is not significant. Therefore, the null hypothesis H_{012} namely, "There is no significant impact of growth of selected companies on short term debt" is not rejected and hence it can be concluded that growth did not produce significant impact on short term debt.

3. Assets tangibility: It is inferred that t value for assets tangibility is -1.867 which is not significant. Therefore, the null hypothesis H_{013} namely, "There is no significant impact of assets tangibility of selected companies on short term debt" is not rejected and hence it can be concluded that assets tangibility did not produce significant impact on short term debt.

4. Size : From table 2, it can be observed that t value for size is .386 which is not significant. Therefore, the null hypothesis H_{014} namely, "There is no significant impact of size of selected companies on short term debt" is not rejected and hence it can be concluded that size did not produce significant impact on short term debt.

5. Liquidity: From table 2, it can be observed that t value for liquidity is -1.494 which is not significant. Therefore, the null hypothesis H_{015} namely, "There is no significant impact of liquidity of selected companies on short term debt" is not rejected and hence it can be concluded that liquidity did not produce significant impact on short term debt.

6. Tax rate: From table 2, it can be observed that t value for tax rate is .460 which is not significant. Therefore, the null hypothesis H_{016} namely, "There is no significant impact of tax rate of selected companies on short term debt" is not rejected and hence it can be concluded that tax rate did not produce significant impact on short term debt.

7. Debt serving capacity: From table 2, it can be observed that t value for debt serving capacity is -1.146 which is not significant. Therefore, the null hypothesis H_{017} namely, "There is no significant impact of debt serving capacity of selected companies on short term debt" is not rejected and hence it can be concluded that debt serving capacity did not produce significant impact on short term debt.

8.Age: From table 2, it can be observed that t value for age is -.678 which is not significant. Therefore, the null hypothesis H_{018} namely, "There is no significant impact of age of selected companies on short term debt" is not rejected and hence it can be concluded that age did not produce significant impact on short term debt.

9.Financial charges coverage ratio: From table 2, it can be observed that t value for financial charges coverage ratio is 1.140 which is not significant. Therefore, the null hypothesis H_{019} namely, "There is no significant impact of financial charges coverage ratio of selected companies on short term debt" is not rejected and hence it can be concluded that financial charges coverage ratio did not produce significant impact on short term debt.

Table 3 Impact of independent variables on long- term debt.: Regression Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Null hypothesis results
	B	Std. Error	Beta			
(Constant)	-.939	.638		-1.471	.172	
PROF	-1.073	1.183	-.104	-.907	.386	Not Rejected
GROWTH	.002	.001	.091	1.319	.216	Not Rejected
TANG	.529	.336	.142	1.574	.147	Not Rejected
SIZE	.015	.050	.021	.305	.766	Not Rejected
LIQUIDITY	-.087	.137	-.116	-.638	.538	Not Rejected
TAXRATE	-.061	.095	-.044	-.637	.539	Not Rejected
DSC	-.005	.002	-1.272	-3.058	.012	Rejected
AGE	.192	.189	.082	1.015	.334	Not Rejected
FCCR	.002	.002	.587	1.127	.286	Not Rejected

PROF: Profitability; GROWTH: Growth; TANG: Assets tangibility; SIZE: Size; LIQUIDITY: Liquidity; TAXRATE: Tax rate; DSC: Debt serving capacity; AGE: Age; FCCR: Financial charges coverage ratio
Dependent variable: log LTDR

Interpretation:

Objective 2 was "To understand the impact of each independent variable while raising long term debt for selected companies".

1.Profitability:From table 2, it can be observed that t value for profitability is -.907 which is not significant. Therefore, the null hypothesis H_{021} namely, "There is no significant impact of

profitability of selected companies on long term debt” is not rejected and hence it can be concluded that profitability did not produce significant impact on long term debt.

2. Growth: From table 3, it can be observed that t value for growth is 1.319 which is not significant. Therefore, the null hypothesis H_{022} namely, “There is no significant impact of growth of selected companies on long term debt” is not rejected and hence it can be concluded that growth did not produce significant impact on long term debt.

3. Assets tangibility: From table 3, it can be observed that t value for assets tangibility is 1.574 which is not significant. Therefore, the null hypothesis H_{023} namely, “There is no significant impact of assets tangibility of selected companies on long term debt” is not rejected and hence it can be concluded that assets tangibility did not produce significant impact on long term debt.

4. Size: From table 3, it can be observed that t value for size is .305 which is not significant. Therefore, the null hypothesis H_{024} namely, “There is no significant impact of size of selected companies on long term debt” is not rejected and hence it can be concluded that size did not produce significant impact on long term debt.

5. Liquidity: From table 3, it can be observed that t value for liquidity is -.638 which is not significant. Therefore, the null hypothesis H_{025} namely, “There is no significant impact of liquidity of selected companies on long term debt” is not rejected and hence it can be concluded that liquidity did not produce significant impact on long term debt.

6. Tax rate: From table 3, it can be observed that t value for tax rate is -.637 which is not significant. Therefore, the null hypothesis H_{026} namely, “There is no significant impact of tax rate of selected companies on long term debt” is not rejected and hence it can be concluded that tax rate did not produce significant impact on long term debt.

7. Debt serving capacity: From table 3, it can be observed that t value for profitability is -3.058 which is significant at .05 level. Therefore, the null hypothesis H_{027} namely, “There is no significant impact of debt serving capacity of selected companies on long term debt” is rejected and hence it can be concluded that debt serving capacity produced significant impact on long term debt.

8. Age: From table 3, it can be observed that t value for age is 1.015 which is not significant. Therefore, the null hypothesis H_{028} namely, “There is no significant impact of age of selected companies on long term debt” is not rejected and hence it can be concluded that age did not produce significant impact on long term debt.

9. Financial charges coverage ratio: From table 3, it can be observed that t value for financial charges coverage ratio is 1.127 which is not significant. Therefore, the null hypothesis H_{029} namely, “There is no significant impact of financial charges coverage ratio of selected companies on long term debt” is not rejected and hence it can be concluded that financial charges coverage ratio did not produce significant impact on long term debt.

Table 4 Impact of independent variables on total debt.: Regression Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Null hypothesis results
	B	Std. Error	Beta			

(Constant)	-.594	.428		-1.387	.196	
PROF	-1.703	.793	-.185	-2.146	.057	Not Rejected
GROWTH	.001	.001	.063	1.224	.249	Not Rejected
TANG	.411	.226	.123	1.821	.099	Not Rejected
SIZE	.002	.034	.004	.070	.945	Not Rejected
LIQUIDITY	-.052	.092	-.077	-.564	.585	Not Rejected
TAXRATE	-.011	.064	-.009	-.179	.861	Not Rejected
DSC	-.005	.001	-1.092	-3.499	.006	Rejected
AGE	.077	.127	.037	.604	.559	Not Rejected
FCCR	.001	.001	.406	1.039	.322	Not Rejected

PROF: Profitability; GROWTH: Growth; TANG: Assets tangibility; SIZE: Size; LIQUIDITY: Liquidity; TAXRATE: Tax rate; DSC: Debt serving capacity; AGE: Age; FCCR: Financial charges coverage ratio
Dependent variable: log TDR

Interpretation:

Objective 3 was "To understand the impact of each independent variable while raising total debt for selected companies".

1. Profitability: From table 4, it can be observed that t value for profitability is -2.146 which is not significant. Therefore, the null hypothesis H_{031} namely, "There is no significant impact of profitability of selected companies on total debt" is not rejected and hence it can be concluded that profitability did not produce significant impact on total debt.

2. Growth: From table 4, it can be observed that t value for growth is 1.224 which is not significant. Therefore, the null hypothesis H_{032} namely, "There is no significant impact of growth of selected companies on total debt" is not rejected and hence it can be concluded that growth did not produce significant impact on total debt.

3. Assets tangibility: From table 4, it can be observed that t value for assets tangibility is 1.821 which is not significant. Therefore, the null hypothesis H_{033} namely, "There is no significant impact of assets tangibility of selected companies on total debt" is not rejected and hence it can be concluded that assets tangibility did not produce significant impact on total debt.

4. Size: From table 4, it can be observed that t value for size is .070 which is not significant. Therefore, the null hypothesis H_{034} namely, "There is no significant impact of size of selected companies on total debt" is not rejected and hence it can be concluded that size did not produce significant impact on total debt.

5. Liquidity: From table 4, it can be observed that t value for liquidity is -.564 which is not significant. Therefore, the null hypothesis H_{035} namely, "There is no significant impact of liquidity of selected companies on total debt" is not rejected and hence it can be concluded that liquidity did not produce significant impact on total debt.

6. Tax rate: From table 4, it can be observed that t value for tax rate is -.179 which is not significant. Therefore, the null hypothesis H_{036} namely, "There is no significant impact of tax rate of selected companies on total debt" is not rejected and hence it can be concluded that tax rate did not produce significant impact on total debt.

7. Debt serving capacity: From table 4, it can be observed that t value for profitability is -3.499 which is significant at .05 level. Therefore, the null hypothesis H_{037} namely, "There is no significant impact of debt serving capacity of selected companies on total debt" is rejected and hence it can be concluded that debt serving capacity produced significant impact on total debt.

8. Age: From table 4, it can be observed that t value for age is .604 which is not significant. Therefore, the null hypothesis H_{038} namely, "There is no significant impact of age of selected companies on total debt" is not rejected and hence it can be concluded that age did not produce significant impact on total debt.

9. Financial charges coverage ratio: From table 4, it can be observed that t value for financial charges coverage ratio is 1.039 which is not significant. Therefore, the null hypothesis H_{039} namely, "There is no significant impact of financial charges coverage ratio of selected companies on total debt" is not rejected and hence it can be concluded that financial charges coverage ratio did not produce significant impact on total debt.

14. Findings

- It was found that the average total debt ratio of Tata Consultancy Services Ltd. was least whereas, Adani Enterprises Ltd. posted highest total debt ratio on an average basis over the recent 4 financial years ended March 2014.
- It was observed that Tata Consultancy Services Ltd. reported the least average long term debt ratio. On the other hand, Power Grid Corporation of India Ltd. recorded the highest long term debt ratio (average basis).
- It is inferred that the average short term debt ratio of Tata Consultancy Services Ltd. was least whereas, Jindal Steel and Power Ltd. posted highest short term debt ratio on an average basis over the recent 4 financial years ended March 2014.
- It was noticed that Adani Enterprises Ltd. reported the least average profitability. On the other hand, Tata Consultancy Services Ltd. recorded the highest profitability (average basis).
- It was noted that average growth of Godrej Consumer Products Ltd. was least whereas, NTPC Ltd. posted highest short term debt ratio on an average basis over the recent 4 financial years ended March 2014.
- It was detected that Bharat Heavy Electricals Ltd. reported the least average assets tangibility. On the other hand, Power Grid Corporation of India Ltd. recorded the highest assets tangibility (average basis).
- It was spotted that average size of Godrej Consumer Products Ltd. was least whereas, Reliance Industries Ltd. posted highest size on an average basis over the recent 4 financial years ended March 2014.
- It was located that Tata Power Co. Ltd. reported the least average liquidity. On the other hand, Container Corporation of India Ltd. recorded the highest liquidity (average basis).
- It was obtained that average tax rate of Tata Power Co. Ltd. was least whereas, Reliance Communications Ltd. posted highest tax rate on an average basis over the recent 4 financial years ended March 2014.
- It was acquired that Tata Power Co. Ltd. reported the least average debt serving capacity. On the other hand, Container Corporation of India Ltd. recorded the highest debt serving capacity (average basis).
- It was found that average financial charges coverage ratio of Reliance Communications Ltd. was least whereas, Container Corporation of India Ltd. posted highest financial charges coverage ratio on an average basis over the recent 4 financial years ended March 2014.

- From the analysis of regression of selected companies it was reported that:
- Only profitability produced significant impact on short term debt whereas, other independent variables like growth, assets tangibility, size, liquidity, tax rate, debt serving capacity, age and financial charges coverage ratio did not produce significant impact on short term debt.
- Only debt serving capacity **produced** significant impact on long term debt whereas, other independent variables like profitability, growth, assets tangibility, size, liquidity, tax rate, age and financial charges coverage ratio did not produce significant impact on short term debt.
- Only debt serving capacity produced significant impact on total debt whereas, other independent variables like profitability, growth, assets tangibility, size, liquidity, tax rate, age and financial charges coverage ratio did not produce significant impact on total debt.

15. Conclusion and Policy Implications

This study examined the determinants of capital structure of selected companies in India. The analysis is done from three perspectives viz. Short term debt, long term debt and total debt. The study revealed that profitability is a major determinant of Short term debt; debt serving capacity influences long term debt and total debt.

The correlation results revealed that total debt ratio was having high degree of positive correlation with long term debt ratio, short term debt ratio and assets tangibility, high degree of negative correlation with profitability, liquidity, debt serving capacity and financial charges coverage ratio and low degree of positive correlation with growth, size, tax rate and age. Long term debt ratio was having high degree of positive correlation with short term debt ratio and assets tangibility, high degree of negative correlation with profitability, liquidity, debt serving capacity and financial charges coverage ratio and low degree of positive correlation with growth, size, tax rate and age. Short term debt ratio was having high degree of negative correlation with profitability, liquidity, debt serving capacity and financial charges coverage ratio, low degree of positive correlation with assets tangibility, size and tax rate and low degree of negative correlation with growth and age.

This study has two policy implications. Firstly, it provided empirical analysis of the capital structure decisions focusing on the major drivers affected the choice of debt and equity. Secondly, it helps in formulation of appropriate financing mix for the companies.

Further studies can focus on asset size effect on capital structure decisions of a firm. Besides, it can use more robust techniques to evaluate the efficiency of the models.

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