



Capital Structure, Cost of Capital and Value; A Study of Manufacturing Vis-A-Vis Service Industries in India

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ABSTRACT

Capital structure is the most debatable issue in the field of finance .Many research work has been done in developed countries, but in developing countries like India there is need to work. Present study focuses on impact of cost of capital and value on capital structure with the references of manufacturing and service industries in Indian context. Regression analysis has been used for the analysis .Negative relation between cost of capital and leverage and positive relationship has been found between value and capital structure.

KEYWORDS

capital structure, cost of capital, value ,leverage

Introduction: - Capital structure is the combination of debt and equity in firm. In theory, it is argued that the financing decision is irrelevant under perfect capital markets. When, within the framework of perfect capital markets, taxes and bankruptcy costs are assumed, the financial economists argue that an optimum capital structure, which maximizes the market value of the firm(or minimizes cost of capital), can exist .Firms in developing countries like India, are found following different financing policies-some aggressive and some conservative. One needs to investigate into the causes of this type of behaviour. Much international level research has been taken in previous year which shows that what are the determinants which affect the capital structure of a particular firm, the results from these studies is proved very helpful in various areas. Like the research by Harris and Reviv 1991, Rajan and Zingales 1995 , Wald 1999. But capital structure remains to be a crucial issue in present era. The path breaking work done by Modigliani and Miller(1958) served as a base for many researcher to work out, that is Capital structure irrelevance theory, Optimal capital structure depends upon on the tax advantages of debt, the financial distress costs and agency cost related with debt and the degree of information asymmetry.

The great managers have a knack for consistently lowering their weighted average cost of capital by increasing productivity, seeking out higher return products and more. The point is that in the attempt to set a capital structure that's maximizes their overall market value, Firms do differ with regard to their capital structure. There are various theories of capital structure that try to explain this cross sectional variations .These theories examines the determinants of capital structure. In the mean while empirical evidence has sometimes proven to be inconsistent that researches have concluded in different inconsistent conclusions.

There are different views on how capital influence value .Some argues that there is no relationship what so ever between capital structure and firm value others believe that financial leverage has a positive effect on firm. There are different views on how capital structure influences values. Some believe that financial leverage has a positive effect on firm value up to a point and negative effect, greater the leverage, greater the value of the firm.

Review of literature:- Many research work has been carried out in this field Many researches has been conducted after the milestone work of Modigliani and Miller, some studies are related to the determinants and some are with value and cost

of capital . This paper analyze the impact of value and cost of capital on capital structure previous researches as such, paper on corporate capital structure, Modigliani and Miller (1963) states value of the firm increase with leverage due to the effect of tax benefit.

Samuel Antwi, Ebenezer Fiifi Emire Atta Mills found the relationship between capital structure theories with the value of the firm of Ghana. It is advised that firms has to compare the benefits over marginal cost .positive relationship has been found between equity and long term debt with the value of the firm. The ordinary least squares method has been used for the analysis. The analysis was implemented on 34 companies listed on Ghana stock exchange for the year 2010.

Bhayani , Sanjay J explains in his paper impact of financial leverage on cost of capital and valuation of firm, a study of Indian cement industry. It is found that no impact of financial leverage on cost of capital. No significant linear relationship between capital structure and cost of capital and valuation within the cement industry in India. The result does not support the Modigliani and Miller approach.

Raheel Mumtaz et al (2013) studied on value of firm and capital structure total number of companies is 83 that are selected from KSE 100 index. Negative relationship has been found between value and financial leverage of firms is significantly affected. Moreover capital structure of a firm is negatively related to its market value. Garima Dalal (2013) founded the relationship between capital structure and value of firm and to found the significance of differences in capital structures of different companies – inter and intra industry. Co-efficient of correlation between cost of capital and capital structure was found to be negative. Bivariate correlation method has been used to test the relationship between capital structure and value of firm .capital structure and cost of capital. Negative relationship has been found between value and, cost of capital and capital structure of the firms listed on BSE.

Objective of the Studies:-

1. To examine the effect of capital structure decision on cost of capital
2. To find out the impact of capital structure on valuation of the firms.

Research Instrument:-

Secondary data is used in this study for the analysis of various objectives, along with prowess database various annual

reports of the companies has been used.

Sampling Plan:-

Sample is a group of few items which represent population or universe from where it has been taken. Sampling techniques generally sample size gives more reliable result than a small sample. For this research the researcher will take 100 companies from manufacturing industries and 100 companies from service companies on random basis. 94 companies from the each different manufacturing sector have been selected randomly like sugar, textile,

cement, tea. Companies from the each different service sector have been selected randomly like hotels, real estate and constructions and chemicals.

Sources of Data:-

Sources of data has been collected from the Annual report of companies from Sheets, profit and loss account and different ratios companies' information, company history etc, has been taken from **Prowess Database** from **CMIE of India**. Cost of capital has been taken from the annual reports of the companies .Value has been taken as Equity + long term debts of the respective companies.

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Time period of the study

The time period is of 11 years

FY 31-3-04 to 31-3-14`

THE MODEL:-

In order to determine the relationship between capital structure (dependent variable) and other independent variables

ordinary least square regression is used for different years. By taking valuation and cost of capital as independent variables and leverage as a dependent variable, following models has been made

MODEL 1

$$Z = \beta_0 + \beta_1 X_1 + e$$

Where Z is regression score

β_0 is constant term

X1 is cost of capital

e is error term

MODEL 2

$$FV = \alpha_0 + \beta_1 DEBT + \beta_2 EQUITY + e$$

Where , FV =firm value

DEBT =debt

EQUITY=equity capital

e=error

Bivariate regression model has been used to analyze the relation between cost of capital and leverage. Negative relation has been found between cost of capital and leverage in manufacturing companies ratio is -.024 which is significant at .403 level of significance.f value is .061 and the level of significance is .805.T ratio is -.247 which is significant at .805

level of significance. Beta value is -.024

Table 1

Model		Unstandardized Coefficient			Standard Coefficients	T		Sig
Manufacturing Industries	B	Std.err	Beta					
1	constants		3.130	2.296		1.363		.176
	Cost of capital		-.071	.285	-.024	-247		.805
R value		.024						
Rsquare		.001						
Fvalue		.001						
Sig		.805						
Model		Unstandardized Coefficient			Standard Coefficients	T		Sig
Services Industries	B	Std.err	Beta					
1	Constants		-.136	138		.985		.327
	Cost of capital	.003	.017	.019		.181	.857	
R value		.036						
Rsquare		.001						
Fvalue		.136						
Sig		.713						
a.Dependent variable leverage								

Relation with cost of capital and leverage manufacturing industries 104 manufacturing companies has been taken for analysis, which shows the mean of leverage is 4.1824 and cost of capital is 8.3155,standard deviation is 20.53043 and 6.09690 respectively. Correlation table shows a negative relationship between leverage and cost of capital. R square value is 0.010% which means only .1 % variations in capital structure is predicted. Model shows very weak prediction.

Relationship with value and leverage of manufacturing Industries

Value has been taken as total of debt and equity, mean value is 2.14 and 2.71 for debt and equity respectively standard deviation is 4816.6 and 367.39 .Only 4 % variation has been shown between value and leverage .F value is .175 which is significant at .839 level of significance

Relationship with value and leverage of manufacturing Industries and value and leverage service industries

Table 2

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Manufacturing Industries		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	2.332	.361		6.456	.000		
	Debt	8.921E-6	.000	.013	.093	.926	.524	1.910
	Equity	.000	.001	-.070	-.487	.627	.524	1.910
	R Value							
	R Square							
	F Value							
	Sig.							
Model		Unstandardized Coefficient		Standardized coefficients	t	Sig.	Collinearity Statistics	
Services Industries		B	Std. error	Beta			Tolerance	VIF
	(Constants)	2.197	1.379		1.593	.115		
	Debt	.000	.000	-.247	-.1666	.099	.464	2.157
	Equality	.004	.001		2.499	.014	.464	2.157
	R Value							
	R Square							
	F value							
	Sig.							

a. Depended Variable leverage.

There is a positive relationship between value and leverage of service industries. R square value is 6.4%. F ratio is 3.151 which are statistically significant at less than 5% level of significance

Findings of the study:-

There is negative relationship found between cost of capital and leverage in manufacturing companies.

Negative correlation is found between cost of capital and leverage in service companies under study.

No impact of financial leverage on cost of capital is found in manufacturing and service industry

There is a positive relationship between value and leverage of manufacturing and service industry in India. Result supported the research work of Kabir Hossain, Ashraf Hossain and Jahirul Hoque.

Linear correlation is found between valuation and leverage of selected industries, result support the Modigliani and Miller approach like more leveraged firms having higher value as compared to other.

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