

THE ROLE OF CAPITAL STRUCTURE IN SELECT CAPITAL GOODS FIRMS LISTED IN BSE

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Abstract: - Appropriate capital structure pave the way for taking decisions with regard dividend policy and goodwill of the company. Further expansion and diversification activities will be carried out systematically with the support of capital structure. A study on determinants of capital structure is an empirical analysis of select sectors related companies listed in Bombay Stock Exchange. As it mainly depends on secondary data, the researcher has collected data from Capitaline Database. The source of data has been collected for a period of 5 years from 2011 to 2015. The study is analytical analysis in nature. As far as companies are concerned, the researcher has chosen 89 companies from 10 sectors by examining market capitalization. The researcher conducted the second test by applying the dynamic target adjustment model ascertained by the capital structure determinants. The model used to test whether the determinants adjust positively or negatively towards the target leverage. Thirteen independent variables were considered in the multiple regression tests. From the findings of the analysis the researcher concludes that there is a significant relationship with leverage and variables.

Key words—Capitaline, diversification, BSE sector indices, market capitalization, total assets, research and development expenditure, debt-equity mix, regression

INTRODUCTION

The RBI and all Indian financial institutions use this term as long term financing. As a matter of fact, controller of capital issue fixes the capital structure on the basis of the relation between the long term debt and equity. A few, strongly believed that the capital structure is the relationship among all source of capital. Capital structure, as already stated, is influenced by various factors. Factors are both internal and external. The Indian Accounting Standard fixes the ideal mix of debt equity for companies in its territories. The appropriate mix of capital structure is imperative; as such it is regarded as optimal capital structure. The capital structure is a part of financial management; therefore views of the experts who have contributed their mite need to be pondered over. Bankruptcy is a legal track agreed by the firms to come out of its debt obligations, when they fail to pay their debt amount to their creditors in full. Bankruptcy filings are different in different economies. In India if a company files for bankruptcy the company will go down with the credit ratings. This affects the company to get new loans. Conversely, filing bankruptcy may help the companies from financial difficulties. In US there are three bankruptcy case filing chapters. They are chapter 7, chapter 11 and chapter 13. In the chapter 7, the individual person or an organization

can file a bankruptcy case in which they have to pay their debt obligations from their assets.

Indian Capital Goods Sector:

Capital Goods manufacturing sector in India serves as the strong support for its engagement across different sectors such as construction, engineering, and infrastructure. This is US\$32 billion sector which covers many sub-sectors in the manufacturing space. The industry is dominated by the Power Plant Equipment Segment and Heavy electrical which accounts 69% of the production. Exports of capital goods have expanded strongly by four times to total US\$8.57 billion in the year 2013 to 2014 and production has increased by 2 times in the 10 years from 2004-05 to 2014-15.

The gross output has increased at the scanty rate of 2% over the last 5 years.. Achieving the growth of capital structure could generate an additional earnings before interest tax depreciation and amortization ₹25,000 to ₹30,000 crore for market players. This could increase ₹40,000 crore to ₹50,000 crore to gross domestic product.

REVIEW OF LITERATURE:

Gonzalez et al.,(1977). Analysed on Mean Variance Models of CS and reveals that in an economy where

company interests are tax exempted and debts are risky, the CAPM is misinterpreted, cause of the implicit hypothesis of quadratic effectiveness is essential to define an precise preference ordering over the variance and mean of portfolios.

Myers (1984), in a study on capital structure puzzle, by creating a new way of presenting static-trade-off structure and pecking order outline. In disparity to static-trade-off theory, the pecking-order theory points that when debt finance is needed, first companies issue the secured security.

Ghemawat and Caves (1986), in a work on profitability and capital commitment. And conducted empirical investigation to examine the area for commitment prospects evaluated by the fixed capital intensity, will influence P value. They suggested that fixed capital intensity affect P because high competition which eliminate all profits, dismal each company's security level.

Litzenberger (1986), in a work on observations on capital structure and its impact of recent recapitalizations on equity share prices showed that a value increase capital structure may be incoherent with investors efficacy maximization and the Miller's taxes and debts equilibrium may be incoherent with capital market.

Emilio Colombo (2001) studied on capital structure determinants with the respect to Hungarian companies. In this study the investigator has examined the capital structure using a cross-section and panel data model.

Mirie Mwangi and Edwin Maranga Birundu(2015), examined effect of Capital Structure on the Financial Performance of SME in Thika, Kenya. This paper investigated to finds whether the capital structure of a company must have effect on the financial performance of SME which is a matter for empirical purpose. The analysis was conducted on 40 for 2009 to 2013, applying multiple linear regressions.

OBJECTIVES:

The objectives of the study are:

1. To investigate the Capital Goods firm's capital structure under the study period.
2. To assess the Capital Goods firm's capital structure policies during the selected period.
3. To examine empirically the Traditional trade off theory of capital structure of companies for the selected firms under Capital Goods sector.

RESEARCH METHODOLOGY:

A study on determinants of capital structure is an empirical analysis of select sectors related companies listed in Bombay

Stock Exchange. It mainly depends on secondary data. The researcher has collected data from Capitaline Database. The source of data has been collected for a period of 5 years from 2011 to 2015. The study is analytical analysis in nature. It involves in simple regression test, relates to the traditional trade-off theory.

Research Model:

Empirical analysis on target adjustment model of the traditional trade-off theory:

Dependent Variable: D_{it} = the amount of debt issued of firm i

Independent Variables: D_{it}^* = target debt level of firm i at time t.

D_{it-1} = Change in debt of firm i and time

$$\Delta D_{it} = \alpha + \beta_{TA} (D_{it}^* - D_{it-1}) + \epsilon_{it}$$

(Lakshmi Shyam Sunderand Stewart C. Myers 1994)

Where, D_{it} = The amount of debt issued of firm i at time t, D_{it}^* = target debt level of firm i at time t. D_{it-1} = Change in debt of firm i at time t. β_{TA} = Coefficient of target adjustment model which vary from 0 to 1 due to the occurrence of positive adjustment cost. The *speed of adjustment* towards target leverage is measured by the percentage of mean deviated regression. It indicates the speed of independent variables adjusting towards the target capital structure. The degree of the speed of adjustment is the key theme of this empirical analysis. It point out how quickly companies move towards their target leverage. D_{it}^* is calculated by multiplying historical debt ratios of firm i at time t and Total assets of firm i at time t.

If $\beta_{TA} > 0$, The target adjustment model indicates the selected companies are towards the optimal capital structure.

DATA ANALYSIS:

Testing the target adjustment model of the traditional trade-off theory of

Capital goods sector.

Independent Variable: d = (The target debt level of firm i at time t)

- (Change in debt of firm i at time t)

Dependent Variable = d_{it} = The amount of debt issued of firm i at time t

Method : Panel data

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Source	SS	df	MS			
Model	220311448	1	220311448	Number of obs =	40	
Residual	226199630	38	5952621.83	F(1, 38) =	37.01	
Total	446511078	39	11449002	Prob > F =	0.0000	
				R-squared =	0.4934	
				Adj R-squared =	0.4801	
				Root MSE =	2439.8	

dit	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ditdit	.798422	.1312406	6.08	0.000	.5327394	1.064105
_cons	451.3162	425.1041	1.06	0.295	-409.262	1311.894

INTERPRETATION:

On the above analysis of Target adjustment model of 40 observations (8 companies with 5 years data), R² is 0.4934 or approximately 49% of variance of amount of debt issued explained by its independent variables. This shows that selected companies of capital goods sector’s debt issue is deviated by 49% from the target debt. At 95% confidence level T- value is more than 1.96. T statistic is positive and it is 6.08. This indicates that independent variable of target adjustment model has significant influence on the amount of debt issue is the current year.

Adjusted R-square is 0.4801, which means 48.01% is adjusted by the number of independent variables. As the number of independent variables in the target adjustment model is small and number of cases in capital goods sector (8 companies) is large, adjusted R-square is closer to R-square value.

P value of the above analysis is less than 0.05. This indicates the regression model is acceptable as co-efficient of target adjustment model is different than zero which means adjustment towards target. In addition, coefficient of target adjustment model is less than 1 which implies that the selected companies have positive adjustment cost towards the target.

The standard beta coefficient is 0.7024. The coefficient is 0.7984.

The speed of adjustment towards the target leverage:

$$\lambda = (1 - \beta)$$

$$\lambda = 1 - 0.7984 = 0.2016 \text{ or } 20.16\%$$

The speed of adjustment towards the target leverage of

capital goods sector firms is 20.16%. The speed of adjustment towards the target leverage is reasonable. This implies that selected companies of capital goods sector are sustaining with their financial obligations. The companies are also maintaining the positive adjustment cost. These results in companies of capital goods sector are adjusting their actual leverage with target leverage.

Therefore the selected companies of capital goods sector are following Traditional Trade off theory with positive adjustment cost as its coefficient is less than 1 according to the model. Significantly, companies are considerably maintaining their leverage. The companies tend to revert to the target leverage at 20% speed with positive adjustment cost.

CONCLUSION AND SUGGESTION:

Out of eight companies selected in the sector, all companies’ debt equity ratios are less than the standard ratio 1:1 from the observations. Therefore it is suggested to the companies having less than one debt-equity ratios, to increase its long term external borrowings. Thereby the companies can take the benefit of tax shield. From the observations its is found that Lakshmi Machine works ltd, Fag Bearing India ltd and Siemens Ltd have zero debt in their capital structure. This may burden the companies in corporate tax. Therefore, it is suggested to the companies to restructure their capital with long term debt to take the benefit of tax shield. The speed of adjustment towards the target leverage of capital goods sector firms is 20.16%. The speed of adjustment towards the target leverage is very slow. This implies that selected companies of capital goods sector are with high level of financial obligations. Therefore, it is suggested for the selected companies may increase the speed of adjustment by reducing the beta co-efficient of desired leverage and thereby reducing the cost of capital.

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