

“Critical evaluation of Capital Structure Decision with special reference to selected companies in NSE”

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ABSTRACT

The present study is mainly focused on capital structure decision. The study made an attempt to identify the relationship between NI and NOI approach by using correlation, the result shows the weaker relationship between NI and NOI approach. All the companies are currently maintaining good fixed assets and are expected to continue the same in the future. Capital Structure has significant impact on profitability and cost of capital. When both the industries are compared, the debt proportion is very high in the cement industry; these companies are concentrated on improving the leverage position to have a better profitability and reduction in cost of capital. It is advising to the researcher consider more than 10 years study period and inculcate the market variables along with NI approach would be result better. This paper investigates the accuracy level of capital structure decisions in Indian Cement industry.

Key words: Capital structure, NI approach, NOI approach. Cement Industries

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I. INTRODUCTION

Capital structure decision represents hybrid finance in the organization. Right proportionate value of debt and equity impact on increase in market value of firm and decrease in overall cost of capital. Capital structure is a combination of debt and equity mix. Out of 100% capital company has to fix appropriate percentage of both debt and equity component for increasing the market value of the firm. Capital structure is one of the major decision and function of dynamic finance manager. As a finance manager, he or she has to think logically for deciding right proportionate value of debt and equity.

II. CEMENT INDUSTRY IN INDIA

In the cement produce industry in the world the India has got a second largest place industry. The capacity of 2019 in global installed is over 8%. The industry reports in the India's overall cement production capacity are 545 million tones in FY20. Out of overall capacity of the cement industry the 98% private sector and rest is in overall top 20 companies' accounts out of that 70% of the total

cement production in India. In a limestone deposits the India have a high quantity and quality throughout the country, the cement industry promises for high growth.

III. LITERATURE REVIEW:

George W. Gau and Ko wang (1990) the study mainly focuses on mortgage market through undertaken the debt financing considered the income property transactions with the help of assessment authority to estimating the market value of all property for the purpose of tax assessment & performing task to information collects. The regression equations set to found the relationship between the hypothesized variables and whole L/V ratio of real estate investment. The study mainly found that, real estate affected by capital constraints and optimal loan to value ratio. Further it proven that, Capital structure decision is related to the cost of the property.

Gireg Filbeck, Raymond F.Gorman and Dianna C P (1994) In this study the problem is comes from the field of psychology and in the form of experiments on human which tells

frequent violations of axioms. To attract the attention of the finance profession they have begun the cross fertilization between economics and psychology. They have examined two hypothesis that is how the firm choose their level of debt and equity within an industry. Then based on the following some industry leader the firm makes financing decisions. They found only weak support for this hypothesis and finally concluded the firms acting rationally with respect to financing decisions.

Kenneth A. Frppt. Jeremy C. Stein (1997) Frame work for studying this study is facing the financial institutions by analyzing the capital allocation and capital structure decision, the approach allows to show how bank level risk management considerations should factors into the pricing of these risk, this cannot be easily estimated. They also compared their approach to RAROC methodology, in this study three policies related to two primitive frictions that is on short notice costly to raise new external funds and on balance sheet its costly to hold a buffer stock of equity capital.

Dn Kavenock, Gordon M. Phillips (1997) They estimate in this study debt increases through leveraged buyouts and recapitalizations interact with market structure to convince plant closing and investment decision of firms recapitalizing and their rivals, both recapitalization and investment decisions are influenced by the same exogenous events. This study used theoretical model to find how industry factors interact with capital structure to convince decision of firms. They used longitudinal research database to examine the exit and investment decision, they have taken a sample of 10 industries for this study. The result shows in the capital structure single period models and empirical analysis of changes do not capture the adjustment of process to the new demand and supply conditions controlling of without market structure.

Alberto de Miguel, Julio Pindado (2000) in this study analysis the firm characteristics what are all the determinants of capital structure by using the different type of explanatory theories, and also find how institutional characteristics affecting to the capital structure. In this study they developed target adjustment model, from the empirical evidence this model is also confirmed. It also highlights the transaction costs. In this study the result is related to tax and financial distress theories and with the interdependence between financing decision and investment. Finally, in this study evidence was obtained the confirms

that is some of institutional characteristics is impact on capital structure.

Scottie. Harrington And Greg Niehaus (2002) In this study take consideration of comparing to the stock insurer the mutual insurer facing the higher costs of raising new capital, they also used regression that provide the evidence that is annual changes in capital to liability ratios are more sensitive income for mutual insurers and for stock insurers, in this study final result shows comparing by the stock insurers to the mutual insurers will be more sensitive to income and more slowly to adjust any deviation from the long run target.

Halit Gonenc (2003) This study examines the relationship between the characteristics of the firm and debt ratio, using the ordinary least square regression model by using the equity ownership to found the characteristics of the firm, in this model explained about the effect of profitability of the firm on the debt ratio by using the sample panel consist of 127 number of companies. The ratio was calculated with measured of net income by taken the before interest and taxes to total assets. In this study still observe shows the both magnitude and sign difference in the relationship between capital structure decision and some characteristics of firms.

Darren J Kisgen (2003) In this study examine the what credit ratings is directly affected to the capital structure decision, they also applied the test that is plus or minus and credit score test. Regression including dummy variable that is close to rating change both Broad rating change and micro rating change. The credit rating changes considered around the A and B levels as well as change from investment grade to junk. Final result is the compared by the firm not near a rating change to the firms near a rating upgrade or downgrade issue is less debt relative to equity.

Minir A Desain C. Fritz Foley, James R. Hines Jr (2003) This study is wholly on National Bureau of economic research. In this study examined the impact of local tax rates and also examine on the basis of level and composition of borrowing capital market conditions by foreign affiliates of American multinational corporations. In this evidence indicating the 10% of highest local tax rates are mingled with 2.8% highest debt ratios. In this, regressions reported how the local tax rates is affected to total leverage and available of legal protections to creditors and how interest rates on related party and external debt are affected by capital market depth and legal protection.

Finally, in this study suggested in the point of view of tax and capital market conditions in the multinational firms are able to structure their finance.

Ivo Welch (2004) In this study on the basis of market debt ratios describe ownership of the firm by the use of creditors and equity holders. In the WACC computations they have taken those are the indispensable input. This paper shows the first order determinant of debt ratio is stock return. In this paper investigate debt ratio dynamics primarily in cross section, little cross sectional shows in the dividends. In the regression specification they observed corporate debt ratios at any point of time are largely transient with stock returns and deliberate readjustment is show and modest. Finally, helped to explain capital structure dynamics primarily because by the stock price changes, they correlated with omitted dynamics.

Xiaodong Xu. John R. Birge (2005) In this study depends on financing ability and access to external capital. In the traditional operations model shows that the corporate manager wants to show their interests in the firm owners. In the matter of financial constraints and managerial incentives the news vendor model builds to make optimal production decision. In this study the regression shows the relationship between financial leverage and operating conditions and also, they observe whether the financial leverage is above the margin or reach either low or high extreme. In this model also consider the effects of agency costs and debt is choosing by the based-on performance of the managers in the compensation. This analysis finally shows how managerial incentives influence manager to deviate from firm optimal decisions and also by using those compensation in the agency cost the low margin producers face an important risk and also relatively low risk faced by the high margin producers.

Dr.Omg Tze San, Tech Boom Heng (2007) This study is totally focuses on the basis of paid up capital this capital is divided in to big, medium and small sizes. Objectives of this study is examining the nature, and to examine the stability of the companies and also identify the interdependence, in this study considered the variable capital structure and corporate performance are independent and dependent variable respectively, also done the pooling regression model based on the size of the firm. Finally, the result shows that in this study there is no relationship between variables

investigated. And also, some limitations have in this study that is considering of samples they adopt different accounting policies, and also problem in sample only concentrate on construction sector and also annual closing period of accounts is different among the companies.

Disk Hack barth (2008) It is a study on impact of corporate financial policy and firm value it shows the growth and risk perception, diverting funds can be restrained due to higher debt levels of Biased managers, by reducing this manager shareholder conflict to increase firm value. They follow pecking order gave to the preference for internal funds when available, if external funds are needed, they will go to take a debt. Finally suggested to further extension of managerial traits theory will prove fruitful.

Roman Inderst, Holger M. Mueller (2008) In this study, in the model they considered the single lender and penniless firm, this model helped to understand the bank why they should take the additional of unsecured debt that means unsecured deposits and subordinate loans and based on over their existing deposit. It also helped to understand that why should the banks and companies of finance take similar leverage ratio, the finance company are not deposit takes and hence not subject to the same regulatory capital, requirement as bank. In this theory or study shows how competition for borrower leading to an underinvestment problem. Finally, only sufficiently the leverage adjusts as to take on risky loans so still ensure that banks have first best incentives.

Godfred Alufar Bokpin (2009) This study is based on capital structure decisions on the Macroeconomic factors of emerging firms, in this study using the seemingly unrelated regression approach, test for the purpose of estimates across the countries and stability of parameter. Then using the descriptive statistics of the dependent and descriptive statistics independent variables. they find the bank credit is main important in the predicting capital structural choice of firm.

Alicia David T. Robinson (2010) In this study, the restricted data access from the Kauffman firm Survey, the firm data wholly based on the External debt sources that is Bank financing and friends and family-based funding sources, in this survey collected the information from gender, race, ethnicity, education, previous industry experience and also from startup experience. This study is totally understanding about the how capital markets affecting to the

growth and survival of new firm and also defining the question of Entrepreneurial finance. This study using Descriptive statistics on the capital structure decision. Finally, in this study suggested based on the accounts of Entrepreneurial Finance that mainly focus on the Informal capital.

Abel Ebel Ezeoha, Francis O okafor (2010) In this study investigates the degree and direction, nature of the effects of classes of corporate ownership on capital structure decision between firm and also using the sample of 71 quoted companies. This study adopted a panel fixed effects regression models to find the relationship between corporate ownership and financial leverage during the time of controlling profitability, firm size and age. They find the partiality between indigenous and foreign firms. They done a small sample study this is a limitation. At the estimation process time the company effects may not have been fully captured.

Roni Michooly and Christopher Vincent (2012) This study they are going to investigate the relationship between the institutional holdings and capital structure. They used the empirical study on non-parametric test because both institutional holdings and leverage are varied from firm size, they finally found the change in institutional holdings reason from opposite change in leverage, using instrumental variables and linear two stage least squares to affect the capital structure by institutional holdings. the large number of percentage of shares from institutions on the average comes relatively low leverage ratio from this they obtain the result that is relationship between institution holdings and leverage shows the negative relationship.

Alagathusai Ajanthan (2013) In this study is shows the relationship between the capital structure and financial performance of trading companies. The decision has taken impact on the firm's ability to successfully operated in a competitive environment. They considered the objectives in this study that is nature and impact of capital structure and financial performance. All the data collected from the secondary sources in this study, they also used the Durbin Walson test. In this study they using the combination of equity debt, or hybrid securities help them to finance their asset. The financial performance is explained in this study by the debt/equity and debt ratios.

Matthew Serfling, Sandy Klasa, Kathleen Kahle, Hernan ortiz-Molina, Ryan williams, Tiemen woutersen (2015) In this

study find the firm reduce debt ratios by adoption of laws and this result if strongly help to subsamples of firms, this experience helps to increase in expected firing costs, and also increase in cash holdings and also save more cash out of cash flows. In this sample study includes 81,161 firms and adopted a difference in difference research design to estimate the WDLs and financial leverage relationship, in this study adopted a Robustness tests. Result is to passage of labor protection laws have an important impact on financing decision.

IV. RESEARCH METHODOLOGY

TOP CEMENT COMPANY IN INDIA

- Ultratech Cement Ltd
- Shree Cement Ltd
- Ambuja Cement Ltd
- ACCLtd
- Dalmia Bharat Ltd
- Ramco Cement Ltd
- J.K Cement
- Heidelberg Cement
- Birla corporation Ltd
- India Cement Ltd
- Orient Cement Ltd

V. OBJECTIVES OF THE STUDY

- To understand the proportionate combination of debt & equity.
- To analyze the impact of capital structure on profitability and cost of capital.
- To evaluate & suggest optimum capital structure at minimum cost of capital.

VI HYPOTHESES OF THE STUDY.

- There is no impact of capital structure on profitability and cost of capital.

VII. DATA ANALYSIS & INTERPRETATION

COMPUTATION OF OVERALL COST OF CAPITAL & VALUE OF THE FIRM UNDER NI & NOI APPROACH (ULTRA TECH CEMENT)

Year	(Int/Debt*100)	Kd	(E/MP*100)	Ke
2016	511.66/5360.59*100	9.54%	274.43/3245.75*100	8.46%
2017	571.39/7281.68*100	7.84%	274.51/4320.8*100	6%
2018	1186.3/17407.71*100	6.81%	274.61/4002.7*100	6.86%
2019	1648.44/21434*100	7.69%	274.64/4046.85*100	6.79%

2020	1704.22/19257.3*100	8.84%	288.63/5284.65*100	5.46%
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From the above table -1 shows the calculation of cost of equity and cost of debt of Ultra Tech cement considering a study period of 5years. the study observed that, compare to 2016 cost of debt declined YOY except in the year 2020 but cost of equity reported variations & decline compare to previous years except in the year 2017. The study found that, firms Ke & Kd results declining trend compare to proceeding years.

TABLE 2CALCULATION OF COST OF CAPITAL

Year	(Kd(B/V)+Ke(S/V))	Ko
2016	0.0954*(5363/369370)+0.0845*(364007/369370)	8.46%
2017	0.0785*(7278/492508)+0.0635*(485230/492508)	6.37%
2018	0.0681*(17419/580468)+0.0686*(563049/580468)	6.85%
2019	0.0769*(21436/621885)+0.0678*(600449/621885)	6.81%
2020	0.0885*(19256/1183006)+0.0546*(1163750/1183006)	5.51%

Table 3

VIII. Findings

In the NI Approach the Cement industry, Ambuja Cement Company reported 17.9% has the Maximum value of the Cost of debt and Ultratech cement company reported 8.14% as the Minimum value of the Cost of debt.

- In the NI Approach the Automobile industry, Tata Motors Ltd reported 10.91% has the Maximum value of the Cost of debt and Bajaj Auto Ltd reported 0.364 % has the Minimum value of the Cost of debt.
- Cement Industry is compared with the Automobile industry, the Cement industry has the Maximum value of the cost of debt under NI Approach. The obtained value is 11.466%
- In the NI Approach the Cement industry, Ambuja cement company reported 175.37% has the Maximum value of the Cost of equity and Ultratech cement company reported 6.71% as the Minimum value of the Cost of equity.
- In the NI Approach the Automobile industry, Tata Motors Ltd reported 290% has the Maximum value of the Cost of equity and Maruti Suzuki Ltd reported 2.08 % has the Minimum value of the Cost of equity.
- Cement Industry is compared with the Automobile industry, the Automobile industry has the Maximum value of cost of equity under NI Approach. The obtained value is 93.29%
- In the NI Approach the Cement industry, Ambuja cement company reported 169.608% has the Maximum value of the Cost of

The hypothesis helps to ascertain the impact of capital structure on cost of capital. The outcome spreadsheet analyzed data the P value results less than the significant value at 5%. Hence Ho is rejected & its proven that these is a significant impact of capital structure on cost of capital.

- capital and Ultratech cement company reported 6.8% has the Minimum value of the Cost of capital.
- In the NI Approach the Automobile industry, Mahindra and Mahindra Ltd reported 69.53% has the Maximum value of the Cost of capital and Tata Motors Ltd reported -493% has the Minimum value of the Cost of capital.
- Cement Industry is compared with the Automobile industry, the Cement industry has the Maximum value of cost of capital under NI Approach. The obtained value is 49.017%
- In the NI Approach the Cement industry, UltraTech cement company reported Rs.6,65,566 has the Maximum value of firm and Ambuja cement company reported Rs. 17,226.248 has the Minimum value of the Firm.
- In the NI Approach the Automobile industry, Maruti Suzuki Ltd reported Rs.34,57,586 has the Maximum value of the Firm and Mahindra and Mahindra Ltd reported Rs. 1,54,916.48 has the

t-Test: Two-Sample Assuming Equal Variances		
	CE	NI Ko
Mean	5414.04225	0.22313575
Variance	42616662.97	2.077235359
Observations	40	40
Pooled Variance	21308332.52	
Hypothesized Mean Difference	0	
Df	78	
t Stat	5.244982049	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.664624645	
P(T<=t) two-tail	0.00	
t Critical two-tail	1.990847069	

Minimum value of the Firm.

- Cement Industry is compared with the Automobile industry, the Cement industry has the Maximum value of the Firm under NI Approach. The obtained value is Rs. 2,23,222.85

- In the NOI Approach the Cement industry, Ambuja cement company reported 88.44% has the Maximum value of the Cost of capital and Ultratech cement company reported 8.11% has the Minimum value of the Cost of capital.
- In the NOI Approach the Automobile industry, Tata Motors Ltd reported 22.98 % has the Maximum value of the Cost of capital and Bajaj Auto Ltd reported 3.352 % has the Minimum value of the Cost of Capital.
- Cement Industry is compared with the Automobile industry, the Cement industry has the Maximum value of the cost of capital under NOI Approach. The obtained value is 29.14%
- In the Cement industry, J.K cement company reported 0.976:1 Ratio has the Maximum value in the Debt Ratio and Ambuja cement company reported 0.55:1 Ratio has the Minimum value in the Debt Ratio.
- In the Automobile industry, Maruti Suzuki Ltd reported 0.922:1 Ratio has the Maximum value in the Debt Ratio and Bajaj Auto Ltd reported 0.66:1 has the Minimum value in the Debt Ratio.
- In the Cement industry, Ultratech cement company reported 50.84:1 Ratio has the Maximum value in the Debt Equity Ratio and Ambuja cement company reported 1.26:1 Ratio has the Minimum value in the Debt Equity Ratio.
- In the Automobile industry, Tata Motors Ltd reported 13.56:1 Ratio has the Maximum value in the Debt Equity Ratio and Bajaj Auto Ltd reported 2.02:1 has the Minimum value in the Debt Equity Ratio.
- In the Cement industry, Ambuja cement company reported 0.015:1 Ratio has the Maximum value in the Proprietary Ratio and Ultratech cement company reported 0.0054:1 Ratio has the Minimum value in the Proprietary Ratio.
- In the Automobile industry, Bajaj Auto Ltd reported 0.013:1 Ratio has the Maximum value in the Proprietary Ratio and Maruti Suzuki Ltd reported 0.00591:1 has the Minimum value in the Proprietary Ratio.
- In the Cement industry, ACC cement company reported 8.05:1 Ratio has the Maximum value in the Fixed Asset Ratio and J.K cement company reported 1.41:1 Ratio has the Minimum value in the Fixed Asset Ratio.
- In the Automobile industry, Maruti Suzuki Ltd reported 8.168:1 Ratio has the Maximum value in the Fixed Asset Ratio and Tata Motors Ltd reported 1.69:1 has the Minimum value in the Fixed Asset Ratio.
- Cement Industry is Compare with Automobile Industry, the Cement Industry has the Maximum Value in the Combination of Debt& Equity. The Obtained value is 23.64:1 Ratio.

IX. SUGGESTIONS

It is advised to the firm to concentrate on increase the equity base since it has reported

majority investment is covered by debt. Even the results were supported through the resulted debt ratio was comparatively greater than the standard ratio. The present study is mainly focused on capital structure decision. The study made an attempt to identify the relationship between NI and NOI approach by using correlation, the result shows the weaker relationship between NI and NOI approach. All the companies are currently maintaining good fixed assets and are expected to continue the same in the future. Capital Structure has significant impact on profitability and cost of capital. When both the industries are compared, the debt proportion is very high in the cement industry, these companies are concentrated on improving the leverage position to have a better profitability and reduction in cost of capital. It is advising to the researcher consider more than 10 years study period and inculcate the market variables along with NI approach would be result better.

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