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Effect of Capital Structure on Profitability of Listed Cement Companies in India

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Abstract: *This study seeks to extend Mohammad Fawzei Shubita and Jafafer Maroof Alsawalhah (2012) findings regarding the relationship between capital structure and profitability by assessing the effect of capital structure on profitability of cement companies listed on Bombay Stock Exchange during a five-year period (2011-12 to 2015-16). The problem statement to be analyzed in this study is: The study sample consists of 11 companies. Applying descriptive statistics and correlations analysis, there is no significant relationship between cost of capital to firms return and also debt-equity ratio to share price.. Further, it evaluate the impact of Capital structure on profitability of the firm, the study find that there is a significant impact of Capital structure on Firm's profitability except cost of capital and firm's return. Yet recommendations based on findings are offered to improve certain factors like the firm must consider using an optimal capital structure and future research should investigate generalizations of the findings beyond the manufacturing sectors.*

Keywords: *Cost of Capital, Debt Equity Ratio, Bombay Stock Exchange.*

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I. Introduction

Capital structure is a major content for the improvement of profitability of firm, but every time it does not play an significant role for improvement of profit [1]. Capital structure majorly influence on financial performance of the firm. Turnover is the major determinant in capital structure [2]. Capital structure is a combination of debt and equity, right proportionate value of debt and equity leads to go for optimum capital structure. The decision to build a capital structure that is optimal is significant in the process of achieving the objective of wealth Maximization of the company. The decision on capital structure not only influences the wealth of the shareholders but also affects the market value of the share [3]. The capital part of the debt-equity relationship is very simple to define. In a company's capital structure, equity includes of a company's common and preferred stock and retained earnings, which are summed up in the shareholders' equity account on a balance sheet [4].

II. Research Objective

- To ascertain the relationship between the factor of capital structure and profitability
- To evaluate the Impact of capital structure on profitability of the firm

III. Research Importance

The impact of capital structure on profitability cannot be ignored because the improvement in the profitability is necessary for the long-term success of the firm. Because interest payment on debt is tax deductible, the addition of loan in the capital structure will improve the profitability of the firm. Therefore, it is essential to test the relationship between capital structure and the profitability of the firm to make better capital structure decisions.

IV. Literature Review

Dr. Mohammad Fawzi Shubita and Dr. Jaafer Maroofalsawalhah (2012) This study results reveal significantly negative relation between debt and profitability. Increase in the debt position is associated with a decrease in profitability.

Taiwo adewale murotala (2012) this paper examine the impact of capital structure on firm's financial performance. The study reveals that asset turnover is an important determinant of financial performance with ROE as a measures of financial performance. Size and age are also considered as major determinants of financial performance model. The study provides evidence of a negative and significant relationship between asset tangibility and ROA as measures of performance in the model.

Mohammed Abu Sayeed (2011) This paper investigates the determinants of capital structure are selected based on 2 prominent theories, static trade off theory and pecking order theory. Total debt to market value of the company was used in another equation. Many factors influence on capital structure decision. Some of them are positive and others are negatively correlated. In order to prove this OLS regression model was used.

Anup chowdhery & Suman paul chowdhery (2010) This paper attempt has been made to test the influence of debt equity structure of MM. The paper value of shares given different sizes, industries and growth opportunities with the companies incorporated in Dhaka stock Exchange and Chittagong Stock Exchange of Bangladesh. To see the relationship between capital structure and firm value in Bangladesh this paper considered share price as proxy for value and different ratio for capital structure decision. The interesting findings of this paper suggests that maximizing the wealth of shareholders requires a perfect combination of debt and equity, where as cost of capital has a negative correlation in this decision & it has to be minimum as much as possible.

Pascal Francois & Erwan Morellec (2004) This article presents a contingent claims model that captures some of the fundamental features and investigate their impact on corporate financing decision. Here they have developed new model that shows the possibility to file debt on the both share holders' default incentives and credit spreads. Debt recognition encourages early default and increases credit spreads on corporate debt. The model shows that when debtors have most of the bargaining power, we can expect leverage to decrease /increase with the constraints put on the recognition process.

V. Methodology

The purpose of this research is to contribute towards a very important aspect of financial management known as capital structure with reference to cement companies. Here the relationship between capital structure practices and its effects on profitability of cement firms listed on Bombay stock Exchange for a period of six years from 2010-2015 will be examined. This section discusses the firms and variables included in the study, the distribution patterns of data and applied statistical techniques in investigating the relationship between capital structure and profitability.

5.1 Population

The population will consist of the Indian cement companies listed in Bombay Stock Exchange for the study period (2011-12 to -2015-16). There are 24 listed cement companies in BSE on the basis of market capitalization, Out of which first 11 companies are considered on the basis of availability of financial reports..

5.2 Study Period

The study covers the period from 2011-12 to 2015-16. The required data include the following:-

1. Cost of capital
2. Return on Equity
3. Return on Asset
4. Net profit
5. EBIT
6. Return on Capital Employed
7. Market price
8. Leverage

1. Data Analysis and Interpretation Descriptive Statistics

Pairs	Parameters	Mean	Std. Deviation	Std. Error Mean
Pair 1	VOFNOI	7717.18	13805.31	1316.28
	MKTCAP	522550.25	1066452.99	101682.30
Pair 2	VOFNI	12386.27	33976.70	3239.55
	MKTCAP	522550.25	1066452.99	101682.30
Pair 3	Ko	13.05	46.22	4.41
	ROE	5.45	27.67	2.64
Pair 4	Ko	13.05	46.22	4.41
	ROA	4.28	7.84	0.75
Pair 5	Ko	13.05	46.22	4.41
	ROCE	13.59	14.95	1.43
Pair 6	Debt	889.67	1187.34	113.21
	EBIT	597.58	986.85	94.09
Pair 7	Debt	889.67	1187.34	113.21
	NP	282.77	559.12	53.31
Pair 8	Equity	2607.17	4359.11	415.63
	EBIT	597.58	986.85	94.09
Pair 9	Equity	2607.17	4359.11	415.63

	NP	282.77	559.12	53.31
Pair 10	DER	1.03	2.11	0.20
	INCOV	7.33	10.53	1.02
Pair 11	DER	1.03	2.11	0.20
	SHRPR	582.67	1766.31	170.76

Source : Authors Calculation-SPSS Database

Paired Samples Correlations

Pairs	Parameters	Correlation	Sig.
Pair 1	VOFNOI & MKTCAP	.502	.000
Pair 2	VOFNI & MKTCAP	.290	.002
Pair 3	Ko & ROE	.184	.054
Pair 4	Ko & ROA	-.026	.786
Pair 5	Ko & ROCE	.151	.115
Pair 6	Debt & EBIT	.661	.000
Pair 7	Debt & NP	.549	.000
Pair 8	Equity & EBIT	.929	.000
Pair 9	Equity & NP	.906	.000
Pair 10	DER & INCOV	-.227	.019
Pair 11	DER & SHRPR	-.115	.236

Source : Authors Calculation-SPSS Database

From the above table observed that, the relationship between the factor of capital structure and profitability. It results with both positive and negative correlation which exists between the selected variables of capital structure. The study finds that, there is a significant positive strong relationship exists between equity capital to EBIT (Earnings Before Interest & Tax), Value of the firm (NOI approach) to Market Capitalisation and Equity to Net Profit. It is also proven that there is positive significant relationship exists between Debt to EBIT and Debt to Net Profit.

Further, the study observed negative insignificant relationship arises between Cost of capital to Return on Assets and debt Equity Ratio to Share Price. It is also observe that there is a weak significant relationship find between Cost of capital to Return on Equity, Value of the Firm (NI approach) to Market Capitalisation and Debt Equity Ratio to Interest Coverage Ratio.

Paired T-Test

Pairs	Parameters	Paired Differences		T	df	Sig. (2-tailed)
		Mean	Std. Deviation			
Pair 1	VOFNOI - MKTCAP	-514833.07	1059595.08	-5.10	109	0.000
Pair 2	VOFNI - MKTCAP	-510163.98	1057097.43	-5.06	109	0.000
Pair 3	Ko – ROE	7.60	49.30	1.62	109	0.109
Pair 4	Ko – ROA	8.77	47.08	1.95	109	0.053
Pair 5	Ko – ROCE	-0.53	46.38	-0.12	109	0.904
Pair 6	Debt – EBIT	292.10	913.24	3.35	109	0.001
Pair 7	Debt – NP	606.90	996.86	6.39	109	0.000
Pair 8	Equity – EBIT	2009.60	3462.03	6.09	109	0.000
Pair 9	Equity – NP	2324.41	3860.10	6.32	109	0.000
Pair 10	DER – INCOV	-6.30	11.20	-5.82	106	0.000
Pair 11	DER – SHRPR	-581.63	1766.56	-3.41	106	0.001

Source : Authors Calculation-SPSS Database

From the above table analyse the impact of capital structure on profitability. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study finds that, there is a significant impact of capital structure variables on profitability except two variables out of total selected capital structure variables. It also found that there is no significant impact between cost of capital to Return on Equity and Cost of Capital to Return on Capital Employed

Testing of Hypotheses

Paired Variables	Correlation (r)	Sig @ 5%	Paired T-Test	Sig @ 5%	Hypothesis 1		Hypothesis 2	
					Accept	Reject	Accept	Reject
VOFNOI - MKTCAP	.502	.000	-5.10	0.000		✓		✓
VOFNI - MKTCAP	.290	.002	-5.06	0.000		✓		✓
Ko - ROE	.184	.054	1.62	0.109	✓		✓	

Ko - ROA	-.026	.786	1.95	0.053	✓		✓	
Ko - ROCE	.151	.115	-0.12	0.904	✓		✓	
Debt - EBIT	.661	.000	3.35	0.001		✓		✓
Debt - NP	.549	.000	6.39	0.000		✓		✓
Equity - EBIT	.929	.000	6.09	0.000		✓		✓
Equity - NP	.906	.000	6.32	0.000		✓		✓
DER - INCOV	-.227	.019	-5.82	0.000		✓		✓
DER - SHRPR	-.115	.236	-3.41	0.001	✓			✓

Source : Authors Calculation

Based on above hypotheses tested table it clearly states that there is no significant relationship between cost of capital to firms return and also debt-equity ratio to share price. Henceforth the study reveals that the remaining selected capital structure variables had a either positive relationship or negative relationship wit profitability of the firm.

Further, it evaluate the impact of Capital structure on profitability of the firm, the study find that there is a significant impact of Capital structure on Firm's profitability except cost of capital and firm's return.

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