International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

Impact of Capital Structure Decision on Profitability of Firm

(Selected Listed Cement Companies in India)

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ABSTRACT - The capital structure deals with amount of debt and equity to finance the firm's operation. This study shows the relationship between capital structure and profitability of firm in Indian cement industry [6]. Here it is says there is strong relationship between capital structure and profitability. Increase or decrease in the capital structure determines the increase or decrease in the profitability of firm [1]. It shows the impact of capital structure on profitability of overall cement industry in India. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except K0 to ROE, ROA and ROCE out of total selected capital structure variables [3]. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt and equity is meeting the standard of debt equity ratio (1:2). As per the observation the contribution of the tax benefit is good due to standard leverage position in the firm capital structure

Keywords: Debt-Equity Ratio, Leverage, Tax, etc…

I. INTRODUCTION

The effective Capital structure helps to determine the better profitability of firms. There is a strong relation between the capital structure and profitability of firm[9]. While deciding the proportionate value of business capital company should consider the profit for the same year. It states that the capital increases if there is profit and capital decreases if there is a loss[2].

II. REVIEW OF LITERATURE

Echekoba Felix Nwaolisa and Ananwude analog Chukwu Chijindu (2016)

They have analyzed that the effect of financial structure on financial performance of consumer goods firms. The outcome of the study was to analyze the total debt to equity ratio and short term debt to equity ratio. This negatively affects the financial performance of the firms.

Hassan Jan Habib, Faisal Khan and Dr. Muhammad Imran Wazir (2016)

The study reveals that there is a negative relationship between debt and profitability. It is suggested that the right proportion of debt and equity helps in increasing the company's profitability.

Ahmadu Abubakar (2015)

The study has examined that significant negative relationship exists between debt –equity ratio and return on equity ratio and there is an insignificant correlation between debt ratio and ROE. Here it is observed that combination of debt and equity influence on financial performance and the debt factor does not impact on financial performance of the firm.

Wagas Bin Khidmat and Mobeen Ur Rehman (2014)

This study examined that liquidity and solvency ratio helpful to understand ROA and ROE of firm. Here, liquidity ratio has a positive effect and solvency affects negatively upon ROA and ROE. These two solvency ratios understand about short term obligation in connection to suppliers and debtors. From these two ratios, companies can determine share holders wealth.

Mohd. Heikal, Muammar Khaddafi and Ainatul Ummah (2014)

They have analyzed that ROA, ROE and NP are positively significant with growth, debt to equity ratio, and current ratio are negatively significant with growth factors. It is suggested that company can maximize the profit by using external funds.

Nousheen Tariq Bhutta and Arshad Hassa (2013)

This study analyses that the firm specific factors and its impact on profitability of the firm in Karachi Stock Market, Pakistan. The firm specific factors are debt to equity, tangibility, growth and size and macro economic factors includes food inflation. However, the study reveals that

 DOI : 10.35291/2454-9150.2021.0048

there is a negative correlation between size and profitability and vice versa in rest of the factors. Hence, firm should consider all these factors for better profitability.

Taiwo Adewale Murotala (2012)

This study examines the impact of capital structure on firm's financial performance. The study reveals that asset turnover is an important factor of financial performance since they are closely associated. The study provides evidence of a negative and significance relationship between asset tangibility and ROA as measure of performance in the model. The implication of this is that, sampled firms were not able to utilize the fixed asset composition of firm's performance. Hence this study recommends that, asset tangibility should be a driven factor of capital structure.

Faris Nasif Al-Shubiri (2012)

He opined that if an organization wants to invest on an assets, then it should be on past performance through debt ratio analysis. This study investigates the debt accumulation and its impact on the firm performance and investment on assets

E.C. Charalambakis and D. Psychoyios (2012)

Here it is suggested that a size, tangibility, profitability and growth opportunity signifies the debt ratios. As with the US evidence it has been shown that, size and tangibility are positively associated with leverage, whereas profitability and growth opportunities are negatively associated with leverage for the UK firms remain inconclusive. It is concluded that size, tangibility, profitability and growth opportunity cannot explain the theoretical aspects of capital structure.

De Rembulan Ayundhasurya and Isrochmani (2012)

It is suggested that every investor considers price earnings ratio for the better investment. The three independent variables influence on the financing decision, such as dividend payout ratio, P/E ratio and debt to equity. These are the biggest aspect that has to be considered for optimum capital structure decision.

Ivo Welch (2011)

This study brought out general problems in capital structure research. First one is whether non financial firms should consider debt or not? and second is how they have considered financial debt to asset ratio. This paper gives clear ideas about how companies formulate the policy towards financing decision. Every company must carefully analyse the cost of capital before they acquire funds from various sources.

Erol Muzir (2011)

This article is prepared to examine and test the relationship among firm size, capital structure and financial performance. It is also given the statement for irrelevance theory (Trade off) and relevance theory (Pecking order). They have also stated that size of the firm effects on financial performance and sustainability of firm.

Anup Chowdhery, Suman Paul Chowdhury (2010)

This study endeavors to empirically support the argument of MM. The paper tests the influence of debt equity structure on the value of shares given in different sizes, industries and growth opportunities with the companies, listed in Dhaka Stock Exchange and Chittagong Stock Exchange of Bangladesh. To see the relationship between capital structure and firm value in Bangladesh this paper is considered. This paper also suggests that maximizing the wealth of shareholders requires a perfect combination of debt and equity.

Puwanenthiram Pratheepkanth (2005)

He opined that the debt equity component has relatively significance to the financial performance by considering ROI and ROCE. But in some cases capital structure will not impact on financial performance (through net profit ratio and gross profit ratio). To analyze this result correlation, covariance, F test, ANOVA have been considered. It is also suggested the following points:

- Performance standard should be established and communicated to the investors, which will help investors to achieve the standard and take better investment decisions.
- Identifying the weakness of investment may be best option to improve the firm's financial performance, because it indicates the area in which decision should be taken?
- Motivating the investors to help to achieve the high level of firm's financial performance.
- Political changes are very important factors in the share market which also determines the firm performance. Therefore, political changes may make it possible to increase the financial performance of the listed companies.
- Inflation and exchange rate also affect the performance of the listed companies'

Mar Jegers (2003)

It is suggested that growth of non-profit organizations' activities is constrained by a number of organizational characteristics which discusses capital structure, efficiency and profitability. Mainly capital structure determines the sustainable growth rate of NPO's.

S Revathy and Dr. Santhi (2016)

This study recommended that three stages have been considered to see the impact of capital structure on profitability. Here, the variable debt and equity has a negative impact on profit in all the three stages and it has direct effect on the growth. The variable current ratio has a negative impact on profit in the first half of the study period and vice versa in the second half.

 DOI : 10.35291/2454-9150.2021.0048

Objective of the Study

- To analyze the impact of capital structure on profitability of firm

Hypothesis:

2. a) **Ho**: There is no significant impact of capital structure on firm's profitability

Ha: There is a significant impact of capital structure on firm's profitability.

i) Capital employed and EBIT
ii) Capital employed and Net profit
iii) Debt and EBIT
iv) Debt and Net profit
v) Equity and EBITand Return on assets
ix) Overall cost of capital and Return on capital employed
vi) Equity and net profit
vii) Overall cost of capital and Return on equity
viii) Overall cost of capital

1. b) **Ho**: There is no positive significant relationship between capital structure on profitability.

Ha: There is a positive significant relationship between capital structure on profitability

i) Capital employed and EBIT
ii) Capital employed and Net profit
iii) Debt and EBIT
iv) Debt and Net profit
v) Equity and EBIT
vi) Equity and net profit
vii) Overall cost of capital and Return on equity
viii) Overall cost of capital and Return on assets
ix) Overall cost of capital and Return on capital employed

III. Research Methodology

- **Sources of Data:** Data collected from secondary sources. Such as respective company annual reports, news paper etc.
- **Sample Size and Convenience sampling method-** On the basis of market capitalization there are 24 Indian cement companies listed in Stock market and out of which 22 companies are considered for the study. Because, the complete financial reports are available only in 22 companies. Hence this sampling is belongs to convenience sampling technique. The selected companies are as follows: Ultra tech cement, Shree cement, Ambuja cement, ACC, Ramco Cement, prism cement, J.K. Cement, J.K. Laxmi Cement Orient cement, Birla group, OCL India, India cement, KCP Ltd., Mangalam cement, Udaipur cement, Sourashtra cement, Guj.sidhee cement, Shree digvijaya, Andhra cement

Burnpur cement, Panyam cement and Barak Vally cement.

IV. DATA ANALYSIS AND INTERPRETATION

Table No.: 1 Calculation of Paired Samples Test & Correlation (Ultratech Cement)

Paired Parameters		Paired Differences				t	Df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	17563.86	3766.44	0.13	0.83	10.43	4	0.00
Pair 2	CE – NP	19530.85	4060.60	-0.88	0.05	10.76	4	0.00
Pair 3	Debt – EBIT	606.68	1100.70	-0.12	0.84	1.23	4	0.29
Pair 4	Debt – NP	2573.67	1250.87	-0.81	0.10	4.60	4	0.01
Pair 5	Equity – EBIT	12666.79	3015.05	0.21	0.74	9.39	4	0.00
Pair 6	Equity – NP	14633.78	3316.78	-0.82	0.09	9.87	4	0.00
Pair 7	Ko – ROE	-7.29	4.42	-0.92	0.03	-3.69	4	0.02
Pair 8	Ko – ROA	-2.53	3.17	-0.89	0.05	-1.79	4	0.15
Pair 9	Ko – ROCE	-13.09	3.89	-0.68	0.20	-7.53	4	0.00

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Ultratech Cement Ltd. 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 Debt to EBIT and Cost of Capital to Return on Assets out of total selected capital structure variables. It is also found that all Return Ratio Paired mean results negative due to low rate of return. The proportionate of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

 DOI : 10.35291/2454-9150.2021.0048

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Equity and Return on assets, Capital Employed to Net Profit at 5% significance level. The changes in Cost of Capital and Invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Ultratech Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 2 Calculations of Paired Samples Test & Correlation (Shree Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	3966.84	1350.36	-0.96	0.01	6.57	4	0.003
Pair 2	CE – NP	4760.77	1333.22	-0.43	0.47	7.98	4	0.001
Pair 3	Debt – EBIT	-582.17	162.27	0.57	0.31	-8.02	4	0.001
Pair 4	Debt – NP	211.76	144.20	0.80	0.10	3.28	4	0.030
Pair 5	Equity- EBIT	3096.89	1462.43	-0.96	0.01	4.74	4	0.009
Pair 6	Equity – NP	3890.82	1461.46	-0.51	0.38	5.95	4	0.004
Pair 7	Ko – ROE	-10.64	8.30	0.88	0.05	-2.86	4	0.046
Pair 8	Ko – ROA	-2.53	3.17	-0.89	0.05	-1.79	4	0.15
Pair 9	Ko – ROCE	-13.09	3.89	-0.68	0.20	-7.53	4	0.00

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Shree Cement Ltd. 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 Ko to ROA out of total selected capital structure variables. It is also found that all Return Ratio Paired mean results negative due to low rate of return. The proportion of the debt has lower comparatively than the standard of debt ratio (1:2). As per the observation, the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is no significant relationship exists between Cost of Capital to Return on Equity and Return on assets, Debt to NP at 5% Significance level and CE to EBIT & Equity to EBIT at 1% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Shree Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of Debt and equity in their Construction of optimum capital structure.

Table No.: 3 Calculation of Paired Samples Test & Correlation (Ambuja Cement)

Paired Parameters		Paired Differences				t	Df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	9727.42	4389.55	-0.36	0.56	4.96	4	0.01
Pair 2	CE – NP	10407.57	4374.39	-0.45	0.45	5.32	4	0.01
Pair 3	Debt – EBIT	-1827.45	371.52	0.62	0.27	-11.00	4	0.00
Pair 4	Debt – NP	-1147.30	277.38	0.14	0.83	-9.25	4	0.00
Pair 5	Equity – EBIT	9701.59	4391.82	-0.36	0.56	4.94	4	0.01
Pair 6	Equity – NP	10381.74	4376.40	-0.45	0.45	5.30	4	0.01
Pair 7	Ko – ROE	-3.76	4.48	-0.72	0.17	-1.87	4	0.13
Pair 8	Ko – ROA	-3.04	2.45	-0.71	0.18	-2.78	4	0.05
Pair 9	Ko – ROCE	-10.14	6.98	-0.77	0.13	-3.25	4	0.03

Source: SPSS Calculation- AGM Reports Database

The above shows the impact of capital structure on profitability of Ambuja Cement Ltd. 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 K0 to ROE out of total selected capital structure variables. It is also

 DOI : 10.35291/2454-9150.2021.0048

found that all returns ratio paired mean results negative due to low rate of return. The proportionate of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is insignificant relationship exists between Capital structure and its all variables. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Ambuja Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 4 Calculations of Paired Samples Test & Correlation (ACC Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	6486.50	786.92	-0.88	0.05	18.43	4	0.00
Pair 2	CE – NP	7239.81	734.71	-0.74	0.15	22.03	4	0.00
Pair 3	Debt – EBIT	6452.39	802.42	-0.91	0.03	17.98	4	0.00
Pair 4	Debt – NP	-869.73	296.08	-0.31	0.61	-6.57	4	0.00
Pair 5	Equity – EBIT	6452.39	802.42	-0.91	0.03	17.98	4	0.00
Pair 6	Equity – NP	7205.70	737.08	-0.70	0.18	21.86	4	0.00
Pair 7	Ko – ROE	-4.02	3.95	0.38	0.53	-2.28	4	0.08
Pair 8	Ko – ROA	-1.38	3.18	0.42	0.48	-0.97	4	0.39
Pair 9	Ko – ROCE	-13.30	5.19	0.03	0.97	-5.73	4	0.00

Source: SPSS Calculation- AGM Reports Database

The table shows the impact of capital structure on profitability of ACC Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study founds that, there is a significant impact of capital structure variables on profitability except K0 to ROE and K0 to Return on Assets out of total selected capital structure variables. It is also found that all Return Ratio Paired mean results negative due to low rate of return. The proportion of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation, the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Capital employed to EBIT, Debt to EBIT and Equity to EBIT at 5% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, ACC Ltd needs to maximize the debt capacity to reduce the cost of capital by taking in to consideration of best mix of Debt and equity in their Construction of optimum capital structure.

Table No.: 5 calculation Paired Samples Test & Correlation (Ramco Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	3744.80	449.79	-0.37	0.53	18.62	4	0.00
Pair 2	CE – NP	4255.38	388.10	-0.17	0.78	24.52	4	0.00
Pair 3	Debt – EBIT	1216.59	403.90	-0.86	0.06	6.74	4	0.00
Pair 4	Debt – NP	1727.18	363.46	-0.93	0.02	10.63	4	0.00
Pair 5	Equity – EBIT	1672.21	408.61	0.15	0.81	9.15	4	0.00
Pair 6	Equity – NP	2182.79	357.94	0.36	0.55	13.64	4	0.00
Pair 7	Ko – ROE	-5.98	6.06	-1.00	0.00	-2.21	4	0.09
Pair 8	Ko – ROA	2.19	2.69	-0.97	0.01	1.82	4	0.14
Pair 9	Ko – ROCE	-11.05	5.27	-0.99	0.00	-4.69	4	0.01

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

The table shows the impact of capital structure on profitability of Ramco Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except K0 to ROE and K0 to ROE out of total selected capital structure variables. It is also found that all Return Ratio Paired mean Results negative except K0 to ROA due low rate of return. The proportionate of the debt has comparatively greater than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between K0 to ROA at 1% significance level and Debt to NP, K0 to ROE, and K0 to ROCE at 5% significance level. The changes in Cost of Capital and Invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Ramco Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 6 Calculations of Paired Samples Test & Correlation (Prism Cement)

Paired Parameters		**Paired Differences**				**t**	**df**	**Sig. (2-tailed)**
		Mean	**SD**	**Correlation**				
				R	**Sig.**			
Pair 1	CE – EBIT	2260.90	238.31	0.04	0.95	21.21	4	0.00
Pair 2	CE – NP	2540.57	216.98	0.44	0.46	26.18	4	0.00
Pair 3	Debt – EBIT	1210.87	301.46	0.01	0.99	8.98	4	0.00
Pair 4	Debt – NP	1490.53	280.74	0.40	0.50	11.87	4	0.00
Pair 5	Equity – EBIT	799.98	87.61	0.10	0.87	20.42	4	0.00
Pair 6	Equity – NP	1079.65	87.86	-0.26	0.67	27.48	4	0.00
Pair 7	Ko – ROE	23.29	21.82	-0.70	0.18	2.39	4	0.08
Pair 8	Ko – ROA	21.34	19.48	-0.64	0.24	2.45	4	0.07
Pair 9	Ko – ROCE	10.48	21.35	-0.98	0.00	1.10	4	0.33

Source: SPSS Calculation- AGM Reports Database

The table shows the impact of capital structure on profitability of Prism Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study founds that, there is a significant impact of capital structure variables on profitability except K0 to ROE, K0 to ROA and K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt has comparatively greater than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is no significant relationship exists in all variables of capital structure except K0 to ROCE at 1% significance level. The changes in Cost of Capital and invested capital (ROCE) are significantly correlated with the changes in the profitability of the firm. Therefore, Prism Cement Ltd needs to maximize the equity capacity to reduce the burden of high leverage and it leads to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 7 Calculations of Paired Samples Test & Correlation (JK Cement)

Paired Parameters		**Paired Differences**				**t**	**df**	**Sig. (2-tailed)**
		Mean	**SD**	**Correlation**				
				r	**Sig.**			
Pair 1	CE – EBIT	2914.00	890.40	-0.49	0.40	7.32	4	0.00
Pair 2	CE – NP	3245.89	896.70	-0.76	0.14	8.09	4	0.00
Pair 3	Debt- EBIT	1381.32	741.74	-0.54	0.35	4.16	4	0.01
Pair 4	Debt – NP	1713.21	746.06	-0.79	0.11	5.13	4	0.01
Pair 5	Equity – EBIT	1047.51	194.82	-0.23	0.71	12.02	4	0.00
Pair 6	Equity – NP	1379.40	202.03	-0.55	0.34	15.27	4	0.00
Pair 7	Ko – ROE	-2.01	4.75	-0.88	0.05	-0.95	4	0.40
Pair 8	Ko – ROA	4.43	2.40	-0.90	0.04	4.14	4	0.01
Pair 9	Ko – ROCE	-7.10	6.08	-0.87	0.05	-2.61	4	0.06

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

The table shows the impact of capital structure on profitability of J K Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study founds that, there is a significant impact of capital structure variables on profitability except K0 to ROE and K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results negative except K0 to ROA due to low rate of return. The proportionate of the debt has comparatively greater than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Equity and Return on assets and Return on Capital Employed at 5% significance level. The changes in Cost of Capital and Invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, JK Cement Ltd needs to maximise the equity capacity and it leads to reduce cost of capital by taking consideration of best mix of Debt and equity in their Construction of optimum capital structure.

Table No.: 8 Calculations of Paired Samples Test & Correlation (JKL Cement)

Paired Parameters		**Paired Differences**				**t**	**df**	**Sig. (2-tailed)**
		Mean	**SD**	**Correlation**				
				r	**Sig.**			
Pair 1	CE – EBIT	2286.64	456.93	-0.42	0.48	11.19	4	0.00
Pair 2	CE – NP	2526.41	468.73	-0.63	0.26	12.05	4	0.00
Pair 3	Debt – EBIT	1028.76	368.70	-0.45	0.45	6.24	4	0.00
Pair 4	Debt – NP	1268.52	380.33	-0.66	0.23	7.46	4	0.00
Pair 5	Equity- EBIT	922.24	125.24	-0.32	0.60	16.47	4	0.00
Pair 6	Equity – NP	1162.01	134.01	-0.51	0.38	19.39	4	0.00
Pair 7	Ko – ROE	-0.32	5.09	-0.89	0.04	-0.14	4	0.89
Pair 8	Ko – ROA	4.06	2.44	-0.85	0.07	3.73	4	0.02
Pair 9	Ko – ROCE	-5.74	3.85	-0.73	0.16	-3.34	4	0.03

Source: SPSS Calculation- AGM Reports Database

The table shows the impact of capital structure on profitability of J K Laxmi Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study founds that, there is a significant impact of capital structure variables on profitability except K0 to ROE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results negative due to low rate of return except K0-ROA. The proportion of the debt has comparatively greater than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is no significant relationship exists between Cost of Capital to Return on Equity at 5% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, JK Laxmi Ltd needs to maximize the equity capacity and it leads to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 9 Calculations of Paired Samples Test & Correlation (Orient Cement)

Paired Parameters		**Paired Differences**				**t**	**df**	**Sig. (2-tailed)**
		Mean	**SD**	**Correlation**				
				r	**Sig.**			
Pair 1	CE – EBIT	1483.94	735.09	-0.54	0.35	4.51	4	0.01
Pair 2	CE – NP	1626.72	743.11	-0.48	0.42	4.89	4	0.01
Pair 3	Debt – EBIT	571.03	622.52	-0.54	0.35	2.05	4	0.11
Pair 4	Debt – NP	713.81	631.54	-0.49	0.41	2.53	4	0.06
Pair 5	Equity - EBIT	672.61	160.28	-0.53	0.35	9.38	4	0.00
Pair 6	Equity – NP	815.39	171.91	-0.43	0.47	10.61	4	0.00
Pair 7	Ko – ROE	-1.70	13.22	-0.89	0.05	-0.29	4	0.79
Pair 8	Ko – ROA	3.99	8.24	-0.80	0.10	1.08	4	0.34
Pair 9	Ko – ROCE	-8.17	15.09	-0.52	0.36	-1.21	4	0.29

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

The above table shows the impact of capital structure on profitability of Orient Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Debt to EBIT, Debt to NP, K0 to ROE and K0 to ROA out of total selected capital structure variables. It is also found that all Return Ratio paired mean results negative due to low rate of return except K0 to ROA. The proportion of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Equity at 5% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Orient Cement Ltd needs to maximize the equity capacity and it leads to reduce the cost of capital by taking consideration of best mix of Debt and equity in their Construction of optimum capital structure.

Table No.: 10 Calculations of Paired Samples Test & Correlation (Birla Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	3298.81	201.90	-0.32	0.59	36.53	4	0.00
Pair 2	CE – NP	3422.22	207.06	-0.38	0.52	36.96	4	0.00
Pair 3	Debt – EBIT	794.13	103.83	0.43	0.47	17.10	4	0.00
Pair 4	Debt – NP	917.54	104.22	0.43	0.47	19.69	4	0.00
Pair 5	Equity - EBIT	2186.96	217.51	-0.59	0.30	22.48	4	0.00
Pair 6	Equity – NP	2310.36	223.07	-0.65	0.24	23.16	4	0.00
Pair 7	Ko – ROE	-0.69	2.72	0.98	0.00	-0.57	4	0.60
Pair 8	Ko – ROA	1.39	2.11	0.98	0.00	1.48	4	0.21
Pair 9	Ko – ROCE	-1.63	1.65	0.97	0.01	-2.21	4	0.09

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Birla Cement Ltd. 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 K0 to ROE, K0 to ROA and K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results negative due to low rate of return except K0 to ROA. The proportionate of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Equity, Return on assets and Capital Employed at 1% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Birla Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 11 Calculations of Paired Samples Test & Correlation (OCL Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	1624.35	382.33	0.70	0.18	9.50	4	0.00
Pair 2	CE – NP	1853.78	408.02	0.71	0.18	10.16	4	0.00
Pair 3	Debt – EBIT	493.76	249.02	0.56	0.32	4.43	4	0.01
Pair 4	Debt – NP	723.19	262.82	0.55	0.34	6.15	4	0.00
Pair 5	Equity – EBIT	773.94	110.36	0.83	0.08	15.68	4	0.00
Pair 6	Equity – NP	1003.38	128.29	0.86	0.06	17.49	4	0.00
Pair 7	Ko – ROE	-2.79	5.44	-0.68	0.21	-1.15	4	0.31
Pair 8	Ko – ROA	1.79	3.84	-0.51	0.39	1.04	4	0.36
Pair 9	Ko – ROCE	-10.00	4.61	-0.56	0.33	-4.85	4	0.01

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

The above table shows the impact of capital structure on profitability of OCL Cement Ltd. 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 K0 to ROE and K0 to ROA out of total selected capital structure variables. It is also found that all Return Ratio Paired mean results negative due to low rate of return except K0 to ROA. The proportion of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is an insignificant relationship exists in all capital structure determinants. Therefore, OCL Ltd needs to maximize the equity capacity and it leads to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 12 Calculations of Paired Samples Test & Correlation (India Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	5300.19	320.28	-0.20	0.74	37.00	4	0.00
Pair 2	CE – NP	5944.76	342.25	-0.28	0.64	38.84	4	0.00
Pair 3	Debt – EBIT	1817.72	316.44	-0.54	0.35	12.84	4	0.00
Pair 4	Debt – NP	2462.29	339.33	-0.61	0.27	16.23	4	0.00
Pair 5	Equity - EBIT	2745.63	163.02	0.41	0.50	37.66	4	0.00
Pair 6	Equity – NP	3390.20	178.78	0.37	0.54	42.40	4	0.00
Pair 7	Ko – ROE	7.14	5.71	-0.95	0.01	2.80	4	0.05
Pair 8	Ko – ROA	8.36	3.31	-0.95	0.01	5.65	4	0.00
Pair 9	Ko – ROCE	-2.51	3.56	-0.92	0.02	-1.57	4	0.19

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of India Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except K0 to ROE, K0 to ROA and K0 to ROCE out of total selected capital structure variables. It is also found that Return Ratio (KO-ROCE) paired mean results negative due to low rate of return. The proportionate of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Equity at 1% and Return on assets and Capital Employed at 5% significance level. The changes in Cost of Capital and Invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, India Cement Ltd needs to maximize the equity capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 13 Calculations of Paired Samples Test & Correlation (KCP Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	607.29	83.34	-0.47	0.42	16.29	4	0.00
Pair 2	CE – NP	665.34	74.74	-0.97	0.01	19.91	4	0.00
Pair 3	Debt – EBIT	237.95	88.27	-0.54	0.35	6.03	4	0.00
Pair 4	Debt – NP	296.01	78.45	-0.99	0.00	8.44	4	0.00
Pair 5	Equity - EBIT	280.88	41.13	0.47	0.42	15.27	4	0.00
Pair 6	Equity – NP	338.93	21.70	0.38	0.52	34.93	4	0.00
Pair 7	Ko – ROE	2.42	7.97	-0.69	0.20	0.68	4	0.54
Pair 8	Ko – ROA	7.39	4.38	-0.66	0.22	3.78	4	0.02
Pair 9	Ko – ROCE	-2.36	9.10	-0.96	0.01	-0.58	4	0.59

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

The above table shows the impact of capital structure on profitability of KCP Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except K0 to ROE and K0 to ROCE out of total selected capital structure variables. It is also found that Return Ratio Paired (K0-ROCE) mean results negative due to low rate of return. The proportion of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Capital Employed, Debt to NP, and Capital Employed to Net Profit at 1% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, KCP Ltd needs to maximize the equity capacity to reduce the cost of capital by taking consideration of best mix of debt and

Table No.: 14 Calculations of Paired Samples Test & Correlation (Mangalam Cement)

Paired Parameters		Paired Differences				T	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	655.63	197.05	-0.57	0.32	7.44	4	0.00
Pair 2	CE – NP	708.35	199.62	-0.60	0.28	7.93	4	0.00
Pair 3	Debt – EBIT	171.53	167.18	-0.62	0.27	2.29	4	0.08
Pair 4	Debt – NP	224.25	169.53	-0.64	0.24	2.96	4	0.04
Pair 5	Equity - EBIT	399.30	55.99	-0.33	0.59	15.95	4	0.00
Pair 6	Equity – NP	452.02	59.25	-0.40	0.50	17.06	4	0.00
Pair 7	Ko – ROE	0.80	8.24	-0.93	0.02	0.22	4	0.84
Pair 8	Ko – ROA	3.92	4.55	-0.89	0.04	1.93	4	0.13
Pair 9	Ko – ROCE	-5.14	7.94	-0.70	0.19	-1.45	4	0.22

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Mangalam Cement Ltd. 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 Debt to EBIT, K_0 to ROE, K_0 to ROA and K_0 to ROCE out of total selected capital structure variables. It also found that Return Ratio (K0 to ROCE) paired mean results negative due to low rate of return. The proportion of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Equity and Return on assets at 5% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Mangalam Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 15 Calculations of Paired Samples Test & Correlation (Udaipur Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	122.96	210.07	0.37	0.53	1.31	4	0.26
Pair 2	CE – NP	119.30	205.19	0.68	0.20	1.30	4	0.26
Pair 3	Debt – EBIT	91.39	145.80	0.38	0.53	1.40	4	0.23
Pair 4	Debt – NP	87.73	141.23	0.66	0.23	1.39	4	0.24
Pair 5	Equity - EBIT	32.96	87.68	0.26	0.67	0.84	4	0.45
Pair 6	Equity – NP	29.30	83.96	0.53	0.36	0.78	4	0.48
Pair 7	Ko – ROE	19.29	44.38	-0.25	0.68	0.97	4	0.39
Pair 8	Ko – ROA	10.77	15.77	-0.26	0.68	1.53	4	0.20
Pair 9	Ko – ROCE	19.28	30.11	-0.20	0.75	1.43	4	0.23

Source: SPSS Calculation- AGM Reports Database

DOI : 10.35291/2454-9150.2021.0048

The above table shows the impact of capital structure on profitability of Udaipur Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability in total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation, the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is an insignificant relationship exists. Therefore, Udaipur Cement Ltd needs to maximize the equity capacity to reduce the cost of capital by taking into consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 16 Calculations of Paired Samples Test & Correlation (Saurastra Cement)

Paired Parameters		Paired Differences				t	Df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	143.99	82.85	0.70	0.19	3.89	4	0.02
Pair 2	CE – NP	165.71	79.20	0.63	0.25	4.68	4	0.01
Pair 3	Debt – EBIT	-14.49	41.36	0.36	0.55	-0.78	4	0.48
Pair 4	Debt – NP	7.23	64.11	0.55	0.34	0.25	4	0.81
Pair 5	Equity- EBIT	77.36	106.71	0.47	0.42	1.62	4	0.18
Pair 6	Equity – NP	99.08	115.80	0.35	0.57	1.91	4	0.13
Pair 7	Ko – ROE	-34.75	45.00	0.16	0.79	-1.73	4	0.16
Pair 8	Ko – ROA	-2.75	25.04	-0.56	0.33	-0.25	4	0.82
Pair 9	Ko – ROCE	-32.72	19.84	0.97	0.01	-3.69	4	0.02

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Saurastra Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Debt to EBIT, Debt to NP, Equity to EBIT, and Equity to NP, K0 to ROE and K0 to RA out of total selected capital structure variables. It is also found that all Return Ratio Paired mean Results negative due to low rate of return. The proportionate of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists between Cost of Capital to Return on Capital Employed at1% significance level. The changes in Cost of Capital and Invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Saurastra Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 17 Calculations of Paired Samples Test & Correlation (Guj. Sidhe Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	157.36	51.20	-0.31	0.61	6.87	4	0.00
Pair 2	CE – NP	172.37	50.21	-0.33	0.59	7.68	4	0.00
Pair 3	Debt – EBIT	9.68	27.13	-0.19	0.76	0.80	4	0.47
Pair 4	Debt – NP	24.68	26.12	-0.25	0.68	2.11	4	0.10
Pair 5	Equity - EBIT	126.40	41.07	-0.36	0.56	6.88	4	0.00
Pair 6	Equity – NP	141.40	39.53	-0.35	0.56	8.00	4	0.00
Pair 7	Ko – ROE	-1.44	13.94	0.34	0.57	-0.23	4	0.83
Pair 8	Ko – ROA	1.06	10.28	0.38	0.53	0.23	4	0.83
Pair 9	Ko – ROCE	-9.53	11.76	0.51	0.38	-1.81	4	0.14

Source: SPSS Calculation- AGM Reports Database

DOI : 10.35291/2454-9150.2021.0048

The above table shows the impact of capital structure on profitability of Guj.sidhee Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Debt to EBIT, Debt to NP, K0 to ROE, K0 to ROA and K0 to ROCE out of total selected capital structure variables. It also found that except K0 to ROA all Return Ratio paired mean results negative due to low rate of return. The proportion of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is an insignificant relationship exists in capital structure Determinants variables. Therefore, Guj.Sidhee Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 18 Calculations of Paired Samples Test & Correlation (Digvijaya Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE - EBIT	235.79	32.77	0.65	0.23	16.09	4	0.00
Pair 2	CE – NP	251.14	44.19	0.25	0.68	12.71	4	0.00
Pair 3	Debt - EBIT	37.88	37.30	0.41	0.49	2.27	4	0.09
Pair 4	Debt – NP	53.23	49.48	-0.02	0.97	2.41	4	0.07
Pair 5	Equity- EBIT	177.74	15.47	0.68	0.21	25.70	4	0.00
Pair 6	Equity - NP	193.09	19.18	0.72	0.17	22.51	4	0.00
Pair 7	Ko – ROE	5.51	13.45	-0.43	0.47	0.92	4	0.41
Pair 8	Ko – ROA	5.57	9.19	-0.33	0.59	1.36	4	0.25
Pair 9	Ko - ROCE	0.03	8.10	-0.54	0.35	0.01	4	0.99

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Digvijaya Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Debt to EBIT, Debt to NP, K0 to ROE, K0 to ROA and K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio Paired mean Results positive due to high rate of return. The proportion of the debt has comparatively lower than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is low due to low leverage position in the firm capital structure.

Further the study found that, there is an insignificant relationship exists in all capital structure determinants variable. Therefore, Digvijaya Cement Ltd needs to maximize the debt capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 19 Calculations of Paired Samples Test & Correlation (Andhra Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	824.73	117.83	0.65	0.24	15.65	4	0.00
Pair 2	CE – NP	872.28	162.21	-0.51	0.38	12.02	4	0.00
Pair 3	Debt – EBIT	630.17	202.76	0.87	0.05	6.95	4	0.00
Pair 4	Debt – NP	677.72	260.97	-0.69	0.20	5.81	4	0.00
Pair 5	Equity - EBIT	197.66	143.94	-0.98	0.00	3.07	4	0.04
Pair 6	Equity- NP	245.21	84.84	0.77	0.13	6.46	4	0.00
Pair 7	Ko – ROE	61.37	56.52	0.80	0.10	2.43	4	0.07
Pair 8	Ko – ROA	11.33	4.49	0.40	0.51	5.65	4	0.00
Pair 9	Ko – ROCE	8.09	7.85	-0.87	0.06	2.30	4	0.08

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

The above table shows the impact of capital structure on profitability of Digvijaya Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Equity to EBIT, K0 to ROE and K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportionate of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure.

Further the study found that, there is a significant relationship exists in Debt to EBIT at 5% level of significance and Equity to EBIT at 1% level of significance. Therefore, Digvijaya Cement Ltd needs to maximize the equity capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 20 Calculations of Paired Samples Test & Correlation (Burnpur Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	157.68	92.83	0.71	0.18	3.80	4	0.02
Pair 2	CE – NP	166.33	101.41	-0.99	0.00	3.67	4	0.02
Pair 3	Debt – EBIT	61.54	90.78	0.69	0.20	1.52	4	0.20
Pair 4	Debt – NP	70.20	99.30	-0.99	0.00	1.58	4	0.19
Pair 5	Equity - EBIT	88.41	7.98	0.42	0.48	24.77	4	0.00
Pair 6	Equity – NP	97.07	12.12	-0.22	0.72	17.92	4	0.00
Pair 7	Ko – ROE	10.27	8.05	-0.98	0.00	2.85	4	0.05
Pair 8	Ko – ROA	8.02	4.32	-0.98	0.00	4.15	4	0.01
Pair 9	Ko – ROCE	4.33	2.99	-0.73	0.17	3.24	4	0.03

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Burnpur Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Debt to EBIT and Debt to NP out of total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure

Further the study found that, there is a significant relationship exists between CE to NP, Debt to NP, Cost of Capital to Return on Equity and Return on assets at 1% significance level. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Mangalam Cement Ltd needs to maximize the equity capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 21 Calculations of Paired Samples Test & Correlation (Panyam Cement)

Paired Parameters		Paired Differences				t	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				r	Sig.			
Pair 1	CE – EBIT	94.69	29.71	-0.65	0.23	7.13	4	0.00
Pair 2	CE – NP	97.16	19.59	-0.28	0.65	11.09	4	0.00
Pair 3	Debt – EBIT	70.31	26.97	-0.30	0.63	5.83	4	0.00
Pair 4	Debt – NP	72.79	22.79	-0.69	0.20	7.14	4	0.00
Pair 5	Equity - EBIT	18.32	26.07	-0.46	0.44	1.57	4	0.19
Pair 6	Equity – NP	20.80	10.84	0.57	0.32	4.29	4	0.01
Pair 7	Ko – ROE	97.62	197.32	0.42	0.48	1.11	4	0.33
Pair 8	Ko – ROA	101.62	214.90	0.23	0.71	1.06	4	0.35
Pair 9	Ko – ROCE	95.79	201.09	0.74	0.15	1.07	4	0.35

Source: SPSS Calculation- AGM Reports Database

 DOI : 10.35291/2454-9150.2021.0048

ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

The above table shows the impact of capital structure on profitability of Panyam Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except Equity to EBIT, K0 to ROE, K0 to ROA and K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt has comparatively higher than the standard of debt ratio (1:2). As per the observation the contribution of the tax benefit is high due to high leverage position in the firm capital structure

Further the study found that, there is an insignificant relationship exists in all capital structure variables. Therefore, Panyam Cement Ltd needs to maximize the equity capacity to reduce the cost of capital by taking consideration of best mix of debt and equity in their Construction of optimum capital structure.

Table No.: 22 Calculations of Paired Samples Test & Correlation (Barak Valley Cement)

Paired Parameters		Paired Differences				T	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE – EBIT	125.56	13.17	-0.25	0.69	21.32	4	0.00
Pair 2	CE – NP	137.00	14.32	-0.62	0.26	21.39	4	0.00
Pair 3	Debt – EBIT	41.97	14.06	-0.27	0.66	6.67	4	0.00
Pair 4	Debt – NP	53.40	15.23	-0.64	0.24	7.84	4	0.00
Pair 5	Equity - EBIT	73.38	3.56	0.35	0.57	46.06	4	0.00
Pair 6	Equity – NP	84.82	3.11	0.59	0.29	61.00	4	0.00
Pair 7	Ko – ROE	14.92	9.28	-0.92	0.03	3.59	4	0.02
Pair 8	Ko – ROA	14.45	7.96	-0.92	0.03	4.06	4	0.02
Pair 9	Ko – ROCE	5.81	7.82	-0.89	0.04	1.66	4	0.17

Source: SPSS Calculation- AGM Reports Database

The above table shows the impact of capital structure on profitability of Barak Vally Cement Ltd. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except K0 to ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt and equity is meeting the standard of debt equity ratio (1:2). As per the observation the contribution of the tax benefit is good due to standard leverage position in the firm capital structure

Further the study found that, there is a significant relationship exists between K0 to ROE, ROA and ROCE at 5% level of significance. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Barak Vally Cement Ltd considered the best mix of Debt and equity in their Construction of optimum capital structure.

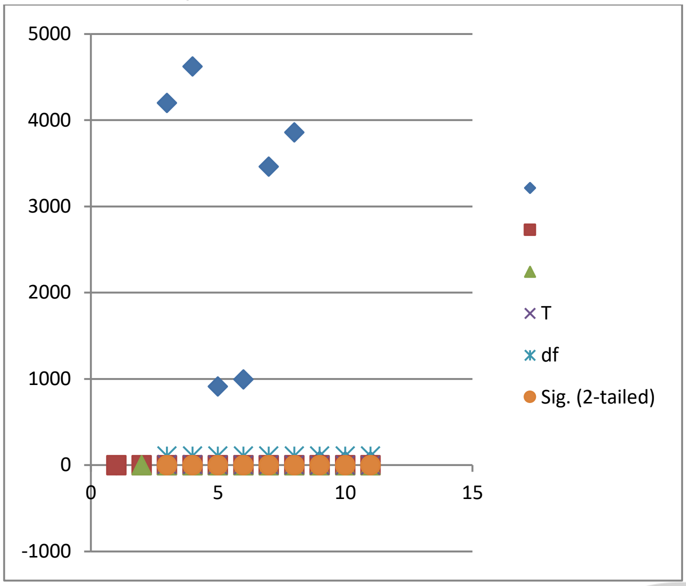
Table No.: 23 Calculations of Paired Samples Test & Correlation (Overall Cement Industry)

Paired Parameters		Paired Differences				T	df	Sig. (2-tailed)
		Mean	SD	Correlation				
				R	Sig.			
Pair 1	CE–EBIT	2899.27	4201.35	0.944	0.000	7.238	109	0.000
Pair 2	CE–NP	3214.08	4624.61	0.898	0.000	7.289	109	0.000
Pair 3	Debt–EBIT	292.09	913.24	0.661	0.000	3.355	109	0.001
Pair 4	Debt–NP	606.90	996.86	0.549	0.000	6.385	109	0.000
Pair 5	Equity-EBIT	2009.60	3462.03	0.929	0.000	6.088	109	0.000
Pair 6	Equity –NP	2324.41	3860.10	0.906	0.000	6.316	109	0.000
Pair 7	Ko–ROE	7.60	49.30	0.184	0.054	1.617	109	0.109
Pair 8	Ko–ROA	8.77	47.08	0.026	0.786	1.954	109	0.053
Pair 9	Ko–ROCE	-0.53	46.38	0.151	0.115	-0.120	109	0.904

 DOI : 10.35291/2454-9150.2021.0048

International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

Graph No. 1 Sample Test and Correlation (Overall Cement Industry)



The above table and graph shows the impact of capital structure on profitability of overall cement industry in India. It results with significant and insignificant impact of selected capital structure variables on firm's profitability. The study found that, there is a significant impact of capital structure variables on profitability except K0 to ROE, ROA and ROCE out of total selected capital structure variables. It is also found that all Return Ratio paired mean results positive due to high rate of return. The proportion of the debt and equity is meeting the standard of debt equity ratio (1:2). As per the observation the contribution of the tax benefit is good due to standard leverage position in the firm capital structure

Further the study found that, there is a significant relationship exists between K0 to ROE, ROA and ROCE at 5% level of significance. The changes in Cost of Capital and invested capital are significantly correlated with the changes in the Profitability of the firm. Therefore, Indian cement industry considered the best mix of Debt and equity in their Construction of optimum capital structure.

V. FINDINGS

1. There is a positive correlation between capital employed and EBIT in Ultratech Cement Ltd., Prism Cement Ltd., Udaipur Cement Ltd., OCL Cement, Sourasthra Cement Ltd, Digvijaya Cement Ltd., Andhra Cement Ltd. and Burnpur Cement Ltd. and there is a negative correlation in rest of the companies.
2. The correlation between capital employed and EBIT states that there is a strong relationship found at 5% significance level in ACC Ltd. and Shree Cement Ltd. and even though there is correlation in remaining companies they are statistically insignificant.
3. Paired sample T-test between Capital Employed and EBIT represents that it is highly significant in overall cement industry except Udaipur Cement Ltd.
4. There is a strong correlation between capital employed and net profit in Prism Cement Ltd., Udaipur Cement Ltd., Sourashtra Cement Ltd., and Shree Digvijaya Cement and there is a negative correlation in remaining companies.
5. There is a significant relationship between capital employed and net profit at 5% level of significance in Ultratech Cement Ltd, KCP Ltd., Andhra Cement Ltd. and the remaining companies are statistically not significant. Paired T-test shows it is statistically significant in overall selected companies except Udaipur Cement Ltd. Therefore the study proves that there is a significant impact of capital employed on net profit.
6. There is a strong correlation between debt and EBIT in Shree Cement Ltd., Ambuja Cement Ltd., Prism Cement Ltd., Birla Group, OCL India Ltd., Udaipur Cement Ltd., Sourasthra Cement Ltd., Shree Digvijaya Cement Ltd, Andhra Cement Ltd., Burnpur Cement Ltd. and there is a negative correlation in remaining companies. The study found that there is a significant relationship only in two companies, they are ACC Ltd. and Andhra Cement Ltd. and the remaining companies are insignificant. Further, the paired T-Test indicates that overall selected companies are statistically significant except Ultratech Cement Ltd., Orient Cement Ltd., Mangalam Cement Ltd., Udaipur Cement Ltd., Sourashtra Cement Ltd., Guj.Sidhee Cement Ltd., Burnpur Cement Ltd. Hence the study proves that there is a significant impact of debt on EBIT.
7. There is a strong relationship between debt and net profit in Shree cement Ltd., Ambuja Cement Ltd., Prism Cement Ltd., Birla Group, OCL India Ltd., Udaipur Cement Ltd., Sourashthra Cement Ltd. and there is a negative correlation in remaining companies. In the study it is found that there is a significant relationship only in Ramco Cement Ltd., KCP Ltd., and Burnpur Cement Ltd. and remaining companies are not significant. Further, the paired T-test shows that overall companies are statistically significant, except Mangalam Cement Ltd., Udaipur Cement Ltd, Sourashtra Cement Ltd., Guj.sidhee Cement Ltd., Shree Digvijaya Cement Ltd. and Burnpur Cement Ltd. Hence forth the study proves that there is a significant impact of debt on net profit.
8. There is a strong relationship between Equity and EBIT in Ultratech cement Ltd., Ramco Cement Ltd., Prism Cement Ltd., OCL India Ltd., India Cement Ltd., KCP Ltd., Udaipur Cement Ltd., Saurashtra Cement Ltd, Shree Digvijaya Cement Ltd., Burnpur Cement Ltd., Barak Valley Cement Ltd. and there is a negative correlation in rest of the companies. In the

 DOI : 10.35291/2454-9150.2021.0048

ISSN : 2454-9150 Vol-06, Issue-11, FEB 2021

study it is found that there is a significant relationship in Shree Cement Ltd., ACC Ltd. and Andhra Cement Ltd. and remaining companies are not significant. Further, the paired T-test represents statistically significant in overall cement companies, except Udaipur Cement Ltd., Sourashthra Cement Ltd., and Panyam Cement Ltd. Therefore, the study proves that there is a significant impact of equity on EBIT.

9. There is a strong relationship between equity and net profit in Ramco Cement, OCL, India Cement Ltd., KCP Ltd., Udaipur Cement Ltd., Sourashtra Cement Ltd., Shree Digvijaya Cement Ltd., Andhra Cement Ltd., Panyam Cement Ltd., Barak Valley Cement Ltd. and there is a negative relationship in rest of the companies. Further, the paired T-test shows statistically significant in overall companies except Udaipur Cement Ltd. and Sourashtra Cement Ltd. Therefore, the study proves that there is a significant impact of equity on net profit.
10. There is a strong relationship between overall cost of capital and return on equity in ACC Ltd., Birla Cement Ltd., Sourashtra Cement Ltd., Guj, Sidhee Cement Ltd., Andhra Cement Ltd., Panyam Cement Ltd. and remaining companies are negative correlated. In the study it is found that there is a significant relationship in Ultratech Cement Ltd., Shree Cement Ltd., Ramco Cement Ltd., JK Cement Ltd., JK Laxmi Cement Ltd., Orient Cement Ltd., Birla Cement Ltd., India Cement Ltd., Mangalam Cement Ltd., Burnpur Cement Ltd., Barak Valley Cement Ltd. and remaining companies are insignificant. Further, the paired T-test shows statistically significance in Ultratech Cement Ltd., Shree Cement Ltd., India Cement Ltd., Burnpur Cement Ltd., and Barak Valley Cement Ltd. and stastiacal insignificant in rest of the companies. Therefore the study proves that there is a significant impact of overall cost of capital on return on equity.
11. There is a strong relationship between cost of preference and return on asset in ACC Ltd., Birla Cement Ltd., Guj.Sidhee Cement Ltd., Andhra Cement Ltd., Panyam Cement Ltd. and remaining companies have negative correlation. In the study it is found that there is a significant relationship in Ultratech Cement Ltd., Shree Cement Ltd., Ramco Cement Ltd., JK Cement Ltd., Birla Cement Ltd., Mangalam Cement Ltd., Burnpur Cement Ltd., and Barak Valley Cement Ltd. and negative relationship in remaining companies. Further, the paired T-test indicates statistically significant in Ambuja Cement Ltd., JK Cement Ltd., JK Laxmi Cement Ltd., India Cement Ltd., KCP Ltd., Andhra Cement Ltd., Burnpur Cement Ltd. and Barak Valley Cement Ltd. and other remaining companies are statistically insignificant. Therefore, the study proves that there is a significant impact of cost of preference on return on asset.
12. There is a strong relationship between overall cost of capital and capital employed in ACC Ltd., Birla Cement Ltd., Sourashtra Cement Ltd., Guj.Sidhee Cement Ltd., Panyam Cement Ltd. and there is a negative correlation in rest of the companies. In the study it is found that there is a significant relationship in Ramco Ltd, Prism Ltd., JK Ltd., Birla Ltd, India Cement Ltd, KCP Ltd, Sourashtra Cement Ltd. and Barak Valley Cement Ltd. and negative significant relationship in remaining companies. Further, the paired T-test reperesents statistically significant in Ultratech Cement Ltd., Shree Cement Ltd., ACC Ltd., Ramco Ltd., OCL, Ambuja Cement Ltd., JK Laxmi Cement Ltd., Sourashtra Cement Ltd., Burnpur Cement Ltd. and insignificant in rest of the companies.
13. The study found that the paired T-test value of share price and market capitalization shows insignificance level in Ultratech Cement Ltd., Udaipur Cement Ltd. and Orient Cement Ltd. and the remaining companies shows the significant changes. Therefore, the study proves that there is a positive significant change in paired means of share price and market capitalization.
14. In the study it is found that the paired T-test of share price of market capitalization indicates significance level in company wise as well as industry wise. Further, study also found that the one sample T –test results is same as paired T-test and even correlation is also represents strong significance level. Therefore, this study proves that there is a significant relationship and significant changes in paired sample statistics.

Sl.No.	Hypothesis	Paired T Sig.	Accept/ Reject
1.a I	There is no significant impact of capital structure on profitability: Capital Employed and EBIT	0.00	Rejected
Ii	Capital Employed and Net Profit	0.00	Rejected
Iii	Debt and EBIT	0.00	Rejected
Iv	Debt and Net Profit	0.00	Rejected
V	Equity and EBIT	0.00	Rejected
Vi	Equity and Net Profit	0.00	Rejected
Vii	Overall Cost of Capital and Return on Equity	0.02	Rejected
Vii	Overall Cost of Capital and Return on Assets	0.02	Rejected
Ix	Overall Cost of Capital and Return on Capital Employed	0.17	Accepted

Note: The overall capital structure factors have impact on profitability in all cases; it is less than 0.05 significance levels except ROCE. Therefore overall study observed and proven that there is a significant impact of capital structure on profitability. Hence, null hypothesis is rejected

Sl.No.	Hypothesis	R	Sig.	Accept/Reject
1. b	There is no significant relationship between capital			

 DOI : 10.35291/2454-9150.2021.0048

I	structure and profitability: Capital Employed and EBIT	-0.25	0.69	Accepted
Ii	Capital Employed and Net Profit	-0.62	0.26	Accepted
Iii	Debt and EBIT	-0.27	0.66	Accepted
Iv	Debt and Net Profit	-0.64	0.24	Accepted
V	Equity and EBIT	0.35	0.57	Accepted
Vi	Equity and Net Profit	0.59	0.29	Accepted
Vii	Overall Cost of Capital and Return on Equity	-0.92	0.03	Rejected
Vii	Overall Cost of Capital and Return on Assets	-0.92	0.03	Rejected
Ix	Overall Cost of Capital and Return on Capital Employed	-0.89	0.04	Rejected
Note: The overall study observed that there is a relationship between capital structure and profitability. It represents lessthan 0.05 significance level. Therefore, null hypothesis is rejected				

VI. SUGGESTIONS

1. It is found that there is a strong correlation between the probability ratios at a significance level of 1%. Hence, majority of the companies uses high proportionate value of equity on its assets. Therefore, the contribution is mainly depends on equity base. Thus, the study suggests for maximizing the return and taking the advantage of interest payment for reduction of taxation amount. It is better to use debt in the capital structure and also the standard clearly states 0.675:1 for the best combination for the firm to make an investment on total assets to equity shareholders fund.
2. The overall solvency and liquid ratio are highly correlated with overall cost of capital. Therefore, it suggests Indian cement firms to concentrates on optimization of overall cost of capital and it is possible only when firms' continuously evaluate capital structure decision.
3. As per the regression equation it shows both positive and negative factors for evaluation of cost of capital. Therefore, it suggests Indian cement industry to concentrate on positive factors for better financing decision.

VII. CONCLUSION

In the present scenario capital structure decision is one of the major functions of finance manager. Every industry/company should choose right proportionate value of debt and equity as per the standard to fulfill all conditions of financing decision. This capital structure decision helps companies to increase their profitability.

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