

GLOBAL JOURNAL OF ENGINEERING SCIENCE AND RESEARCHES LEVERAGE ANALYSIS AND PROFITABILITY: A STUDY OF ULTRA TECH CEMENT COMPANY

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ABSTRACT

The study concentrates on leverage analysis and profitability of Ultra Tech Cement Company. The data collected from financial statement of Ultra Tech Cement Company, the study covered a period of five years from 2013-14 to 2017-18, has been selected leverage ratios and profitability ratios, coefficient of correlation and ANOVA for accomplish the objectives of the study. Found from the analysis, management efficiency is well, higher earnings and strong financial position. DOL, DFL and DCL are positive correlated with ROTA but not significant at 0.05 level, no significant impact of ROTA on leverage ratios.

Key Words: Leverage Ratios, Profitability Ratios, Coefficient of Correlation and ANOVA

I. INTRODUCTION

Leverage means to have fixed expenses for a business. In a business there may be two kinds of leverage, operating leverage and financial leverage. If a business has fixed expenses it's said to have an operating leverage and if a business bears the cost of funds in terms of interest it's said to have a financial leverage. Where in operating leverage measures the impact of percentage change in earnings before interest and taxes due to percentage change in Sales, Degree of financial leverage is a measure of percentage change in earning per share due to percentage change in the earning before interest and taxes. It's often said that leverage is a necessary evil for a business to be progressively profitable. At the same time it has also been said that leverage is a double-edged sword. So that the sword doesn't cut through your neck it's mandatory that leverage be deployed only up to an extent where return on investment is greater than the cost of capital. This shall ensure maximization of shareholder's wealth.

II. LITERATURE REVIEW

Govindasamy, P and Chandrakumarmangalam, S (2010), in their study they found out that there is a significant relationship between DFL and EPS, DCL and EPS, and DOL and EPS. Thus, fixed operating expenses and the financing mix decisions of the firms are significantly influencing the earning capacity of the firm. And they also found out that the leverage effect is positive when the earning of the firms is higher than the fixed financial charges.

Rafique Mahir, (2011) in his study the effect of the productivity of the firm and its financial leverage on the capital structure of the automobile sector companies in Pakistan. This study used the data during the five year data of 11 automobile listed companies in KSC. Financial leverage and profitability minor effect on capital structure, during this study they are unable to identify the effect.

Akhtar Shela et al. (2012) in their study relationship between financial leverage and financial performance, evidence from fuel and energy sector of Pakistan; found a positive relationship between the financial leverage and the financial performance of the companies.

Rehman (2013) in his study, Relationship between financial leverage and financial performance in listed sugar companies of Pakistan, analyze the positive relationship of debt equity ratio with return on asset and sales growth and negative relationship of debt dept equity ratio with EPS.

Khushbakht, Tayyaba (2013) in their study they are concluded that there is positive correlation between ROA and DFL while there is negative correlation between ROA and DOL. DFL and DOL have negative relationship with ROI. There is positive correlation between DFL and EPS while there is negative correlation between DOL and EPS. There is no significant effect of DFL and DOL on ROA, ROE, ROI and EPS.

Kumar M Ramana (2014) in his study An empirical study on relationship between leverage and profitability in Bata India Limited, observed that degree of financial leverage is positively correlated with the ROI.

Although Kalpana (2014) examined the impact of financial leverage, operating leverage and combined leverage on Earnings per Share among three firms listed on the Bombay Stock Exchange covering a period of ten years from 2003 to 2012; also, Kumar (2014) carried out an empirical study on leverage and its relationship with profitability in Bata India Limited; and Gweyi & Karanja (2014) investigated the effect of financial leverage on financial performance of Deposit Taking Savings and Credit Co-operatives in Kenya, the results showed perfect positive correlation between debt equity ratio and return on equity as well as with profit after tax at 99% confidence interval and a weak positive correlation between debt equity ratio with return on assets and income growth, this present study empirically investigates the effect of leverage measured by financial leverage, operating leverage, and combined leverage on Earnings per Share (EPS) of food and beverage firms of Nigeria for the period of 2005 to 2014.

Khedkar EB (2015) in his study, leverage and profitability for Dr. Reddy's Laboratories, observed the DOL is significant and negatively correlated with ROI. However the DFL and DCL is positive but not significant with ROI.

Objectives

- To study leverage analysis of Ultra Tech Cement Company.
- To evaluate profitability position of Ultra Tech Cement Company.
- To study the impact of Leverage ratios on Return on Total Assets ratio.
- To assess the correlation between Leverage ratios and Return on Total Assets ratio.

Hypothesis

- Ho1: There is no significant impact of degree of operating leverage on return on total assets ratio.
- Ho2: There is no significant impact of degree of financial leverage on return on total assets ratio.
- Ho3: There is no significant impact of degree of combined leverage on return on total assets ratio.
- Ho4: There is no significant relation between return on total assets ratio and leverage ratios.

Regression Equation Model

$$ROA = \alpha + \beta_1 DOL + \beta_2 DFL + \beta_3 DCL + e$$

Where

ROA = Return on Total Assets

DOL = Degree of Operating Leverage

DFL = Degree of Financial Leverage

DCL = Degree of Combined Leverage

α = the constant

β = the regression coefficient

e = the error

SAMPLE DESIGN: The technique of convenient sampling is being adopted for the study. The selection of the companies is made on the basis of availability of data.

SAMPLE SIZE: Ultra Tech Cement Company is chosen as sample size for the study on account of having the data availability.

DATA COLLECTION: This study is based on secondary data collected from websites like, money control.com, from 2013-14 to 2017-18.

TOOLS: Tools used for the analysis are Leverage ratios, Profitability ratios, Correlation and test of significance and Analysis of Variance (ANOVA).

DOL = Percentage change in EBIT / Percentage change in sales.
 DFL = Percentage change in EPS / Percentage change in EBIT.
 DCL = Percentage change in EPS / Percentage change in sales.
 Net Profit Ratio = Net profit / Net sales * 100.
 RONW = Net Profit / Shareholder's Equity * 100.
 ROCE = Net Profit / Capital Employed * 100.
 ROTA = Net Profit / Total Assets * 100.
 EPS = Net Profit – Preference shares dividend / Number of shares.

Table No I Degree of Operating Leverage

Year	% EBIT	% Sales	DOL
2017-18	15.82	22.18	0.71
2016-17	18.25	27.64	0.66
2015-16	16.07	26.35	0.60
2014-15	14.97	29.88	0.50
2013-14	15.25	18.27	0.83

Source: Computed from Annual Reports of Ultra Tech Cement Company from 2013-14 to 2017-18.

Table No I depicts that degree of operating leverage ratio of Ultra Tech Cement Company during the study period. The degree of operating leverage is increasing from 2014-15 to 2017-18. The highest degree of operating leverage is 0.83 (2013-14), it sign a large proportion of a company's total operating costs are fixed costs, which means higher operating income on each incremental sale. The least degree of operating leverage is 0.50 (2014-15), it indicates that a large proportion of a company's total operating costs are variable costs and company earns lower income on each incremental sale. However, the company earns operating income increasing year to year on each incremental sale during the study period.

Table No II Degree of Financial Leverage

Year	%EPS	%EBIT	DFL
2017-18	2.50	15.82	0.15
2016-17	6.19	18.25	0.33
2015-16	10.69	16.07	0.66
2014-15	3.56	14.97	0.23
2013-14	4.62	15.25	0.30

Source: Computed from Annual Reports of Ultra Tech Cement Company from 2013-14 to 2017-18.

Table No II indicates that degree of financial leverage of Ultra Tech Cement Company during the study period from 2013-14 to 2017-18. The highest degree of financial leverage is 0.66 (2015-16) which means that high proportion of debt in a company's capital structure. So, company is exposed to greater financial risk, and stockholders' return is highly volatile. Since, company is more responsive to changes in operating income. The least degree of financial leverage is 0.15 (2017-18), it indicates a low proportion of debt in a company's capital structure, which means both

lower financial risk and lower sensitivity of EPS to fluctuation in EBIT. Company is more stable and less sensitive to changes in operating income. During the study period DFL is decreasing from 2015-16, it implies that proportion of debt is low in capital structure and lower financial risk.

Table No III Degree of Combined Leverage

Year	DOL	DFL	DCL
2017-18	0.71	0.15	0.11
2016-17	0.66	0.33	0.21
2015-16	0.60	0.66	0.39
2014-15	0.50	0.23	0.12
2013-14	0.83	0.30	0.25

Source: Computed from Annual Reports of Ultra Tech Cement Company from 2013-14 to 2017-18.

Table No III implies that degree of combined leverage of Ultra Tech Cement Company during the period of 5 years from 2013-14 to 2017-18. The highest DCL is 0.39 (2015-16) which means that a large proportion of a company's total costs are fixed, and incremental sales will result in a higher incremental EPS and least DCL is 0.11 (2017-18), it indicates that lower incremental EPS on incremental sales and lower sensitivity to the slippage in sales.

Table No IV Profitability Ratios

Year	NP (%)	RONW (%)	ROCE (%)	ROTA (%)	EPS (in Rs)
2017-18	7.49	8.60	5.14	4.10	145.47
2016-17	10.99	10.97	8.41	6.68	141.91
2015-16	9.99	10.95	8.78	6.18	133.63
2014-15	8.78	10.68	7.62	5.72	114.72
2013-14	10.57	12.54	8.92	7.20	116.57

Source: Computed from Annual Reports of Ultra Tech Cement Company from 2013-14 to 2017-18.

Table No IV indicates that the profitability ratios of Ultra Tech Cement Company's during the period of 5 years from 2013-14 to 2017-18. Net Profit ratio is highest in 2016-17 (10.99) and least in 2017-18 (7.49). It is increasing from 2014-15 to 2016-17 and then decrease in 2017-18. It means that net profit decrease due to increasing expenses. Return on Net worth is the highest in 2013-14 (12.54) and least 2017-18 (8.60). It is decreasing during the study period; it indicates that less efficient deployment of equity resources. Return on Capital Employed is the highest in 2013-14 (8.92) and the least in 2017-18 (5.14). The company generates more profit in 2013-14 by using capital employed efficiently and 2017-18 generate low profit due to inefficient utilization of capital employed. Return on total assets ratio is the highest in 2013-14 (7.20) and least in 2017-18 (4.10) it means that the company was able to utilize its resources well in generating income in 2013-14 and not able to utilize its resources well in generating income in 2017-18. Earnings per Share is increasing during the study period, it indicates that higher earnings and strong financial position. The highest EPS is 2017-18 (145.47) and least EPS is 2014-15 (114.72).

Table No V Correlation between ROTA and Leverage Ratios

		ROTA	DOL	DFL	DCL
ROTA	Pearson Correlation	1	.245	.426	.549
	Sig. (2-tailed)		.691	.475	.338
	N	5	5	5	5
DOL	Pearson Correlation	.245	1	-.186	.096
	Sig. (2-tailed)	.691		.764	.878
	N	5	5	5	5
DFL	Pearson Correlation	.426	-.186	1	.957*
	Sig. (2-tailed)	.475	.764		.011
	N	5	5	5	5
DCL	Pearson Correlation	.549	.096	.957*	1
	Sig. (2-tailed)	.338	.878	.011	
	N	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

Table V shows the result of Pearson correlation between the return on total assets ratio (ROTA) and leverage ratios. From the above table it is observed that return on total assets ratio is positively correlated with leverage ratios i.e. DOL (0.691), DFL (0.475) DCL (0.338) but not significant at 0.05 level with ROTA. Hence, null hypothesis is rejected i.e. There is no significant relation between return on total assets ratio and leverage ratios.

Table No VI ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.337	1	.337	.192	.691
	Residual	5.283	3	1.761		
	Total	5.620	4			

- a. Dependent Variable: ROTA
- b. Predictors: (Constant), DOL

Table VI depicts that the calculated value of 'F' is less than the table value of 'F'. It shows that there is a no significant effect of return on total assets ratios on degree of operating leverage. Since, the null hypothesis (Ho) is accepted i.e. there is no significant impact of degree of operating leverage ratio on ROTA

Table No VII ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1.020	1	1.020	.665	.475
	Residual	4.600	3	1.533		
	Total	5.620	4			

- a. Dependent Variable: ROTA, b. Predictors: (Constant), DFL

Table VII shows that the calculated value of 'F' is less than the table value of 'F'. It shows that there is a no significant effect of return on total assets ratios on degree of financial leverage. Hence, the null hypothesis (Ho) is accepted i.e. there is no significant impact of degree of financial leverage ratio on ROTA

Table No VIII ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1.691	1	1.691	1.291	.338
Residual	3.929	3	1.310		
Total	5.620	4			

- a. Dependent Variable: ROTA
b. Predictors: (Constant), DCL

Table VIII indicates that the calculated value of 'F' is less than the table value of 'F'. It shows that there is a no significant effect of return on total assets ratios on degree of combined leverage. Therefore, the null hypothesis (Ho) is accepted that there is no significant impact of degree of combined leverage ratio on ROTA.

III. FINDINGS

- DOL implies the company earns operating income increasing year to year on each incremental sale during the study period.
- DFL indicates low proportion of debt in a company's capital structure, which means both lower financial risk and lower sensitivity of EPS to fluctuation in EBIT.
- DCL states that lower incremental EPS on incremental sales and lower sensitivity to the failure maintain an expected level in sales.
- Management efficiency is well due to efficient utilization of resources and assets to generate income and higher earnings and strong financial position.
- Return on Total assets (ROTA) is positive correlation with leverage ratios but not significant at 0.05 level with ROTA. So, null hypothesis is rejected.
- There is no significant impact of leverage ratios on ROTA. Hence, null hypotheses are accepted.

IV. CONCLUSION

This paper studies on leverage analysis and profitability with reference to Ultra Tech Cement Company. Using the data period of 5 years from 2013-14 to 2017-18, we examined that whether there is effect of leverage on profitability or not. I used return on total asset as dependent variable and degree of operating leverage, degree of financial leverage and degree of combined leverage as independent variables. After applying leverage ratios, profitability ratios, regression and correlation analysis, it is concluded that DOL, DFL and DCL positive correlation with ROTA but not significant at 0.05 level, there is no significant impact of leverage ratios on ROTA and leverage ratios and profitability position is satisfactory level.

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