Analysis of Leverage and Profitability of Indian Cement Industry

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Abstract

The concept of leverage is an imperative part of financial management as it helps in setting the structure for the financial decisions of an organization. It also helps in deciding the optimal amount of external and internal funds in capital structure, so that cost of capital can be reduced. Financial leverage denotes to the aggregate of obligation in a company's capital structure. The aim of present paper is to probe empirically the connection between leverage and profitability of Indian Cement industry. The information was gathered from the yearly reports and records of the particular organizations. The investigation was led for the time of ten years beginning from 2008-09 to 2017-18 taking 21 Indian cement companies. To study the effect of leverage on profitability, Return on Equity (ROE) is taken as dependent variable though financial leverage, Operating leverage and combined leverage are taken as independent variables. For the achievement of the target, different accounting ratios statistical tools have been applied.

Keywords: Financial leverage, Operating leverage, combined leverage and Profitability

Introduction

For an entity capital is the primary segment to complete its exercises. Capital is prerequisite for its development and extension. A portion of the capital can be made as retained profit, which has not been appropriated to its investors. In this way, it is clear that the firm needs to locate the appropriate estimates that will augment the estimation of the firm in future. This requires putting resources into various tasks and targets. The firm has two origins of assets for example debt capital and equity capital. Debt capital is the capital which is obtained from outside on a fixed rate of interest and the other is equity capital where capital is raised by giving the value shares on which profits are circulated out of benefit. The utilization of debt capital in its capital structure may keep an eye on budgetary hazard. Since money related hazard is related with debt capital, if no debt capital is utilized in the capital structure of the firm, there is no monetary hazard. Subsequently a firm that accounts by equity just doesn't have any money related hazard (Banerjee, 2002). Leverage is of two kinds utilized in the business language operating leverage and finance related leverage. Operating leverage indicates the quantum of operating risk though financial leverage signifies quantum of finance related risk of the firm. Operating leverage is the result of variances in sales due to the presence of fixed expense in the cost structure of the firm. In this manner it very well may be said that operating leverage is the capacity of the firm to utilize fixed expense to increase the fluctuations in operating profit because of the changes in sales. The higher the measure of fixed expense of the firm in its cost structure the higher will be the level of operating leverage and accordingly higher hazard. It is subsequently, increasingly significant for the organizations to create more sales expansion. Financial leverage refers to the utilization of fixed income securities. Financial leverage is the outcome of fluctuation in EBIT alongside unequal variation in the entity's earning per share.

The concept of leverage is a significant piece of financial management as it helps in setting the system for financial decision of an association. It additionally helps in choosing the ideal extent of obligation and equity in capital structure, so the expense of capital can be decreased (Dhagat, 2012). Financial leverage implies the measure of debt financing in an organization's capital structure. Organizations with financial leverage are said to be trading on equity. This shows an organization is utilizing equity capital an acquiring base in a desiring to reap surplus returns (Subramanyam and Wild, 2014). However, leverage can work inversely too. Additionally, there is risk of bankruptcy. In this manner, leverage ratios are determined to measures the financial risk and the association's capacity of utilizing obligation furthering investors' potential benefit (Pandey, 2014). The present investigation targets breaking down the effect of financial leverage and operating leverage on the benefit of chosen cement companies working in India.

Literature Review

Jelinek (2007) analyzed the effect of financial leverage, free cash flow and firm growth on earnings management and inferred that firm with proceeding with increment in financial leverage has performed less income in contrast with those which had higher level of leverage in a similar period.

Shilpa (2011) dissected the effect of leverage on profitability of two chosen FMCG organizations in particular Britannia Industries and Marico Industries. The examination presumes that the Marico Industries has exceptionally levered than Britannia and accordingly giving exceptional yield to its investors.

Akinlo and Asaolu (2012) uncovered that leverage was adversely related with profitability. It was inferred that the utilization of debt by Nigerian firms diminishes profitability. This infers firms to expand its profit level they require to pay off their debt ratio. It was additionally included by the creator that firm size was a significant determinant of profitability.

Takhtaei et al. (2013) affirmed that financial leverage inversely affects income expanding profit management. It shows that organizations with high financial leverage are limited in profit management. Investment diversification inversely affects income expanding profit management.

Patel (2014) clarified the leverage investigation and its effect on profitability utilizing Panel data of the chosen firms. Author utilized ROCE, ROE, ROA and EPS as dependent variables and Degree of Operating Leverage, degree of financial leverage and degree of total leverage as independent variables. The outcome uncovered that there has been a positive connection among leverage and profitability.

Kumar (2014) analyzed the connection between the profitability and leverage and inferred that the level of operating leverage has noteworthy positive association with ROI. It shows the great situation of operating leverage of Bata India. The level of financial leverage and level of combined leverage have insignificant positive relationship with the ROI.

Yasemi et al. (2014) attempted to unravel the topic of relationship among financial leverage, financial strength and firm growth. The consequence of the investigation states there is no noteworthy connection between financial leverage and firm growth and it was also contended that the organizations with higher obligations in contrast with others have less money related quality.

Dr. E. B. Khedkar (2015) in an examination paper titled "A Study of Leverage analysis and Profitability for Dr. Reddy's Laboratories" has inspected the financial performance, leverage analysis and connection among leverage and profit. It was inferred that the firm is not keeping up ideal financial leverage and operating leverage. Further it was included that level of financial leverage is decidedly corresponded with the ROI and factually not significant and level of operating leverage has significant negative relationship with the ROI.

Silambarasan and Azhagaiah (2015) expressed that Operating Leverage has negative significant effect on the Profitability (RONW) and Financial Leverage has positive effect on the RONW. However, the effect of combined leverage is not significant because of the negative effect of OL on RONW

AlGhusin (2015) led concentrate to discover the connection between Leverage ratio and profitability of 25 listed Jordanian Industrial organizations and furthermore to learn the impacts of various parts like Growth Size, Non-Current Assets to Total Assets on Profitability. The consequence of the examination uncovered that Profitability has positive association with Firm size and Growth however negative association with the Financial Assets to Total Assets ratio.

Reddy(2016) found that Degree of Financial Leverage (DFL) has negative connection with EPS while Degree of Operating Leverage (DOL) has negative connection with EPS and Total Leverage (TL) is additionally adversely associated with EPS. The structure of the obligation of the chosen firms is hence found to have a significant bearing on the organizations' decision of product market related methodologies and in this way impacting the exhibition of the organizations also. In this background the study has been led to know the effect of leverage on the profitability of the selected cement organizations in India.

Objective of the study

- To identify the Leverage ratio of Cement Companies operating in India
- To identify the impact of Financial Leverage on Profitability of the selected companies
- To identify the impact of Operating Leverage on Profitability of the selected companies
- To identify the impact of combined leverage on Profitability of the selected companies

Hypotheses

There is significant impact of Financial Leverage, Operating Leverage and Combined Leverage on Profitability of the selected cement companies

Methodology

The study is based on the secondary data, which are collected from the published annual reports available on the respective websites. For the purpose of the study Twenty One Cement Companies in India have been selected. The samples were selected on convenient basis. The study was conducted for the period of ten years starting from 2008-09 to 2017-18. To study the impact of leverage on profitability, Return on Equity (ROE) is taken as dependent variable whereas Degree of Financial Leverage (DFL), Degree of Operating Leverage (DOL) and Degree of Combined Leverage (DCL) are taken as independent variables. Various statistical tools like descriptive statistics, Correlation, Regression and ANOVA have been applied.

Table 1. Correlation Analysis

	ROE	*DFL*	*DOL*	*DCL*
ROE	1			
DFL	0.065132	1		
DOL	0.275192	0.270268	1	
DCL	-0.38128	0.880241	0.064568	1

Source: Annual Reports and Accounts compiled through MS Excel

The above table shows the correlation between the sample variables. The table shows that ROE is positively related with DFL and DOL but negatively related with DCL. The correlation between ROE and DFL is 0.06 which shows very low correlation. The ROE and DOL have correlation of 0.27 which is also a low correlation between them. ROE has negative low correlation with DCL.

Table 2. Descriptive Statistics

	ROE	*DFL*	*DOL*	*DCL*
Mean	14.88	1.79	12.46	17.30
Standard Error	2.69	0.23	2.95	4.01
Median	14.14	1.55	8.89	14.29
Standard Deviation	8.52	0.73	9.32	12.67
Sample Variance	72.57	0.53	86.91	160.48
Kurtosis	0.73	2.85	-1.75	5.95
Skewness	0.88	1.78	0.31	2.28
Range	27.78	2.28	24.63	43.33
Minimum	4.91	1.21	0.58	6.98
Maximum	32.70	3.50	25.21	50.31
Sum	148.85	17.93	124.57	173.02
Count	10	10	10	10

Source: Annual Reports and Accounts compiled through MS Excel

The above table shows the value of ranges, minimum, maximum, mean, variances of the dependent and independent variables taken with respect to Leverage and profitability. The mean value of ROE of the cement industry is 14.88 i.e. on an average 14.88 % return is available to the equity shareholders of their claim in the industry. The average Financial leverage is 1.79 i.e. more than 1 which indicates that the industry as aggressive financial policy with high debt burden and financial risk. The average DOL is 12.46 which shows that for every 1% change in sales volume, operating profit will change by 12.46% in the same direction.

Table 3. Regression Analysis

Regression Statistics	
Multiple R	0.93
R Square	0.87
Adjusted R Square	0.80
Standard Error	3.81
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	566.05	188.68	13.00	0.005
Residual	6	87.09	14.51		
Total	9	653.14			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.14	4.00	0.03	0.97	-9.64	9.92
DFL	22.01	4.13	5.33	0.00	11.90	32.12
DOL	-0.09	0.15	-0.60	0.57	-0.47	0.28
DCL	1.36	0.23	5.97	0.00	1.92	0.80

Source: Annual Reports and Accounts compiled through MS Excel

Regression analysis ROE on DFL, DOL and DCL states that R is 0.93, which means there is high degree of positive relationship between them. The Coefficient of determination i.e. R2 is 0.80 which implies that 80% of the variance in the dependent variable has been explained by the independent variables and remaining 20% of the variation is due to other factors.

The above table also gives the regression coefficient and the constant of the dependent variables. Regression Coefficient of DFL at 22.01 indicates that when DFL increases by 1% then ROE will increase by outsized percentage. Regression coefficient of DOL at -0.09 indicates that when the industry's Operating Leverage increases by 1% the ROE will decreases by 9%. Regression coefficient of DCL at -1.36 indicates that when the industry's Combined Leverage increases by 1% the ROE will decreases by 136%.

The test of ANOVA rejects the null hypothesis as the calculated value of F (13) is greater than the critical value of F (0.005) at 5% level of significance and thus implies that there is no significant impact of Financial Leverage, Operating Leverage and Combined Leverage on Profitability of selected Indian cement companies.

Regression Equation

ROE= 0.14 + 22.01DFL - 0.09DOL – 1.36DCL

(Where, ROE= Return on Equity; DFL= Degree of Financial Leverage; DOL= Degree of Operating Leverage; DCL= Degree of Combined Leverage)

The above equation shows that taking DFL, DOL and DCL as zero, the profitability of the selected cement companies will be 0.14. Thus, from the equation above it could be observed that a unit increase in DFL would result in increase in profitability with a factor of 22.01; a unit increase in DOL would result in decrease in profitability to a factor of 0.09 and a unit increase in DCL would result in decrease in profitability to a factor of 1.36.

Conclusion

This paper has analyzed the effect of leverage on productivity of chosen Cement organizations. The examination uncovered that there is low level of relationship among leverage and profitability during the investigation time frame. The trial of hypothesis uncovered that as the determined estimation of F is more prominent than the basic value, thus it has been dismissed and infers that there is no significant effect of leverage on profitability of the chosen cement industry.

References

- Akinlo, O, and T Asaolu. "Profitability and Leverage: Evidence from Nigerian Firms." *Global Journal of Business Research*, 2012: 17-25.
- Alghusin, N A. "The Impact of Financial Leverage, Growth and Size on Profitability of Jordanian Industrial Listed Companies." *Research Journal of Finance and Accounting*, 2015: 86-94.
- Banerjeee, Bhabotosh. *Financil Policy and Management Accounting*. Calcutta: The World Press Private Limited, 2002.
- Dhagat, Anil Kumar. *Financial Management.* New Delhi: Dreamtech Press, 2012.
- Jelinek, K. "The Effect of Leverage Increases on Earnings Management." *Journal of Business and Economic Studies*, 2007: 24-46.
- Khedkar, E B. "A Study of Leverage Analysis and Profitability for Dr. Reddy's Laboratories." *International Journal of Research in Engineering and Social Sciences*, 2015: 17-31.
- Kumar, M R. "An Empirical Study on Relationship between Leverage and Profitability in Bata India Limited." *International Journal of Advance Research in Computer Science and Management Studies*, 2014: 1-9.
- Pandey, I M. *Financial Management.* New Delhi: Vikas Publishing House Pvt Ltd, 2014.
- Patel, J B. "Impact of Leverage on Profitability; A Study of Sabar Dairy ." *International Multidisciplinary Research Journal*, 2014: 1-6.
- Peswani, Shilpa. "Does a highly leveraged capital structure of a firm influence its performance? A Comparative study of high and low leveraged FMCG companies in India." *Indian Journal of Finance*, 2011: Vol 5, June.
- Reddy, B M. "Analysis of Leverage and its impact on Profitability." *International Journal in Management and Social Science*, 2016: 127-135.
- Silambarasan, D, and R Azhagaiah. "The Impact of Corporate Leverage on Profitability: Evidence from IT Industry in India." *Pacific Business Review International* , 2015: 44-48.
- Subramanyam, K R, and John J Wild. *Financial Statement Analysis*. New Delhi: McGraw Hill Education (India) Private Limited, 2014.
- Takhtaei, N, A M Ojaghi, and S H Esfandabadi. "Effect of Financial Leverage and Investment Diversification on Income-Increasing Earnings Management." *Middle-East Journal of Scientific Research*, 2013: 536-844.
- Yasemi, S, M Fatahidehpahni Farshidkhairollahi, and Z Jalilian. "Studying the Financial Leverage Relationship to Firms growth and Financial Strength in the Accepted (Listed) Companies in Tehran Stock Exchange in Various Industries." *Indian Journal of Science and Research*, 2014: 355-361.