

## Impact of Capital Structure on Firm Value Creation-Evidence from the Cement Sector of Pakistan

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### Abstract

*This study will provide evidence that how capital structure impacts a firm's value. The analysis will be implemented on all the 20 companies of cement sector in Pakistan quoted on the Karachi Stock Exchange (KSE) for the year ended 31st December 2015. Data was gathered for the period of ten years from 2006 to 2015. For analysis several variables were used in this paper in which Debt to equity ratio, return on capital employed, share capital and Current ratio were used as independent variables whereas Economic value added was considered as Dependent variable. Analysis of the data was conducted by descriptive statistics, regression and correlation. The outcomes represent that most of the independent variables have positive correlation which concluded that Capital Structure has positive impact on Firm value.*

**Keywords:** Capital structure, Firm value, Karachi stock exchange (KSE), EVA

### Introduction

In every business, decisions relating to financing the assets of a firm are very critical and it is a serious problem for finance managers to find out the optimum ratio of equity and debt of the capital in the organization. It is a general rule in financing the firm's assets that there should be an

appropriate mix of equity and debt capital. The purpose to design the capital structure is basically to serve the attention of the equity shareholders of the firm. This study will provide evidence that how capital structure impacts a firm's value in cement sector in Pakistan.

### **Literature review**

Muhammad, Zaighum, Saeed and Saji. (2012), observed in their research paper the effect of capital structure on the financial performances of firms in Pakistan. They selected consecutive top 100 companies listed in Karachi Stock Exchange for a duration of 2006 to 2009. To investigate the relationship between firm's financial performance and capital structure, Exponential generalized least square regression is used. They concluded that capital structure selection is a vital factor of financial performance of firms.

Fozia, Niaz, Ghulam and Abbas (2009), examined the influence of Capital structure on the financial performance of firm in textile sector of Pakistan. They took data of 141 textile firms. Data was composed from Balance Sheet Analysis (BSA), which is a document issued by The State Bank of Pakistan from the period of 2004-2009. For finding firm's performance and size, ROA is used as a proxy variable, whereas debt to equity ratio, tangibility, amount of annual tax, risk associated with business entity and growth of firm are measured as the determinants of capital structure. They used Log linear regression model in their methodology. This analysis has been used to investigate the effect of capital structure on firm performance. The outcomes show that all the determinants of capital structure are important to consider.

Jamal (2009), showed that how profitability of firms, in the sector of automobile in Pakistan, is impacted by capital structure and working capital management of firms. For this researched they used financial leverage as the bench mark for capital structure. In their methodology pooled data analysis was used by them. Sample data of seven firms out of thirteen firms of automobile sector

listed in Karachi Stock Exchange for duration of 2001 to 2008 were used. He concluded that financial leverage which is a benchmark of capital structure has a substantial positive effect on effectiveness of the firms.

Anup, Suman (2010), "Impact of capital structure on firm's value: Evidence from Bangladesh". The objective of this paper is to examine the impact of capital structure on the firm value of Bangladeshi firms. Authors analyzed this hypothesis by taking four most leading sectors i.e. food and allied, engineering, chemical and pharmaceutical, fuel and power. This research will also help to understand the basic performance of capital structure in Bangladesh containing the sensitivity of leverage on each sector. Authors gathered data of 77 companies from the time period of 1994 to 2003. To gather the data they used Chittagong Stock Exchange (CSE) and Dhaka Stock Exchange (DSE). For value of the firm they took share price as dependent variable whereas profitability, firm size, dividend payout, public ownership in capital structure, asset and operating efficiency, liquidity, business risk and growth rate, were taken as independent variables. Correlation analysis was used to examine the model. They concluded that price is positively correlated with Earning per Share, book value per share, dividend per share, and current ratio, fixed assets turnover, inventory turnover ratio, dividend growth, P/E ratio and net profit. It means that to maximize the shareholder's wealth it requires a perfect mixture of equity and debt. They also concluded that by changing the capital structure a firm can raise its value in the market.

## Objectives

The objective to conduct this study is to examine the

- Capital structure situation in cement sector of Pakistan
- To investigate its impact on firm's value.

- This study will also perform as a guide for the finance managers of the firms to prepare optimum capital structure to maximize the market value and minimize the agency cost of the firm.

### **Problem statement**

Capital structure plays a vital role in performance, value, risk, cost and other sectors of the business. Many researches have been done on capital structure in all over the world as well as in Pakistan but in Pakistan most of the research is for calculating the impact on the performance of the firm. More research needed to be done on the importance of the capital structure. In my research I will find the impact of capital structure on the value creation of the firm which will help the managers to understand the importance of capital structure.

### **Hypothesis**

Ho = capital structure does not impact the value creation of the firm

H1 = capital structure impacts the value creation of the firm

Model

$$EVA = \alpha + \beta_1 de + \beta_2 roce + \beta_3 sc + \beta_4 cr$$

Where:

EVA = economic value added (Dependent Variable)

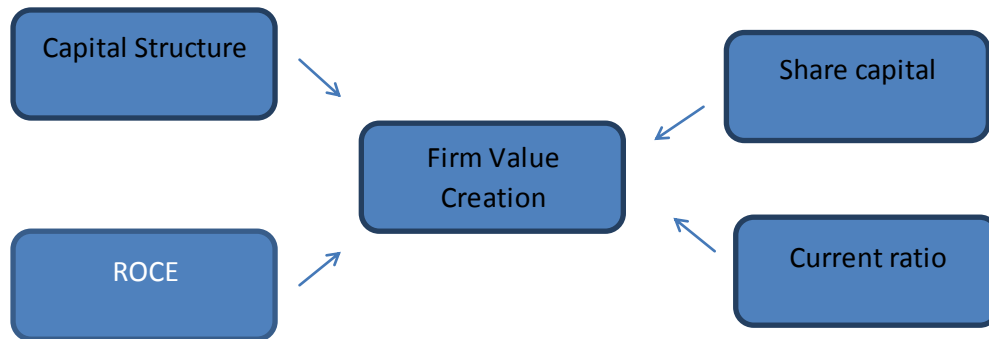
de = debt to equity

roce = return on capital employed

sc = share capital

cr = current ratio

### Conceptual framework



### Source of Data

As discussed earlier, the objective of this study is to investigate the relationship between the Capital Structure and the Firm Value of the Cement Sector in Pakistan. For this purpose we used secondary data and the source of data is cement manufacturing companies in Pakistan.

### Target population

The analysis and results of this paper will target all organizations related to cement sector that how they can create their firm value by applying different capital structure. Analysis and interpretations of this study can help other manufacturing companies who are conducting similar researches to improve their value.

### Unit of analysis

Unit of analysis in this paper is Cement manufacturing companies of Pakistan. In this paper impact of Capital structure will be shown on firm value of cement sector in Pakistan economy. For this purpose all cement companies listed in Karachi Stock Exchange is selected

### Sampling

In Pakistan currently 101 companies are registered in cement sector in Security and Exchange Commission of Pakistan from which there are 28 plants are working. Major part of this sector is consists of 20 main companies who are listed in Karachi Stock Exchange. For this analysis I have chosen all 20 companies listed in KSE for the time period of 2006 to 2015

### Data analysis

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560 <sup>a</sup>	.313	.260	1263.28094

a. Predictors: (Constant), current, stock, roce, de

In the regression model debt to equity, stock and current ratio have positive coefficient whereas return on capital employed has negative coefficient and R<sup>2</sup> of 0.316 indicates that dependent variable can be explained 31.6% by independent variables. In model value of R calculated as 0.562 which shows a moderate positive relationship between variables.

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-127.978	605.787		-.211	.834
	de	3.277	2.624	.170	1.249	.217
	roce	-15.019	14.785	-.130	-1.016	.314
	stock	.000	.000	.482	4.117	.000
	current	449.806	195.077	.309	2.306	.025

a. Dependent Variable: eva

Debt to equity has coefficient of 3.27, which shows that if one unit increase in debt to equity will increase value by 3.27. Its Standard error is 2.624; t value of debt to equity is 1.249. These statistics indicates that debt to equity change will affect firm value by 3.27 times. So, this paper recommends that by increasing debt to equity of any firm, companies can increase the value of the firm.

Current ratio shows the coefficient of 449.806 which is the highest from all other variables; it shows that one unit increase in this variable will drastically increase the value of the firm. The t value of this variable is 2.306 which is second highest amount compare to other variables. Stock shows a zero coefficient with the amount of zero standard error and highest t value of 4.117.

Return on capital employed has negative coefficient of -15.019 which indicated that if one unit changes occurs in return on capital employed then firm value will be affected by negatively with the amount of 15.019. T value of this variable is -1.016.

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
eva	60	11.00	7872.00	1252.1498	1443.04271
de	189	.00	1323.00	122.1574	154.60720
roce	142	.00	47.27	14.2594	11.70461
stock	200	200000.00	9E+008	5E+007	196290668.1
current	200	.05	5.40	1.1453	.91144
Valid N (listwise)	57				

This analysis was conducted to find out the basic features of the data. In this analysis we can find the mean, standard deviation, minimum and maximum values of the variables. In this paper mean of debt to equity ratio is 122.15 with the standard deviation of 154.60. Its minimum value was recorded as 0 whereas maximum value was 1323. Mean of return on equity is 14.25 and its standard deviation is 11.70. Minimum value is 0 and maximum is recorded as 47.27. Stock has the mean value of 47558837.71 whereas its minimum value is 200000 and maximum value is 948399800. Current ratio has the mean value of 1.1453 and standard deviation is 0.911. It has minimum value as 0.05 whereas its maximum value is 5.40. Economic value addition has the mean value of 1252.14 and standard deviation as 1443 with the minimum and maximum values as 11 and 7872 respectively.

#### Correlations

		eva	de	roce	stock	current
eva	Pearson Correlation	1	.056	-.169	.482**	.170
	Sig. (2-tailed)		.668	.210	.000	.193
	N	60	60	57	60	60
de	Pearson Correlation	.056	1	-.205*	-.007	-.142
	Sig. (2-tailed)	.668		.015	.923	.051
	N	60	189	141	189	189
roce	Pearson Correlation	-.169	-.205*	1	-.069	.323**
	Sig. (2-tailed)	.210	.015		.415	.000
	N	57	141	142	142	142
stock	Pearson Correlation	.482**	-.007	-.069	1	-.197**
	Sig. (2-tailed)	.000	.923	.415		.005
	N	60	189	142	200	200
current	Pearson Correlation	.170	-.142	.323**	-.197**	1
	Sig. (2-tailed)	.193	.051	.000	.005	
	N	60	189	142	200	200

\*\* . Correlation is significant at the 0.01 level (2-tailed).

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

Correlation analysis is represented in matrix. This paper shows correlation of variables with each other. It is shown that economic value added is positively correlated with debt to equity, stock and



current ratio with the significance of 0.668, 0.000, and 0.193 respectively. Whereas EVA has negative correlation with return on capital employed with the significance of 0.210.

As debt to equity has positive correlation with economic value added but it has negative correlation ROCE, stock and current ratio. It has significance of 0.015 with ROCE, 0.923 with stock and 0.051 with current ratio. Return on capital employed has negative correlation with EVA, debt to equity and stock. It has positive correlation only with current ratio and it has significance of 0.000. Stock has positive correlation only with economic value added with the significance of 0.000. Current ratio is positively correlation with economic value added and return on capital employed. It has significance of 0.193 and 0.000 respectively.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.001	5

Reliability statistics shows that Cronbach's Alpha is 0.001.

## Conclusion

The main objective of this study was to find out the “Impact of capital structure on value of firm addition” in the context of cement sector of Pakistan. For this purpose secondary data of publicly listed companies quoted in in Karachi Stock Exchange (KSE) was gathered. Statistical tools like regression, correlation, descriptive statistics and reliability were used for the analysis of all the financial data. To find out the relationship between capital structure and firm value in Pakistan cement sector this paper considered economic value added as for firm value which is a dependent variable and different ratios for capital structure such as Debt to Equity ratio, Return on Capital Employed, Share Capital and current ratio were used as independent variables. Analysis of data

represent that most of the independent variables included debt to equity, share capital and current ratio have positive correlation with depend variable of economic value added. The outcomes of this study suggest that to increase the firm's value companies requires a perfect mixture of debt and equity.

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