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## IMPACT OF FIRM SPECIFIC FACTORS ON CREDIT RISK: A CASE OF KARACHI STOCK EXCHANGE

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**Keywords:** Profitability; ROA; leverage; Firm Size; Credit Risk; Cement Sector; Multivariate Regression

**Abstract.** The current study aims to explore the relationship of firm's specific factors i-e profitability, ROA, leverage and bank size on credit risk. The population of the study consists of manufacturing sector of Pakistan. The sample of study is cement sector of Pakistan. The sample units are 22 and listed at Karachi stocks exchange. The multivariate regression analysis is used to test the data of sample. The study revealed negative significant relationship of all firm specific factors with credit risk in Pakistan. Thus, the study supported historic investigations regarding credit risk.

### 1. INTRODUCTION

Credit risk is explained as nature of risk where a borrower fails to meet its obligation on routine bases on in time. Here is a chance of default by borrower side at any time regarding obligation. Moreover, it is a procedural risk that arises at any time during operations of any financial institution. In more specialized way, financial stakeholders are facing various kinds of credit risk other than borrowed amount specifically regarding pure financial instruments that pinches growth factors of the companies (Kwabena, 2014). And credit risk as main factors pinches productivity in suitable and adverse manners in a disciplined way. Thus, there is way to get rid from credit risk through insurance when it affects the financial position of companies regarding profitability of the company, firm size, assets return and leverage (Thompson, 2014). And it is the credit risk that arises from bank to bank or by interbank transaction and nature of contracts (Gilchrist and Mojon, 2014).

Such contractual agreements and their defaults also leads to aggregate default risk that is financially more harmful for the companies regarding their firm specific factor's as well (Imbierowicz and Rauch, 2014). Thus, such firm specific factors and industrial factors have negative relationship with credit risk (Abdullah, Parvez and Ayreen, 2014). Moreover, credit risk is a major risk that is faced by banks and has adverse relationship with company's factors (Yijun and Fan, 2014).

The objective of the study is to investigate the relationship of profitability, return on assets, leverage and firm size with credit risk. The study investigates the credit risk in cement sector of Pakistan and identifies the nature of decisions associated with credit risk management.

While, study aims to investigate the companies of cement sector listed at Karachi stock exchange of Pakistan. Thus, the study significance is to acquire the reliable outcomes for practitioners, theorists and modern researchers because of underdeveloped area in research i-e Pakistan (Ayca et al., 2000).

Thus, the scheme of the study consists of four parts. Part one explains introduction, literature and study hypotheses. Part two elaborates methodology of the study. In part three results are tabulated and are explained. While, in part four study is concluded.

### 1.1 Study Hypothesis

**H1:** Profitability is negatively correlated with credit risk.

**H2:** Return on assets is negatively correlated with credit risk.

**H3:** Leverage is negatively correlated with credit risk.

**H4:** Firm size is negatively correlated with credit risk.

## 2. RESEARCH METHODOLOGY

The objective of the study is to investigate the relationship among firm specific variables and credit risk. The population of the sector is manufacturing sector of Pakistan and the sample of study contains on listed companies of cement sector under Karachi stock exchange. The data of the sample period is selected from 2008 to 2013 and there is a limit in the data that few companies acquired their listing status late, so the data of few years is missing.

And the entire data is acquired from financial statements of the companies by two data bases i-e [www.sbp.com](http://www.sbp.com) & [www.opendoors.com](http://www.opendoors.com). Thus, entire data is shaped into panels and multivariate regression is applied because of various predicting variables and following developed model is tested,

$$Y = C + \beta_1 (PR) + \beta_2 (ROA) + \beta_3 (LEV) + \beta_4 (BS) + \varepsilon$$

All other predictor variables are measured by these instruments including credit risk,

1. Profitability = (EBT/ Total Assets)
2. Return on Assets = (Earnings of common stocks/Total Assets)
3. Leverage = (Total Debt/Total Assets)
4. Bank size is determined by the natural log of Total assets (Janice et. Al, 2005).
5. Credit Risk = (Loan loss provision to total assets/ Total Assets)

## 3. ANALYSES & RESULTS

Table 01  
Sector Representation

Sector Name	Representation Percentage
Cement Sector	100%

Table 02  
Reliability Statistics

Variable	Cronbach's Alpha
Profitability	0.71
ROA	0.76
Leverage	0.63
Firm Size	0.82
Credit Risk	0.77

Reliability measures show the nature and percentage of errors associated with entire variables of the study. Such reliability of the study is measured by Cronbach's alpha. Thus, Cronbach's alpha value of profitability is 0.71%, ROA 0.76, leverage 0.63, firm size 0.82 and credit risk is 0.77 respectively.

Table 03  
Data Normality

Variables	N	Skewness	Kurtosis
Profitability	22	0.044	1.75
ROA	22	0.89	1.97
Leverage	22	-0.55	-1.86
Firm Size	22	0.067	0.214
Credit Risk	22	0.084	1.71

To check the normal distribution normality measures are applied in the current study represented by Skewness value and kurtosis value. The normality of the data lies from -02 value of kurtosis to +02 value. Thus in recent study kurtosis values lies in between 1.97 to -1.86 that are exact up to the assumption of data normality. Hence, the data of current is normally distributed.

Table 04  
Descriptive Statistics

Variable	Mean	Standard Deviation
Profitability	1.44	0.073
ROA	0.87	0.045
Leverage	3.16	0.904
Firm Size	0.038	0.007
Credit Risk	0.75	0.032

In current study descriptive statistics are applied to check the mean and deviation of the study variables. Thus, profitability mean value is 1.44 and standard deviation value is 0.073, ROA mean value is 0.87 and standard deviation is 0.045, Leverage mean value is 3.16 and deviation value is 0.904, firm size mean value is 0.038 and variation value is 0.007 and credit risk mean value standard deviation value are 0.75 & 0.032 respectively.

Table 05  
Correlation Analyses

Variable	1	2	3	4	5
Profitability	1				
ROA	-.561**	1			
Leverage	-.235**	-.241**	1		
Firm Size	-.318**	-.323**	-.337**	1	
Credit Risk	-.341**	-.347**	-.353**	-.374**	1

\*. Correlation is significant at 0.05 level (02-tailed)

\*\* . Correlation is significant at 0.01 levels (02-tailed)

In recent study, a correlation analysis is applied to investigate the relationship among study variables. Thus, profitability relations with ROA (-.561\*\* p<0.01), ROA has significant correlation with leverage (-.235\*\* p<0.01, -.241\*\* p<0.01), leverage has significant correlation with firm size (-.318\*\* p<0.01, -.323\*\* p<0.01 & -.337\*\* p<0.01) and firm size has significant correlation with credit risk respectively (-.341\*\* p<0.01, -.347\*\* p<0.01, -.353\*\* p<0.01 & -.374\*\* p<0.01).

Table 06  
Multivariate Regression Analyses

Variable	Beta	t. statistics	Significance
Profitability	-0.074**	-0.123	0.000
ROA	-0.087**	-0.156	0.002
Leverage	0.036**	0.096	0.000
Firm Size	-0.049**	-0.11	0.001
Credit Risk	-0.021**	0.082	0.003

In multivariate analyses beta value is -0.074\*\* and is found negatively significant, ROA is found negatively significant (-0.087\*\*  $p < 0.01$ ), Leverage is found positively significant (0.036\*\*  $p < 0.01$ ), firm size is found negatively significant (-0.049\*\*  $p < 0.01$ ) and credit risk is found also negatively significant (-0.021\*\*  $p < 0.01$ ). Thus, study supported past investigations and all hypotheses are accepted except leverage because leverage is positively significant with credit risk in recent study.

#### 4. CONCLUSION

On the bases of above hypothesis of the study credit risk is found significantly correlated with firm specific factors i-e profitability, return on assets, leverage and firm size. Therefore, all study hypotheses with respect to their relationship are accepted. The main reason of hypothesis acceptance in current study is that firm specific factors are main facets of the company and pinched by any kind of company risk like credit risk. Moreover, corporate financial managers have major focus on these factors. Thus, study has supported historic investigations.

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