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Effects of Corporate Governance and Capital Structure on Firms' Performance: Evidence from Major Sectors of Pakistan

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This study aims to examine the effects of corporate governance and capital structure on firm's performance. Panel pooled regression method were applied on annual data of two major sectors: automobile & fertilizers from 2006 to 2016. Findings show that board size have positive relationship & audit committee has negative relationship with profitability of automobile sector and vice versa for fertilizers sector. Capital structure is measured by current ratio, debt to equity, short term & long term debt whereas profitability is measured by ROA and ROE. Positive relation of current ratio and profitability of both sectors is observed and the negative relationship of debt to equity of both the sectors has been observed whereas short and long-term debt has no significant relationship in fertilizers sector. The results should be of great importance to investors, creditors, financial analysts and academicians especially after global financial crisis and collapses of giant organizations worldwide.

Keywords: *Corporate Governance; Capital Structure; Performance; Pakistan Stock Exchange; Non-Financial Sector*

JEL classification: G30, G31, L60

Introduction

Corporate governance and capital structure are considered important factors for increasing wealth of shareholders. Any firms' sound corporate governance is an indication that investor will be able to get their capital back with an optimal level of return on their investment and a good capital structure is one that minimizes the risk and chances of bankruptcy. Goyal (2013) stated that main objective of management of firm is to maximize shareholders and owners wealth, whereas shareholder wealth is defined in terms of current price of outstanding ordinary shares and a firm can achieve this objective by balanced financial decision making with respect to optimal capital structure which would help to minimize the cost of capital. However, capital structure includes debt including preferred stock and equity collectively. Rahman & Sadat (2013) explained corporate governance as the relationship among many stakeholders (including internal and external stakeholders) and in context of business corporations internal stakeholders can be executives, other employees an board of directors whereas external stakeholders can be creditors, suppliers, customers, debt holder, trade creditors. Corporate governance

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helps to attract investments and improves firms' financial health and corporate governance practices protect the investor and strengthen good capital markets.

Every company/firm is managed and controlled by specific rules, regulations, practices and procedures through which they assess the interest of firm's stakeholders that system of directing and controlling is known as corporate governance. Stakeholders include shareholders, government, financiers, customers, suppliers, management etc. Many firms have implemented two-tier corporate system hierarchy in order to create a corporation in which interest of stockholders is involved. This two-tier corporate system hierarchy is also known as dual board system which consists of two boards, the management board and supervisory board and each of them individually has different roles. Board of governance/directors or supervisory board is the first board/tier which includes individuals elected by the shareholders and second tier/board includes management board/ upper management which include individuals selected and hired by the board of directors. Whereas capital structure is concerned, it's all about how any firms manages and handles its growth and operations through different firm's financial resources. The capital structure represents the number of funds invested in the business or we can say the capital owned and long/debt capital is part of the capital structure of any firm. Long terms loans, preferred stocks, common stocks or retain earnings are few types of financing involved in the capital structure. Rao, Al Yahyee & Syed (2007) elaborated that "capital structure consists of debt and equity used to finance the firm" and defined that "an optimal capital structure is usually defined as one that will minimize a firms cost of capital while maximizing firm value". Hence decision-related to the capital structure has a great impact on firms' success and market value.

Modigliani & Miller (1958) argued that "capital structure theories operate under perfect market" and under assumptions of a perfect marker such as "homogenous expectations, investors, no taxes, no transaction cost and efficient market capital structure is irrelevant in de-termining firms value". Therefore this theorem is best known for "theory of irrelevance". A large number of studies in past have been done by different researchers to measure the financial performance of the firm, through identifying the effects of capital structure and corporate governance. Pathirawasam (2011) found that return on asset insignificantly correlates with ownership concentration. Additionally, return on equity and return on assets were considered as proxy for profitability and for capital structure debt to equity, long-term debt, short-term debt and size were adopted and found that total debt negatively affects firm return on assets and return on equity, whereas size in terms of sale have negative impact on return on equity only Tailab (2014). Another research conducted by Onaolapo & Kajola (2010) in the same area resulted that debt ratio has significant inverse relation with financial performance.

Corporate governance helps any organization to avoid massive losses, bankruptcy and helps to improve the accountability of a company. It is the way any corporation set policies and laws for its employees for every level of organization. In Pakistan SECP (Security Exchange Commission Pakistan) direct and control the corporate governance system of the stock listed companies. It is the responsibility of board of directors to ensure good and effective governance of firm and when it comes to the responsibility of shareholders they are responsible for appointing directors and auditors in order to ensure effective practice in this way they have the assurance that company is properly following appropriate corporate governance structure. The Board of directors is responsible to provide adequate leadership and supervision to ensure that set goals are achieved timely and properly whereas capital structures management concept is designed to achieve a guaranteed return on investment. One of the main decision made by financial analysts is about the capital structure which influences the market value of the share. Capital structure includes measures like leverage, debt to equity ratios, quick ratios and debt to assets ratio and the capital structure reflects the decision regarding selecting the combination of equity and debt rightly that will help the

firm to remain competitive and maximize the profit.

Every organization have a certain set of rules, practices, code of conduct and when it comes to corporate governances there is a need of understanding ethical behaviour with respect to corporate governance and it requires two levels first one is corporate agency and the second one is social welfare. "Corporate agency is concepts which describe that managers, directors and employees of the organization should behave in their best possible interest of owner and shareholders."

"Social welfare deal with the concept that companies dealing with their stakeholders should deal them fairly". Stakeholder includes employees, communities, customers, shareholders and employees. Globally, in corporate governance, it is essential for the management that their ethics and accountability must reflect through their actions. Action speaks louder than words and the business itself cannot be ethical only the people who are working in it can show their ethics. It is really important to have designed capital structure system and business ethics in order to excel and earn a profit. It is the responsibility of the supervisory to ensure the ethics to supersede profitability. The simplest way is to manage thy business by protecting your workers and giving rights and freedom to work in their best interest and the management of any business should also compensate their workers/employees in one way or the other as the management deems fit. Moreover, it is in the hands of the managers/management to look after the accountability, financial activities and those they should exercise their ability in a way that shall not affect the shareholders, employees and the public at large. In other words, the management should operate in the ethical and virtuous way for the betterment of the business.

Capital structure and corporate governance play a vital role in financial decision making of any firm leading to firms' performance and its value. Any firms' sound corporate governance and capital structure system is an indication that investor will be able to get their capital back with an optimal level of return on their investment and that minimizes the risk and chances of bankruptcy. Therefore the aim of this research is to investigate the effect of corporate governance and capital structure on firms' performance of two sectors listed in PSX index. Given below are the objectives of the study.

1) To identify the effects of corporate governance on the performance of firm among different sectors listed in PSX.
2) To identify the effects of capital structure on the performance of firm among different sectors listed in PSX.
3) To determine board size effects & audit committee on ROA and ROE.
4) To measure short-term debt & Long-term debt effect on ROA and ROE.
5) To examine the effect of liquidity on firms' performance.

This study reflects effects any firm can have with respect to corporate governance and capital structure on overall performance among the major important sectors selected from PSX depending upon their economic growth rate. Numbers of sectors selected are two and these sectors have been selected with the help of latest statistics of the economic growth rate of FY2017. Through this research, firms will have a broader picture about how rules, practices, designed procedures and funds invested in any business that is corporate governance and capital structure affects financial performance and how a firm can mitigate the unfavourable risk that can lead to bankruptcy. This research has considered the firms of Pakistan only and results, findings, conclusions and recommendations are beneficial for the financial managers/ higher management, shareholders, investors, customers, policy makers, security analyst, creditors enabling them to make decisions easily.

In the remaining parts of the paper, literature review, theoretical framework, methodology, results, findings and conclusion have been discussed. In the second section, review of previous studies, conceptual framework, corporate governance mechanism and capital structure mechanisms are summarized. Research methodology explaining the definition of key terms, research design, data collection, sampling techniques, research design, procedures, hypothesis

and model specification have been discussed in the third section. The key findings, results, and analysis and conclusion have been discussed in section and five respectively.

Literature Review

This Section highlights a variety of research has already been done with the intent of highlighting the relationship of capital structure, corporate governance and firms' performance. Different authors have given different arguments and criticize to analyze and measure the financial performance of firms with the context of capital structure and corporate governance. Gleason et al (2000) in his study revealed that there is a significant and negative relationship between firm's capital structure and performance of the firm measured by ROA and Profit Margin of European countries. In contrast to this Hadlock & James (2002) in his study found that there is a positive relationship between firms' performance and capital structure they also noted that firm having a high level of profitability uses a higher level of debt.

Abor (2007) in his research found that board size has a negative relationship with leverage ratios. His research study was about examining the relationship between corporate governance and capital structure of small and medium enterprises (SME) of Ghanaian. He used multivariate regression analysis. Ebaid (2009) stated a weal relationship of the performance of firm with capital structure. This study was done on emerging market of Egypt, where the capital structure was measured in terms of short term, long-term and total debt to total assets and firm's performance by return on equity. He showed that capital structure related insignificantly with firm's performance. However, he also found an insignificant relationship between capital structure and gross profit margin.

Firer el al (2008) suggested that "capital structure decision can have important implications for the value of the firms and its cost of capital". Poor capital structure decisions can result in higher cost of capital resulting in lowering down the net present value of investment projects of the firm. Becker, Cronqvist &

Fahlenbrach (2011) conducted a research on US public companies in order to analyze the impact of larger shareholders on profitability. The aim of their research was to estimate the effects of large shareholders on profitability using geographical instruments and came up with the conclusion that there is significant positive association between profitability and a large number of shareholders where they measured profitability by Return On Assets and also indicated that "large number of shareholders skills and opinion play major function in influencing profitability of companies".

Khan (2012) aimed to examine the relationship of capital structure decision with a performance from 36 engineering firms of Pakistani market listed on Karachi stock exchange for the period of 2003- 2009. According to his research, negative and significant relationship was observed between financial leverage and firm performance where financial leverage as measured by short-term debt to total assets and total debt to total assets and firms performance measured by return on assets, gross profit margin.

Various studies have investigated the link between corporate governance and firms' performance Yermack (1996); Claessens et al (2000); Klapper and love (2002); Gompers et al (2003), with mixed results. Cremers and Ferrell (2009) examined "the effects of corporate governance on the firm's operational performance" and their study showed "negative association between corporate governance and firm performance".

Dar, Naseem, Niazi & Rehman (2011) conducted a study in which the measures for corporate governance were board size, annual general meetings, audit committee and CEO status and measures for financial performance were profit margin and return on equity of two firms. Data collected were of companies coming under oil and gas sector listed on Karachi stock exchange from 2004 to 2010. The methodology used was panel data and for observing the impact of variables multiple regression models were used whereas ordinary least square was used for estimation purpose. The result showed that positive and significant correlation exists between

board size along with annual general meeting and return on assets whereas CEO status & audit committee has an inverse correlation with CEO status. Suggestion drawn from this study was that board size must be limited along with a right combination of executives should be involved on board.

Moreover, Gill & Mathur (2011) analyzed the results stating that there is a positive effect of the dual role of CEO on the value of the firm and also discussed that potential growth, firms' size, firms performance of company reflects positively on the value of Canadian manufacturing companies. The main purpose of their study was to identify "the impact of board size and CEO duality on the value of Canadian manufacturing firms". They draw a sample size of ninety-one manufacturing firms listed on Toronto Stock Exchange of Canada for three years from 2008 to 2010 respectively. In order to analyze the results they used non-experimental and Correlation research methodology. Modigliani & Miller (1950) Capital structure theory was given by these two professors in the 1950s developed irrelevance theory of capital structure and stated that whatever the capital structure a company uses for its operations it does not matter in a perfect market.

Furthermore, they explained that earning power and risk of its underlying assets helps to determine the market value of the firm. Ebaid (2009) researched on companies of Egypt (listed in Egyptian stock exchange) from the period of 1997 to 2005 with a aim of examining the relationship of capital structure and firms performance with the help of return on assets, return on equity and gross profit margin as a measure of performance and draw a conclusion that there is significant negative influence of total debt and short-term debt on financial performance (Return On Assets). He used the least square regression model in order to check the performance of firms. Moreover, he also found that long-term debt, short-term debt and total debt has no significant relation with gross profit margin and return on equity.

San and Heng (2011) conducted a research on the relationship between corporate performance and capital structure of Malaysian construction companies before and during crises. In this study, a forty-nine construction company from Malaysia were taken listed on the main board of Bursa Malaysia and data was collected from 2005 to 2008. Independent variable capital structure was measured in terms of Long-term debt to capital, debt to equity market value, long-term debt to common equity, debt to capital, debt to assets and dependent variable corporate performance by return on capital, return on equity, return on assets, earning per share, operating margin and net margin and to analyze the result regression model was employed. Pratheepkanth (2011) carried out a research to examine "the impact of capital structure on the financial performance of organizations of Sri Lanka who found a negative relationship between financial performance and capital structure.

Gill and Biger (2013) researched on "the impact of corporate governance and working capital management efficiency with the context of American manufacturing firms from 2009 to 2011. Three-year data was collected from 180 companies. To analyze the data correlation and regression were used. To measure corporate governance that CEO tenure, audit committee and board size were considered and for working capital management cash conversion cycle, Account receivable, account payable, cash holding and cash conversion efficiency were considered, whereas results indicated that corporate governance plays important role in working capital management.

Butt & Hasan (2009) researched on the impact of ownership structure and corporate Governance on the capital structure of Pakistani listed Companies and their findings suggested that board size and managerial shareholding have significantly negative correlated with debt to equity ratio and variables of corporate governance and shareholding play important role in identifying the financial mix of the firm. Rehman & Sadat (2013) in their research identified a relatively positive relationship between corporate governance and performance. They measured corporate governance with three major variables i.e. Family-controlled firms, CEO duality and board size and firm performance was majored by return on equity, earning per

Table 1. Board size

Author	Finding
Brown & Caylor (2004)	Ideal members 6 to 15 to enhance performance
Yermack (1996)	(inverse relationship) Small board size higher stock market value
Mishra et al (2001)	Decision is quickly made with small Board size
Eisenberg et al. (1998) & Mak and Yuanto (2002)	The negative relationship between board size and firm Performance
Habib. (2016)	Inverse correlation between board size and performance (in terms of ROA)

Table 2. Audit Committee

Authors	Findings
Klein (2002)	Negative correlation between earning management and audit committee independence.
Anderson et al. (2004)	Entirely independence audit committees have lower debt financing costs.
Danoshana & Ravivathani (2013)	Audit committee effects positively on firms' performance.
Narwal & Jindal, (2015)	The audit committee has an inverse relationship with profitability.

Table 3. Capital Structure

Authors	Findings
Gill, Amarjit; Bigger, Nahum; Mathur, Neil, 2010	Short-term debt and long-term debt has a positive correlation with profitability.
Abor (2005)	The positive & negative relationship between capital structure and firms performance
Pratheepkanth (2011)	The negative relationship between capital structure and firms performance.
Tailab (2014)	Short-term debt has a significant & direct effect on Return On Equity.
	Long-term debt (in term of total assets) has insignificant either negative or positive relationship with profitability.
Muhammad H, Shah B, Zia Ul Islam (2014)	Strong negative Relationship Between Debt To Asset And Gross Profit Margin, Net Profit Margin, Return on Asset And Return on Equity.
	Positive Relationship Between Debt To Equity And Gross Profit Margin And Net Profit Margin.
	Negative Relationship Between Debt To Equity And Return on Assets & Return on Equity.

share and return on assets. They selected cement sector as a sample for their study.

Moreover, Muhammad, Shah & Islam (2014) carried out the research on "impact of capital structure on firm performance from the perspective of Pakistan". They selected companies from Karachi stock exchange from the period of 2009-2013 and came up with the results that capital structure has a negative relationship between capital structure and firms performance. They used person correlation and multiple regression analysis. Awan & Abbas (2016) concluded that "size and firms leverage has relatively lesser effect on major attributes of corporate Governance and explained that major characteristics of corporate governance are determined by firms' profitability and its size" the objective of their study was to determine the effects of selected variables such as firm profitability, firm value, size and leverage on the performance of 69 non-financial sampling companies listed at Pakistan stock exchange.

Many of past researchers have been done

on capital structure and firms performance and corporate governance and firms performance individually but few of the studies have been done on corporate Governance, capital structure and firms performance collectively. Moreover, in context of Pakistan up till now few types of research have been done on different sectors of Pakistan to best of our knowledge.

Many variables have been used in empirical literature in capital structure and corporate governance which will affect firms' performance. Abor (2005 & 2007) and Ebaid (2009) used short-term debt, long-term debt and total debt as a measure of capital structure. However, for firm performance measures like gross margin, net profit margin, return on assets and return on equity has been used by many of the previous literature. Yasser, Entebang & Mansor (2011) used CEO Duality, Board structure, Audit committee and board size as a measure of corporate governance. Results of the study revealed the positive and significant relationship between Return on Equity and Board Size, the Weak

significant relationship between CEO duality and Return on equity, significantly positive relationship between return on equity, board composition and audit committee and no significant relationship between CEO Duality and profit margin.

Table 1, 2 and 3 represent the summary of the variables (capital structure and corporate governance) and their observed relationship by different researchers.

Research Methods

The data collected for this research study was from Pakistan Stock Exchange and Thomson Reuter. This research is quantitative in nature and Panel least square method is adopted in order to study the behaviours of the firm and analyze the data. Panel data helps the researcher to make statistical inference with more accuracy and validity. The sample of companies consisted of two selected sectors have been taken and the data for this sample is of eleven years (from 2006 to 2016). As the research is quantitative its philosophy is quantitative and approach is deductive.

Firstly data was collected from Thomson Reuter of all Pakistan stock exchange listed companies after that company for two selected sector were selected in excel and data for measures of capital structure was compiled in excel sheet. Afterwards, corporate Governance measure's data was extracted from annual reports of companies for each year. After data cleaning and sorting final companies selected under fertilizers sector were 3 and automobile sector were 7. Automobiles and fertilizers sector are selected with the understanding that contribution of these sector has a great impact on the economy of Pakistan. Furthermore, data collected for this research study is of eleven years respectively from 2006 to 2016.

Variables

Independent Variables:

Corporate Governance is selected as independent Variable and evaluated by:

Board Size, and Audit committee.

Capital structure is another selected independent variable and is evaluated by:
Liquidity in terms of (current Ratio and Debt to equity), Short-term debt and long-term debt.

Dependent Variable:
Performance of firm is selected as dependent variables and is evaluated by:
Return on equity and return on assets.

Hypothesis
H1: Board size has an inverse relationship with firm performance.

H2: Liquidity has significant relation with firms' performance

H3: Short-term debt & Long Term Debt effects significantly on firms' performance.

H4: Audit committee have a positive relationship with the performance of the firm

Model Specification

Panel regression is used for checking the impact of independent variables on dependent with panel data. Below given are the model expressed in form of the equation for regression analysis.

$$ROA_{it} = \beta_0 + \sum_{all}^{n} \beta_i X_{it} + \varepsilon \qquad (1)$$

$$ROE_{it} = \beta_0 + \sum_{all}^{n} \beta_i X_{it} + \varepsilon \qquad (2)$$

Whereas ROA_{it}: performance of firm i at time t; i=1, 2 ….n firms, ROE it: performance of firm i at time t; i=1, 2 ….n firms, βo: the intercept of equation, β1: Coefficient of X_{it} variables, X_{it}: The different independent variables of firm i at time t, t: Time of firm, t=1, 2,…, 11 years and ε: The error term.

$$ROA_{it} = \beta_0 + \beta_1(BS_{it}) + \beta_2(ADC_{it}) + \beta_3(STRD_{it}) + \beta_4(LTRD_{it}) + \beta_5(CR_{it}) + \beta_5(DE_{it}) + e \qquad (3)$$

$$ROE_{it} = \beta_0 + \beta_1(BS_{it}) + \beta_2(ADC_{it}) + \beta_3(STRD_{it}) + \beta_4(LTRD_{it}) + \beta_5(CR_{it}) + \beta_5(DE_{it}) + e \qquad (4)$$

Table 4. Descriptive statistics of the variable of the study

Variables	N	Minimum	Maximum	Mean	SD
ADC	77	3.000000	7.000000	4.259740	0.894465
BS	77	7.000000	10.00000	8.311688	0.877493
LTRD	77	138327.0	29907385	4444746.	5274793.
ROA	77	-4.510000	34.88000	12.82234	7.550850
ROE	77	-19.70000	61.01000	22.66688	15.14253
STRD	77	165434.0	29907385	4628358.	5183215.
DE	77	0.094856	127.1700	16.59894	27.14416
CR	77	0.953075	10.54410	2.307897	1.550391

Note: SD: standard deviation N: number of observations (Automobile sector)

Table 5. Regression results between corporate governance, capital structure and profitability

		DV ROA R² 0.251894		
Variable	B	SE	t-stat	Prob.
C	-8.418766	8.767957	-0.960174	0.3403
BS	2.564435	1.071392	2.393555	0.0194
ADC	-0.422860	1.233652	-0.342771	0.7328
STRD	-6.62E-06	2.82E-06	-2.349884	0.0216
LTRD	6.81E-06	2.75E-06	2.478191	0.0156
DE	-0.003625	0.036502	-0.099298	0.9212
CR	0.929866	0.588786	1.579293	0.1188

Note: This table shows results of corporate Governance, the capital structure on firms' performance using panel least square method.

$$ROA_{it} = -8.418 + 2.5644(BS_{it}) - 0.422(ADC_{it}) - 6.62(STRD_{it}) + 6.81(LTRD_{it}) + 0.92(CR_{it}) + 0.003(DE_{it}) + e \qquad (5)$$
$$t=2.393 \quad t=-0.3427 \quad t=-2.349 \quad t=2.478 \quad t=-0.0992 \quad t=1.579$$

Results and Discussions

In this chapter results and findings of selected sectors have been done, that is automobile and fertilizers sector. Fertilizers sectors have 33 number of observations and automobile sector have 77 number of observations. The result of this study includes descriptive statistics including mean and standard deviation and ordinary least square method have been applied in order to see the results. In below-given table 1 descriptive statistics of variables of the study is given.

In descriptive statistics, results indicated mean value of 4.25 and 8.311 of the Audit committee and Board size that are measures of corporate governance. Long-term debt, Short-term debt, Debt to equity, Current Ratio were used as a measure for a capital structure with an average mean of 4444746. 4628358, 16.59894 and 2.307897 respectively. Return on assets and Return on equity were used as a measure of profitability. Return on assets reflected mean value of 12.822 and standard deviation of 7.550 having a minimum range of -4.510000 to a maximum range of 34.88000, whereas return on equity resulting mean value of 22.666 and standard deviation of 15.142.

Table 5 represents results of panel least square method, which represented the significant relationship among few variables. The P value shows statistical significance of board size and Return on assets, which is less than 0.05, showing t value of 2.393 and positive coefficient of 2.56. Which suggest that there is a positive relationship between board size and Return on assets. Short-term debt and long-term debt also showed P value less than 0.05 which reveals that these two variables are also significant in this model. It is found that Short-term debt has a negative relationship with Return on assets as its coefficient reflected the negative value of -6.62 whereas Long-term debt has a positive relationship with Return on assets as its coefficient is representing the positive value of 6.81. Moreover, Debt to equity's and current ratio's P-value represented non-significance under this sector.

Table 6 demonstrates the results of board size, audit committee, short-term debt, and long-term debt, debt to equity, current ratio

Table 6. Regression results between corporate governance, capital structure and profitability

	DV			
	ROE			
	R² 0.190699			
Variable	B	SE	t-stat	Prob.
C	-8.477317	8.686894	-0.975874	0.3324
BS	2.573792	1.059773	2.428627	0.0177
ADC	-0.436846	1.217010	-0.358950	0.7207
STRD	-6.77E-06	2.38E-06	-2.837945	0.0059
LTRD	6.96E-06	2.31E-06	3.006604	0.0037
DE	0.032404	0.076137	0.425605	0.6717
CR	0.935838	0.581609	1.609051	0.1120

Note: This table shows results of Corporate Governance, the capital structure on firms' performance using panel least square method.

$$ROA_{it} = -8.418 + 2.5644(BS_{it}) - 0.422(ADC_{it}) - 6.62(STRD_{it}) + 6.81(LTRD_{it}) + 0.92(CR_{it}) + 0.003(DE_{it}) + e \qquad (6)$$
$$t= 2.393 \quad t= -0.3427 \quad t=-2.349 \quad t= 2.478 \quad t= -0.0992 \quad t=1.579$$

Table 7. Descriptive statistics of the variable of the study

Variables	N	Minimum	Maximum	Mean	SD
LTRD	33	-747139.0	30688478	8238536.	11343547
ADC	33	3.000000	5.000000	3.969697	0.847233
BS	33	7.000000	11.00000	8.575758	0.969223
CR	33	0.475538	4.612066	1.682083	1.004879
DE	33	0.000000	212.9000	94.51394	68.97770
ROA	33	-29.38000	47.81000	13.53939	14.25179
ROE	33	-55.40000	71.97000	21.86212	25.53302
STRD	33	273464.0	65839270	10919700	17419515

Note: SD: standard deviation N: number of observations (Fertilizer sector)

Table 8. Regression results between corporate governance, capital structure and profitability

	DV			
	ROA			
	R² 0.186291			
Variable	B	SE	t-stat	Prob.
C	54.14182	35.15118	1.540256	0.1356
BS	-3.698637	3.223161	-1.147519	0.2616
ADC	-0.974630	3.916995	-0.248821	0.8055
STRD	3.77E-08	1.77E-07	0.213031	0.8330
LTRD	-2.95E-07	3.57E-07	-0.828352	0.4150
DE	-0.036156	0.053004	-0.682134	0.5012
CR	0.252419	3.015538	0.083706	0.9339

Note. This table shows results of corporate Governance, the capital structure on firms' performance using panel least square method

$$ROA_{it} = 54.141 - 3.698(BS_{it}) - 0.974(ADC_{it}) + 3.77(STRD_{it}) - 2.95(LTRD_{it}) - 0.036(DE_{it}) + 0.252(CR_{it}) + e \qquad (7)$$
$$t= -1.145 \quad t= -0.248 \quad t=-0.213 \quad t= -0.282 \quad t= -0.682 \quad t=0.083$$

and return on equity. The p-value of board size shows positively significant result representing p-value of 0.017 and positive coefficient value of 2.573, stating that there is a positive relationship of board size with Return on equity that is an increase in board size will lead to increase in return on equity of the firm under this sector. Audit committee ADC is another measure consider in this research for corporate governance, its p-value is relatively higher than 0.05 indicating no signs of the model. Short-term debt and Long-term debt P value shows model is significant. Moreover, Debt to equity and Current ra-

tio also stated no significant relationship. The R square of this model showed 19 percent of the variation independent model Return on equity.

Above table represents descriptive statistics of fertilizers sectors of all variables of the study. The descriptive statistics results indicated mean value of 8.57 and 3.969 for Board size and Audit committee with a standard deviation of 0.96 and 0.84. Long-term debt, Short-term debt, Debt to equity, Current ratio measures of capital structure with an average mean of 8238536 10919700, 94.513 and 1.68 respectively. Return on asset and return on equity measures of

Table 9. Regression results between corporate governance, capital structure and profitability

			DV	
			ROE	
			R^2 0.150613	
Variable	*B*	*SE*	t-stat	Prob.
C	91.19884	64.31625	1.417975	0.1681
STRD	1.71E-07	3.23E-07	0.530132	0.6005
LTRD	-5.79E-07	6.52E-07	-0.888107	0.3826
CR	0.023257	5.517543	0.004215	0.9967
DE	-0.042192	0.096981	-0.435053	0.6671
BS	-7.597343	5.897431	-1.288246	0.209
ADC	0.671592	7.166942	0.093707	0.9261

$$ROE_{it} = 91.198 - 7.59(BS_{it}) + 0.67(ADC_{it}) + 1.71(STRD_{it}) - 5.79(LTRD_{it}) - 0.042(DE_{it}) + 0.023(CR_{it}) + e \quad (8)$$
$$t= -7.59 \quad t= 0.671 \quad t=0.530 \quad t= -0.888 \quad t= -0.435 \quad t=0.0042$$

Note. This table shows results of Corporate Governance, the capital structure on firms' performance using panel least square method.

profitability showed the average mean value of 13.53 and 21.86212 and standard deviation of 14.25 and 25.52.

Table 8 includes the results of panel least square method under fertilizers sector. None of the variables under this sector has a p-value of less than 0.05 which means that none of the variables is significant. However, Board size and audit committee two measures for corporate governance showed the negative coefficient of -3.69 and -0.97, stating that there is a negative relationship between profitability in terms of Return on asset and Corporate Governance, which means that increase in independent variable will tend to decrease independent variable. The coefficient of debt to equity also showed a negative relationship with Return on assets reflecting the figure of -0.252. 18% of variation is caused independent variable by R square of the model.

Table 9 demonstrates the results of board size, audit committee, short-term debt, and long-term debt, debt to equity, current ratio and return on equity. The p-value of board size shows that model is not significant representing p-value of 0.2090 and negative coefficient value of -7.59, stating that there is a negative relationship of board size with Return on equity that is an increase in board size may lead to decrease in return on equity of the firm under this sector. Audit committee ADC is another measure consider in this research for corporate governance, its p-value is relatively higher than 0.05 indicating no signs of the model. Short-term debt has positive coefficient 1.7 which states the positive relationship between short-

term debt and Return on equity of the firm and Long-term debt resulted in negative coefficient stating negative relationship with return on equity. Whereas Current ratio showed the positive coefficient of 0.023 and Debt to equity showed the negative coefficient of -0.042, therefore, it can be said that positive relationship of current ratio and the negative relationship of debt to equity has been found. The R square of this model showed 15 percent of the variation independent model Return on equity. Further result and findings discussion is given below in the next chapter. Results and findings are further supported by other studies and then recommendation and future area for research are also given in the next section.

Board Size showed significant positive relation with Return on Assets and Return on Equity of automobile sector but insignificant and negative relation with Return on assets and Return on Equity of fertilizers sector and this result is inconsistency of the results of researches conducted by Eisenberg et al. (1998) & Mak and Yuanto (2002) who also revealed negative relationship of board size with profitability. Debt to equity was found as insignificant for both the sectors showing negative relationship with Return on assets of both the sectors which are supported by the results of study conducted by Muhammad H, et al., (2014) & Return on assets V, et al (2007) who stated negative association between profitability (Return on Assets & Return on Equity) and debt to equity but positive relation with Return on Equity of automobile sector was revealed. Moreover, audit committee also showed an insignificant negative rela-

tionship with Return on assets and Return on equity. Narwal & Jindal, (2015) also found that there is an inverse relationship between the audit committee and profitability. Audit committee showed a positive relation with Return on equity of fertilizer sector which is supported by the study done by Danoshana & Ravivathani (2013). Audit committee showed a positive relation with Return on equity of fertilizer sector which is supported by the study done by Danoshana & Ravivathani (2013). Abor (2005) defined both positive and negative relationship between capital structure measures and profitability.

Conclusion

This study is done to evaluate the relationship between profitability and corporate governance & capital structure, where a number of measures is taken into the context for each variable. The audit committee and board size are taken as a measure of corporate governance measures, short-term debt, long-term debt, current ratio and debt to equity are taken as a measure for capital structure and return on assets and return on equity as measures for profitability. The results of this study focus on two sectors of Pakistan including 110 numbers of observations. The results of this study investigated that Short Term Debt and Long-Term Debt has not a significant negative relationship with Return on Assets and Return on Equity of fertilizers sector but the significant positive relationship with Return on assets and Return on equity was found under automobile sector. Board Size showed a significant positive relation with Return on Assets and Return on Equity of automobile sector but the insignificant and negative relation with Return on assets and Return on Equity of fertilizers sector. Debt to equity was found as insignificant for both the sectors showing a negative relationship with Return on assets of both the sectors. Moreover, audit committee also showed an insignificant negative relationship with Return on assets and Return on equity. Audit committee showed a positive relation with Return on equity of fertilizer sector. The current

ratio of both sectors showed a positive relation with profitability which explains that increase in the current ratio may lead to increase in profitability of the firm but other measures of capital structure mostly represented the negative relationship with positively.

Future research can be done by adding more variables of corporate governance or capital structure. Other countries data can be analyzed to check the impact of corporate governance and capital structure on firm's performance. Comparison between Pakistan and other countries data can be done for identifying the impact of corporate governance, capital structure and firms performance. This study covers various limitations such as due to limited time data of only a few variables s collected. Moreover, only two sectors have been analyzed, adding more sectors data may impact the results and findings. The economic condition of the country may not be the same in future.

This study will help the financial manager to set policies accordingly especially firms falling under selected sectors will be beneficial as compiled results will help them to see the overall performance of the sector. It can help the financial manager in decision making, which will lead to attract investors to invest in particular firm directly or indirectly. As the result of this study suggested that board size have statistical significant positive impact on performance of the firm under automobile sector and this is also supported by the past literature and audit company under the same sector reflected non-significant negative relationship between profitability and audit committee, these results can help any firms management to enhance the performance and investors could have better understanding of the impact of corporate governance and capital structure before making any decision. Since corporate governance helps to improve the culture and environment of any company its negligence can be risky and it cannot be over emphasized. Hence corporate governance and capital structure can tends to help company against mismanagement, corruption and bankruptcy and also can help to attract foreign as well as domestic investments.

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References

Abbas, Q., & Awan, A. G. The relationship between Corporate Governance and Firm Performance: A Case Study of the selected companies from Pakistan Stock Exchange.

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The journal of risk finance*, 6(5), 438-445.

DOI: https://doi.org/10.1108/15265940510633505.

Abor, J. (2007). Debt policy and performance of SMEs: Evidence from Ghanaian and South African firms. *The Journal of Risk Finance*, *8*(4), 364-379.

DOI: https://doi.org/10.1108/15265940710777315.

Afza, T. & M. S. Nazir, (2007). Working Capital Management Policies of Firms: Empirical Evidence from Pakistan. *Conference Proceedings of 9th South Asian Management Forum (SAMF)*, North South University, Dhaka, Bangladesh.

http://www.eurojournals.com/finance.htm.

Ali, S.A., Zia, S.A., & Razi, A. (2012). Impact of Capital Structure on the Profitability of Petroleum Sector in Pakistan. *Global Journal of Management and Business Research,* 12 (22).

Awan, A. G., & Amin, M. S. (2014). Determinants of Capital Structure. *European Journal of Accounting Auditing and Finance Research*, *2*(9), 22-41.

Azeem, M., Kouser, R., & Saba, I. (2015). Paradoxical Role of Corporate Governance in Firm Performance: New Evidence from Financial Crisis 2008. *Pakistan Journal of Social Sciences (PJSS)*, *35*(2).

Becker, B., Cronqvist, H., & Fahlenbrach, R. (2011). Estimating the effects of large shareholders using a geographic instrument. *Journal of Financial and Quantitative Analysis*, *46*(4), 907-942.

DOI: https://doi.org/10.1017/S0022109011000159.

Brigham, E. F., & Houston, J. F. (2012). *Fundamentals of financial management*. Cengage Learning.

https://books.google.com.pk/books?hl=en&lr=&id=9P9u4IDBKyQC&oi=fnd&pg=PR8&dq=Brigham,+E.+F.,+%26+Houston,+J.+F.+(2012).+Fundamentals+of+financial+management.+Cengage+Learning.&ots=6bQKk2IQjA&sig=BQdfa6uSs8eV-Trlns_NZ-8Blh-w#v=onepage&q&f=false.

Brown, L. D., & Caylor, M. L. (2004). Corporate governance study: the correlation between corporate governance and company performance. *Corporate Governance Study, Institutional Shareholder Services*.

http://www.boardoptions.com/issscoresandshareholdervalue.pdf.

Butt, S., & Hasan, A. (2009). Impact of ownership structure and corporate governance on the capital structure of Pakistani listed companies.

Cheema, K. U. R., & Din, M. S. (2013). Impact of corporate governance on the performance of firms: A case study of cement industry in Pakistan.

https://mpra.ub.uni-muenchen.de/id/eprint/53202.

Claessens, S., Djankov, S., & Lang, L. H. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*, *58*(1-2), 81-112.

DOI: https://doi.org/10.1016/S0304-405X(00)00067-2.

Cremers, M., & Ferrell, A. (2009). Thirty years of corporate governance: Firm valuation & stock returns. *Revise and resubmit at Journal of Finance*.

http://ssrn.com/abstract=1413133.

Danoshana, S., & Ravivathani, T. (2013). The impact of the corporate governance on firm performance: A study on financial institutions in Sri Lanka. *Merit Research Journal of Accounting, Auditing, Economics and Finance*, *1*(6), 118-121.

Dar, L., Naseem, M. A., Niazi, G. S. K., & Rehman, R. U. (2011). â€ corporate Governance and Firm Performance: A Case Study of Pakistan Oil and Gas Companies listed In Karachi Stock Exchangeâ€. *Global Journal of management and business research*, *11*(8).

https://www.journalofbusiness.org/index.php/GJMBR/article/view/527.

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms1. *Journal of financial economics*, *48*(1), 35-54. DOI: https://doi.org/10.1016/S0304-405X(98)00003-8.

El-Sayed Ebaid, I. (2009). The impact of capital-structure choice on firm performance: empirical evidence from Egypt. *The Journal of Risk Finance*, *10*(5), 477-487. DOI: https://doi.org/10.1108/15265940911001385.

Gentry, J. A., Vaidyanathan, R., & Lee, H. W. (1990). A weighted cash conversion cycle. *Financial Management*, 90-99. DOI: 10.2307/3666040.

Gill, A. S., & Biger, N. (2013). The impact of corporate governance on working capital management efficiency of American manufacturing firms. *Managerial Finance*, *39*(2), 116-132. DOI: https://doi.org/10.1108/03074351311293981.

Gill, A., & Shah, C. (2012). Determinants of corporate cash holdings: Evidence from Canada. *International Journal of Economics and Finance*, *4*(1), 70. DOI: http://dx.doi.org/10.5539/ijef.v4n1p70.

Gleason, K. C., Mathur, L. K., & Mathur, I. (2000). The interrelationship between culture, capital structure, and performance: evidence from European retailers. *Journal of business research*, *50*(2), 185-191. https://doi.org/10.1016/S0148-2963(99)00031-4.

Goldstein, R., Ju, N., & Leland, H. (2001). An EBIT-based model of the dynamic capital structure. *The Journal of Business*, *74*(4), 483-512. DOI: 10.1086/322893.

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The quarterly journal of economics*, *118*(1), 107-156. DOI: https://doi.org/10.1162/00335530360535162.

Goyal, A. M. (2013). Impact of capital struc-

ture on the performance of listed public sector banks in India. *International journal of business and management invention*, *2*(10), 35-43.

Habib, M. A. (2016). The relationship between corporate governance and firm performance: a case study in Bangladesh. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2819099.

Hadlock, C. J., & James, C. M. (2002). Do banks provide financial slack?. *the Journal of Finance*, *57*(3), 1383-1419. DOI: https://doi.org/10.1111/1540-6261.00464.

Harford, J., Mansi, S. A., & Maxwell, W. F. (2012). Corporate governance and firm cash holdings in the US. In *Corporate governance* (pp. 107-138). Springer Berlin Heidelberg. DOI: https://link.springer.com/chapter/10.1007/978-3-642-31579-4_5.

Imtiaz, M. F., Mahmud, K., & Mallik, A. (2016). Determinants of Capital Structure and Testing of Applicable Theories: Evidence from Pharmaceutical Firms of Bangladesh. *International Journal of Economics and Finance*, *8*(3), 23. DOI: http://dx.doi.org/10.5539/ijef.v8n3p23.

Khan, A. G. (2012). The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan. *International Journal of Accounting and Financial Reporting*, *2*(1), 245.

Klapper, L., Sarria-Allende, V., & Sulla, V. (2002). *Small-and medium-size enterprise financing in Eastern Europe* (Vol. 2933). World Bank Publications. https://books.google.com.pk/books?hl=en&lr=&id=PFT88Uv_VrUC&oi=fnd&pg=PA2&dq=Klapper,+L.,+Sarria-Allende,+V.,+%26+Sulla,+V.+(2002).+Small-and+medium-size+enterprise+financing+in+Eastern+Europe+(Vol.+2933).+World+Bank+Publications.&ots=GFgOq0Y0t7&sig=Stzs4FRotU-kapS2pNpDJRBi1-U#v=onepage&q&f=false.

Klein, A. (2002). The audit committee, the board of director characteristics, and earnings management. *Journal of accounting and economics*, *33*(3), 375-400.

https://doi.org/10.1016/S0165-4101(02)00059-9.

Mak, Y. T., & Kusnadi, Y. (2005). Size really matters Further evidence on the negative relationship between board size and firm value. *Pacific-Basin Finance Journal*, 13(3), 301-318.

https://doi.org/10.1016/j.pacfin.2004.09.002.

McKnight, P. J., & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in the large UK publicly quoted companies: A panel data analysis. *The quarterly review of economics and finance*, 49(2), 139-158.

DOI: https://doi.org/10.1016/j.qref.2007.09.008.

Mitton, T. (2004). Corporate governance and dividend policy in emerging markets. *Emerging Markets Review*, 5(4), 409-426.

DOI: https://doi.org/10.1016/j.ememar.2004.05.003.

Modigliani, F., and Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 53, 433 443.

http://www.jstor.org/stable/1809167.

Morekwa Nyamongo, E., & Temesgen, K. (2013). The effect of governance on the performance of commercial banks in Kenya: a panel study. *Corporate Governance: The international journal of business in society*, 13(3), 236-248.

https://doi.org/10.1108/CG-12-2010-0107.

Muhammad, H., Shah, B., & ul Islam, Z. (2014). The impact of capital structure on firm performance: Evidence from Pakistan. *Journal of Industrial Distribution & Business*, 5(2), 13-20.

DOI: https://doi.org/10.13106/jidb.2014.vol5.no2.13..

Narwal, K. P., & Jindal, S. (2015). The impact of corporate governance on the profitability: An empirical study of Indian textile industry. *International Journal of Research in Management, Science & Technology*, 3(2), 81-85.

http://www.ijrmst.org/download/vol3no2/117.pdf.

Nawaz, K., & Ahmad, N. (2017). The effect of

corporate governance and capital structure on firms' performance: Investigation on petroleum sector in Pakistan.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3055916.

Okiro, K., Aduda, J., & Omoro, N. (2015). The effect of corporate governance and capital structure on the performance of firms listed at the East African community securities exchange. *European Scientific Journal, ESJ*, 11(7).

http://eujournal.org/index.php/esj/article/view/5338.

Onaolapo, A.A. & Kajola, SO. (2010). Capital Structure and Firms performance: *evidence from Nigeria, European Journal of Economics, Finance and Administrative Science*, 25, 70-82.

Pathirawasam, C. (2011). Internal factors which determine financial performance of firms: With special reference to ownership concentration. *Innovation and Knowledge Management: A Global Competitive Advantage, Vols 1-4*.

http://krus.slu.cz/opf/cz/informace/acta-academica-karviniensia/casopisy-aak/aak-rocnik-2013/docs-2-2013/Pathirawasam.pdf.

Pratheepkanth, P. (2011). Capital structure and financial performance: evidence from selected business companies in Colombo stock exchange Sri Lanka. *Researchers World,* 2(2), 171.

https://search.proquest.com/openview/9d3facaf8696880b0324d08b975d21e8/1?pq-origsite=gscholar&cbl=556342.

Rao, N. V., Al-Yahyaee, K. H. M., & Syed, L. A. (2007). Capital structure and financial performance: evidence from Oman. *Indian Journal of Economics and Business*, 6(1), 1.

Rechner, P. L., & Dalton, D. R. (1991). CEO duality and Organizational performance, A longitudinal analysis. *Strategic Management Journal,* 12(2), 155– 160.

DOI: https://doi.org/10.1002/smj.4250120206

San, O. T., & Heng, T. B. (2011). Capital structure and corporate performance of Malaysian construction sector. *International Journal of Humanities and Social Science*, 1(2), 28-36.

Swartz, N. P., & Firer, S. (2005). Board struc-

ture and intellectual capital performance in South Africa. *Meditari Accountancy Research*, 13(2), 145-166.

DOI: https://doi.org/10.1108/10222529200500017.

Tailab, M. M. K. (2014). The effect of capital structure on profitability of energy American firms. *International Journal of Business and Management Invention*, 3(12), 54-61.

Vo, D. H., & Nguyen, T. M. (2014). The impact of corporate governance on firm performance: an Empirical study in Vietnam. *International Journal of Economics and Finance*, 6(6), 1.

DOI: http://dx.doi.org/10.5539/ijef.v6n6p1

Yasser, Q. R. (2011). Corporate governance and performance: An Analysis of Pakistani listed firms. *Global Journal of Management and Business Research*, *11*(10).

Yasser, Q., Entebang, H., & Mansor, S. (2015). Corporate governance and firm performance in Pakistan: The case of Karachi Stock Exchange (KSE)-30.

https://journalofbusiness.org/index.php/GJM-BR/article/view/561.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of financial economics*, 40(2), 185-211.

DOI: https://doi.org/10.1016/0304-405X(95)00844-5.

Zeitun, R. (2014). Corporate governance, capital structure and corporate performance: evidence from GCC countries. *Review of Middle East Economics and Finance Rev. Middle East Econ. Fin.*, *10*(1), 75-96.

DOI: https://doi.org/10.1515/rmeef-2012-0028.