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Impact of corporate governance on financial performance of sugar sector firms listed in Pakistan stock exchange

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Abstract

Corporate governance is considered as environment of trust, set of processes, policies and laws affecting the way corporations are administrated and directed. The previous literature in context of the corporate governance relationship with firm financial performance shows controversial findings; similarly literature shows lack of studies in context of developing countries as Pakistan. Therefore, this research explores the relationship of the corporate governance and the firm financial performance in context of developing country as Pakistan. The data has been collected from the sugar sector listed in KSE (Pakistan Stock Exchange), 20 corporations are selected as sample from sugar sector on basis of outstanding shares. Corporate governance taken as independent variable and measured as CEO biformity (CB), board size (BS), firm age (FA), firm size (FS). Financial performance of firms taken as dependent variable and measured as return on asset (ROA), return on equity (ROE), net profit margin (NPM). Data is collected for period of 2000-2013 from reports of the sugar companies listed in KSE (Pakistan Stock Exchange) issued annually and analysis of balance sheet given by State Bank of Pakistan (SBP). Result shows that CEO biformity significantly affecting firm financial performance. Board size (BS) shows partially significant impact on firm financial performance. Firms age (FA) show partially significant impact on firm financial performance. Firm size (FS) shows partially significant impact on firm financial performance. Therefore, conclusion has been drawn based on the results of analysis that this study adds new knowledge to the existing body of knowledge of corporate governance impact on firm financial performance and in context of developing countries as Pakistan.

Keywords: Corporate governance, firm financial performance, sugar sector, Pakistan.

In developing countries corporate governance is gaining importance. In developing countries little work has been done as compared to the developed countries (Omran, 2004). Corporate governance is defined as environment of trust and is consider as set of processes, laws, institutions, policies affecting the way companies or corporations is administrated or controlled and directed. It comprises long-term oversight and management of corporation according to the principles of transparency and responsibility (OECD, 2010). Corporations are controlled and directed by system of governance this system is called corporate governance. According to this system of governance directors monitor the implementation of the policies, shareholder satisfy themselves with the structure of governance of corporation and to appoint auditors and the directors. The duty or responsibility of director includes giving the strategic plans to corporation and setting corporation in accordance of aims, providing leaders to corporation, supervising the management of corporation and then informing or reporting to shareholders (Dar, Naseem, Niazi & Rehman, 2011).

Corporate governance balances all non-executive and executives interests of stakeholder (Shleifer & Vishney, 1997). In good corporate governance shareholder believes that corporation returns free cash flow in form of dividends (La-Porta, Florencio & Shleifer, 2002). The objective of the corporate governance is to provide investor safe and smooth road in order to achieve the desired results inform of returns and profit (Carleton et al., 1998; Nesbitt, 1994; Smith, 1998). Developing countries governance is different from the developed countries (Achchthan & Kajanathan, 2013). Corporate governance is called good corporate governance if it is following the accountability principle, transparency principle, fairness principle, responsibility principle and that put some impact on the corporation in term of increasing profitability (Nurainy et al., 2013).

Firm with poor governance system create indiscipline in the organization. This indiscipline reflects in the management and workers which results in poor performance of corporation which create

risk for themselves and also create barriers to others because it is important to obtain macroeconomic objectives if the firms are poorly governed than macroeconomic objectives cannot be achieve (Abiodun & Ganiyu, 2012).

Corporate governance is considered as social institution, set of legal and economic that safeguard the owner's interest of the corporation. Owners are considered as shareholder in Anglo-American system. Corporate governance concludes as fundamental tension between mangers and shareholders of the corporation (Berle & Mean, 1932; Jensen & Meckling, 1976).The basic characteristic requirement of corporate governance is to safeguard the outside shareholder from the insiders and administrators who are suffering from the habit of opportunists. If such mechanism is absent then managing shareholders misuse the assets of the corporation on cost of outside shareholder and the firm performance in long run (Rezaee, 2009). According to the report of Cadbury Committee (1992), corporation is run through system. This system consists of mechanism of directing, monitoring and controlling of corporation, this mechanism is corporate governance. Corporate governance monitors relation of shareholder and management, concern with shareholders interest and management actions (Latif et al., 2013).

This study explores the corporate governance (CEO biformity, size of board, firm age and firm size) affecting firm financial performance. Sample consists of sugar corporations of sugar sector listed in KSE (Pakistan Stock Exchange) and only 20 companies are used as sample. The data covers period of 2000-2013 and data selection is done from the analysis of balance sheet given by State Bank of Pakistan (SBP) and the reports issued by the corporations annually. For this purpose panel regression analysis technique, correlation, diagnostic tests and descriptive statistics is used. Corporate governance is independent variable which is measured as CEO biformity (CB), board size (BS), firm age (FA) and firm size (FS). Firm performance is dependent variable which is measured as return on assets (ROA), return on equity (ROE) and net profit margin (NPM).

This study focused on the corporate governance impact on the firm financial performance of sugar sector firms listed in Karachi Stock Exchange (PSE). The literature review shows work done in significant amount in developed countries on how corporate governance affecting firm performance. However, literature shows lack of studies on corporate governance and its relationship with firm performance in context of developing countries as Pakistan. Therefore, to identify the relationship between independent variable as CEO biformity, board size, firm age, firm size and dependent variable as return on assets, return on equity, net profit margin presenting corporate governance and firm financial performance respectively; this study adds new knowledge to the existing body of knowledge of corporate governance and firm financial performance in context of developing countries as Pakistan.

To identify relationship between corporate governance (CEO biformity, size of board,age of firm and firm size) and firm financial performance. The study intends to identify whether there exists relationship between corporate governance (CEO biformity, size of board, age of firm and firm size) and firm financial performance?

Literature Review

According to Sharma and Gupta (2014) conducted research in order to find how corporate governance affecting firm financial performance. Result shows corporate governance showing limited effects on performance of the South Korean Companies and Indian firms. Limited board size expected to improve the firm performance because large board size increases monitoring, creates communication gap between large groups and poor decision making (Lipton & Lorsch, 1992). Study of Guo and Kumara (2012) showed board size negatively affecting the firm financial performance and negative impact exists between the firm performance and outside directors.

Guest (2009) conducted research to find out how size of board affecting the firm financial performance. For this research large sample collected from 2746 companies listed, for the period of 1981-2002. Result showed board size negatively affecting the firm financial performance. Topak (2011) conducted research in order to find how board size affecting firm financial performance. For this purpose Turkish firms are taken as sample, result shows board size showing no relation with firm financial performance. Swagerman and Weterings (2011) by taking 155 firms as sample of real estate investment trust and property of Hong Kong, Singapore and Malaysia showed board size showing insignificant relation with real estate investment trust firms while board size showing positive as well as significant relation with property firms value.

Gill and Mathur (2011) examined how CEO biformity, board size and firm liquidity affecting profitability of corporation. Result showed profitability is negatively affected by board size while corporate liquidity had positive impact on profitability and CEO biformity also had positive impact on profitability. Research conducted to find out how board size and CEO biformity affecting the firm financial performance. Result shows board size and CEO biformity showing no significant

affects on firm financial performance (Biekpe & Coleman, 2006). Chen, Lin and Li (2008) conducted research in order to explore impact of CEO biformity on performance of firms; results show CEO biformity non-significantly affecting firm financial performance.

Research conducted by Ehikioya (2009) for Nigerian firms suggested that concentration of the ownership positively affecting firm financial performance while CEO biformity negatively affecting firm financial performance, composition of the board showing no relation with firm financial performance and concluded that it is unfavorable for performance if board includes all family members. Danoshana and Ravivahani (2013) explored that how corporate governance affecting firm financial performance and analyzed CEO biformity as well as board showing non-significant affects on corporate financial performance while there had positive significant impact of composition of board on performance of firm.

When CEO biformity exist the decision and management comes under the control of single individual which in return causes conflicts and decreases the effectiveness of board activities (Fama, 1983). Inconsistent performance result comes when studies are conducted to address CEO biformity and its relation with firm performance (Boyad, 1994). Yarmack (1996) examined that when chairman separated from CEO or two posts are occupied by different individuals, the firm value increases. Brown and Caylor (2004) analyzed separate positions of the chairman and CEO make the firm more valuable, finding indicates the firms which are governed better are more valuable and profitable and pay cash in form of dividends to the shareholders.

Research conducted by Khan, Sheikh and Wang (2013) to know how firm size affecting firm financial performance. Result shows firm size significantly affecting firm financial performance. Sizes of corporations are considered as one of most important profitability determinant. Firm performance and size relationship is positive (Papadogonas, 2005). Alexander (1949) and Mcconnell (1946) reported size of corporation showing no relation with profitability. Berger and Udell (1998) presented that growth of the corporation is depend on the firm age, therefore capital structure of corporation changes with changing age that is why new firm cost is high as compared to old corporation because of experience in market and reputation of the older firm. At this stage firms are at last stage of life cycle of corporation. Therefore when firm age increases it shows increase in complexity.

Bazazb and Mashayekh (2008) conducted analysis to find how corporate governance affecting the firm financial performance. Multiple regression analysis used for estimation and result showed that size of board and institutional investor negatively affecting firm financial performance and leadership structure showing no influence on firm financial performance. Hearn (2011) conducted analysis to find how corporate governance affecting firm financial performance. Ordinary least square technique, correlation matrix used as statistical tools. Result of study showed corporate governance significantly affecting firm value as well as performance of firm. Sami, Wang and Zhou (2011) conducted analysis in which independent variables as governance, operating margin, capital intensity explored with pendent variables as Tobin's Q, return on assets. For analysis correlation matrix and multiple regressions used which showed that corporate governance significantly affecting firm financial performance.

Megginson, Nash and Souza (2007) investigated by evaluating how restructuring of corporation affecting firm financial performance and how corporate governance affecting corporate financial performance. Corporate governance measured as employee's ownership, GNP, GDP, shareholder right index, state ownership and foreign ownership while firm performance is measured as employment, leverage, sales efficiency and real operating sales. Method used for analysis was ordinary least square regression and test used as statistical tool was Kraskal-Wallist test.

No consensus develops by analyzing literature review; results create gap and contradiction of the views. Therefore, research is conducted to fulfill the gaps and give clear results regarding to problem statement. The independent variable of this exploration as CEO biformity, board size, age of firm, size of firm are not explored with pendent variable return on assets, return on equity, net profit margin at same time in one single previous research. Similarly, calculation is done for data which is collected for period of 14 years that is 2000-2013 with sample of 20 firms, no significant amount of studies found from previous researches containing such sample size and time period to contribute corporate governance.

Theoretical Framework

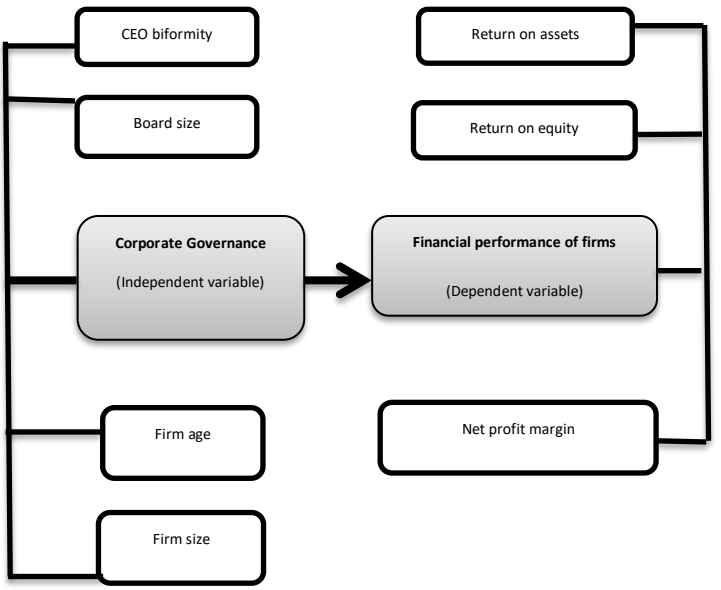


Figure 1. Theoretical Framework

Research Hypotheses

Following are the main research hypotheses of this study.

H_1: Chairman/CEO biformity significantly affects firm financial performance.

H_2: Board size significantly affects firm financial performance.

H_3: Firm age significantly affects firm financial performance.

H_4: Firm size significantly affects firm financial performance.

Collection of Data

The population from which sample is collected includes all sugar companies in sugar sector listed in KSE (Pakistan Stock Exchange). The selection of sample from population is done on the basis of outstanding shares; the sample consists of 20 companies. The collection of required data from period of 2000-2013 completed from the analysis of balance sheet given by State Bank of Pakistan (SBP) and from reports of sugar corporations issued annually.

Models

Following are the main models that are utilized in this research.

I. $ROA_{it}=\alpha_{it}+\beta 1CB_{it}+\beta 2BS_{it}+\beta 3FA_{it}+\beta 4FS_{it}+\sum_{it}$

II. $ROE_{it}= \alpha_{it}+\beta 1CB_{it}+\beta 2BS_{it}+\beta 3FA_{it}+\beta 4FS_{it}+\sum_{it}$

III. $NPM_{it}= \alpha_{it}+\beta 1CB_{it}+\beta 2BS_{it}+\beta 3FA_{it}+\beta 4FS_{it}+\sum_{it}$

Return on assets presented by ROA.

Return on equity presented by ROE.

Net profit margin presented by NPM.

CB stands for CEO biformity.

BS stands for board size.

FA stands for firm age.

FS stands for firm size.

$\sum$= error. i = 1-20sugar mills. t = 2000-2013

Regression analysis technique

The regression models that are based on the panel methodology includes two types of dimension one is denoted by "t" presenting time dimension and second dimension is denoted by "i" presenting cross sectional dimensions, these models are more complex econometric models than that of cross-sectional simple data sets (Dougherty, 2011). Panel data technique helps in removal of heterogeneity of data of different firms during measurement (Himmelberg, 1999).

According to Hsiao (2005) regression based on panel data consists of time series observation for number of individuals that suggests that two dimensions are involved in panel model, one is time series dimension and second is cross sectional dimension represented by 't' and 'i' respectively.

Estimates of the panel model are completed with the utilization of one model selected out of two models such as fixed or random effect model. Dummies play important role in interception of fixed model. Dummies turn as fault or error in random model. Models can be differentiated from one another by analyzing role of dummies (Park, 2009). According to Yasser (2011) panel technique minimizes biasness of data calculation. Panel technique is amalgamation of cross section and analysis by time series therefore, presents better results with efficiency, effects that can be measured from panel technique are not possible to measure with time series or cross section separately.

As research is based on panel methodology, therefore Hausman test is used, it is also called as test for specification of model and it helps in the selection of appropriate model for this research. Models in panel methodology used are "fixed effect model" and "random effect model" and some diagnostic tests are used for confirmation of appropriate models with help of Eviews software.

Descriptive Statistics

This section shows summary of statistics of variables both independent and dependent variables such as CEO biformity, board size, firm age, firm size and ROA, ROE, NPM respectively. Corporate governance of sugar companies is presented as independent and financial performance of sugar companies is presented by dependent variable, the summary is given in table 1.

Table 1 shows mean of the firm financial performance is positive that is ROA= 4.9, ROE= 7.8, NPM=1.9. Median of the firm financial performance is also positive that is ROA= 3.4, ROE= 8.9, NPM= 2.9 while standard deviation of the firm financial performance is ROA= 11.14, ROE= 31.7 and NPM= 10.1 for 280 observation. Standard deviation of firm financial performance is higher and explaining the deviation of mean value of variables. Firms financial performance minimum values are negative showing ROA = -30.54, ROE= -147.7, NPM= -83.02 and maximum values are positive ROA= 48.1, ROE= 99.9 and NPM= 26.

Table 1 shows mean values of corporate governance are positive CB= 0.328, BS= 0.89, FA= 31.15 and FS= 6.219. Here mean value of CEO biformity (CB) is approximately 0.328, which shows 32% of the sampled firms in sugar sector are those in which CEO occupies two posts at the same time acting as chairman and executive officer and in 68% firms post of CEO and chairman are occupied by separate persons. Firm age (FA) shows that the average age of the sampled firms are 31.15 years. Median value of the corporate governance are CB= 0, BS= 0.903, FA= 29.5 and FS= 6.158. Standard deviation shows that the variation of variable used for corporate governance are not much higher than deviation of the mean values. Corporate governance has minimum value CB=0, BS= 0.845, FA= 8, FS= 5.991 and positive maximum value of CB= 1, BS= 1, FA= 69 and FS= 7.235.

Table 1. *Descriptive Statistics*

	Sample: 2000 -2013						
	ROA	*ROE*	*NPM*	*CB*	*BS*	*FA*	*FS*
MEANS	4.895	7.808	1.918	0.328	0.894	31.15	6.219
MEDIAN	3.465	8.92	2.995	0	0.903	29.5	6.158
MAXIMUM	48.1	99.9	26	1	1	69	7.235
MINIMUM	-30.54	-147.7	-83.02	0	0.845	8	5.491
STD.DEV.	11.142	31.742	10.163	0.470	0.054	13.27	0.382
OBS.	280	280	280	280	280	280	280

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Results of Correlation

Table 2 presents the correlation of the corporate governance with financial performance of the sugar companies. It shows that ROA has negative and significant correlation with CEO biformity; it means post of chairman and post of chief executive officer (CEO) is occupied by one person which is not contributing in return on assets (ROA) and is negatively affecting ROA. It also reflects that most of shareholders give preference that different persons or separate persons have to occupy posts of CEO and chairman. Table shows that ROA has positive and insignificant correlation with the board size (BS) and firm age (FA) while negative and significant correlation with firm size (FS).

Table 2 demonstrates that ROE has negative and significant correlation with CEO biformity which means CEO biformity is negatively affecting the financial performance of the sugar companies and negative and insignificant correlation shown by BS (board size) with ROE. It means ROE negatively affected by BS, as BS (board size) increases it decrease return on investment. Firm age (FA) is positively and insignificantly correlated with return on investment or return on equity reflecting when sugar company age increases it increases the return on investment or equity (ROE). Firm size (FS) negatively and insignificantly correlated with return on investment or equity (ROE). It means when company size increases there is decrease in return on equity (ROE).

The table no. 2 shows that the relationship of net profit margin (NPM) with board size (BS), firm age (FA) and firm size (FS) is negative and insignificant, while CEO biformity (CB) showing negative significant relationship with net profit margin (NPM). As the members of the board size (BS) increases it decrease profitability and same with the firm age (FA) and firm size (FS) as it increases there is decrease in net profit margin (NPM).

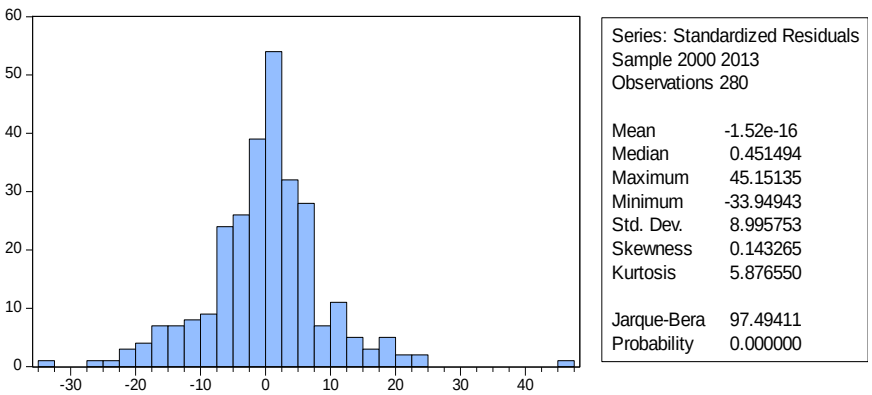
Table 2. Correlation

Correlation *t-Statistics* *P-value*	*ROA*	*ROE*	*NPM*	*CB*	*BS*	*FA*	*FS*
	1						

ROA	----						
	0.802	1					
	22.45	----					
ROE	0	----					
	0.776	0.70	1				
	20.55	16.3	----				
NPM	0	0	----				
	-0.208	-0.211	-0.158	1			
	-3.56	-3.61	2.66	----			
CB	0.0004	0.0004	0.008	----			
	0.013	-0.061	-0.049	-0.016	1		
	0.218	-1.021	-0.83	-0.277	----		
BS	0.82	0.307	0.407	0.781	----		
	0.082	0.0536	-0.007	0.113	0.257	1	
	1.387	0.896	-0.132	1.909	4.450	----	
FA	0.166	0.37	0.89	0.057	0	----	
	-0.173	-0.036	-0.091	-0.153	0.075	-0.021	1
	-2.93	-0.616	-1.527	-2.588	1.263	-0.361	----
FS	0.003	0.538	0.127	0.01	0.207	0.717	----

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

By analyzing figure 2 for the normality, result showing that the value of the Jarque-Bera is 97.49 and P-value is 0.0 indicating the distribution of the data is not normal. Further, Bell-shaped structure histogram identifying normality in distribution.



Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Figure 2. Normality Test

Multicollinearity Test

Table 3 shows the multicollinearity test of variance inflation factors. By analyzing the table results of the variables CEO biformity (CB) is 1.03, board size (BS) is 1.08, firm age (FA) is 1.08 and firm size (FS) is 1.03, which are lower than 10 bench mark. These results are suggesting that no multicollinearity exists in variables data.

Table 3. *Variance Inflation Factors*

Variable	*Variance*	*VIF*	*VIF*
C	209.3763	516.2179	NA
CB	1.909068	1.546525	1.038381
BS	150.0811	297.1993	1.08024
FA	0.002515	7.105175	1.088147
FS	2.862371	274.0143	1.030344

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Hausman Test summary for ROA

Table no. 4 shows correlated random effects Hausman test summary of the dependent variable return on assets (ROA) which refer test P-value of 0.0276 < 0.05 which means test P-value is less from significant P-value and suggesting use of fixed effect model for ROA rather than random model.

Table 4: Hausman Test

Summary of test	*Chi-Square Stat.*	*Chi² Difference.*	*Prob.*
Random cross-section	10.911	4	0.0276

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Heteroskedasticity Test for ROA

By analyzing table no. 5, P-value of observations *R^2 is 0.000 < 0.05 which is significance P-value this test suggesting heteroskedasticity in model for ROA (return on asset). Therefore, heteroskedasticity constant covariance test is applied in order to control heteroskedasticity of fixed effect model of ROA.

Table 5. *B-P-Godfrey: Heteroskedasticity*

F-stat.	8.224561	*Probability. F(4,275)*	0.0000
ObservationR^2*	29.91738	*Probability Chi- Sq(4)*	0.0000
Scale explained SS	47.25357	*Probability Chi-Sq(4)*	0.0000

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Model for ROA

By putting table no. 6 coefficients values in model for return on assets;

$ROA_{it}=\alpha_{it}+\beta 1CB_{it}+\beta 2BS_{it}+\beta 3FA_{it}+\beta 4FS_{it}+\sum_{it}$

$ROA_{it}= 64.6-4.3CB_{it}-53.3BS_{it}+0.24FA_{it}-2.9FS_{it}+\sum_{it}$

Where

i = 1-20 sugar mills.

t = 2000-2013.

By analyzing the results of table 6, R^2 with value 0.348 showing 34% of the corporate governance variable are explained to sugar company's financial performance variable return on asset. CEO biformity (CB) showing P-value 0.0004 which is lower than significant P-value of 0.05, it means CEO biformity (CB) shows significant impact on ROA at significant level of 95% and is in negative direction with coefficient value of -4.3. Board size (BS) and firms size (FS) showing significant and negative relationship with return on assets (ROA), whose coefficient values are -53 and -2.9 respectively, whilst the board size (BS) value is 0.000 < 0.01 and firm size (FS) value is 0.038 < 0.05 significance value. Firms age (FA) shows significant relationship with return on assets (ROA) with coefficient value of 0.24 and at significant level of 99.9%. F-test statistics showing the value 0.00<0.01, it means at 99.9% significant level corporate governance variables are explained to the ROA.

Table 6. *Model for ROA*

Panel (fixed effect model) - Sample: 2000-2013

observations: 280

Variables	*Coefficient*	*Stand. E*	*t-Stat.*	*P-value*
C	64.67407	11.79891	5.48136	0.000
CB	-4.319672	1.203448	-3.58941	0.0004
BS	-53.30401	9.762114	-5.46029	0.000
FA	0.243929	0.040211	6.066219	0.000
FS	-2.938041	1.401308	-2.09664	0.038
	Specification of effects			
R^2	0.348148			
Adjusted R^2	0.289583			
S.E. of regression	9.391168			
Sum sq. residual	22577.67			
Log-likelihood	-1011.893.			
F-stat.	5.944667			
P(F-statistics)	0.0000			

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

HausmanTest Summary for ROE

Table 7 showing the Hausman test summary of correlated random effects for dependent variable return on equity (ROE) which refer test P-value of 0.115 > 0.05 which mean test P-value is greater from significant P-value. This result suggests using "random effect model" rather than fixed effect model for return on investment or equity (ROE).

Table 7. *Hausman Test*

Summary of test	*Chi-Square Stat.*	*Chi² difference*	*Prob.*
Random cross-section	7.415192	4	0.1155

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Heteroskedasticity Test for ROE

Table 8 shows observation *R^2 value is 0.2397 > 0.05 significance value. Results of table 8 suggesting that there is no heteroskedasticity in random effect model for ROE (return on investment or equity).

Table 8: *B-P-Godfrey: Heteroskedasticity*

F-stat.	1.377577	*Probability F(4,275)*	0.2419
Observation$*R^2$*	5.500285	*Probability Chi-Sq(4)*	0.2397
Scaled explained SS	14.03936	*Probability Chi-Sq(4)*	0.0072

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Model for ROE

By putting coefficient values of the corporate governance variables of table no. 9 in model for ROE.

$ROE_{it}= \alpha_{it}+\beta 1CB_{it}+\beta 2BS_{it}+\beta 3FA_{it}+\beta 4FS_{it}+\sum_{it}$.

$ROE_{it}=63.2-16.1CB_{it}-68.9BS_{it}+0.36FA_{it}+0.036FS_{it}+\sum_{it}$.

Where

i = 1-20 sugar mills.

t = 2000-2013.

By analyzing results of table no. 9 with R^2 value 0.04 showing 4% of independent variables such as CEO biformity, board size, firm age and firm size are explained to return on investment or equity (ROE) which is dependent variable representing financial performance of sugar companies. In table no. 9, CEO biformity (CB) showing value 0.013<0.05, it means CEO biformity showing significant relationship with return on investment or equity represented by symbol ROE with coefficient value of -16.16 at significant level of 95%. Board size (BS) in table no.9 showing insignificant relationship with the dependent variable return on equity (ROE), its P-value is 0.18 with negative coefficient value of -68.9. Firms age (FA) in table no. 9 showing P-value 0.069 > 0.05,

it means firm age P-value is greater from 0.05 significant values. Firms age (FA) showing insignificance with positive coefficient value of 0.36. Firm size (FS) in table no. 9 showing insignificant relationship with dependent variable return on equity (ROE) with positive coefficient value of 0.036. Probability of F-statistics showing the P-value 0.021< 0.05, it means that at 95% of significant level corporate governance is explained to return on equity (ROE).

Table 9. *Model for ROE Panel (Random Effects)*

Variables	*Coefficient*	*Santd. E*	*t-Stat.*	*P-value*
C	63.24998	59.46723	1.063611	0.2884
CB	-16.16976	6.467082	-2.500318	0.0130
BS	-68.97922	52.26766	-1.319730	0.1880
FA	0.364408	0.200067	1.821429	0.0696
FS	0.036538	5.897408	0.006196	0.9951
	Specification of effects			
			S.DEV.	*Rho*
Random cross-section			11.64463	0.1387
Idiosyncratic random			29.01836	0.8613
R^2	0.040637			
Adjusted R^2.	0.026682			
S.E. of regression	29.03684			
F-stat.	2.912120			
P(F-statistics)	0.021948			
Unweight R-squared	0.056			

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Hausman Test for NPM

Table 10 shows the summary of the Hausman test of correlated random effect for dependent variable net profit margin (NPM) which refer test P-value 0.35 > 0.05, it means test P-value is high from significant value. Result suggests using "random effect model" instead of "fixed effect model" for net profit margin (NPM).

Table 10. *Hausman Test*

Summary of test	*Chi-Square Stat.*	*Chi² Difference*	*Prob.*
Random cross-section	4.372	4	0.3580

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Heteroskedasticity Test for NPM

Results of the table no. 11 showing observations *R^2 P-value is 0.0117 which is less than significance value of 0.05. Test is suggesting the presence of heteroskedasticity in random effect model for NPM (net profit margin). Therefore, controlling heteroskedasticity in model for NPM heteroskedasticity constant covariance test is applied.

Table 11. *B-P-Godfrey: Heteroskedasticity*

F-stat.	3.325984	*Probability. F(4,275)*	0.0111
ObservationR^2*	12.92075	*Probability. Chi-Sq(4)*	0.0117
Scaled explained SS	141.1845	*Probability. Chi-Sq(4)*	0.0000

Source: (Data taken from annual reports of sugar companies and BSA by SBP)

Model for NPM

By putting corporate governance coefficient values of table no.12 in model for net profit margin (NPM):

$NPM_{it} = \alpha_{it} + \beta 1CB_{it} + \beta 2BS_{it} + \beta 3FA_{it} + \beta 4FS_{it} + \sum_{it}$

$NPM_{it} = 23.8 - 4.1CB_{it} - 11.5BS_{it} + 0.026FA_{it} - 1.77FS_{it} + \sum_{it}$

Where

i = 1-20 sugar mills.

t = 2000-2013.

By analyzing results of table no. 12 with R^2 value 0.022 showing 2.2% of corporate governance variables are interpreted to the net profit margin (NPM) presenting dependent variable of financial performance of the sugar companies. CEO biformity (CB) in table no.12 shows value 0.0016< 0.05, it means CEO biformity (CB) showing significant relationship with net profit margin (NPM). The level of significant relationship between CEO biformity (CB) and net profit margin (NPM) is 95% and direction is negative with coefficient value of -4.1. Board size (BS) and firms size (FS) showing insignificant relationship with net profit margin (NPM) and in negative direction with coefficient value of -11.5 and -1.7 respectively. Table no. 12 shows firms age (FA) shows insignificant impact on net profit margin (NPM), its value of coefficient is 0.026. F-test probability in table no.12 showing P-value 0.17> 0.05, suggesting overall corporate governance variables or independent variable are not explained to net profit margin (NPM). F-test shows that overall model is not supporting the corporate governance variables and showing no relation with net profit margin (NPM).

Table 12: Model for NPM Panel (Random Effects)

Variables	*Coefficient*	*Stand. E*	*t-Stat.*	*P-value*
C	23.83755	11.44967	2.081941	0.0383
CB	-4.156888	1.303461	-3.18912	0.0016
BS	-11.54253	8.723393	-1.32317	0.1869
FA	0.026802	0.079918	0.335367	0.7376
FS	-1.778609	1.391076	-1.27859	0.2021
	Specification of effects			
			S.DEV.	*Rho*
Random cross-section			4.068829	0.1580
Idiosyncratic random			9.393557	0.8420
R^2	0.022525			
Adjusted R^2.	0.008307			
S.E. of regression	9.350424			
F-stat.	1.584261			
P(F-statistics)	0.178659			
Unweight R-squared	0.038			

Source: (Data taken from reports of sugar companies issued annually and BSA by SBP)

This research findings shows that overall results of two models such as model for ROA, model for ROE showing corporate governance significant relation with firm financial performance which are confirmed by F-test. While the results of third model for net profit margin (NPM) shows overall insignificant relationship of corporate governance variables with net profit margin (NPM) which are confirmed by F-test. Result shows Chairman/CEO biformity significantly affecting firm financial performance. Therefore, models are supporting H_1.Board size (BS) showing negative insignificant impact on firm financial performance in model for ROE and model for NPM while board size significantly affecting firm financial performance in model for ROA. Results suggest models are partially supporting H_2. Firms age (FA) showing significant relationship with firm financial performance in model for ROA while in model for net profit margin and return on equity (ROE) insignificantly affecting firm financial performance. Therefore, hypothesis H_3 is partially supported. Firm size (FS) showing significant relationship in model for ROA however whilst, insignificant relationship in remaining two models. Results suggest models are partially supporting H_4.

Table 13. *Summary of Results*

S. #	Hypotheses of this Research	Results
H_1	Chairman/CEO biformity significantly affects firm financial performance.	Supported
H_2	Board size significantly affects firm financial performance.	Partially supported
H_3	Firm age significantly affects firm financial performance.	Partially supported
H_4	Firm size significantly affects firm financial performance.	Partially supported

Conclusion

The purpose of the exploration is to identify how corporate governance affecting firm financial performance. Researcher explored corporate governance variables measured as CEO biformity (CB), board size (BS), firm age (FA), firm size (FS) with corporation financial performance

variables measured as return on assets, return on investment or equity, net profit margin. For this study sample is collected from list of sugar sector in KSE (PSE). Twenty companies are selected as sample on the basis of outstanding shares from the listed sugar companies in KSE (PSE). For period of 2000-2013 collection of data completed from analysis given by State Bank of Pakistan (SBP) for balance sheet of sugar companies and reports given by listed sugar corporations annually. Panel regression analysis, correlation matrix, descriptive statistics and diagnostic tests are used for analysis. Descriptive statistics shows normal results. Correlation result shows that CEO biformity showing negative significant correlation and firm size (FS) showing negative insignificant correlation with financial performance variables except return on assets (ROA) because firm size (FS) shows negative significant correlation with ROA. Board size (BS) shows negative insignificant correlation with financial performance variables except return on assets (ROA) because board size (BS) shows positive insignificant correlation with ROA. Firms age (FA) shows positive insignificant correlation with financial performance variables except net profit margin (NPM) because firm age (FA) shows negative insignificant correlation with NPM. Normality test shows normal distribution of data and multicollinearity test shows no multicollinearity exists in data. For regression panel methodology is used for analysis. With the help of Hausman test fixed effect model selected for return on assets (ROA), random effect model selected for return on investment or equity and random effect model selected for net profit margin for analysis. Heteroskedasticity test suggested presence of heteroskedasticity in model for ROA and model for NPM which are controlled by heteroskedasticity constant covariance test while shows absence of hetroskedosticity in model for ROE. Model for ROA and model for ROE in overall results shows corporate governance variables significantly affecting financial performance of the firms while overall result of model for net profit margin (NPM) show corporate governance variables insignificantly affecting firm financial performance, these overall results suggested by F-test. CEO biformity shows negative significant relationship with the financial performance of firms; therefore, H_1 is supported by model. H_2 is partially supported by model because board size (BS) shows negative significant relationship with financial performance of firms in model for ROA and insignificant relationship in remaining two models. Firms age (FA) shows significant relationship in model for ROA (return on assets) with firm financial performance and insignificant relationship with financial performance of firms in remaining two models, therefore H_3 is partially supported. H_4 is partially supported by models because firm size (FS) shows significant relationship with financial performance of firms in model for ROA and insignificant relationship in remaining two models.

Implications

The findings of the study based on statistical evidences from the reliable sources in developing country like Pakistan. Therefore, all other sectors listed in Karachi Stock Exchange (PSE), non-listed companies, specifically sugar sector and for investors this research has important implications. Good corporate governance in corporation results in better performance of the firms, strategies are made by the directors and implemented by the managers. CEO and chairman posts should be separately run by two persons, when posts are separate than policy implementation is easy and smooth without any conflict. Study implicated corporate governance as method or mechanism to reduce agency cost. Size of the corporation and age of the firm does not matter if codes of the corporate governance are not strictly followed. Therefore, improving corporate governance practices results in good governance of corporation and better corporate performance.

Future Research Directions

In future this study can be extended by increasing time period from 30-40 years with increase in the sample size of 20-30 companies. Research can be conducted by changes in variables for corporate governance of corporation and corporation financial performance. For instance corporate governance measured as ownership concentration, CEO experience, board independence and performance measured as assets turnover, net profit margin and liquidity ratio. Research on corporate governance affecting firm financial performance can be conducted by including data for all sectors except financial sectors in KSE (Pakistan Stock Exchange). Further, research can be conducted by comparing corporate governance and performance of privatized corporations, for example all private firm which were public sector firms in past so comparison can be done in order to know what is level of corporate governance and what is level of performance when corporations are private limited and were public limited.

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