Paradigms: A Research Journal of Commerce, Economics, and Social Sciences Print ISSN 1996-2800, Online ISSN 2410-0854 2018, Vol. 12, No. 1 Page 88-93 DOI: 10.24312/paradigms120113

### Value Relevance of Reporting of Accounting Information and Corporate Governance Practices: Empirical Evidence from Pakistan

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## ABSTRACT

pillars of CG is

This paper aims to investigate the impact of reporting of Corporate Governance (CG) practices and accounting information on the market value of firms listed on Pakistan Stock Exchange (PSX) for the period 2010-2016. For this purpose, we used the Ohlson (1995) Valuation Model, which incorporates variables of both CG and accounting information. Among the CG variables, we used board size, CEO duality, board independence, audit committee size, ranking of audit firms, and audit committee independence. Whereas accounting variables such as earnings per share, return on assets, sales growth, leverage, and firm size are used to measure the disclosure of accounting information. The results of panel random effects estimator revealed that the disclosure of board size, ranking of audit firms, audit committee independence, earnings per share, growth, and firm size are value relevant because these variables have a significant impact on share price of firms listed on PSX. The results show partial relevance of disclosure of CG practices and accounting information in Pakistan. Findings of this study suggest the need for improvements in reporting quality of CG practices and financial outcomes of firms listed in Pakistan.

**Keywords**: Value Relevance, Disclosure of Financial Information and Corporate Governance practices and Panel Regression Analysis

# JEL Classification: G34, M41, and C58

## INTRODUCTION

Value of firm and its antecedents have been under empirical observation for many decades. Holthausen and Watts (2001) revealed that value relevance studies provide very little insight into accounting standard settings. Byrnes, Henry, Thornton, and Dwyer (2003) stated that corporate governance received much attention after the revelation of large corporate scandals like Enron, World Com, and Aldephia. According to Agency Theory, in any organization agency problem arises when ownership is separated from management. Many tools have been arising to resolve agency issue and to overcome opportunistic behavior of management. Amongst these tools, Corporate Governance (CG) is getting more importance than other tools (Fama & Jensen, 1983). Mensah, Aboagye, Addo, and Buatsi (2003) defined that code of CG consists of rules and regulations. Implementation of these rules ensures that organizations are responsible and accountable to its investors. Implementation of the code of CG also facilitates to ensure effective allocation of resources. One of the most important pillars of CG is the disclosure of all relevant information (financial and non-financial) that is helpful for investors while making a decision. In 2002, the Securities & Exchange Commission of Pakistan (SECP) issued a code of CG. Institute of Cost and Management Accountants of Pakistan (ICMAP). Securities & Exchange Commission of Pakistan and all stock exchanges of Pakistan i.e. Lahore Stock Exchange, Islamabad Stock Exchange and Karachi Stock Exchange (now named as Pakistan Stock Exchange) made common efforts to develop and implement the code of CG in Pakistan. This code is in accordance with international practices and emphasizes the transparency of financial matters and the disclosure of financial and non-financial information. Therefore, this code of CG is helpful to make sure that management of the company is committed to working for the best interest of its shareholders irrespective of their ownership. Now, it is mandatory for companies listed on PSX to publish compliance statement relating to the practices of CG in their annual report. In emerging economies like Pakistan, emphasize implementing the code of CG might ensure several advantages. By ensuring the effective implementation of CG practices, the environment of trust and confidence can be established. This also increases the trust and confidence of investors in the national economic and financial system which results in an increase in the mobility of savings. Implementation of the code of CG also helpful to protect the rights of all stakeholders. By practicing the code of CG, financing for multiple projects can be secured.

Because of the usefulness of the information disclosed in annual reports for investors and other stakeholders, listed firms are required by SCEP to prepare financial statements in accordance with International Financial Reporting Standards (IFRS) and consistent with industry-specific practices. Now a day, issue of value relevance of disclosure of accounting information and CG practice in annual reports is gaining importance. The significance of disclosure of accounting information and CG practice and the establishment of the stringent regulatory framework by SCEP regarding the financial reporting by firms listed in Pakistan provide motivation for this study. This empirical work is an attempt to probe the value relevance of disclosure of accounting information and corporate governance practice in annual reports. So, our purpose is to clarify the relevance of the value to general financial accounting settings and corporate governance practices reported by firms listed on PSX. This study has the following objective: To investigate the effect of

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reporting of CG attributes and accounting variables on the value relevance.

For materializing the above-stated objective we used Ohlson (1995) model. The findings of this study provide fruitful insights to the managers about the adoption of relevant IFRS and assist the policymakers in improving CG practices. Rest of the paper is organized in the following manner. The second section is related to the review of previous studies. Third section deals with data and methodology applied. The fourth section is about the discussion on results and the last section is about concluding remarks.

## LITERATURE REVIEW

This section is about previous work related to Corporate Governance, reported financial information and its value relevance. Value relevance of financial reporting and disclosure of CG practices is one of the most researchable topics in the field of accounting and finance.

Different researchers used a variety of different definitions of corporate governance and still there is no universally accepted definition of corporate governance. Oman (2001) described that corporate governance is a set of rules that helps to establish the effective relationship between management and its shareholders. Gupta (2008) expressed that CG is the systematic process for developing the regulatory framework to protect the interest, various stakeholders. Some other researchers used the word "umbrella" for governance which states the regulations for governing the management of companies to resolve the agency conflicts. Corporate governance protects the rights of shareholders and all other stakeholders by applying its functions such as audit committee, audit committee size, independence of audit committee, internal audit, size of the board, board composition, duality, the total number of shareholders and number of executive and non-executive directors.

## Value Relevance and Financial Reporting Standards

Disclosure of financial facts facilitates the flow of capital in international as well as in local financial markets. Due to this feature of disclosed financial facts, maximum nations have adopted IFRS that provide meaningful information to all stakeholders of companies. Global Financial Reporting Standards guarantee that records are reliable, have predictive power, constitute a devoted representation of fabric data, free from bias and are justifiable (Van Greuning, Scott, & Terblanche, 2011).

Barth, Beaver, and Landsman (2001) stated that accounting information is considered to be value relevant if it can influence the values of the equity market. According to the conceptual framework of the Financial Accounting Standard Board (1984), two primary criteria to choose among alternate accounting treatments are relevance and reliability. Statement of Financial Accounting Concept (SFAC NO.5) states that accounting information is relevant only when it can have a material effect on the decisions of financial statement users. Moreover, an accounting information will be value relevant if that have a significant predictive relationship with share prices, only if the amount reflects information relevant to investors in valuing the firm and is measured reliably enough to be reflected in share prices.

(Richardson & Tinaikar, 2004) concluded that much of accounting based valuation focus on analyses of historical data and forecasting accounting numbers. Ohlson (1995) and Feltham and Ohlson (1995) drew the attention of researchers towards the vital role of historical accounting numbers in the process of valuation. Lo and Lys (2000) applied Ohlson's model and explained that the valuation equation incorporates accounting data and non-accounting information. Habib and Azim (2008) stated that Ohlson's model is best for policy-making due to its high explanatory power. However, managerial incentives to maximize their private wealth may lead to publishing biased accounting information.

Separation of ownership from management gives rise to the problem of asymmetric information between managers and shareholders (Habib & Azim, 2008; Berle & Means, 1991). Due to information asymmetry, managers provide biased financial statistics with the objective to exploit shareholders. Empirical findings suggest that misallocation of resources can occur when an investor is strumbled on such biased reporting. Beneish (1997) found a few proofs of abnormal returns to insiders from trading based on their superior information. There is a need for controlling the sub-premiere managerial actions resulting in resource miss-allocation. Researchers have emphasized the role of market forces in disciplining the managers' actions. These market forces include consisting of product market competition (Alchian, 1950), discipline by the financial market (Manne, 1965) and labor market stress (Fama, 1980). But, notwithstanding these market forces, there stays a residual call for additional governance measures, inclusive of the board of directors and ownership structures etc. A large number of corporate governance studies for example (Bushman & Smith, 2001; Cohen, Krishnamoorthy, & Wright, 2004; Denis & McConnell, 2003; Hermalin & Weisbach, 2001; Shleifer & Vishny, 1997) documented the demand for internal governance measures, from the perspective of financial reporting attitude, an ideal effect of company governance is hypothesised to be the provision of highest quality accounting information to the users of financial statements. This can arise via at least two channels. Firstly, Corporate Governance should facilitate the provision of the highest quality accounting information that would be helpful in curbing the opportunistic profits control practices of managers. An extensive frame of empirical literature files the lifestyles of opportunistic income management. When managers manage the income for opportunistic purposes, accounting profits come to be a much less dependable measure of a firm's financial overall performance. Watts and Zimmerman (1990) stated that Corporate Governance also to enhance the relevance and reliability of reported accounting information by aligning the interests of investors and managers. Davidson, Goodwin-Stewart, and Kent (2005) reported negative association of non-executive directors and Audit Committee with earnings management. Klein (2002) showed a negative association of board independence and the Audit Committee with abnormal accruals. Brown and Caylor (2006) reported that most important attributes of corporate governance are a board of directors and the remuneration of executives and directors.

Secondly, the interaction between corporate governance and company disclosures can also have an impact on the valuerelevance of disclosed accounting information. The firms should focus the voluntary disclosures for lessening the information asymmetry among managers and shareholders. This step would help to put a constraint on management for earnings management (Habib & Azim, 2008).

Gul and Leung (2004) observed that corporations characterized by CEO duality provide less voluntary disclosures in comparison to firms in which these two positions are held by separate persons. But, this relationship is weaker for firms with higher professional outside directors on the board. Based on the above discussion we summarize that high-quality financial reporting and statement of compliance with the code of CG play a vital role in enhancing the market value of firms. We propose the following hypotheses for this study.

 $H_{01}$ : Reporting of Corporate Governance practices does not impact the value relevance?

 $H_{02}$ : Reported accounting information does not impact the value relevance

## DATA AND METHODOLOGY

The study is conducted on companies listed on PSX for the time period ranging from 2010-2016. The detail of a total number of listed companies in each sector and the number of selected companies from each sector are provided in Table 1. At the first step, we considered only those companies which have displayed information about their accounting data and CG practices on their websites. At the second step, if data regarding any variables are not available in any year then that company has been dropped from the sample. The final sample consists of 93 listed companies which constitute 55.56% of the population of firms listed on PSX. All the data is obtained from annual reports. The data of variables are retrieved from the respective websites of companies. Share prices data has been obtained from the website of KSE on yearly basis.

**Table 1:** List of Sample Industries

Sr. No	Sectors	Total	Selected
		Companies	Companies
1	AUTOMOBILE ASSEMBLER	12	12
2	AUTOMOBILE PARTS & ACCESSORIES	10	6
3	CABLE & ELECTRICAL GOODS	9	2
4	CLOSE - END MUTUAL FUND	8	3
5	FERTILIZER	7	6
6	GLASS & CERAMICS	9	6
7	LEASING COMPANIES	11	5
8	PAPER & BOARD	10	4
9	PHARMACEUTICALS	11	8
10	REFINERY	4	3
11	SYNTHETIC & RAYON	11	4
12	TECHNOLOGY & COMMUNICATION	10	5
13	TOBACCO	3	2
14	TRANSPORT	5	3
15	VANASPATI & ALLIED INDUSTRIES	5	1
16	WOOLLEN	2	1
17	CEMENT	21	12
18	JUTE	2	1
19	LEATHER & TANNERIES	5	1
20	OIL & GAS EXPLORATION COMPANIES	4	3
21	OIL & GAS MARKETING COMPANIES	8	5

#### Source: Self-Generated

#### **Panel Data Model Estimations**

Panel regression has been applied to find out the relationship between share price, accounting information and corporate governance. The panel data set is also known as a longitudinal data set. Panel data provide more information as it is the combination of both cross-section and time series. It provides an opportunity to control the likelihood of multicollinearity and heterogeneity issue. Further, panel data set might resolve the problem of bias, occurred due to unobserved heterogeneity which is common while the fitting model with cross-section data set. The standard panel data equation is written below.

$$Y_{it} = \beta_1 + \sum_{i=2}^{n} \beta_i X_{jit} + \delta_t + \varepsilon_{it}$$
(1)

The detailed empirical model is presented in equation 2. The definition and calculation formula of all variables is provided in Table 2. Share price is the dependent variable in all models. In simple panel regression model, estimated coefficients are not free from error. In order to eliminate this problem, fixed effects or random effects model is applied suggested by (Baltagi & Kao, 2001; Wooldridge, 2010; Baltagi, Song, & Koh, 2003). The (Breusch & Pagan, 1980) lag range multiplier test is widely applied to decide whether random effects exist or not. The null hypothesis of this test states that "there are no random effects". In this study, the null the hypothesis is rejected as denoted by P-Value reported in table 5. This implies that random effects estimation is best than fixed effects estimation.

i represents ith firm

t represents t<sub>th</sub> year

 $\beta_1$  = is common intercept of panel regression

 $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$ ,  $\beta_6$ ,  $\beta_7$ ,  $\beta_8$ ,  $\beta_9$ ,  $\beta_{10}$ ,  $\beta_{11}$ ,  $\beta_{12}$ , and  $\beta_{13}$  denote the coefficient of each explanatory variables

<b>Table 2:</b> <i>I</i>	<i>Definition of</i>	Variables
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Variables	Definition	Calculation Formula
MPS	Market price per share	Market Value of a Share
EPS	Earnings Per Share	Net Income/ Total No of Outstanding Shares
BS	Board Size	No of Actual Board Members
CD	CEO Duality	1 if CEO and Chairperson of Board is Same
		Otherwise 0
BI	Board Independence	No of Independent Directors/Board size
ACS	Audit Committee Size	No of Members of Audit Committee
QA	Quality of External Audit	1 if Audit Firm Belongs to Big 5 Otherwise 0
ACI	Audit Committee	Independent Audit Committee Members / ACSIZE
	Independence	(independent AC members who are not part of the
		board)
ROA	Return on Assets	Net Income/ Total Assets
SG	Sales growth	=(Sales t - Sales t-1)/ Sales t-1-
LEV	Leverage	Long-term Debt/ Total Assets
FSIZE	Firm Size	Natural Log of Total Assets

**Source**: Self-Generated

#### **RESULTS AND DISCUSSION**

Table 3 contains descriptive statistics of dependent and independent variables. The 6 years' data of 93 firms results in 558 observations. It is a balanced panel dataset which is stacked by units. The standard deviation has been reported to detect outliers in the data set. The minimum and maximum value of the data set have also been reported to confirm the accuracy of the entered data. It is necessary to verify the multi-collinearity amongst independent variables before estimating panel data techniques. The purpose of kurtosis is to check the peak of distribution.

The purpose of skewness is to check the symmetry of the data. Correlation matrix has been reported in Table 4. The first column clarifies the expected relationship of the dependent variable with independent variables. Moreover, none of the independent variables have a coefficient of correlation greater than 0.50. This implies the absence of severe multi-collinearity in this data set. Now, it is possible to estimate the random effects model. Error component model is the alternative name of the random effects model. In random-effects model error terms, i.e.  $\varepsilon_{it}$  and  $u_{it}$  are replaced with  $w_{it}$ .  $w_{it}$  is also known as composite error term because it is composed of two components  $w_{it} = \varepsilon_i + u_{it}$ .

 Table 3: Descriptive Statistics

	Ob.	Mean	S.D	Mini	Maxi	Kurtosis	Skewness
MPS	558	3.79	1.795	-0.89	8.41	-0.60	-0.04
EPS	558	10.96	30.165	-352.95	191.20	44.82	-1.76
TA	558	17.80	2.823	12.82	24.62	-0.64	0.60
BS	558	8.39	1.714	5.00	15.00	2.18	1.40
CD	558	0.09	0.293	0.00	1.00	5.69	2.77
BI	558	0.70	0.345	0.11	7.33	244.64	12.66
ACS	558	4.04	3.657	2.00	55.00	147.98	11.53
QA	558	0.74	0.437	0.00	1.00	-0.74	-1.12
ACI	558	0.22	0.417	0.00	1.00	-0.23	1.32
ROA	558	0.12	3.256	-36.48	67.58	360.38	13.46
SG	558	17.36	2.717	8.09	24.59	-0.10	0.38
LEV	558	0.08	0.208	0.00	3.10	91.70	7.67
FSIZE	558	17.80	2.823	12.82	24.62	-0.647	0.602

The above table is about descriptive statistics which have been calculated in Stata 11.

**Table 4**: Correlation Matrix

	SP	EP	TA	BS	С	BI	Α	Q	А	RO	S	LE	FSI
		S			Ď		CS	À	CI	A	Ğ	v	ZE
SP	1												
EPS	0.4	1											
	70												
TA	-	-	1										
	0.1	0.1											
	70	4											
BS	0.2	0.0	-	1									
	1	8	0.0 3										
CD	0.0	0.0	-	0.0	1								
CD	6	4	- 0.0	1	1								
	0	4	1	1									
BI	-	-	0.0	0.1	-	1							
	0.0	0.0	3	0	0.1								
	7	5											
AC	0.1	0.0	-	0.1	0.0	0.0	1						
S	0	5	0.0 2	5	0	0							
QA	0.2	0.1	0.0	0.1	-	-	0.0	1					
Q.1	5	7	0	9	0.0	0.0	9	•					
					1	1							
ACI	0.1	0.1	0.0	-	0.1	-	0.0	0.0	1				
	8			0.2		0.1							
RO	0.0	0.0	-	-	-	0.0	0.0	-	0.0	1			
Α	1	1	0.0	0.0	0.0	0	0	0.0	0				
			2	1	1			1					
SG	0.0	-	0.8	0.0	0.0	-	0.0	0.0	0.1	-	1		
	1	0.0	4	1	0	0.0	0	3	1	0.0			
		2				1				1			
LE	-	-	0.0	-	-	0.0	-	-	-	-	0.	1	
v	0.3	0.1	8	0.0	0.0	0	0.0	0.0	0.0	0.0	05		
	0	4		9	1		1	4	8	2			
FSI	-	-	0.0	-	-	0.0	-	0.0	0.0	-	0.	0.0	1
ZE	0.1	0.1	6	0.0	0.0	3	0.0	0	7	0.0	07	8	
	7	4		3	1		2			2			

The above table is about correlation matrix of dependent and independent variables. The correlation matrix has been calculated using Stata 11. Breusch and Pagan, (1980) Lagrange Multiplier test are used to test the random effect. The null hypothesis of this test has been rejected. Therefore, random effects exist.

On the basis of (Breusch & Pagan, 1980) test, results of model2 are estimated by random effects and are reported in Table 5. The coefficients and *t*-statistic of all variables are reported separately. From among the CG attributes board size,

independence of the audit committee and quality of audit have a significant positive effect on the market price per share (MPS). Board size has a significant positive relationship with the market price of the stock and is supported by (Dalton, Daily, Johnson, & Ellstrand, 1999) and (Habib & Azim, 2008). This suggests that a larger board impacts share price positively. Therefore, it is expected that a larger board size is considered as a positive signal in the stock market.

CEO duality is not statistically significant which implies that CEO duality in Pakistan does not impacts share price. The same finding has been supported by (Kyereboah-Coleman, 2008) and (Bugshan, 2005). As per the ethics of corporate governance, duality is not recommended because an individual might use powers to affect the efficiency of the board. Although. CEO duality does not affect share price significantly in case of Pakistan whereas prior studies have established a negative association with MPS. Board independence is insignificant which implies that board independence does not have a substantial impact on the share prices in Pakistan. One reason might be that independent directors in Pakistan do not have an ownership stake in the company and might lack incentive for playing their role effectively. Both size and independence of audit committee size are positively related with MPS but only independence of audit committee has a significant impact on MPS. One possible reason for the insignificant effect of the size of the audit committee is that it demonstrated little variation over the years and across the firms. Further, due to the irrelevance of size of the audit committee, some other proxy like frequency of audit committee's meetings should be considered. Quality of Audit positively impacts the share price in Pakistan but, it is statistically insignificant. This implies that selection of renowned audit firm is not given proper weight by investors. It might be due to the shortage of well recognized and well-renowned audit firm in Pakistan and resultantly most of the firms get their financial statements audited by the small and local audit firm. This finding is also supported by (Davidson et al., 2005).

From among the accounting variables EPS, sales growth and firm size have a significant effect on MPS. Earnings per share are positively related to MPS. It implies that the increase in EPS is taken as a positive signal by investors and capital market positively responds to increase in EPS. Return on assets is not statistically significant in the case of Pakistan. This shows that investors are more interested in EPS rather than return on assets. Sales growth is positively related to MPS. It implies that the increasing rate of sales growth signals the current performance of firms in the product market and also reflects their future prospects. Further, results show that investors give due consideration to sales growth while making an investment in any company.

**Table 5**: Panel Regression Results of Model 2

	β	t-value
Intercept	1.860	2.160
BS	0.1573	3.75
CD	-0.1568	-1.20
BI	0.1415	1.30
ACS	0.0012	0.13
QAF	0.3252	2.28

ACI	0.5056	2.51	
EPS	0.0087	5.50	
ROA	0.18	0.11	
SG	0.1810	3.38	
LEV	-0.1220	-0.60	
FSIZE	-0.1720	-2.86	
*BP LMTest P-Value	0.00	0	
Adj R-Squared	0.07		
Wald Chi-Square P-Value	0.000		

Empirical results of three random effects models are reported in the above table. Only coefficients and t-values are reported. \* represents Breusch Pagan Lag Range Multiplier Test.

Firm size has a negative relationship with a share price of firms in Pakistan. This relationship is statistically significant. This implies that larger firms might not be able to ensure a better profit margin due to an increase in their size. The negative and insignificant coefficient for leverage shows that an increase in leverage give rise to default risk and is negatively perceived by investors in the market. This consistent with the view of (DeFond & Jiambalvo, 1994) leverage is not preferred by stakeholders in developing countries.

Lower Adjusted R-square is due to the very specific objective of the study and the specification of the regression model. In the regression model, only a few characteristics of firms relevant to the objective of this study are considered to explain the changes in the market price of firms. In reality, the market price of a share is influenced by a large number of diverse factors (such as financial and non-financial characteristics of firms, business cycle, economic, political, law and order, security concern, market trends and investors' biases etc.) while this study focused only firm-specific factors.

#### CONCLUSION AND RECOMMENDATIONS

The purpose of this study is to empirically analyze the impact of Corporate Governance practices and reported accounting information on the market value of listed companies. We have analyzed 93 companies from 21 sectors of Pakistan Stock Exchange. We have applied (Ohlson, 1995) model. Results of this study established that out of six Corporate Governance practices only board size, quality of audit and audit committee independence have a significant impact on share price. Whereas, out of six accounting variables, EPS, sales growth and firm size have a significant effect on the share price of firms listed on Pakistan stock exchange. So, on the basis of overall findings, we are failed to reject  $H_{01}$  and  $H_{02}$  in absolute terms. Therefore, we conclude that the reporting of selected Corporate Governance practices and accounting information has a significant impact on value relevance. Our findings imply that the market price of a share of a firm responds positively to the improvements in its financial reporting practices. In the existing literature little empirical evidence is found in the context of developing countries. In developing country like Pakistan, ethical and moral values are very poor and governance mechanism is very weak.

In these countries, firms are not taking keen interest to ensure the implementation of Corporate Governance practices. From last two decades' policymakers are trying to improve the mechanism of Corporate Governance in Pakistan. Till now, SECP has implanted three versions of CG codes. Securities & Exchange Commission of Pakistan has made compulsory for the firms to report the statement of compliance of code of Corporate Governance as a part of their annual reports. This study provides empirical evidence on the relevance of reporting of CG practices and accounting information in the context of Pakistan. Findings of the study have implications for academia as well as for the policymakers. It provides insight into the academia about the CG attributes and accounting variables that have an impact on the market value of firms. The results of this study show that reporting of a few CG attributes and accounting variables have a significant impact on the MPS. It implies that reporting of CG attributes and accounting variables have the partial value relevance in the context of Pakistan. Thus findings of the study suggest that there is a need to ensure the compliance of code of CG by firms. For this purpose, managers should take concrete steps to ensure the effective implementation of Corporate Governance practices. There is also a need to improve the quality of financial reporting by ensuring adherence to Global Financial Reporting Standards. Securities and Exchange Commission of Pakistan should design the effective and efficient policies to ensure the compliance of Code of CG by firms. Furthermore, Collaborative efforts of SCEP, SBP, ICAP, and ICMAP are required to improve the financial reporting mechanism and to facilitate the firms in the adoption of best financial reporting practices. Findings of the study should be used with care as this study is focused only on the firms listed on Pakistan Stock Exchange for the time period 2010 to 2016. The dataset beyond this might alter the findings. Moreover, this study considered only five attributes of CG, for future study more attributes of CG like experience, qualification, and board compensation etc. of the board of directors should be considered.

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