Corporate Governance-CSR-Financial Performance Nexus: Evidence from Pakistan

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Abstract

This is a quantitative study which aimed to investigate and scrutinize the relationship between corporate social responsibility (CSR) and corporate financial performance (ROA, ROE, and Tobin's Q) with the moderating impact of corporate governance (CG) measured as a proxy of board size. A total of 50 Pakistani firms registered in Pakistan Stock Exchange (PSX) were selected as participants using purposive sampling; there were 343 observations years-firms (2010-2016). The results of this study showed that CG is an imperative factor in assessing the association between CSR and corporate financial performance. Moreover, this study found that CSR exerts a negative impact on financial performance; whereas CSR and CG combined have a significant and positive impact on firms' financial performance. CG also supports this positive association.

Keywords: Corporate governance, CSR & financial performance of firm

1. Introduction

For several decades, researchers and academicians have been debating on how firms must engage in corporate social responsibility (CSR), what establishes top corporate governance (CG) policies, and does CG really affect CSR and Financial Performance (FP) of firms. These topics had been addressed by several scholars through their researches since around the 1960s (Harjoto & Jo, 2011). In spite of the increasing attentiveness about CSR and CG in financial markets, there is still a need to emphasize the importance of CSR, CG, and corporate financial performance (Harjoto & Jo, 2011). In the twenty first century, technological advancement and society's growing awareness resulted not only in greater number of opportunities but also higher extent of competition. Every organization is trying to withstand and remain in this competitive environment in order to maintain relationships with the society. One of the ways to connect with the society is through CSR.

In simple terms, CSR can be described as a social involvement, including ethical performance (Friedman, 2007); but in a broader level, CSR is defined as the intentional and voluntary support of a company to the sustainable progress of humanity (Crane & Matten, 2007) which helps in creating and maintaining a healthy society. CSR has been labelled as a paradigm that is in a "state of emergence" (Crane & Matten, 2007); it evolved due to the advancement of businesses in overcoming the needs of humanity and providing sustainable environment for growth. Organizations invest in CSR activities in order to create a positive image among their stake holders (Kanji & Chopra, 2010). Investors, customers, employees, suppliers, and government agencies all over the world are increasingly becoming focused on CSR activities. These activities are extremely necessary in the current years, following the high number of publicized disgraces associated with well-known companies like Nike (1997) and Volkswagen (2015).

Every company sets different objectives for CSR. These objectives are based on several aspects such the size of company, business culture, stakeholders' demand, industry involvements, and management of CSR-related activities (Mahtab, 2015). Some companies prefer to prioritize a single particular area of CSR that provides them with the highest impact and profitability; while others focus on several dimensions of CSR at a time, which help in improving all types of operations. It is necessary for companies to include CSR as part of the corporation's values and strategic planning, so that every individual related to the company will feel self-motivated and committed. According to the KPMG survey in 2015, 56% of the 100 largest international corporations based on 45 different countries have disclosed information on CSR-related accomplishments in their records and annual reports. In addition, several countries such as France (2001), USA (2003), UK (2006), Malaysia (2007), China (2008), and Denmark (2008) have made CSR disclosures obligatory.

Understanding the effects of CSR activities is significant not only for researchers but also for companies and regulatory authorities. Companies are currently facing difficulties in wealth maximization due to strong world market competition; thus, it is necessary to evaluate profit and loss scenarios before companies invest in CSR activities, since these involve utilization of an array of scarce financial resources (Kabir & Thai, 2017). Previous researches on the impact of CSR on firms' financial performance had obtained varied results. Studies by Van Beurden and Gössling (2008) and Oeyono, Samy, and Bampton (2011) noted that a positive relationship exists between CSR activities and firm's financial performance; while studies by Smith, Yahya and Amiruddin (2007) and Crisóstomo, de Souza Freire, and Cortes de Vasconcellos (2011) noted a negative relationship. Wang, Dou, and Jia (2016) observed that the relationship was insignificant. Some corporate managers want to invest in CSR activities mainly for personal gains. This is when effective CG mechanism becomes important in order to prevent expropriation of resources and to direct managers to invest in projects that can upsurge the firms' financial performance (Kabir & Thai, 2017)

Various researchers have worked on the direct relationship between CSR and firm performance; but very few have considered the moderating effects of several CG dynamics such as board size, and ownership structure. Therefore, this paper aims to understand the influence of effective CG on the relationship between CSR and financial performance of a firm.

This study analyzed CSR information of 50 organizations registered in Pakistan Stock Exchange from 2010 to 2016. Data on CSR activities and CG were gathered by analyzing the annual reports of the firms and from Bloomberg data terminal. Correlation and fixed effect model, and random effect model were utilized; then, Hausman test was used to assess whether to accept or reject the developed hypothesis. This study involves understanding the relationship among CSR, firm's financial performance, and CG in Pakistan. Several previous studies on corporate social performance and firm's financial performance have been conducted, but only a few have explored other factors affecting firms' performance; thus, this study aims to focus on identifying the moderating effects of CG on the relationship between CSR activities and firms' financial performance.

This paper is divided into different sections: section 2 includes the review of literature and development of hypotheses; section 3 defines the methods and the variables of this study in detail; section 4 illustrates the sample and data collection process with the empirical results; and section 5 includes the conclusion based on the result obtained.

2. Literature Review

2.1 Corporate Social Responsibility

The emergence of corporate social responsibility (CSR) dates back to mid-twentieth century and has had different additions with the passage of time. Bowen (1953) provided the primary definition of CSR which is *"the responsibilities of businessmen to follow those guidelines, to make those decisions, or to track those lines of action which are essential in terms of the values, objectives and standards of our society"*. Following Bowen's initial definition, Davis (1960) and McGuire (1963) underscored the extensive obligations of corporations toward the society beyond economic and legal responsibilities.

In the 1980s and 1990s, detailed interpretations of CSR started to develop with more refined and alternative approaches. For example, Carroll (1979) presented a refined framework by stating that the scope of CSR includes economic, legal, ethical, and discretionary responsibilities. Further, two concepts of CSR became prominent which are corporate social responsiveness, and corporate social performance (CSP). The former highlights the processes and strategic responses of CSR, while the latter underscores the outcomes and impact of CSR in a more 'operational' context (Wood 1991, 2010).

The main theme of the social impact hypothesis is that companies can increase financial performance by meeting the needs of stakeholders. According to Parket and Eibert (1975), the benefit derived from fulfilling CSR outweighs the cost, enhancing company value. Fulfilling CSR by protecting the welfare of employees can improve productivity, enhance company image, and build public confidence, thereby enhancing brand image and competitiveness. A company should not only work for the benefit of shareholders, but also for the interests of the stakeholders in business practices through the enactment of CSR (Mahrani & Soewarno, 2018)

CSR has been acknowledged as a substantial means to steadily uphold and strengthen the relationship between companies and the society, in addition to promoting sustainable progress and growth (Oh, & Park, 2015). Companies can instigate customer loyalty, boost sales, receive media attention, and meet stakeholders' obligations by getting involved in diversified corporate social responsibilities. CSR activities are multidimensional and generally represent a pool of uncoordinated initiatives (Hasan et al., 2018).

Recent studies have explored the relationship between CSR and financial performance of firm; however, the outcomes were moderately indecisive and ambiguous (Margolis & Walsh, 2003; Vogel, 2005; Mishra & Suar, 2010). Most have concluded that a positive relationship exists between CSR and firm performance (e.g. Van Beurden & Gössling, 2008; Roshayani et al., 2009; Oeyono et al., 2011); however, according to Kabir & Thai (2017), this finding should be handled with care as few aspects such as period, measures of CSR and financial performance, and research design could create variations in results, such as a negative or no correlation (e.g. Aupperle et al.,1985; Smith et al., 2007; Crisóstomo et al., 2011). Awareness among the customers regarding their rights and claims of CSR, may also have an impact to corporate performance (Sharma & Talwar, 2005; Belal & Owen, 2007; Khan et al., 2009).

2.2 CSR in Pakistan

CSR is in its evolutionary stage in many developing countries, particularly in Pakistan. Currently, Pakistan is facing several corporate difficulties, especially when competing in the world market; one strategy to overcome these difficulties is to promote and implement different CSR activities (Malik & Kanwal, 2018). Yawar (2009) found that around 60% of the national and international firms in Pakistan are focusing on social work such as assistance, community services, and endowment in the form of cash on religious and humanitarian grounds;

however, there are still many companies operating locally whose main priority are not related to CSR and view CSR differently. Pakistan has great potential for developing new business opportunities while considering CSR, since the country has a big population; a huge population means that there is huge demand and great opportunities. This great potential allows Pakistani companies to fulfill consumer demand and satisfy stakeholder's interest. Therefore, by applying CSR strategies, these companies can create awareness, and knowledge about ethical practice and social responsibility standard among business organizations. The corporate social responsibility is a voluntary action in Pakistan. The contribution rate in CSR activities is high in Pakistan's commercial banks and the performance of commercial banks is remarkable in Pakistan (Sharif & Rashid, 2014). Companies that include CSR strategies in their operations tend to create a positive image and reputation in the market. Further, brand identity is obtained by producing good quality products, ultimately increasing customer loyalty (Qazi et al., 2015). The CSR concept is still underdeveloped in Bangladesh and Pakistan. There is a large number of businesses that contribute in sustainable development through CSR; but the CSR activities in Bangladesh and Pakistan are only written in documents and not that much practical (Naeem & Welford, 2009).

2.3 Corporate Governance (CG) in Pakistan

CG is not a new topic in literature, but because of low research culture in Pakistani academic and institutional areas, very few studies can be seen. East Asian countries such as Malaysia, Thailand, China, Japan, and Korea place great importance on research; thus, they have a rich and easily available literature. India has relatively more literature among other South Asian countries (Khanna et al., 1999; Singh et al., 2003). Various determinants of corporate structure and corporate growth evolution in Pakistan are in the same pattern as the CG studied by Cheema et al. (2003), which explored ownership structure and behavior similar with the capital market structure of Pakistan. According to Roe (2002), if cultural traits are deeply entrenched in the society, then various institutions carry similar set of objectives. Pakistan is a country that has a diverse culture, giving it a great potential for growth of CG. CSR reporting is positively affected by the components of CG such as institutional ownership, board size, firm size, and ownership concentration. Meanwhile, based on the study by Majeed and Saleem (2015), the two components of CG, foreign directors' representation and women involvement in board, have a negative impact on....

2.4 Hypotheses Development

2.4.1 Effects of CSR on financial performance

CSR plays a key role in measuring the value of any company, and its contribution in any economy is of significant importance. CSR activities involve education, healthcare, women empowerment, sports development, special children welfare, community building, and relief activities. Simms (2002) surveyed that more than 70% of international management measured corporate social performance as an important obligation for the companies' persistence and progress. CSR was initially discussed in a Harvard Review article in the 1930s, which described CSR activities as part of the duties and responsibilities of managers towards society (Dodd, 1932).

Corporate social disclosure includes the financial and non-financial information of an association with regards to its social and physical condition (Hackston & Milne, 1996). CSR activities have been consistently growing and continue to remain the center of attraction for all stakeholders, including shareholders, consumers, dealers, personnel, workforce, and government bodies around the globe. Further, it is currently gaining importance especially after several public disgraces associated with international firms such as Nike (1997), BP (2010), and Volkswagen (2015).

Sarwar et al. (2012) noted that financial performance of banks in Bangladesh is strongly associated with CSR, and observed that banks with greater contribution to CSR achieved higher return of assets (ROA) than those banks that spent less on CSR. Griffin and Mahon (1997) noted that there is a mixed association among firm's financial performance, CSR and CG.

Majority of the available literature about CSR is mainly focused on developed countries, and remains questionable in developing countries; this shows that culture may have an influence on CSR (Dobers & Halme, 2009; Wood, 2010). Due to the increasing popularity and importance of CSR, various international studies have been conducted and published. Baughn et al. (2007) explored the social and environmental behavior of CSR in Asia. Meanwhile, Cummings (2008) studied the behavior and attitudes of managerial students and corporate managers across Australia, Indonesia, and China toward contemporary environmental management issues. Naeem and Welford (2009) conducted a comparative analysis of the CSR performance of companies of Bangladesh and Pakistan. Kolk et al. (2010) studied the CSR performance of Chinese retailers. Thus, the first hypothesis is proposed:

H1: Firms carrying out greater number of CSR activities experience higher financial performance.

2.4.2 Corporate governance as a moderating instrument

Zingales (1998) defined CG as a set of limitations that figure the ex-post bargaining over the quasi-rents made in the firm. Vast literature had studied the association between CG and financial performance in several aspects, although with inconsistent results (Baliga et al., 1996; Bloom & Milkovich, 1998; Dalton et al., 1998). Meanwhile, several other researches have explored how financial markets and the agents operating within them value the degree of development of CG, and how both gradually demand entree to corporate information, which can only be provided through mechanisms of transparency such as CSR disclosure (Nieto & Fernández, 2004; Van Beurden & Gössling, 2008). Therefore, transparency is an act of accounting for responsibilities that links the corporate bodies of a company (Gibbins et al., 1990; Perera, 1994). The collaboration between good practices of CG and CSR disclosure, as a transparency mechanism, has not been extensively scrutinized, and neither the moderating effect of CG on the relationship between CSR and financial performance of firm has been studied in depth (Jain & Jamali, 2016). AsMahrani & Soewarno (2018) observed the combined positive effect of CG mechanism and CSR on firm financial performance and earnings management.

Margolis and Walsh (2003) noted that several studies only considered the direct relationship between CSR and firm performance, while some scholars (e.g. Luo & Bhattacharya, 2006; Wood, 2010; Galbreath & Shum, 2012) claimed that understanding the direct relationship between CSR and firm performance only helps in distinguishing the influential aspects in the relationship, and that the final outcomes will be unpredictable. However, in order to gain reliable results, influential variables which have been frequently ignored in previous studies should be considered and empirically scrutinized. CG creates balance among different sectors and levels of society (i.e. economics, social, community, and individual level); therefore, it involves proper utilization of resources so that the demands of stakeholder will be fulfilled. Dahya et al. (1996) stated that CG is a way to control the company, and assess their credibility and sense of responsibility to the stakeholders of the company. Nowadays, companies give importance to their reputation and started to spend on activities related to social responsibilities (Zahra & Stanton, 1988). Companies face various threats on their social status in terms of differences in viewpoint, goals' priorities, and objectives, among owners and other stakeholders.

In an economic perspective, it is difficult to differentiate CG and CSR. In practical applications, CG is concerned with moral principles and standards, while CSR involves the existing corporate practices that deal with social issues responsibly. This conveys that a positive relationship between CG and CSR exists (O'Dwyer, 2002). Coffey and Wang (1998) used correlation method and found that there is a significant association between society and management in terms of social responsibility. In addition, they noted that improving the company's CG is the best strategy to boost corporate social performance.

The aim of this paper is to analyze the moderating impact of CG practices on the relationship between CSR disclosure, as a transparency mechanism, and firm's financial performance of socially responsible companies. This study expects to provide vital information on the relationship between good CG practices and financial performance. The role of CG as a mediating element between CSR and the performance of socially responsible companies determined through financial markets and observations of different stakeholders will be explored.

2.4.2.1 Moderating effect of board of directors

The board of director is an important governing body considered by many researchers when exploring CG (Ferrero-Ferrero et al., 2015). It plays a crucial role in defining the socially responsible behaviors of the firm through strategic decision-making (Michelon & Parbonetti, 2012; Cuadrado-Ballesteros et al., 2017; Cucari et al., 2018). The board of directors helps managers in strategy formulation and implementation (Kabir & Thai, 2017). They also play a regulatory role by preventing managers from taking advantage of the company to promote their personal interests. The board can also prevent improper utilization and assist in efficient maximization of valuable organizational resources by personally supporting CSR activities, which could provide the company with various financial and non-financial benefits. The size of the board has great importance in monitoring and supporting managers. A larger board size can be more effective, as the workload of monitoring managers can be divided between different board members (Kabir & Thai, 2017). In addition, a larger board size can help in arranging external funding and may better address the concerns of the stakeholders in terms of CSR, which will ultimately lead to better financial performance. Therefore, the following hypothesis is proposed:

H2: A Large board size could strengthen the positive impact of CSR on financial performance.

3. Research Methodology

This section discusses the sources of data, methods of data collection, sample size, and analysis of data. Dependent and independent variables are defined separately in this portion including the statistical analyses of all three models.

3.1 Sample and Data Collection

This study utilized purposive sampling to obtain 50 companies registered in the Pakistan Stock Exchange (PSX) as samples. Secondary data for the dependent and independent variables were extracted from Bloomberg terminal including return on equity (ROE), return on assets (ROA), Tobin's Q, and data of control variables. Due to the unavailability of data, CSR was used as a dummy variable to divide the samples into two groups. The first group includes the 25 companies that had been awarded at the 9th Corporate Social Responsibility (CSR) Summit due to their rigorous involvement in CSR activities; while the second group comprises the remaining 25 companies that had not been involved in any CSR activities. Companies with CSR award had been assigned with "1" and the non-awardee with "0". Data for the 50 companies were taken for the period of seven years from 2010 to 2016.

3.2 The Dependent Variable

3.2.1 Measures of corporate financial performance

This study employed three accounting indicators to measure corporate financial performance which are: ROA, ROE, and Tobin's Q.

3.2.1.1 ROA

ROA is a financial performance indicator which shows how profitable an organization or firm is relative to its total assets. It is computed by dividing the net income by average total assets. Total assets represent the total investment of the firm including all its debt and equity investments. Obtaining ROA can help analyze the effectiveness of the management in generating profits from the firm's investments.

It presents the income generated from the investments of the firm; thus, it is a comparative measure. The higher the ratio of the ROA is, the more favorable it is for the investors; it indicates that the firm is utilizing its assets more efficiently. It is an effective financial measure for analyzing the financial performance of the firm. Positive ROA indicates that the firm is earning profits; thus, its revenues are greater than its expenses. On the other hand, a negative ROA indicates that the firm is bearing loses and it is not generating any profit from its investments.

3.2.1.2 ROE

ROE is a financial performance indicator which shows how much the firm is generating profit for its equity holders. This is a profitability indicator ratio and is computed by dividing the net income by average shareholders' equity. It shows the amount earned by the firm in the common stock holders' investment. A positive ROE means that the firm is earning profits from its shareholders' investments.

3.2.1.3 Tobin's Q

The Tobin's Q is derived by James Tobin and has been extensively used by researchers as a proxy for financial performance. It is computed by dividing the total market value of the firm by the total asset value of the firm.

3.3 The Independent Variable

3.3.1 Corporate social performance

This study used a dummy variable (CSR) as a measure for corporate social performance. The value "1" was assigned to companies that have received the CSR award for being involved in several CSR activities, and the value "0" to those that have not been involved in CSR or have participated very little on it. The CSR awardees have large contributions in social sectors such as health, education, environment, welfare projects, and socio-economic development. A total of 25 companies with readily available data have been randomly selected. CSR was utilized as a dummy variable because there was no proper information available as to how much each company had contributed towards the society; in most cases the companies did not have any separate account for CSR activities.

3.3.2 Corporate Governance (CG)

CG was measured by the board size, i.e. the number of full-time directors in the board. This study included CG to explore how the firm's management influences the decision to contribute in CSR. The data for CG were taken from the Bloomberg terminal.

3.4 Control Variables

To analyze the impact of CSR on the firm's financial performance, the leverage ratio was taken as the control factor to systematically upset the financial performance of the firms. Debt to asset ratio was used as the proxy measure for leverage ratio (percentage), which is the total amount of debt divided by the total assets expressed in terms of percentage.

3.5 The Model

To test and quantify the relationship between CSR and the firm's financial performance, the fixed effect (FE) and random effect models (RE) were utilized. The bias of RE estimator was tested by the Hausman test. If the implied null hypothesis is not rejected, and both FE and RE gave roughly the same results, then RE should be preferred over FE since it is the most efficient estimator. However, rejection of the null suggests superiority of FE estimator (Deev & Khazalia, 2017). The functional form of the models is as follows:

$$ROA_{it} = f(CSR_{it}, BS_{it}, DA_{it})$$
$$ROE_{it} = f(CSR_{it}, BS_{it}, DA_{it})$$
$$TQ_{it} = f(CSR_{it}, BS_{it}, DA_{it})$$

The empirical equation is shown below:

$$ROA_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 BS_{it} + \beta_3 CSR_{it} BS_{it} + \beta_4 DA_{it} + \mu_{it}$$
$$ROE_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 BS_{it} + \beta_3 CSR_{it} BS_{it} + \beta_4 DA_{it} + \mu_{it}$$
$$TQ_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 BS_{it} + \beta_3 CSR_{it} BS_{it} + \beta_4 DA_{it} + \mu_{it}$$

where:

ROA_{it} is the return on assets,
ROE_{it} stands for return on equity,
TQ_{it} is the Tobin's Q ratio,
CSR_{it} represents corporate social responsibility,
BS_{it} is the board size which is the proxy for CG,
DA_{it} is the total debt to total assets which is the control variable,
μ_{it} is the white noised error term.

4. Results

4.1 Descriptive Statistics

The mean, median, and standard deviation were obtained first in order to define the general properties of the data set and variables, and to determine whether there is an outlier and other basic statistical problems which may affect the validity and reliability of the results. The descriptive statistics of all variables representing the 50 companies for this study are shown in Table 1 for the period of 2010 to 2016.

Because CSR is a dummy variable, which has two values, "0" or "1", and in order to prevent misrepresentation of various statistics values, it was excluded from Table 1. The three indicators, ROA, ROE and Tobin's Q represent the firm's financial performance with mean values of 8.51%, 21%, and 1.93% respectively. The moderating variable CG, whose proxy is board size has a mean of 9.26%. The control variable which is the leverage ratio or debt to asset ratio has a mean value of 15.53%.

If the value of skewness is zero, it shows symmetrical distribution. A positive value of skewness indicates that the data is skewed to the right, and a negative value implies that the data is skewed to the left. All the variables including ROA, ROE, Tobin's' Q, Debt to asset, and board size obtained positive values of skewness and are therefore, skewed towards the right. Kurtosis index indicates whether the data is heavy-tailed or light-tailed when compared to a data with normal distribution. An exact value of "3" indicates normal distribution; a value less than 3 indicates a heavier tail than a normal distribution and a value more than 3 indicates a lighter tail than a normal distribution.

Table 1: Descriptive Statistics

	ROA	ROE	TOBINS_Q	DEBT_TO_ASSET	BOARD_SIZE
Mean	8.511961	21.00687	1.926258	15.52584	9.25816
Median	6.80135	18.9806	1.162	9.9668	9
Maximum	41.3196	120.5405	14.9048	214.8849	17
Minimum	-8.4408	-62.3814	0.2777	0	5
Std. Dev.	8.304258	21.05798	1.976502	18.72778	2.364507
Skewness	0.808861	0.704164	3.232677	4.164846	0.657533
Kurtosis	3.221293	7.268711	15.29439	39.45616	2.52998
Jarque-Bera	37.99045	287.0833	2757.619	19985.97	27.38573
Probability	0	0	0	0	0.000001
Sum	2911.091	7163.344	660.7064	5325.364	3120
Sum Sq. Dev.	23515.6	150769.2	1336.043	119949.6	1878.54
Observations	342	341	343	343	337

Note: CSR refers to corporate social responsibility, which is measured through dummy variable. ROA stands for return on assets, ROE stands for return on equity, and TQ refers to Tobin's Q; all are measures of financial performance. DA stands for Debt to Asset or leverage ratio, which is a control variable, and BS refers to board size which is the proxy for CG or corporate governance.

4.2 Empirical Results

To examine the impact of CSR on the firm's financial performance with the moderating effect of CG in the presence of control variables (leverage ratio), this study applied correlation matrix, and FE and RE models; then, Hausman test was conducted to identify which model is the most appropriate. For Hausman test, the null hypothesis is *RE model is appropriate*; and the alternative hypothesis is *FE model is appropriate*. If the p-value is statistically significant then, the alternative hypothesis is supported, that is, the FE model will be used; otherwise, the RE model will be utilized. The leverage ratio (debt to equity ratio) was chosen as the control variable because it may impact the performance of the companies when compared to their sector. FE and RE are used to determine the cause and effect of the independent variable on the dependent variable.

4.2.1 Correlation Matrix

Table 2 shows the correlation matrix which determines the existence of multicollinearity in this study's model. A coefficient of correlation equivalent to '1' or '-1' indicates that there is a perfect positive or perfect negative correlation between the independent variables. A larger value of correlation coefficient implies stronger relationship between variables. In this study, the correlation coefficient of CSR and firm's financial performance shows that they have a moderate relationship with CG and debt to asset ratio.

Table 2: Correlation Matrix

	ROA	ROE	TOBINS_Q	Debt to Asset	Board Size
ROA	1				
ROE	0.706583	1			
TOBINS_Q	0.499125	0.41878	1		
Debt to Asset	-0.19074	0.059275	0.050384	1	
Bard size	-0.02512	0.102242	-0.15179	0.073341	1

4.2.2 Random Effect (RE) and Fixed Effect (FE) model analysis

This study employed two models which are RE model and FE model, then both were compared using Hausman test. A low p-value indicates that the FE model should be used; whereas, a high p-value implies that the RE model is the better choice.

Table 3 shows the results of the RE model which was further divided into three models. The results illustrate that all CSR (ROA = -0.80, p = 0.001; ROE = -0.20, p = 0.01; Tobin's Q = -0.03, $p<0.5$) have a significant, negative impact on the financial performance of companies operating in Pakistan. Board size and leverage also showed significant, negative impact on the profitability of firms. Meanwhile, the combined effect of CSR and board size across all three models (ROA = 0.09; ROE = 0.02; Tobin's Q = 0.001) have a significant, positive impact on financial performance of the companies.

Table 3: Random Effect (RE) Model

Independent Variables	M1	M2	M3
	ln *ROA*	ln *ROE*	ln*TB*
CSR	-0.80(-3.93***)	-0.20(-2.48**)	-0.03(-0.56)
LnDA	-0.68(-3.70***)	0.05(0.74)	0.04(0.65)
BS	-0.04(-2.58***)	-0.01(-0.78)	-0.01(-2.37**)
CSR*BS	0.09(4.09***)	0.02(2.71***)	0.001(0.53)
Constant	6.41(7.35***)	4.56(13.08***)	2.41(9.17***)

Independent Variables	M1 ln *ROA*	M2 ln *ROE*	M3 ln *TB*
R-squared	0.08	0.04	0.03
Adj: R-sq	0.07	0.02	0.02

Note: values in parenthesis are t- stats. *, **, *** indicate the p-value and its significance at 10%, 5%, and 1% respectively.

Table 4 shows the results of the FE model which was also divided into three models. Similar with the results of the RE model, all CSR (ROA = -0.77; ROE = -0.19; Tobin's Q = -0.01) have a significant, negative impact on the financial performance of companies operating in Pakistan.

Table 4: Fixed Effect (FE) Model

Independent Variables	M1 ln *ROA*	M2 ln *ROE*	M3 ln *TB*
CSR	-0.77(-3.81***)	-0.19(-2.37**)	-0.01(-0.24)
LnDA	-0.63(-3.37***)	0.07(0.98)	0.08(1.38)
BS	-0.04(-2.56***)	-0.004(-0.78)	-0.01(-2.38**)
CSR*BS	0.08(3.95***)	0.02(2.59***)	0.001(0.18)
Constant	6.16(6.96***)	4.47(12.68***)	2.21(8.56***)
R-squared	0.10	0.06	0.09
Adj: R-sq	0.07	0.03	0.06

Note: values in parenthesis are t- stats. *, **, *** indicate p value and its significance at the 10%, 5%, and 1% respectively.

The board size and leverage also have a significant, negative impact on financial performance. On the other hand, CSR and board size combined (ROA = 0.08; ROE = 0.02; Tobin's Q = 0.001) have a significant, positive impact on financial performance.

Table 5: Results of the Hausman Test

Hausman Test	M1 ln *ROA*	M2 ln *ROE*	M3 ln *TB*
Probability	0.3455	0.5687	0.0001

This study employed the RE and FE models and compared them using the Hausman test to determine which model is better to use. For Hausman test, the null hypothesis is RE model is appropriate; and the alternative hypothesis is FE model is appropriate. If the p-value is statistically significant then, the alternative hypothesis is supported, that is, the FE model will be used; otherwise, the RE model will be utilized. Table 5 shows the results of the Hausman test. The probability values for ROA (M1) and ROE (M2) are significant and are greater than the alpha; therefore, the null hypothesis is accepted, that is, the RE model is appropriate for ROA and ROE. On the other hand, the value for Tobin's Q (M3) is lower than the alpha; therefore, the alternative hypothesis is accepted, which means that the FE model is appropriate.

5. Conclusion

This study explored the impact of financial performance and CSR activities with the moderating effect of CG. Since most of the previous studies concerning CSR activities focused only on developed countries, this study chose to concentrate on developing countries, particularly Pakistan, which has numerous diverse institutional policy structures. Pakistan has a large population, enhanced economic progress, increasing foreign investments, and expanded culture. In current years, Pakistan has improved its responsiveness on CSR activities and started to focus on ethical standards and practices in the corporate sector.

Empirical analysis was done using correlation matrix, and FE and RE models. By investigating a moderate sample of registered firms in PSX, this study found that CSR, by itself, exerts a significant, negative impact on financial performance of firms in Pakistan.

This research also investigated the moderating role of CG, including board size, in relation to CSR and firm performance. The results showed that CSR and board size combined exert a significant, positive impact on firm performance. Several factors, such as the country's political system, corporate environment, economic status, and culture, influence CSR and CG. Future studies may consider investigating the cross-culture and cross-country variations in the moderating effect of CG in the relationship between CSR and firm performance.

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