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Corporate social responsibility and firm performance: The moderation of investment horizon and corporate governance

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Abstract: The current study proposes an integrated theoretical frame work, to explain the moderating role of institutional investors, their investment horizon and corporate governance mechanism in the sustainability of corporate social responsibility (CSR) and firm’s performance nexus. The proposed model explains how, the positive association between CSR and firm performance relationship, established on the basis of the stakeholder and corporate citizenship theories, can be further strengthened (effective monitoring hypothesis) or weakened (myopic institutions theory) by the presence of institutional investors in the firm’s ownership structure and corporate governance mechanism (agency theory). The study tested the proposed model on the unbalanced sample of 327 non-financial firms listed on the Pakistan stock exchange (PSX). The study concludes that, based on the agency theory, institutional investors (as a homogeneous group) positively moderates the CSR and firm performance relationship. However, agency theory failed to explain the negative moderation of short term investment horizon institutional investors and firm performance. The study further confirms the agency role of effective corporate

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PUBLIC INTEREST STATEMENT
The current research explored the impact of corporate social responsibility (CSR) in escalating financial performance of the firms. The research also explored the moderating role of institutional ownership and internal corporate governance mechanism of the firms in the relationship of CSR and firm performance. The study reported that CSR has a net positive impact on the corporate performance and the presence of institutional ownership in the firms’ ownership further strengthens the association between CSR and firm performance. However, the study further concluded that institutional investors, such as, commercial banks and mutual funds do not encourage the firms to allocate resources for the CSR-related activities. Moreover, the research also identified that effective internal corporate governance mechanism is also essential in the sustainability of CSR and firm performance relationship. The present study has significant implications for academicians, investors and policy makers to design policies in a way to protect the minority shareholders from the expropion of firmer sources by controlling shareholders.
governance mechanism in the sustainable CSR and firm performance relationship. The current study explored some of the major theoretical contradictions in the field of corporate finance literature, which are puzzling for the practitioners and scholars.

**Subjects:** Corporate Finance; Corporate Governance; Corporate Social Responsibility & Business Ethics; Corporate Social Responsibility; Business Ethics

**Keywords:** institutional investors; investment horizon; agency theory; stakeholder theory; corporate citizenship theory; integrated theoretical frame work

**Subjects:** G32; G34

1. **Introduction**

The corporations in the developed countries adopt different CSR strategies to attract the investors (Poddi & Vergalli, 2009). These strategies not only assist them to achieve economic objectives but also contribute to the viable ethical, social and environmental welfare (Rafique et al., 2017). Thus, among other factors, the sustainable social and financial growth of the developed countries is an upshot of the CSR activities espoused by their corporations (Ali et al., 2017). Empirical studies also provide mixed results regarding the role of CSR in firm performance mechanism (Clement-Jones, 2005; Iqbal et al., 2012; Lins et al., 2017). Thus, there is a need to explore those variables which assist to explicate the contradictory theoretical views and empirical findings. However, in the academic context, the concept of CSR is widely explored and are practically implemented in the developed countries but there is scanty literature available on this area in the developing countries (García-Rodríguez et al., 2013; Lyra, Barbosa De Souza, Verdinelli, & Lana, 2017; Malik & Kanwal, 2018; Riyadh et al., 2019).

The allocation of financial resources in the CSR activities by the firm’s management creates conflicts between the managers and the equity holders (Feng et al., 2018). However, agency theory suggests different internal and external mechanism (such as ownership structure and corporate governance) which helps to minimize such agency issues. Gillan and Starks (2003) suggested that the presence of institutional ownership in firm’s ownership structure provides a very effective external control mechanism that not only reduces agency problems but also play a very effective role in enhancing financial performance and allocation of firm’s resources in CSR activities. Thus, the study explores the moderating role of institutional investors in the sustainable CSR and firm’s performance relationship. However, financial institutions are also heterogeneous in nature; researchers classified the institutional investors on the bases of their investment horizon in the investee companies (Aguilera et al., 2006; Brown, 1998; Copeland et al., 2005; Cox et al., 2004; Cox & Wicks, 2011; Harford et al., 2018; Levinthal & Myatt, 1994; Monks & Minow, 1996; Ryan & Schneider, 2002; Waheed & Malik, 2019b; Zahra, 1996).

The researchers proposed that the long investment horizon institutional investors such as pension funds (Brown, 1998; Copeland et al., 2005; Harford et al., 2018; Monks & Minow, 1996; Mutilib et al., 2017; Neubaum & Zahra, 2006; Ryan & Schneider, 2002; Waheed & Malik, 2019b) hold a pragmatic view in the sustainable CSR and firm performance nexus. Whereas, the short investment horizon institutional investors such as mutual funds and commercial banks (Cox et al., 2004; Cox & Wicks, 2011; Levinthal & Myatt, 1994; Monks & Minow, 1996; Mutilib et al., 2017; Neubaum & Zahra, 2006; Waheed & Malik, 2019b; Zahra, 1996) hold an econometrics view about the role of CSR in the sustainable firm performance mechanism. In the current decade, institutional investors dominate in the ownership structure of the corporations in the developed and emerging economies (Ferreira & Matos, 2008). The institutional investors are considered superior owners of the firm as they have market knowledge, financial expertise, and ability to predict the future economic landscape (Elyasiani & Jia, 2010). But, these big players of financial markets have their different long-term or short-term investment objectives in the firms. But, CSR is long-term investment of the firms, which yields better results for the corporations in the post investment years (Javeed & Lefen, 2019; Orlitzky et al., 2003). Hence, the purpose of the current study is to explore the role of financial institutions in moderating the CSR and firms performance sustainability relationship as a homogeneous and heterogeneous group based on their investment horizon in the firms.
Corporate Governance (CG) is a mechanism devised to control and direct the affairs of the corporations to protect the interests of all its stakeholders (Aguilera & Crespi-Cladera, 2016) and Corporate Social Responsibility (CSR) is the commitment of the corporations to contribute to the wellbeing of its employees, community and society at large (Javeed & Lefen, 2019). Thus, corporate governance and CSR are closely interrelated as both discuss about the betterment of stakeholders. However, the main focus of corporate governance is the profit and wealth maximization for its shareholders, but CSR activities extends beyond these monetary objectives and covers the welfare of all the stakeholders. Empirical studies revealed many proxies (such as board size, board independence, board committees and audit quality) which enable the corporations to enhance the overall quality of the firm’s governance (Waheed & Malik, 2019a). Effective corporate governance mechanism raises shareholders confidence as a result management accumulates the financial resources at a low cost (Peters et al., 2011). The better governed corporations are reported not only socially responsible but also profitable (Javeed & Lefen, 2019).

Theoretically, agency theory also describes that the overall governance quality settles the agency problems between the management and shareholders which arise due to the allocation of the financial resources for the CSR activities (Feng et al., 2018). Thus, CSR is considered an agency problem that can be eliminated by improving overall quality of the corporate governance. So, corporate governance and CSR in sustainability of firm performance mechanism is a complex phenomenon which is rarely explored in the developed and the emerging economies. The current study attempts to fill this gap by developing a comprehensive measure of internal corporate governance index by using the methodology of (Aggarwal et al., 2011; Gompers et al., 2003) and then moderating this internal corporate governance index in determining the CSR and firm’s performance sustainable relationship. The study also contributes to the emerging economies literature by developing an internal corporate governance index that is based on nine most important attributes of the effective internal corporate governance system which are: size of the corporate board, number of executive directors, number of non-executive directors, number of independent directors, CEO-duality, number of board meetings, board committees, managerial ownership, and big four (Ullah, 2018; Waheed & Malik, 2019c).

Singh et al. (2018) in the developing countries and Gaur et al. (2015) in the context of developed economies explored the role of ownership concentration in firms’ performance, and these scholars also investigated moderation of concentrated ownership in corporate board proxies and firms performance. Moreover, Waheed and Malik (2019a), in the context of Pakistan, analyzed the direct impact of ownership concentration in firms’ performance and also the moderating role of concentrated ownership between corporate governance and firms’ performance. In a similar study, Peng and Yang (2014) in the context of Taiwan and Akben-Selcuk (2019) in the context of Turkey analyzed the moderating role ownership concentration in CSR and firm performance relationships. These scholars also called for more research in this area and suggested to explore the other components of the equity structure (e.g., institutional, managerial and foreign ownership etc.). The current study attempts to fill these gaps by considering the significance of financial institutes in enhancing the firms’ performance either directly or through the channels of corporate governance and CSR. The study selected the institutional ownership to fill this gap because there are a number of research studies that identified the financial expertise and market knowledge of the institutional investors who play a significant role in shaping the corporate policies of the firms (Garcia-Meca et al., 2017).

The novelty of the current research is to empirically test the contemporary theories related to ownership structure and corporate governance in the context of a developing country like Pakistan; facing multiple social and economic problems such as high birth rate, poor of health and educational felicities, political turbulence, terrorism, poverty and unemployment (Ehsan et al., 2018; Mahmood et al., 2019). The corporations operating in such environment produce poor quality of products (Ehsan et al., 2018) as the majority of the population in this region has very low per capita income and there is also a very low demand of expansive products in the market. These
circumstances have increased the responsibility of the corporation to play an effective role in enhancing the standard of living of the people. There is enough empirical evidence which reveals that in those countries where residence has low quality of life, corporations cannot achieve the purpose of long-term growth and profitability (Abbas et al., 2018; Ehsan et al., 2018; Lyra et al., 2017). The importance of Corporate Social Responsibility (CSR) has increased for the Pakistani corporate sector due to several factors, such as, family dominance, poor governance, corporate scandals, growing social and political awareness in the society, intervention of regulatory bodies in the corporations and rapid globalization. Moreover, the Securities and Exchange Commission of Pakistan (SECP) also issued codes related CSR for Pakistani firms (SECP, 2013). Therefore, CSR in Pakistani context need to be given more importance at both corporate and governmental level so that the nation achieves the goal of economic sustainability.

The current study is very useful for corporations; this research will help to develop an ideal equity structure that ensures the protection of all the stakeholders of the firm. The study will also enlighten the management about the role of role of institutional investors, investment horizon and corporate governance in the sustainability of corporate social responsibility and firms’ performance nexus. Hence, the findings of the study go a long way in impinging the firm managers and investors the way financial institutes and internal governance structure effect CSR and firms’ efficiency and productivity. The current study is useful for the financial institutions; this research is useful for financial institutions of the developing Pakistani economy. The study enables institutional investors to make a long- or short-term investment decisions in the corporations.

2. Literature review

2.1. Corporate social responsibility and firms performance

The review of the literature suggests that there are two major theoretical approaches which explain the association between corporate social responsibility (CSR) and financial performance of the firms. Stakeholder theory claims that firm need to oblige the expectations of its all stakeholders including shareholders, lenders, employees, business associates and general public at large and the success of managers depends on the balance of these competing claims (Ogden & Watson, 1999). Moreover, if the firm’s managements fulfill the rights of its stakeholders then it helps to achieve the corporation’s objectives set by its governing body (T. Donaldson & Preston, 1995). On the other hand, neoclassical theory propagates a negative relationship between corporate social responsibility and firm performance. The allocation of firm’s resources in CSR exceeds the costs of the company which reduces shareholders wealth and results competitive disadvantage (Waddock & Graves, 1997). However in the 1990s the phenomena of corporate citizenship emerged. The corporate citizenship theory emphasize that firms are the part of the society and they should behave like a responsible citizen of the society. Citizenship theory accentuates the metaphor for corporations that being a good citizen, corporations should follow rule of law, help the community and protect the environment. The corporate citizenship theory accentuate that corporations must play the role of a good citizen irrespective of their financial performance.

Empirical literature also provides conflicting finding about the CSR activities in the firm’s performance mechanism. The opponents of this phenomena claims that CSR is antithetical to the standard business practices and diverge the focus of the management from the wealth creation (Clement-Jones, 2005; Iqbal et al., 2012). Whereas, the proponents of CSR suggests that CSR is essential for long-term growth and profitability of the business and forces the management to work for the welfare of all the stakeholders of the firm (Ansong, 2017; Gregory et al., 2014; Hajajiyah et al., 2020; Hofman et al., 2017; Lins et al., 2017; Schwartz & Saia, 2012). Thus, the growing body of knowledge oscillates between these two theoretical and empirical extremes. Due to weak legal, ineffective institutional environment and inefficient regulatory authorities in the developing economies results void of information in the product, labor and capital markets (Khanna & Palepu, 1997). So, in order to restore the trust of the consumers and investors, the corporations in developing economies involve in CSR related activities (Dai et al., 2018). The
engagement of CSR activities performed by these firms give a competitive advantage in the markets (Porter & Kramer, 2006), so these firms are more valuable for the investors and end users of their final products (Shauki, 2011). However, there is a need to further investigate this connection in the developing Pakistani economy. The rapid globalization and the investments of multinational corporations in the Pakistani market have raised the awareness of CSR in growing Pakistani population. So, there is a need to explore this relationship in the light of competing theoretical and distinct empirical findings especially in those countries where governments do not have enough resources for the betterment of the society. Based on the above discussion the study hypothesized that:

**H1:** In those countries, where governments do not have enough resources, CSR activities performed by the corporations have positive impact on the financial performance of the firms.

### 3. Institutional ownership, corporate social responsibility and firms performance

The review of the literature suggests that other than cultural, social, legal and financial factors the ownership structure and the internal corporate governance mechanism play a pivotal role in determining the allocation of resources for CSR activities in the firms (Abreu et al., 2005; Gul et al., 2017; Jo & Harjoto, 2011; Juholin, 2004; Liu & Zhang, 2017). The diverse owners of the firms have competing expectations from the management and those owners which have either larger stake or market knowledge and expertise have greater influence in the strategic decision making (Hillman & Keim, 2001). The stakeholders’ salience describes that the presence of institutional ownership in the firms ownership structure effect the managerial decision related to CSR (Neubaum & Zahra, 2006). However, Callen and Fang (2013) and Gedajlovic and Shapiro (2002), concluded that the higher level of institutional ownership is effective enough to influence the strategic decision making of the corporations. Empirically, Liu and Zhang (2017) confirmed a positive association between institutional ownership and CSR practices adopted the corporations. Moreover, Yao et al. (2011) identified that institutional shareholding is an important determinants of CSR disclosure and better performance of the firms in China. Thus, the review of the literature suggests that play a pivotal role in the determination of CSR and firm performance mechanism.

Theoretically, the role of institutional investors is more positive in those countries where investors’ protection mechanism is weak (La Porta et al., 1997; Waheed & Malik, 2021). So, in a weak legal and unstable environment, these expert investors with their power of vote not only discipline the management but also motivate them to allocate financial resources for CSR activities (Wahba & Elsayed, 2015). The higher concentration of family controlled firms and their unscrupulous and opportunistic investment behavior has raised the role of institutional investors in the prospect of CSR in the Pakistani society (Mujtaba & Afza, 2011; Rehman et al., 2012; Waheed & Malik, 2019a). So, based on above arguments and in the context of Pakistan the thesis has the following hypothesis:

**H2:** In those countries, where weak legal and unstable environment prevails, institutional ownership positively moderates the CSR and financial performance relationship.

### 4. Institutional investment horizon, corporate social responsibility and firms performance

The contemporary research in the context of developed countries has identified not only the heterogeneity in the internal operating mechanism of the institutional investors but also their varying investment behavior in the investee companies. The investment objectives of the institutional investors in the corporations are based on their transaction pattern (cyclic or counter-cyclic), needs for liquidity, regulatory control and investment fiduciary responsibilities. Pension funds follow an anti-cyclical pattern of their transactions and they are established on the bases of general strategic asset allocation policies. By following this strategy, pension funds finance in
the infrastructure of the corporations and thus provide them resource for the long-term growth and productivity (Della Croce, 2011; Inderst & Della Croce, 2014). Moreover, pension funds not only maintain a fixed amount of assets in the form of corporate equity but they also maintain their stake in the firms in all type of economic conditions (Han et al., 2018). Thus, the counter-cyclic investment behavior of the pension funds brings sustainability in the financial performance of the firms (Han et al., 2018). The presence of pension funds in the firm’s ownership structure enforce the management to initiate green projects, as a results firms emit low carbon and increase their reliance on climate protecting energy sources (Della Croce et al., 2011). So, these long-term institutional investors with their abilities and skills play a constructive role in shaping the firm’s management practices related to CSR (Cox et al., 2004; Graves & Waddock, 1994; Johnson & Greening, 1999; La Torre-Torres et al., 2019).

On the contrary, mutual funds managers and commercial banks are also required liquidity to full fill the demands of their beneficiaries so they invest their funds on short horizon to have liquidity requirements (Ajina et al., 2015; Levinthal & Myatt, 1994; Monks & Minow, 1996; Yuan et al., 2008). Thus, mutual funds and banks have high turnover and they are also involved in frequent trading based on market information and trends (Yan & Zhang, 2007). Ajina et al. (2015) and Yuan et al. (2008) also documented that mutual funds and commercial banks have short-term investment horizon. These short investment horizon institutional investors are found ineffective in shaping the effective strategic policies related to CSR (Markham, 2006). Moreover, Liu and Zhang (2017) reported in the Chinese context that CSR has a negative impact on the firm’s financial performance in the short run but it yields positive results in the long run.

Thus, on the basis of the literature review, the study proposes that if heterogeneity of financial institutions based on their investment horizon then their role, in moderating the CSR and firm performance nexus, deviates from the predicted findings of the agency and signaling theories. Moreover, the research hypothesized that the presence of long investment horizon institutional investors (pension funds) in the firms ownership structure increases the effective monitoring the management (monitoring hypothesis) and compel the management to invest in the long term strategically important plans including allocation of resources in CSR activities (Cox et al., 2004). However, the study further hypothesized that short term investment horizon institutional investors (mutual funds and commercial banks) do not prefer to bear extra monitoring cost neither they oppose the management, so they are found ineffective in shaping the policies related to CSR (Markham, 2006). Thus, based on the above arguments the study has the following two hypotheses.

**H3: Long investment horizon institutional owners (pension funds) positively moderate the CSR and financial performance relationship.**

**H4: Short investment horizon institutional owners (mutual funds and commercial banks) do not positively moderate the CSR and financial performance relationship.**

5. **Corporate governance, corporate social responsibility and firms Performance**

The majority of the literature on corporate governance gyrates around the agency theory (Mees, 2015). In the context of developed countries, the agency theory provided feasible solution about those problems which arise due to the conflicts between the owner and the managers. The agency theory proposes an effective corporate governance mechanism not only eliminate conflicts between the owners and managers but it is also beneficial all the stake holders of the company. Those firms which are governed well also financially perform well (Arora & Sharma, 2016). The neo-classical theory proposes that the allocation of financial resources by the management, for CSR- related activities decreases the net profitability of the firms. In the light of above discussion the current study synthesized the agency and neo-classical theory and expects a positively
moderations of corporate governance in the sustainable relationship of CSR and firms performance mechanism. Majority of the empirical evidence on corporate governance, CSR and firm performance relationship is conflicting and inconclusive. Scholars in the different part of the word explored this issue with the help of different proxies of corporate governance such as corporate board size, board independence, CEO-duality, audit quality etc. (Mojeed et al., 2015; Mansoor et al., 2020). However, there is rare work available, which addresses this issue by composing all the proxies of corporate governance in the form an index and exploring its impact on firm's performance mechanism along with the CSR.

Contrary to the agency theory the stewardship theory presents other side of the same picture. The stewardship theory propagates that managers are good stewards of the corporation, owners should give them confidence by supporting their strategic decisions (Donaldson, 1990). The management has better knowledge and understanding about the firm's dynamics and market conditions so the unnecessary conflicts of the owners may hamper the firm's performance (Davis et al., 1997). Moreover, the proponents of stewardship theory also claim that the owners trust on the management reduces the monitoring cost, which increases shareholders return on equity and overall financial performance of the firms improves (Daily et al., 2003). Thus, contrary to the agency theory, stewardship theory does not advise any internal or external mechanism to enhance firm's performance. The stakeholder theory has evolved in the prospective of the developed world and empirical evidence revealed that stakeholder theory is valid in those countries, which have strong institutional environment, effective investors' protection mechanism and implementation on rules and regulations (Lu & Li, 2019; Narbel & Muff, 2017). So, based on these contradictory theoretical opinions, the study proposes that, in the context of Pakistan, where investors' protection mechanism is weak and institutions are not mature enough, so corporate governance mechanism can provide an effective tool to direct the firm's strategic decision related to CSR in such ways, which ensure better financial performance of the firms. Thus, the study hypothesizes that:

**H5: In those countries, where weak legal and unstable environment prevails, internal corporate governance mechanism moderates the CSR and financial performance relationship.**

6. **Theoretical framework**

The current study proposes the following theoretical framework, in order to explore the role of institutional investors, institutional investment horizon and corporate governance in the sustainability of corporate social responsibility and firms' performance nexus. The study helps to test the contemporary theories, in firm performance mechanism, in the context of emerging Pakistani economy. Agency theory discusses about those conflicts which create between the equity holders (owners) and the management (employees) in the corporations due to the different objectives of these two groups. The decision of management to involve in CSR related activities is one such issue which contradicts from the objectives of the owners and the managers. The owners expect that the involvement of management in CSR activities is wastage of firm's precious resources, whereas, management believe that CSR is important for long term growth and profitability. The agency theory also points out different external and internal mechanisms (such as ownership structure and corporate governance) which help to eradicate such agency conflicts. So in the light of agency theory the study expects a positive moderation of institutional ownership and internal corporate governance mechanism in sustainable CSR and firm's performance relationship.

Secondly, the study tests agency theory, by considering the heterogeneous nature of the institutional investors and the classification of the institutional investors based on their investment horizon provided contradictory empirical finding form the theoretical predicted results. The study proposes that long term institutional investors bear extra monitoring cost and they enforce the management to involve in CSR activities (Effective monitoring hypothesis). On the contrary, Short
Investment horizon institutional investors do not bear extra monitoring cost, so they do not bother about the firm’s strategic decision related to CSR. The investment decision of short investment horizon institutional investors is based on the market conditions and access to the private information about the firms (Information asymmetry theory and myopic institutions theory). Thus, the study proposes a positive moderation of long investment horizon institutional investors in sustainable CSR and firm performance relationship and a negative moderation of short investment horizon institutional investors in CSR and firms performance relationship.

7. Methodology

7.1. Sample
The current research reports the role of institutional ownership, institutional investment horizon and internal corporate governance mechanism in the sustainable relationship of CSR and firms performance, for the period of 2007–2018. The study analyzed an unbalance panel of 327 firms from non-financial sector listed on the Pakistan stock exchange (PSX). The data related CSR (social contribution value per share) and firm’s performance measures (Tobin’s Q) is computed from the consolidated financial statements of the annual reports. The data related to institutional ownership is computed form the pattern of shareholdings and the data related to corporate governance proxies (such as size of the corporate board, number of executive directors, number of non-executive directors, number of independent directors, numbers of female directors, CEO—duality, number of board meetings, internal audit committee and big four) are obtained from the directors report. Thus final selected sample is comprised of an unbalance panel of 327 firms with 3597 firm year observations from 2007–18.

8. Variables

8.1. Dependent variables
The research adopted the market based measures of performance (i.e., Tobin’s Q) as regressands. Tobin’s Q is a market measure of firm’s performance and it measures the firms’ value form the investors’ perspective (Tobin, 1969). Tobin’s Q is considered a very reliable measure of performance, when it is used to evaluate the firms performance on the bases of ownership structure and corporate governance policies particularly related to financing, dividend disbursement and compensation for social welfare (Chung & Pruitt, 1994). If the value of Tobin’s Q, for any firm, is greater than one then it is considered that investors have good opportunity to invest in this firm (Lang et al., 1989).

9. Explanatory variables

9.1. Corporate social responsibility (CSR)
The study calculated the CSR in terms of social contribution value per share (Feng et al., 2018; Javeed & Lefen, 2019). This measure of CSR is developed on this phenomenon that the objective of CSR can be achieved if the company creates value for all the stakeholders of the firms. Based on this idea, firstly, the value of social contribution value per share is calculated by take the ration of earnings per share for the equity holders secondly, value addition for the society is computed with the help of corporate taxes paid to the governments. Thirdly, the salaries paid to the staff are also computed, these salaries are essential for the sustainability of the households of the employees. Fourthly, the interest amount paid to the creditors is also used for the welfare of the society, as these creditors include either financial institution which finance the firms with the help of individual household savings, and provide the household a fixed return, or creditors include those individuals which hold corporate bonds for a fixed rate of return. Fifthly, the firms also spend money in terms of charity and donations for the society. Lastly, the operations of the firms in the society also have a social cost for its all stakeholders in terms of environmental pollution, is also computed. Thus, in order to calculate social contribution value per share the above six factors are integrated in the following formula.

\[
\text{CSR} = \frac{\text{EPS} + (\text{Total Tax} + \text{Staff Expenditure} + \text{Interests} + \text{Public Welfare Payout} - \text{Social Cost})}{\text{Total Equity}}
\]
10. Institutional ownership (IO)

Institutional ownership means the shares held by the financial institutions in the firm’s ownership structure. For the purpose of analysis the current study computed this variable by taking a fraction of shares held by all types of financial institutions in the firm to the total numbers of the shares of the firms. This definition of institutional ownership is widely accepted in the literature (Chen et al., 2007; Hartzell & Starks, 2003; Malik et al., 2021; Wang et al., 2011; Wu & Yang, 2018) and it can be calculated with the help of the following formula.

\[
IO = \frac{\text{Total numbers of shares held by institutional investors}}{\text{Total numbers of shares of the firm}}
\]

The cumulative impact of institutional ownership in the sustainability of CSR and firm’s performance relationship is used to test the agency theory. However, to test the effective monitoring hypothesis and conflicts of interest hypothesis, the study further divides the institutional ownership in two sub groups based on their investment horizon.

11. Long term investment horizon institutional investors (LTIO)

In the light of the reviewed literature, the study further classified institutional investors based on their investment objectives in the investee companies. Pension funds are categorized as those institutional investors which have long-term investment horizon and it is calculated by dividing the shares held by the pension funds to the total outstanding shares of the company (Copeland et al., 2005; Mutalib et al., 2017; Ryan & Schneider, 2002; Waheed & Malik, 2019b).

\[
LTIO = \frac{\text{Total numbers of shares held by pension funds}}{\text{Total numbers of shares of the firm}}
\]

12. Short-term investment horizon institutional investors (STINS)

The study further identified in the literature those financial institutions such as mutual funds and commercial banks have short-term investment horizon in the investee companies. The variable long-term investment horizon institutional investors (STINS) is calculated by dividing the shares held by the mutual funds and commercial banks to the total numbers of outstanding shares of the firm (Cox et al., 2004; Cox & Wicks, 2011; Mutalib et al., 2017; Waheed & Malik, 2019b).

\[
LTIO = \frac{\text{Total numbers of shares held by mutual funds and commercial banks}}{\text{Total numbers of shares of the firm}}
\]

13. Corporate governance index (CGI)

The study developed an additive corporate governance index, by using Gompers et al. (2003) methodology, based on the nine different proxies of internal corporate governance mechanism which are adopted from (Ullah, 2018; Waheed & Malik, 2019c). The additive index is based on the size of the corporate board, number of executive directors, number of non-executive directors, number of independent directors, CEO-duality, number of board meetings, board committees, managerial ownership and big four (Ullah, 2018; Waheed & Malik, 2019c). In order to construct the additive index each proxy of corporate governance is attributed to an ordinal number ranging from 1 to 5. Under this method the lowest values of the governance proxy are attributed the values of 1 and the highest values are attributed the value of 5. Afterwards all the values on the corresponding rows were added and then a minimum, maximum value and range for each year in the sample is calculated. The index value is finally calculated by taking the difference of the sum values and minimum values and by dividing this value with the range of the corporate governance proxy (Aggarwal et al., 2011; Ammann et al., 2011; Gompers et al., 2003).

14. Control variables

In order to control the institutional ownership corporate governance and performance relationships and to consider the disparity among firms the current study has also used some control variables, which are firm size, leverage and firm’s age (Waheed & Malik, 2019a).
15. The econometric model
In order to explore the impact of institutional ownership and their investment horizon and corporate governance in moderating the CSR and firm performance mechanism the study an unbalance panel of 327 non-financial firms from Pakistan Stock Exchange (PSX). As the data set is in the form of unbalanced panel so there exist the problems of serial correlation, unobserved heterogeneity, simultaneous and dynamic endogeneity in the sample. Thus to tackle these in build problems in the selected study the sample adopted the technique of Arellano-Bond dynamic panel data estimation (under assumptions of GMM) in order to provide more robust and generalisable results (Wooldridge, 2010).

\[
\text{Tobin's } Q_{it} = \gamma_0 + \gamma_1 \text{Tobin's } Q_{i,t-1} + \gamma_2 \text{CSR}_{it} + \gamma_3 \text{IO}_{it} + \gamma_4 \text{LTIO}_{it} + \gamma_5 \text{STIO}_{it} + \gamma_6 \text{CGI}_{it} + \gamma_7 \text{CSR} \cdot \text{IO}_{it} + \gamma_8 \text{CSR} \cdot \text{LTIO}_{it} + \gamma_9 \text{CSR} \cdot \text{STIO}_{it} + \gamma_{10} \text{CSR} \cdot \text{CGI}_{it} + \gamma_{11} \text{Controls}_{it} + \epsilon_{it}
\]

16. Results and discussion
Table 1 summarizes the descriptive statistics for all the variables used in the study. In the following table, all the variables show a wide range of variations from their means. This indicates that the current sample has been effectively selected to achieve sufficient variation, and which reduces the possibility of bias sample selection. The mean value of the Tobin’s Q is 1.343 with maximum value of 123.321 and minimum value of 0.128. The Tobin’s Q measure appears reasonable as most of the values are just above one. The mean value of CSR is 12.729 with maximum value of 134.720 and minimum value of −122.820. The descriptive statistics also shows that the mean value of institutional ownership in the selected sample is 12.4 percent and the mean value of long term investment horizon institutional investors is almost 1 percent and the mean value of short term investment horizon institutional investors is 6.9 percent. The sample set shows that the mean value of the corporate governance index is 0.470 with standard deviation of 0.197. Moreover, the sampled data set is positively skewed, as value of the mean is greater than the value of the median, and the descriptive statistics also depicts that selected variables are not normally distributed.

17. Correlation matrix
Table 2 presents the correlation coefficients among Tobin’s Q, CSR, institutional ownership, long term investment horizon institutional investors, short term investment horizon institutional investors, corporate governance index and other control variables such as firm size, leverage, and firm’s

| Table 1. Descriptive Statistics |
|---|---|---|---|---|---|
| Variables | Mean | Median | Maximum | Minimum | Standard Deviation |
| Tobin’s Q | 1.343 | 0.956 | 12.321 | 0.128 | 1.416 |
| CSR | 12.729 | 4.680 | 134.720 | −122.820 | 40.857 |
| IO | 0.124 | 0.121 | 0.895 | 0.001 | 0.117 |
| LTIO | 0.010 | 0.000 | 0.099 | 0.001 | 0.008 |
| STIO | 0.069 | 0.035 | 0.895 | 0.003 | 0.088 |
| CGI | 0.470 | 0.467 | 0.793 | 0.007 | 0.197 |
| Firm size | 6.685 | 6.635 | 8.696 | 4.132 | 0.675 |
| Leverage | 0.626 | 0.582 | 12.163 | 0.007 | 0.548 |
| Firm age | 3.458 | 3.434 | 5.043 | 1.099 | 0.508 |

*Note: N = 327 firms taken from non-financial sector*
Table 2. Correlation Matrix

| Variables      | 1   | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | VIF |
|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| Tobin’s Q(1)   | 1.0 | —     |       |       |       |       |       |       |       | 2.05|
| CSR (2)        | 0.216*** | 1.0 | —     |       |       |       |       |       |       | 2.97|
| (0.000)        |     | —     |       |       |       |       |       |       |       |     |
| IO (3)         | 0.112*** | 0.033 | 1.0 | —     |       |       |       |       |       | 1.95|
| (0.000)        | (0.191) | —     |       |       |       |       |       |       |       |     |
| LTIO (4)       | 0.126*** | 0.063*** | 0.110*** | 1.0 | —     |       |       |       |       | 1.88|
| (0.000)        | (0.013) | (0.000) | (0.317) | —     |       |       |       |       |       |     |
| STIO (5)       | -0.11*** | -0.026 | 0.610*** | 0.026 | 1.0 | —     |       |       |       | 1.90|
| (0.000)        | (0.310) | (0.000) | (0.317) | —     |       |       |       |       |       |     |
| CGI (6)        | 0.110*** | 0.122*** | 0.291*** | 0.041* | 0.300*** | 1.0 | —     |       |       | 2.05|
| (0.000)        | (0.000) | (0.101) | (0.000) | —     |       |       |       |       |       |     |
| Firm size (7)  | 0.025 | 0.111*** | 0.130*** | 0.126*** | 0.016 | -0.011 | 1.0 | —     |       | 1.80|
| (0.321)        | (0.000) | (0.000) | (0.000) | (0.542) | (0.660) | —     |       |       |       |     |
| Leverage (8)   | 0.268*** | -0.14*** | 0.007*** | 0.023 | -0.053** | 0.070*** | -0.18*** | 1.0 | —     | 2.12|
| (0.000)        | (0.000) | (0.774) | (0.359) | (0.036) | (0.006) | (0.000) | —     |       |       |     |
| Firm age (9)   | 0.039 | 0.125*** | -0.05*** | 0.045* | -0.012 | -0.07*** | 0.057** | -0.108 | 1.0 | 1.85|
| (0.125)        | (0.000) | (0.032) | (0.080) | (0.635) | (0.003) | (0.025) | (0.000) | —     |       |     |

The Table 2 presents the correlation coefficients among Tobin’s Q, CSR, Institutional ownership, Long-term investment horizon institutional investors, Short-term investment horizon institutional investors, Corporate governance index and other control variables (Statistical significance is denoted by ***; ***, **, and * at 1, 5, and 10 percent, respectively). SSS
age. The table depicts that there does not exist any issue of multicollinearity among the variables as none of the absolute value of coefficient is greater than 0.7. The coefficient of Tobin’s Q is positively and significantly correlated with CSR, IO, LTIO and CGI but negatively and significantly correlated with STIO. The coefficient of CSR has positive correlation with IO, LTIO and CGI but negative and significant correlation with STIO. The LTIO does not correlate with STIO however LTIO is positively correlates with CGI. The matrix further shows a positive and significant correlation between IO and CGI. Correlation results for the following matrix for the Tobin’s Q are consistent with the agency Theory, corporate citizenship theory, stakeholder theory, effective monitoring hypothesis, information asymmetry theory and myopic institutions theory. Moreover in Table 2 all the variance inflation factor (VIF) for all the selected variables are less than the 10, which also confirm there is no multicollinearity (Wooldridge, 2010).

18. Regression results

18.1. Regression analysis of model 1 for Tobin’s Q
The following Table 3 provides the econometric results of the Tobin’s Q with the help of Arellano-Bond Dynamic Panel Data Model (under the assumptions of GMM) and Fixed Effect Model for the sample of 327 unbalanced firms listed on Pakistan stock exchange (PSX). The Arellano-Bond Dynamic Panel Data Model provides reliable results particularly when the sample is unbalanced in nature and there exists the issue of endogeneity in the selected variables. Moreover, the estimates of Arellano-Bond Dynamic Panel Data Model are robust and generalizable because these are obtained by resolving the troubles of unobserved heterogeneity, serial correlation, simultaneous and dynamic endogeneity in the selected data (Wooldridge, 2010). In the following table, individual impact of CSR, institutional ownership (IO), long term investment horizon institutional investors (LTIO), short term investment horizon institutional investors (STIO), corporate governance index (CGI) and other control variables are provided in the second column and the table further provides a stepwise addition of moderating impact of CSR with IO, LTIO, STIO and CGI, respectively.

The first hypothesis (H1) of the study is based on the corporate citizenship theory and stakeholder theory agency theory which states that in the countries; where governments do not have enough resources CSR activities performed by the corporations have positive impact on the financial performance of the firms. In the following Table 3, the coefficients of CSR are almost consistently positive and significant on the Tobin’s Q. The coefficient of CSR in the second last columns is 0.005 with (p < 0.05) for the dynamic panel model and it is also positively significant (p < 0.05) for the fixed effect model in the last column. This result confirms the first hypothesis of the study, and it is also consistent with the corporate citizenship and stakeholder theories. Empirically, this finding is consistent with the findings of Feng et al. (2018) for China and Javeed and Lefen (2019) for Pakistan.

The second hypothesis (H2) of the study is formulated by the amalgamation of agency theory with corporate citizenship and states that; in those countries, where weak legal and unstable environment prevails, institutional ownership positively moderates the CSR and firm financial performance relationship. In order to test this moderating impact the study includes a stepwise analysis in the base model. In the third column, the interaction term CSR×IO is used to test the moderation of institutional ownership in CSR and firm performance mechanism. The coefficient of the first interactive term in the columns 4 and 5 are positive and significant (p < 0.01) for both dynamic and static models. Moreover, the coefficients of the first interactive term are also positively significant in the last two columns of the table 3. So, this result confirms the agency role of institutional investors in CSR and firm performance mechanism.

The third hypothesis (H3) of the study is formulated by the amalgamation of effective monitoring hypothesis with the corporate citizenship and stakeholder theories and states that; long investment horizon institutional owners (pension funds) positively moderate the CSR and firms’
| Variables | Dynamic | Static | Dynamic | Static | Dynamic | Static | Dynamic | Static | Dynamic | Static |
|-----------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
| Lagged Tobin's Q | 0.275*** | 0.310*** | 0.303*** | 0.298** | 0.291*** | 0.291*** |          |         |          |         |
| CSR       | 0.003*  | 0.002*  | 0.006** | 0.003*  | 0.002*  | 0.001  | 0.004  | 0.007* | 0.005** | 0.007** |
| IO        | 0.087*** | 0.081** | 0.044** | 0.088*** | 0.084** | 0.077*** | 0.098*** | 0.090*** | 0.087*** | 0.081*** |
| LTIO      | 0.054** | 0.059** | 0.024   | 0.018   | 0.056*  | 0.007  | 0.005  | 0.011  | 0.010  | 0.026*  | 0.021*  |
| STIO      | -0.089** | -0.090* | -0.082*** | -0.061** | -0.070** | -0.054** | -0.050** | -0.082*** | -0.071** | -0.070*** | -0.062* |
| CGI       | 0.029   | 0.033   | 0.034   | 0.025   | 0.018   | 0.011  | -0.019 | -0.015 | -0.032 | -0.033 | 0.029   | 0.030   |
| Firm Size | -0.550*** | -0.431** | -0.495*** | -0.411** | -0.524*** | -0.511** | -0.412** | -0.420** | -0.531*** | -0.501** | -0.471*** | -0.481** |
| Leverage  | 0.026   | 0.045   | 0.029   | 0.047   | 0.033   | 0.025  | -0.005 | -0.006 | 0.041   | 0.050   | 0.039   | 0.042   |
| Firm Age  | 1.060*** | 1.051*** | 1.065*** | 1.016*** | 1.089*** | 1.020*** | 0.498** | 0.410*** | 0.496*** | 0.501*** | 0.553*** | 0.544** |
| CSR×IO    | 0.104*** | 0.100*** |          |         |         | 0.018*** | 0.013** |         |         |         |         |

(Continued)
|                      | CSR×LTIO |   |   |   | CSR×STIO |   |   |   | CSR×CGI |   |   |   | R-Square |   |   |   | Arellano-Bond |   |   |   | AR(1) in diff (m1) p-value |   |   |   | AR(2) in diff (m2) p-value |   |   | Sargan test p-value |
|----------------------|----------|---|---|---|----------|---|---|---|----------|---|---|---|----------|---|---|---|---------------------------|---|---|---|---------------------------|---|---|---|
|                      |          | 0.121* | 0.103** |   | 0.126* | 0.120** |   |   |   |          | 0.017* | 0.014* | 0.015* | 0.019* | 0.15 | 0.17 | 0.19 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
|                      |          | 0.000 | 0.000 |   | 0.000 | 0.000 |   |   |   |          | 0.521 | 0.395 | 0.448 | 0.196 | 0.322 | 0.277 |
|                      |          | 0.294 | 0.201 | 0.227 | 0.189 | 0.235 | 0.395 |

Statistical significance is denoted by ***, **, and * at 1, 5, and 10 percent, respectively.
financial performance relationship. In order to test this moderating impact the study included a stepwise analysis in the base model. In the sixth and the seventh columns, the interaction term CSR×LTIO is used to test the moderation of long investment horizon institutional owners (pension funds) in CSR and firm performance mechanism. The coefficients of the second interactive term in the columns 6 and 7 are positive and significant. Moreover, the coefficients of the second interactive term “CSR×LTIO” are also positive and significant in the last two columns of Table 3 for the dynamic and static models, respectively. So, these results confirm the effective monitoring hypothesis for the long investment horizon institutional owners (pension funds) in moderating the CSR and firm performance mechanism.

The fourth hypothesis (H4) of the study is formulated with the amalgamation of information asymmetry and myopic institutions theories with the corporate citizenship and stakeholder theories and states that; short investment horizon institutional owners (mutual funds and commercial banks) negatively moderate the CSR and firm financial performance relationship. In order to test this moderating impact, the study included a stepwise analysis in the base model. In the eighth and ninth columns the interaction term CSR×STIO is used to test the moderation of short investment horizon institutional owners (mutual funds and commercial banks) in CSR and firm performance mechanism for the dynamic and static models. The coefficient of the third interactive term in the columns 8 and 9 are negative and significant (p < 0.01) on Tobin’s Q. Moreover, the third interactive term “CSR×STIO” is also negatively significant with (p < 0.01) in the last two columns of the table III, for both dynamic and static models respectively. So, these results confirm the information asymmetry and myopic institutions theories for the short investment horizon institutional owners (mutual funds and commercial banks) in negatively moderating the CSR and firm performance mechanism.

The fifth hypothesis (H5) of the study is formulated with the amalgamation of agency theory with the corporate citizenship and stakeholder theories and states that; in those countries, where weak legal and unstable environment prevails, corporate governance mechanism moderates the CSR and financial performance relationship. In order to test this moderating impact the study included a stepwise analysis in the base model. In the tenth and eleventh columns the interaction term CSR×CGI is used to test the moderation of corporate governance index in CSR and firm performance mechanism. The coefficients of the fourth interactive term in the columns 10 and 11 are positive and significant (p < 0.1) on Tobin’s Q. Moreover, the fourth interactive term “CSR×CGI” is also positively significant with (p < 0.1) in the last two columns of the tale III, for both dynamic and static models respectively. So, this result conforms to the last hypothesis (H5) of the study, and this result is also consistent with the agency theory. Moreover, the firm characteristics or control variables, such as, firm size, leverage, and firm’s age in the followings models are also significant with the Tobin’s Q. The coefficients of firm size are consistently negatively significant with the Tobin’s Q, which indicates that large size firms do not perform well in the context of the Pakistan. This result is consistent with the findings of (Azhar & Ahmed, 2019; Usman et al., 2015; Waheed & Malik, 2021). The coefficient of the second control variable leverage is insignificant for the selected sample of the study. However, the results report that the coefficients of firm age are consistently positive and significant in the table.

19. Conclusion
The current research proposes a contingent theoretical frame work, and the hypothesis of the study are formulated with the help of agency theory, corporate citizenship theory, stakeholder theory, effective monitoring hypothesis, information asymmetry theory and myopic institutions theory. The research tested this hypothesis by selecting a sample of 327 firms listed on Pakistan stock exchange from 2007 to 2018. Based on the analysis, the study concludes that although CSR is positively related to the firm performance in the emerging Pakistani economy but there are certain variables, such as ownership structure and corporate governance, which strengthen or weaken the CSR and firm performance relationship. On one hand, the study confirmed corporate citizenship and stakeholder theory in the Pakistani scenario in explaining the CSR and firm
performance relationship. The research further explored that, in the light of agency theory, the presence of institutional ownership in the firm’s ownership structure and the corporate governance mechanism not only stimulates the corporations to actively participate in the CSR activities but also positively moderate the CSR and firm performance relationship. Furthermore, the study also test hypothesis about the heterogeneous nature of the institutional investors based on their investment horizon in the investee companies. The research concludes that, the presence of long investment horizon institutional investors (pension funds) in the firms’ ownership structure, effectively monitor the management, and ensure such policies which enable the corporation to achieve the purpose of long-term growth and profitability. Thus, the selected sample concludes that pension funds positively moderate the CSR and firm performance relationship. On the contrary, the short investment horizon institutional investors (mutual funds and commercial banks) are not interested in implementing such policies which yield long term results in the corporations, rather their investment behaviors is based on the market perception and information (myopic institutions and information asymmetry theory). Thus the empirical analysis confirmed the negative moderation of short term investment horizon institutional investors in the CSR and firm performance mechanism in the Pakistan. The study expand the existing literature, by identifying such variables which play an important role in determining the volume of CSR activities performed by the corporation and their theoretical contingencies in the developing Pakistani economy. The study further suggests that there is a need to further investigate this relationship in the light of managerial, governmental and foreign ownership.

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