CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Corporate Social Responsibility-Firm Performance Link-Moderating Role of Ownership, Board Characteristics, and Islamic Label

by

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A dissertation submitted in partial fulfillment for the degree of Doctor of Philosophy

in the

Faculty of Management & Social Sciences
Department of Management Sciences

2024

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2024

This dissertation is proudly dedicated to my respected parents,
my teachers and my friends.
My deepest gratitude is to Dr. Arshad Hassan for
his encouragement, support and guidance.
I humbly profess without them, I would have stumbled long time ago.

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This is to certify that the research work presented in the dissertation, entitled "**Corporate Social Responsibility-Firm Performance Link-Moderating Role of Ownership, Board Characteristics, and Islamic Label**" was conducted under the supervision of **Dr. Arshad Hassan**. No part of this dissertation has been submitted anywhere else for any other degree. This dissertation is submitted to the **Department of Management Sciences, Capital University of Science and Technology** in partial fulfillment of the requirements for the degree of Doctor in Philosophy in the field of **Management Sciences.** The open defence of the dissertation was conducted on **July 31, 2024**.

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List of Publications

It is certified that following publication(s) has been accepted out of the research work that has been carried out for this dissertation:-

1. Nasir, W., Hassan, A., & Khan, M. H. (2023). Corporate social responsibility and firm performance nexus: Moderating role of CEO chair duality. *Plos on*e, 18(8), e0289037.

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Acknowledgement

All the praises to Allah almighty the most beneficent, merciful and creator of the all universes who provided me strength and enabled me to start and complete this dissertation in the midst of myriad challenges. Moreover, peace and blessings be upon the **Holy Prophet Muhammad (SAW)**.

I am grateful to my highly knowledgeable supervisor, **Dr. Arshad Hassan**, who has continuously encouraged me, given me precious guidance, and patiently spent invaluable time to comment on my research work.

I am also grateful to all my friends particularly **Dr. Mushtaq Hussain Khan**, for their continuous encouragement, motivation and support.

My greatest appreciation to my mother and my wife for their support, understanding, patience and prayers.

Abstract

The growing integration of social concern into business operations is one of the major trends across the globe. This study explores the link between CSR, board characteristics and firm performance under the theoretical framework of stakeholder theory and agency theory. This study examines the relationship by using a sample of 131 firms of non-financial firms listed at the Pakistan Stock Exchange from 2006 to 2019 in linear and nonlinear settings. The study uses market-based measures as well as book-based measures of performance. An important feature of the study is the use of actual allocation of profit for social activities. The study uses the generalized method of moments for the estimation of results along with panel EGLS.

The findings of the study highlight that the relationship between CSR and Tobin Q is nonlinear in nature. The convexity of the relationship indicates that when small allocations are made for social causes these are considered as agency costs and while CSR allocation increases these are priced by the market. The point of inflection is 8-10% and the relationship is U-shaped. Board size and CEO duality have a negative impact on Tobin Q while board independence and female representation have a positive impact on firm performance.

The study also provides insight into the moderating role of board characteristics, ownership, and sharia compliance in explaining the link between CSR and firm performance. The interaction terms of CEO/Chair duality with CSR are significant and negative indicating concentration of the power on the one hand weakens the link between CSR and performance. The female presence on the board plays a moderating role between CSR and firm performance. The impact of CSR on firm performance is higher for companies that have a higher representation of females on board. The board size moderates the relationship between CSR and firm performance while results for moderating the role of board independence are mixed.

The findings of the study further reveal that debt-dependent firms are weak performers. Big firms are more profitable in comparison to small firms and growth

in sales results in higher performance. There exists a significant positive association between ROE and Tobin Q which means that profitability is priced by the market.

The results for the moderating role of ownership between CSR and firm performance are mixed. The increase in family ownership leads to strengthening the link between CSR and Tobin Q. While it does not change with the change in the level of family ownership for ROA. In Sharia-compliant firms, the link between CSR and firm performance is stronger in comparison to non-sharia-compliant firms. Further, if the sharia compliant firm is family owned then the link between CSR and firm performance further strengthens. The reason may be a higher level of monitoring and socially responsible behavior of companies. Moreover, if the Sharia-compliant firm is foreign-owned then the link between CSR and firm performance remains the same.

The findings reveal that board characteristics, ownership, and sharia compliance influence the bottom line as well as market value. Therefore, companies should adopt a broad and long-term perspective on their operations and consider all of the stakeholders. This study offers many policy implications for regulators and other stakeholders.

Keywords: CSR, Board Characteristics, Ownership, Sharia Compliance, Firm Performance

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Chapter 1

Introduction

Corporate Social Responsibility (CSR) is a core concept that is reshaping the corporate landscape. It is not only concerned with the financial outcomes of the businesses but also with social performance of businesses. CSR can be considered an instrument that is used by firms to integrate voluntarily environmental and social concerns within business operations and linkages with stakeholders. It is not simply pursuing laws with minimal compliance. It is a step ahead in getting involved in responding to societal needs. This involves resource allocation in the human and environmental development. Therefore, companies move beyond the mandatory legal obligations and synchronize their financial interests with environmental and social interests.

The idea has attracted the attention of stakeholders at the global level and become an integral part of business operations. Companies across the globe are allocating large amounts for social programs. These allocations flow to community development programs and rising budgetary assignments seem encouraging. However, the management considers these allocations as long-term investments that will be reflected in the bottom line of financial statements. It must be clear that CSR allocation is not a charity, it is not a cost for building public relations. It is a smart investment that creates value for the firm as well as society. It improves the linkage with the buyers, sellers, consumers, and regulators. A well-structured CSR framework influences potential leaders, media, and desired audiences. It builds the reputation of the company and positions it at an elevated level in society.

Therefore, firms exhibit socially responsible behavior for business and moral purposes. The proponents of socially responsible behavior emphasize the gains that firms can obtain in the shape of higher financial accomplishment. This strand of literature initiates the debate that connects businesses to society. This domain explores the connection amongst social conduct of the business towards the stakeholders and the society and its performance.

Lee and Shin (2010) argue that companies have different motives for participating in such activities. These objectives may range from philanthropy to conforming with organizational requirements and benefits such as financial gains and positive word of mouth. The literature identifies various advantages of being socially responsible. These include attracting funds; hiring good employees; and marketing products; to create a competitive advantage. Weber (2008) recognizes five major benefits of CSR which include a better corporate image; high employee motivation; cost savings; higher sales; higher market share; and mitigation of the associated risk (Barnett and Salomon, 2006).

Numerous studies (McWilliams and Siegel, 2000; Ortas et al., 2014) have been conducted test to the dichotomy amongst CSR and profitability but no consensus exists. These studies report a negative, positive, and no association amongst CSR and firm outcomes. There are several explanations for such diverse results. Some of these lie in the measurement issues of CSR, the oversight of variables, inconsistent direction of causality, the problems associated with the statistical approach used, and contradiction in the supporting theoretical framework (Margolis and Walsh, 2003).

The debate has two strands of opinions. The advocates of corporate social responsibility state that CSR influences performance positively. The critique argues CSR requires excessive costs that decreases profit. Therefore, the literature in this realm is extremely diversified. The debate has two major perspectives. Some studies consider CSR allocation as an investment and other consider CSR assignments as agency costs.

Despite the different viewpoints, these studies have many similarities as they address the same question; how does moral conduct by firms toward their stakeholders

affect the firms' outcome? This situation requires a deeper insight into the link amongst CSR and profitability.

These studies also suggest several mechanisms that mediate/moderate the connection amongst CSR and profitability. Some important mediators that can explain the link amongst CSR activities and profitability include support from regulators, business risk, corporate reputation, and others. The important moderators are the board, ownership, and culture etc. which are the subjects of this study.

In management circles, CSR is now a well-accepted theoretical framework. The extant literature examines several organizational outcomes of CSR. However, the literature on the operationalization of CSR through resource allocation is limited and most of the focus is on disclosures.

If we are to effectively evaluate the real impact of CSR, we need a better metric that accurately captures the tangible facet of CSR-related action. This metric should ideally be the allocation of funds for social activities.

During the last two decades, corporate governance (CG) has remained the center of attention of academia and policymakers. Corporate governance is a broader term that covers the strategic decisions of the firms channeled through the board of directors (BOD). The functions of the board include protecting the interests of shareholders, following the law, fulfilling contractual obligations, and honoring CSR-related policies.

The two main concepts CG and CSR are studied separately in the literature (Jamali et al., 2008). Some authors believe that the linkages amongst these two important paradigms can generate beneficial synergies for the companies (Chen et al., 2014). Harjoto and Jo (2011) explains the linkage amongst these two ideas with the help of the hypothesis of conflict resolution and argues that CSR initiative is significantly and positively linked with corporate governance. This study further adds that CSR measures improve after addressing the problem of endogeneity and commitment to CSR brings improvement in financial returns. However, limited work is available about the role of governance mechanisms in strengthening the link amongst CSR and profitability.

1.1 Theocratical Background

1.1.1 Stakeholder Theory

Freeman (1984) is the pioneer who initiated the discussion in the domain of stakeholder theory. This theory is considered a key theoretical perspective for conceptualizing the connection amongst CSR and performance. The research work based on this theoretical framework explores the link amongst stakeholder management and its impact on monetary outcomes (Berman et al., 1999). Jones (1995) proposes instrumental theory which is an integration of stakeholder theory, economic theory ,and ethical norms. This study reminds that financial markets are competitive and through pricing mechanisms these markets discipline the behavior of firms. It means that firms are employ instrumental stakeholder management to achieve a good competitive advantage.

Research studies based on the CSR perspective examine the association amongst social programs and firm economic outcomes (Griffin and Mahon, 1997). Stanwick and Stanwick (1998) conducts a detailed review of studies that explore the impact of CSR on profitability and conclude that there is evidence of a frail but positive bond. McWilliams and Siegel (2001) suggests that firms make efforts to operate at a profit-maximizing level. This level of business operations includes the core-products output as well as social output. The social output is dependent on demand for the CSR level preferred by the firms. At an optimal level, the CSR contributed by firms maximizes their financial outcomes. These notions suggest that companies attempt to maximize earnings by optimizing their actions in the two domains which include the CSR domain and core business domain (McWilliams and Siegel, 2001). Strategy scholars (Barnett, 2007) also consider that CSR contributes positively to the value of a firm as it helps firms acquire resources that are hard to accumulate. The supporting work refers to the fact that philanthropic investments generate intangible resources (Surroca et al., 2010).

Instrumental stakeholder theory contends that CSR initiatives may be instrumental in gaining essential allocation of resources and support of stakeholders (Jones, 1995).

Similarly, the literature on sustainability and the resource-based theory is also in line with the concept, companies participate in CSR initiatives to increase efficiency, brand repute, and trust (Porter and Kramer, 2011). Instrumental stakeholder theory advocates a direct link amongst CSR and corporate monetary outcomes (Mitchell et al., 1997). Here, the gratification of stakeholders is instrumental for profitability.

Preston and O'bannon (1997) summarize the following hypotheses regarding the connection amongst CSR and profitability which include the available funds hypothesis, slack resources hypothesis, social impact hypothesis, and positive synergy hypothesis. The social impact hypothesis emphasizes that advocates of the stakeholder theory consider that social contribution in fulfilling the expectations of stakeholders results in better financial outcomes. The available funds' hypothesis suggests that social and financial performance have a positive linkage, but this causal linkage flows from financial to social performance. In other terms, financial performance leads and social performance follows. The firms may have a desire to follow rules of good corporate citizenship, but actual conduct depends on the financial resources available. Hence, good financial results of one period create the ability of the firm to fund social projects. Similarly, the low levels of earnings lead to lower allocations for social projects. Therefore, a lead-lag link exists amongst firm financial outcomes and social contribution. The same argument is presented in the slack resources hypothesis that assumes that firms with stable profitability are more committed to socially responsible initiatives and thus allocate higher funds for social activities (Roberts, 1992). The positive synergy hypothesis claims that a higher level of CSR initiatives boosts a firm's profits, which provides an opportunity for the firms to reinvest in social projects. Waddock and Graves (1997) states that "It develops a simultaneous and interactive link amongst CSR and profitability creating a virtuous circle".

1.1.2 Agency Theory

Meckling and Jensen (1976) state that a firm is a nexus of contracts. There are many implicit and explicit contracts amongst various interest groups or stakeholders. The

implicit contract amongst managers and stockholders is one of these. Literature provides that managers may pursue their private objectives, which may be a disadvantage to shareholders as well as stakeholders. According to Jones (1995), the Stakeholder-agency theory is based on the argument that "the implicit and explicit contracting processes based on reciprocal, bilateral stakeholder management linkages serve as monitoring and enforcement mechanisms that prevent managers from diverting attention from broad organizational goals".

The proponents of the agency consider CSR an agency cost (Masulis and Reza, 2015). These studies identify two main reasons. The first argument is the lack of transparency behind corporate philanthropy as it is not possible to detect the real intention of the managers. The intention may be just the advancement of admiration (Gardberg and Fombrun, 2006). The intention may be just to satisfy the egos of executives (Cennamo et al., 2009). It may be just to get a private return (Godfrey, 2005). The argument is a lack of assessment and measurement of benefits as most of these are intangible in nature such as good repute (Surroca et al., 2010), and these may arise in the long run only (Barnett, 2007).

Under the umbrella of agency theory, Preston and O'bannon (1997) report three hypotheses that categorize the inverse correlation amongst CSR and profits. These hypotheses include the managerial opportunism hypothesis, trade-off hypothesis, and negative synergy hypothesis. Milton (1970) provides the basis for the tradeoff Hypothesis that assumes that CSR has an adverse influence on the firm's performance as it involves extra costs that decrease competitiveness and profit. Balabanis et al. (1998) argues that fund allocations for CSR activities decrease funds available for business activities that may be more promising and lucrative. The negative synergy hypothesis asserts that a high level of CSR initiatives leads to weak performance that consequently confines socially responsible investments.in his words "It develops a simultaneous and interactive link amongst CSR and profitability creating a vicious circle".

The "managerial opportunism hypothesis" asserts that corporate managers follow private goals, especially when their compensation schemes are interconnected to profit and stock price behavior in the short term. This may create an inverse association amongst financial

and social outcomes. An explanation is that when profits are good, managers try to "cash in" by decreasing allocation for social projects to take the benefit of the opportunity to extract personal benefits. On the other hand, when profits decline, managers try to justify weak results by engaging in conspicuous social projects.

1.2 Research Gap

The success of the firms is based on sustainable financial growth which is achieved through different measures, corporate social responsibility, corporate governance, and ownership structure are important. Meanwhile, empirically it is inconclusive whether the adoption of CSR practices has a negative, positive, or no effect on profitability. This is the natural outcome of divided opinion on the empirical results.

The first group reports the positive influence of CSR and performance. The works of Wu (2006) and Peiris and Evans (2010) fall in the group as these studies report a positive linkage amongst CSR and profits. Margolis et al. (2009) propose the positive effect of corporate social responsibility on profitability measured through market-based and book-based proxies. The firms with higher CSR scores report a high level of performance as compared to those with lower CSR scores (Barnett and Salomon, 2012). The second group states that corporate social responsibility influences profitability negatively. Fisher-Vanden and Thorburn (2011) indicates that dissemination of information about initiating an environment responsive program may have a negative response on the ready board due to the expectation of a negative influence on profitability. Stakeholder theory and CSR-based argument both deal with social responsibility either toward stakeholders or toward society. The two concepts share the proposition that social responsibility affects financial outcomes. Therefore, both explore the connection amongst socially responsible behavior by firms and their performance in financial terms.

Another strand of literature argues that the level of CSR determines the nature of association whether it is positive or negative (Brammer and Millington, 2008). He presents testimony of U-shaped link amongst CSR and profitability. It further

provides evidence that higher and lower levels of CSR are linked with higher levels of profitability as evident from firm-level data.

The linear link between Corporate Social Responsibility (CSR) and firm performance suggests a straightforward, proportional relationship. In this framework, an increase in CSR activities is expected to lead to a corresponding increase in firm performance. This perspective is often grounded in the notion that CSR enhances a firm's reputation, fosters better customer loyalty, and attracts talent, which, in turn, improves financial outcomes. In a linear model, the benefits derived from CSR—such as improved public relations and enhanced stakeholder relationships—are assumed to be directly proportional to the investment in CSR activities. For instance, a firm that invests in environmentally friendly practices might see a direct improvement in its market position or sales. This approach simplifies the relationship by assuming that the impact of CSR is consistent and additive, regardless of the scale or intensity of CSR initiatives.

In contrast, the nonlinear link between CSR and firm performance recognizes that the relationship may not be constant or proportional. This perspective suggests that the impact of CSR on firm performance can vary at different levels of CSR engagement and might exhibit diminishing or increasing returns.

There are several forms of nonlinear relationships can be observed, at lower levels of CSR investment, firms may experience significant performance improvements as they start to build their reputation and engage stakeholders. However, beyond a certain point, additional CSR activities may yield smaller incremental benefits, or even lead to diminishing returns if the firm's efforts become excessive or misaligned with stakeholder expectations. The benefits of CSR might be realized only after surpassing a certain threshold of investment or commitment. Until this threshold is reached, CSR efforts might have little to no impact on performance. Once the threshold is crossed, the relationship between CSR and performance could become more pronounced and positive. The impact of CSR on performance could follow a curvilinear pattern where the relationship initially improves performance but may later become negative if the CSR initiatives are perceived as insincere or if they lead to excessive costs without corresponding benefits. Various factors, such

as industry type, market conditions, or corporate governance, can influence the nature of the CSR-performance relationship. For instance, firms in industries with high social or environmental impact may experience a more pronounced positive effect from CSR compared to firms in less visible sectors.

Understanding both linear and nonlinear aspects of the CSR-performance link is crucial for firms aiming to optimize their CSR strategies. While a linear perspective provides a straightforward approach to enhancing firm performance through CSR, recognizing nonlinear effects helps in identifying optimal levels of CSR investment and the conditions under which CSR initiatives are most effective. Firms must consider these complexities to align their CSR activities with their strategic goals and stakeholder expectations, ultimately achieving sustainable performance improvements.

This study has a limitation as it uses corporate charity as a measure of CSR which is a too restricted definition. Therefore, an investigation of the non-linear linkage amongst CSR and profitability is desired. The presence of non-linearity also opens the door for the exploration of non-linear relations over time.

Corporate Governance deals with the mechanism used to govern firms. Corporate Governance addresses the agency problem. Corporate Governance systems based on board size, and board independence influence CSR and financial performance. The large board has more diversified representation to oversee the company affairs, so, the decisions of larger boards may strengthen the influence of CSR programs on profitability than those of smaller boards. At the same, large boards find it difficult to arrive at a consensus so it results in a weak governance mechanism. The independent boards may have more focus on CSR activities as they have less economic interests in the firms. So, the boards with a higher representation of non-executive directors may boost the influence of CSR on firms' performance. Therefore, board characteristics are deemed to be a moderator that have a substantial influence on association in CSR programs and profits.

The literature further provides that socially responsible investments exhibit better corporate governance (Hayat and Hassan, 2017). The Sharia-compliant stocks can also be marked as socially responsible investments. Therefore, it is expected that

such stock may also exhibit better corporate governance and higher commitment to society. Investors and clients of the Islamic finance industry are likely to want to know whether this perception is justified.

The literature discusses the role of ownership and board composition on CSR and performance links (Zahra et al., 1993). This study supports the positive link amongst insider ownership, CSR and profitability. These results lead to the possibility of differences in the connection amongst CSR and profit link amongst family-owned and non-family-owned firms, foreign and domestic firms, and state-owned and publicly owned firms. Literature is limited in this domain and requires attention. Ownership is an internal moderator that has a greater influence on association amongst corporate social activities and financial results. Particularly, it can be claimed that, due to shortsightedness, the linkage will be less distinct amongst CSR and CFP for non-family-owned businesses, whereas, for family firms a strong positive linkage is expected. Empirical literature further offers that the influence of CSR on profits/value is greater in companies that have foreign ownership. This may be due to effective monitoring by foreign firms whereas in case of state ownership, no clear impact is observed. The proposed study explores the moderating role of ownership amongst CSR and returns.

Finally, the discussion about the response of the market to CSR activities is also inconclusive. Companies may also respond to industry pressure by taking more CSR initiatives, which lead to different levels of CSR activities across industries. This argument is in line with institutional theory and stakeholder theory (Freeman, 1984; Bansal, 2005; Sharma and Henriques, 2005; Campbell, 2007; Kassinis and Vafeas, 2006; Agle et al., 2008). An insight into the difference in the linkage amongst CSR and profit/value across industries also needs to be revisited.

1.3 Problem Statement

The relationship between Corporate Social Responsibility (CSR) and firm performance has been widely studied, but the impact of board characteristics, ownership structure, and Sharia compliance on this relationship remains underexplored. While

CSR initiatives are generally expected to enhance firm performance by improving reputation, customer loyalty, and operational efficiencies, the extent of their effectiveness can be influenced by various moderating factors.

Board characteristics, such as the diversity and independence of board members, may affect how CSR activities are implemented and perceived. Ownership structure, including the concentration of ownership and the presence of institutional investors, might influence the alignment between CSR practices and firm performance outcomes. Additionally, adherence to Sharia compliance can introduce unique ethical and operational constraints that may modify the CSR-performance linkage, especially in firms operating in predominantly Muslim markets.

Despite the growing emphasis on CSR, there is limited empirical research examining how these moderating factors—board characteristics, ownership structure, and Sharia compliance—interact with CSR initiatives to influence firm performance. Understanding these interactions is crucial for firms to optimize their CSR strategies and achieve better performance outcomes.

1.4 Research Questions

Following questions are raised and answered:

- Do CSR influence corporate performance in financial terms?
- Does non- linear link exist amongst CSR and corporate performance?
- Does board characteristics influence performance?
- Do board characteristics influence the relation amongst CSR and performance?
- Do the link amongst CSR and profit/value change with family-based ownership?
- Do the link amongst CSR and profit/value change with foreign ownership?

- Does the Islamic label moderate the connection amongst CSR and profit/value of firm?

- Do impact of sharia compliance as moderator amongst CSR and firm profit/-value vary with ownership?

- Is association amongst CSR, and performance industry-specific?

1.5 Research Objectives

The study is aimed at the following research objectives:

- To provide insight about role of CSR in explaining financial outcomes.

- To explore the possibility of a nonlinear linkage amongst CSR and financial outcomes

- To study the moderating role of the board attributes in influencing the linkage amongst CSR and profit/value of firm.

- To investigate the role of ownership in moderating the connection amongst CSR and corporate profit and value.

- To study the role of Islamic label in moderating the connection amongst CSR and corporate profit and value.

- To explore the role of Sharia compliance and ownership in strengthening the linkage amongst CSR and firm profit and value.

- To compare the linkage amongst CSR and financial performance across industries.

1.6 Brief Overview of Code of Corporate Governance in Pakistan

The Code of Corporate Governance in Pakistan is a framework designed to ensure that companies are managed and governed effectively and ethically. It mandates that the board of directors should have a balance of executive and non-executive directors, with a majority being independent. The board is responsible for overseeing the company's strategic direction, risk management, and compliance with laws and regulations. The code suggests a clear separation of roles between the Chairman of the Board and the CEO to avoid concentration of power and ensure checks and balances. The formation of an audit committee is required, composed mainly of non-executive directors. This committee oversees financial reporting, internal controls, and the relationship with external auditors. Companies must establish robust internal control systems and risk management practices to safeguard assets and ensure accurate financial reporting. There is a strong emphasis on transparency and accurate disclosure of financial and non-financial information to shareholders and stakeholders. The code reinforces the protection of shareholder rights, ensuring that all shareholders, including minority ones, have access to relevant information and a fair opportunity to participate in corporate decisions. Companies are encouraged to foster a culture of ethical behavior, integrity, and social responsibility.

In nutshell, the Code of Corporate Governance in Pakistan aims to enhance the accountability, transparency, and overall governance of companies to protect investors and support sustainable business practices.

The Code of Corporate Governance in Pakistan underwent a significant update from the 2005 version to the 2012 version. The code of corporate governance 2005 eemphasized having a majority of non-executive directors but did not specify that a majority should be independent, while, the code of corporate governance 2012 strengthened the requirement for board composition by stipulating that at least one-third of the board members should be independent directors, enhancing the board's objectivity and oversight capabilities. The code of corporate governance

2005 rrecommended the separation of the roles of Chairman and CEO but did not enforce it strictly, while, the code of corporate governance 2012 more explicitly recommended the separation of the roles of Chairman and CEO to avoid power concentration and to promote better governance practices. The code of corporate governance 2005 rrequired the formation of an audit committee with a majority of non-executive directors but did not detail the composition, while, the code of corporate governance 2012 eenhanced requirements by mandating that the audit committee should comprise entirely of non-executive directors, with at least one being independent. This aimed to improve the effectiveness of the audit committee. The code of corporate governance 2005 focused on the accuracy and transparency of financial reporting but with less detailed guidance on financial disclosures, while, the code of corporate governance 2012 provided more detailed requirements for financial reporting, including the need for more comprehensive disclosures and adherence to International Financial Reporting Standards (IFRS).

The code of corporate governance 2005 had less detailed guidelines on the disclosure of directors' remuneration, while, the code of corporate governance 2012 required more detailed disclosure of directors' remuneration and a formal policy for executive pay, aiming to enhance transparency and align incentives with company performance. The code of corporate governance 2005 required the formation of an audit committee but had less emphasis on other board committees, while, the code of corporate governance 2012 introduced or reinforced requirements for other committees such as the Human Resource and Remuneration Committee to ensure broader oversight and better governance practices. The code of corporate governance 2005 provided general guidelines but lacked detailed mechanisms for enforcement, while, the code of corporate governance 2012 included stronger compliance and enforcement mechanisms, with more emphasis on the responsibilities of companies to report their adherence to the code. The code of corporate governance 2005 addressed shareholder rights but with less emphasis on minority shareholders, while, the code of corporate governance strengthened provisions related to the protection of minority shareholders and ensured more robust mechanisms for their engagement and rights.

The Code of Corporate Governance 2012 introduced more detailed and stringent requirements compared to the 2005 Code, aiming to enhance the overall effectiveness, transparency, and accountability of corporate governance in Pakistan.

1.7 Significance of the Study

CSR and corporate performance links have attracted the attention of academicians, practitioners, business leaders, and society during the last three decades. This link has opened research discussions within the field of businesses and society. The said domain explores the linkage amongst corporate social conduct, toward a firm's stakeholders and society in general, and company's performance in particular.

The research work on association amongst CSR and corporate performance has produced several contradictory results. The linkage is observed at different time frames to be negative, positive, or insignificant and with diverse causal directions. Supporters of CSR argue that it pays off through improved financial performance, so firms have been encouraged to take steps toward socially responsible behavior both for ethical and operational business reasons. Critics of CSR argue that it is an agency cost. A study in this domain is needed as this concept has taken center stage and gained increased recognition for being an important aspect of the business world that increasingly emphasizes humanity, environmental preservation, and enlightened social consciousness. To explain the various findings on the CSR-CFP linkage several theoretical models have been proposed. These competing models explain a different outcome of the CSR-performance link. These conditions have created a very amorphous and contentious area of inquiry. These inconclusive results and ambiguity about the linkage and circumstances that cause it to be positive or negative demand more insight into the domain. Corporate management teams are left to wonder whether an investment in social responsibility would result in an increase or decrease in bottom-line profits.

Companies operate in different business settings and face different types of institutional pressure to engage in CSR from their stakeholders. Companies face different demands from customers, governments, and society. It is important to

examine the response of the business and its impact on firm outcomes along with the institutional mechanism that explains the outcome.

Pakistan is an emerging market that inherited the corporate system from the colonial period. It passed through various phases. The decades of the 50s and 60s are categorized as a period of typical private sector-dominated business. In the early 70s, Pakistan experimented with nationalization, and the state controlled all the business.

In the 80s a debate about reducing the role of the state started. In the last three decades, a paradigm shift can be seen in state policy in the form of liberalization and privatization. The role private sector increased due to the revamping of the corporate sector. To improve governance, many initiatives are taken. The code of corporate governance was promulgated in 2002 which was to be implemented till 2005. It was amended in 2012 and the requirement of one independent director was made mandatory. SECP presented governance rules for public sector companies in 2013.

Further, reforms were made to improve the corporate governance framework in 2017. The requirement of at least one female director was made mandatory in 2017. The landscape of the Pakistani corporate sector is also diverse. The companies listed in sectors like textile, sugar, cement, steel, and glass have high family ownership. The companies listed in sectors like oil and gas exploration, and oil and gas market marketing have state ownership. The companies listed in sectors like pharmaceutical and food have high foreign ownership. The promulgation of corporate governance code was a new experience for the family-based corporate sector in Pakistan.

This family-based corporate sector looked at CCG 2002 as cost-based law. However, the compliance level increased gradually and today more than 70% of companies are fully compliant. Being a large market of 240 million people, Pakistan also attracts the attention of stakeholders who need insight into the governance dynamics of the Pakistani corporate market. This study fills this gap too and provides in-depth orientation about the CSR, governance, ownership, sharia compliance and performance link.

1.8 Structure of the Study

The remaining dissertation is designed in four chapters. Chapter 2 covers the literature concerning corporate social responsibility, board characteristics, ownership and sharia compliance, and performance links. Chapter 3 explains the methodology adopted and the data employed in the current study. The empirical results are discussed in Chapter 4. Chapter 5 concludes the study and offers recommendations and policy implications.

Chapter 2

Literature and Hypothesis Development

This chapter covers the review of extant literature linking CSR and performance in various settings such as linear linkages, non-linear linkages, U-shape linkages, and inverted linkages. It also covers the moderating role of board characteristics, ownership, and Sharia compliance amongst CSR and Performance. An overview of the industry-specific dynamics has also been added.

2.1 CSR Initiatives and Performance Link

The association amongst CSR and performance has been a topic of discussion for a long time. Milton (1970) contends that firms should consider social responsibility if it has a significant impact on their shareholders. This developed the argument that profit maximization should only be the concern of firms. In contrast, most management scholars consider that CSR is not only valuable to firms but also to society (Carroll, 1998).

Various studies investigate the role of CSR in determining profitability. The empirical evidence provides that CSR has a direct link with financial performance (Surroca et al., 2010). Some studies exhibit that there exists a non-linear association amongst CSR and firm financial performance (Barnett and Salomon, 2006), another

group of studies report that the association amongst CSR and profitability is not significant (Parast and Adams, 2012; Inoue and Lee, 2011; Soana, 2011).

This inconsistent argument to explain the association amongst CSR and profitability has resulted in different theoretical models. Preston and O'bannon (1997) summarize the theories that explain the impact of CSR on profitability. Both CSR theory and stakeholder theory link CSR activities with firm financial performance, emphasizing the significant impact of CSR on financial performance.

However, in the 2000s, several studies identified corporate social responsibility as a source of competitive advantage (McWilliams and Siegel, 2011). Porter et al. (2006) discuss the role of CSR activity in a strategic context and explain its contribution to enhancing competitive advantage. Another study by Baron (2008) argues that investments made in the domain of social activities may be productive for firms. This study concludes that CSR is helpful in attracting investors who value CSR expenditures and do not hesitate to bear the additional cost associated with CSR. Baron (2008) states that CSR is so important for some investors that may be willing to accept lower profit, in the short run, because owning such a firm that makes socially responsible expenditures has more value for them. Besley and Ghatak (2007) find that violation of CSR promises may lead to a decrease in profits, on the other hand, more responsible firms may earn higher profits due to their reputational premium. Bénabou and Tirole (2010) raise the question about the long-run impact of CSR on profitability. Margolis et al. (2009) also support the point of view that CSR commitment may help firms to get that competitive advantage. The study shows that in 98% of cases, a positive association exists amongst CSR and financial performance. The study further discusses the correlation amongst CSR and company value, suggesting that the strength of this correlation is subject to debate. Two dominant but contradictory hypotheses address this issue: the shift of focus hypothesis and the social impact hypothesis.

The social impact hypothesis suggests that a firm may increase its profitability by satisfying the desires of stakeholders. When a firm focuses on the welfare of its employees, its efficiency and productivity increase which leads to a better brand image, firm reputation, and public trust. Therefore, the operational costs of the

firm decrease and the goal of sustainability is attained (Dey and Sircar, 2012). The shift of focus hypothesis submits that engagement of a firm in social activities shifts the focus of the firm from business, which is non-profit-maximizing behavior. It shows that the implementation of social responsibility needs sufficient resources. It means that the cost will increase, and profits will decrease (Becchetti et al., 2008, 2009).

At the same time, Jensen (2002) raises his concerns that CSR may mislead managerial incentives due to the presence of several objectives and can intensify governance issues. The concept of CSR is gaining popularity as the management that considers social responsibility can lead to higher financial returns through maintaining a balance amongst legitimate expectations of internal and external stakeholders (Talaulicar, 2010). This point of view can make the trade-offs amongst social responsibility and shareholder objectives and advocates sustainable growth in the long term, although the underlying mechanisms driving this link may be extraordinarily complex (Saeidi et al., 2015; Zhao and Murrell, 2016).

Walker et al. (2019) investigate the historical debate of institutional versus agency pressures in capitalism literature. Particularly, the study examines the dynamics of CSR under responsible, irresponsible response, and its impact on performance within coordinated and liberal market economies. Their findings revealed a positive linkage amongst CSR and performance in coordinated market economies, whereas this linkage was not evident in liberal market economies. Conversely, a negative association has been identified amongst corporate social irresponsibility and performance in liberal market economies, whereas this association has not been observed in coordinated market economies.

González-Rodríguez et al. (2019) documented that CSR practices are important success factors affecting performance. They proposed model uses the experiences of the general managers of the hotel industry under stakeholder theory. According to the findings of study, CSR practices related to employees and customers enhance hotels repute. The developed reputation through CSR practices directly relates to performance.

Jia (2020) investigated the connection amongst CSR initiatives and performance among Chinese firms for period from 2009 to 2015. Additionally, they examined the moderating influence of industry competition and strategic focus on this connection. The results contributed to the extant literature regarding the association amongst CSR and performance as well as provided valuable guidance for firms in allocating resources, thereby allowing them to derive instrumental benefits from CSR initiatives.

Cho et al. (2019) examined the association amongst CSR and corporate returns, as well as firm value, using a sample of 191 firms listed on the Korean stock market. They employed ROA and the growth rate of assets as indicators of financial performance. In addition, corporate value is captured by Tobin's Q. Overall, their findings revealed a positive link amongst CSR and financial performance. Likewise, with reference to corporate value captured through Tobin's Q, only social contribution components of CSR have a statistically significant direct association.

The studies related to the connection amongst CSR and profitability have reported several contradictory results. The linkage amongst CSR and performance is observed as positive, negative, or insignificant during different periods and causal directions are also debatable. In cases when the companies do not exhibit social responsibility, subsequent costs may become substantial, and the result is likely to be a reduction in profits. It also creates a reputation as a less socially aware entity that may be damaging. In contrast, if firms exhibit socially responsible behavior and are more profitable, then socially responsible investments (SRI) create motivation to increase allocations for social, environmental, and society-specific programs (Pava, 2008). Companies commit to being socially responsible for both practical and moral reasons. The moral reason is based on the view that business activities involve costs to the environment and society, so firms are responsible for giving back to society through contributions to the improvement of the environment and community facilities (Freeman, 1984). The business reason suggests that by reflecting a socially responsible attitude, a company may improve its economic gains. Therefore, the socially responsible approach serves business interests too (Mellahi and Wood, 2003). This "social impact" argument based on stakeholder

theory suggests a lead-lag association amongst CSR and profitability. It states that external repute leads to better financial results.

Milton (1970) argues that firms exhibiting strong social credentials face a reduction in equity values relative to the average market values. The trade-off hypothesis presented by Aupperle et al. (1985) indicates that social activities like community development, corporate philanthropy, and environmental concerns, may tap funds from the firm and place it in a disadvantageous position in comparison to the firms that allocate less funds for social activities. Hence, there is an inverse linkage amongst a firm's higher levels of social activities and its financial performance in comparison to its competitors. The "managerial opportunism" hypothesis states that the pursuit of private managerial goals with reference to compensation is also connected to short-run profit and equity prices. It may result in an inverse linkage amongst social and financial outcomes.

When financial returns are good, managers try to "cash in" by decreasing social expenses to take benefit of the situation to increase their short-term private gains. Conversely, when bottom-line results are weak, managers try to offset and appear to justify unsatisfactory outcomes by engaging in conspicuous social campaigns.

Firms may also initiate CSR programs in response to industry-specific institutional pressures which result in different standards of CSR levels in different industrial sectors. This argument is consistent with institutional theory (Freeman, 1984; Bansal, 2005; Sharma and Henriques, 2005; Campbell, 2007; Kassinis and Vafeas, 2006; Agle et al., 2008). It not only elucidates the drive of a firm to participate in CSR activities but also describes the sectoral differences in CSR norms and practices. This may be the possible reason for the difference in the responsiveness of stakeholders to CSR allocations across industrial sectors. In "clean" industries, stakeholders are more sensitive to companies' CSR efforts as industrial and institutional norms desire a high level of commitment to CSR programs. This higher CSR focus results in higher-level gains from CSR initiatives. On the other hand, in "dirty" industries stakeholders are less sensitive to companies' CSR engagements as industrial and institutional norms are weaker. This weak CSR focus results in higher-level gains from CSR investment.

2.1.1 Linear Impact of CSR and Firm Performance

Al-Shammari et al. (2022) conducted a study to develop and test a theory of dual responsibility by examining the linkage amongst corporate social responsibility and performance by using the data of 137 US companies for the period 2004 to 2013. They found that firms with higher levels of social responsibility perform better than those not performing these responsibilities. The study also highlighted the role of firm capabilities and firm status in moderating the association amongst CSR and financial performance.

Karmani and Boussaada (2021) investigated the impact of institutional quality on the association amongst CSR and financial performance, employing a sizable sample of 814 firms. Using the Generalized Method of Movement (GMM), they analyzed the linkage amongst CSR and performance spanning from 2008 to 2017. The findings indicated a positive and significant impact of CSR on performance. The study also identified that financial performance can be enhanced through the integration of institutional quality and corporate social responsibility. Khan et al. (2023) examined the effects of silent donations on financial performance, firm size, and CEO compensation among listed non-state-owned Chinese firms. Data from 1046 firms that are doing CSR activities was collected for the period 2009 to 2015. The study used regression analysis to analyze the data and revealed that silent donations have a significant and positive linear association with performance, but the firm size and CEO salary have a negative moderating effect on CSR and performance links.

Buallay et al. (2020) examined the association amongst CSR and financial performance within a sample of listed companies in Mediterranean countries. The findings suggested that CSR had a negative influence on both operational and market performance of firms. The study also revealed a negative impact of CSR on financial performance spanning from 2008 to 2017.

Zhang (2021) conducted a study investigating the impact of CSR on performance. Through regression analysis, the researcher analyzed the association amongst CSR and performance using financial metrics such as Operating Profit Ratio, Return on

Equity, and Return on Assets. The results revealed a beneficial impact of CSR on performance. Specifically, CSR has a major impact on the operating profit of the firm which contributes towards long-term financial achievements.

H_1: CSR has a positive influence on financial performance.

2.1.2 Non-Linear Impact of CSR and Firm Performance

In contrast to prior research, which normally associates the linkage amongst CSR and performance with the social impact hypothesis and the shift of focus hypothesis, this study posits that the association amongst CSR and performance is nonlinear. To investigate this hypothesis, the researchers examine the effect of CSR on performance using the Corporate Social Responsibility Index (CSRI) and employ Panel Smooth Transition Regression (PSTR) to capture the threshold value transition. The sample consists of listed firms in Taiwan. The study discovers that the association amongst CSR and performance follows a nonlinear pattern. Additionally, it suggests that CSR's impact on performance is perceived as an opportunity cost by one group and as an investment by another. However, they observe a positive impact of CSR on firm value when CSR spending exceeds a certain threshold level (Chen and Lee, 2017).

Ghardallou and Alessa (2022) delves into the ongoing debate regarding whether the association amongst CSR and performance follows to a linear or nonlinear pattern. The study reveals the presence of a nonlinear linkage amongst CSR and performance. Moreover, it asserts that this linkage persists with the enhancement of the social aspect of CSR, as customers hold a more favorable perception of companies engaged in CSR activities pertaining to the social dimension. When expenditure in this dimension reaches a specific threshold, it generates value for the firm. Panel Smooth Transition Regression (PSTR) is used to identify the threshold value transition of CSR. The sample consists of 70 firms from the Gulf Cooperation Council (GCC) for the period 2015 to 2020.

Wu et al. (2023) examined the impact of CSR on performance in a nonlinear setting. The sample comprises 314 firms listed in China for the period 2010 to 2017. The

study uses a fixed effect model to uncover the nonlinear linkage amongst CSR and performance. They identify a U-shaped linkage amongst CSR and performance, they also explain that an initial increase in CSR spending reduced the firm value but helped in aligning the interests of various stakeholders. They also found that firms can avail benefits both in tangible and intangible forms when the CSR spending exceeds a certain level which shows that CSR can be beneficial when spending is regular, and the amount of spending has a higher value. CSR also improves the production level and reputation level among diverse stakeholders.

H_2: The linkage amongst CSR and performance is nonlinear in nature.

2.2 Board Characteristics and Firm Performance

This section explains the theoretical link amongst board characteristics and performance and refers to the extant empirical work in the domain.

Corporate Governance (CG) plays a vital role in corporate social responsibility. Corporate governance provides a base to achieve objectives that help to safeguard the interests of the stakeholders including society in general. CG is also related to performance; however, it is currently lacking with accepted theocratical underpinnings or accepted pattern to date (Abdullah and Valentine, 2009).

Now, extensive literature is evolving that is challenging the objectives of the firm itself. Particularly, this literature seeks whether the governance systems of the modern firm have to focus on the profit-maximizing approach for the shareholders or should cover the objectives of the society at large, including the steps for the protection of the environment (Mitchell et al., 2016; Jones and Felps, 2013). The environmental, social, and governance (ESG) framework also falls under the umbrella of CSR. It explains the detailed range of corporate behavior that includes steps to improve the quality of life of employees at a workplace, promote gender diversity, protect human rights, protect the environment, and achieve broader sustainable development goals such as reduction of poverty and inequality in society at large (Campbell, 2007; McWilliams and Siegel, 2001).

Marquis and Raynard (2015) state that CSR has attracted attention globally but specifically in developing economies it is considered vital due to the complementary role it can play in firms to build institutions. The implementation of CSR programs and their effectiveness depends on institutional capacity and support (Halkos and Skouloudis, 2016).

Several studies emphasize the importance of related issues, such as embedding stakeholder dialogue and core values into the firm's strategy. Jamali et al. (2008) and Beltratti (2005) report a positive association amongst CG and CSR. Aras and Crowther (2008) highlight the worth of the connection amongst CG and the financial sustainability of firms.

Gupta and Sharma (2014) argue that good CG practices can have a positive impact on the brand name of the firm which can boost investors' confidence. Investors assume that a firm with good CG practices has better credibility and higher performance. A good CG record also safeguards the rights of shareholders and improves the transparency of information disclosures (Haji, 2014; Black et al., 2014).

Earlier studies report that controlling ownership and CG are important factors that can influence profitability (Shleifer and Vishny, 1997). Many studies use the CG index and suggest that good governance practices improve profitability, and several CG mechanisms may serve as complements or substitutes for one another (Bebchuk et al., 2009; Black et al., 2014). Although agency theory literature suggests that empirical outcomes are mixed on the view that good governance could increase the shareholder's return and reduce the agency cost. An explanation may be the use of diverse measures of corporate governance. The earlier work uses two approaches. The first group of studies uses a composite measure of CG whereas the second group emphasizes specific CG attributes like board attributes and ownership structure (Patibandla, 2006; Joh, 2003; Gedajlovic and Shapiro, 2002). This study considers both approaches used in the literature.

The studies conducted empirically have consistent findings with the argument that a well-governed firm has high performance (Black et al., 2014). The components of corporate governance are viewed as two mechanisms: internal and external.

The Internal mechanism is based on the efficient and effective board, quality board meetings, executive compensation, and directors' shareholdings, whereas the external system includes factors like the market for corporate control, legal and regulatory requirements (Al-Najjar, 2014).

The BOD is important to good corporate governance (Germain et al., 2014), defining the business strategies and an important advisory role (Balsmeier et al., 2014). Therefore, the efficient and effective BOD ensures that the firm is efficiently managed, and profitability improves. Corporate governance is also used as a mechanism to resolve any agency issues that arise due to conflicts of interest amongst the agent and principal.

Similarly, opportunistic behavior may arise because of weak corporate governance that can be reduced by employing strong corporate governance practices (Rabi et al., 2010). Effective monitoring and an incentive-based system can be created through a corporate governance mechanism which helps in reducing the management capabilities used for drawing personal benefits at the cost of stakeholder's value. There are different views regarding board leadership, one group advocates for the CEO holding both the roles of Chair and CEO simultaneously, and the other group believes for the separation of these roles, positing that the Chair and CEO should be distinct individuals.

The supporters of stewardship theory argue that managers are best entrusted to safeguard company affairs. Managers cannot harm the firm resources and owner benefits because future growth and advancement of managers is dependent on the growth of the firm which aligns the interests of the manager and owners. The supporters of the agency theory believe that the CEO and Chairperson of the board must be detached because a sole decision maker may dominate decision making and affairs of the company. This concentration of power in an individual can lead to managerial opportunism that can result in negative consequence regarding performance of the company.

The Corporate Governance mechanism operates via BOD and serves a crucial function in a firm's strategic decision-making process, providing discipline and guidance to management at each juncture (Cuervo, 2002). The board ensures the

long-standing prospects of the firm by maximizing the wealth of the shareholders (Daily and Dalton, 1994) and matching the interests of the company with the interests of other stakeholders and society (Coombs and Gilley, 2005). Beltratti (2005) argues that firms have a higher probability to survive eventually if they protect the interests of stakeholders. Jamali et al. (2008) report that CSR and CG reinforce each other. The decisions taken by the BOD have implications for the possible application of CSR policies (Ingley et al., 2011) and the adoption of a specific strategy of socially responsible investment (Mill, 2006) which leads to distinct levels of financial performance.

2.2.1 Board Independence and Firm Performance

Business communities and companies consider corporate governance as a significant factor influencing firm financial performance, thus highlighting its pivotal role in corporate success. Corporate governance has three main components namely board characteristics, ownership structure, and internal control. Alabdullah (2021) propose that the corporate governance mechanism serves as a quality signal for investors, influencing their investment decisions, as many investors assess investment opportunities based on the corporate governance practices of companies. Board independence is a key measure of corporate governance that is followed by investors while making investment decisions. Board independence, reflecting the presence of non-executive directors on the board, signals good corporate governance. Non-executive directors, being independent of management, focus solely on decision-making and oversight activities (Bergh et al., 2016). According to the agency theory perspective, as non-executive or outside directors are not part of management, they are better monitors of firm managers (Dalton et al., 1998; Johnson et al., 1996).

Khan et al. (2021a) investigated the dynamic linkage amongst board structure and performance by employing a dynamic panel model. Board independence, gauged by the presence of non-executive directors, and its impact on performance is analyzed using dynamic panel modeling, along with pre-estimation and post-estimation tests to validate the model. They concluded that findings indicate a positive and substantial linkage amongst independent directors and performance. This

implies that board independence significantly contributes to enhancing the financial performance of companies.

Alabdullah et al. (2016) found a positive and significant association amongst board independence and performance. Ahmed et al. (2021) find that a big number of non-executive directors on a board enhances its ability to oversee business activities and thus improves corporate performance.

Alabdullah et al. (2021) conducted a cross-sectional examination using quantitative analysis to explore the effect of board independence on profitability of firms. The study employed the ratio of non-executive directors serving on the board to gauge board independence, while return on assets was employed as a metric for assessing performance. Existing literature indicates that having non-executive directors on the board can reduce agency costs and promote effective corporate governance. The findings of this study suggest that the independence of directors within a company positively and significantly influences performance. It means having independent board members results in good firm financial performance. However, there are some studies in the context of an independent board and performance that report irregular results (Alabdullah, 2017). Some studies do not identify any significant positive effect of board independence on returns (Alyaarubi et al., 2021; Alsulmani et al., 2021; Ahmed et al., 2020a). Few studies show even a detrimental effect of having large proportion of independent board members on firm profitability (Yermack, 1996).

Khan et al. (2021b) examine board diversity and board characteristics in relation to performance. From the perspective of agency theory, their study uses panel data with static and dynamic estimation techniques in the context of Pakistan. Their study not only reveal a significant correlation amongst board diversity and performance but also conclude that board independence has a positive and significant effect on performance. Haq et al. (2020) test different variables from board characteristics to explore their effect on profitability and find positive linkage amongst board independence and firm profitability. Almashhadani (2021) evidence that board independence improves profitability and thus influences performance positively and significantly.

H_3: Board independence has a positive link with performance.

2.2.2 Board Size and Firm Performance

Numerous studies have explored the linkage amongst board size and profitability. According to resource dependence theory, a large board has the strength to oppose the poor decisions of the CEO in a company thus, plays its role positively in performance (Pfeffer and Salancik, 1978). Ilaboya et al. (2016); Sheikh and Kareem (2015); Gull et al. (2013); Muzhar Javed et al. (2013) have all observed a favorable impact on performance associated with larger board sizes and suggest that a larger board size significantly contributes to improved performance.

Al-Malkawi et al. (2012) suggest that a board of directors is a useful asset that can handle critical business situations. However, contrasting this perspective, agency theory posits an inverse linkage amongst board size and performance. According to agency theory, larger board sizes are associated with a negative impact on performance. Nazar and Rahim (2015); Rodríguez-Fernández (2015); Shukeri et al. (2012) find detrimental effect of larger board size on firm profitability. They offer some arguments in support of their findings including an increase in agency costs, delay in important decision-making, lack of communication among members of larger board size, and inefficient monitoring function.

Haq et al. (2020) conducted a study focusing on the impact of board size on profitability and finds that larger board size positively and significantly contributes to performance. Almashhadani (2021) evidence that a larger board size has the capacity for effective supervision that helps directors perform well. Moreover, a big board is assumed to have the expertise and talent necessary for good performance. Thus, the big board improves profitability; thus, influences performance positively and significantly. Some other previous studies evidence positive and significant association amongst board size and profitability (Ahmed et al., 2021; Alabdullah et al., 2019; Ahmed et al., 2020b; Alfadhl and Alabdullah, 2016; Abdallah et al., 2015; Haji, 2014).

Barnhart and Rosenstein (1998) and Yermack (1996) suggest that board size positively influences on profitability thus, is an important indicator of corporate financial performance.

Uddin et al. (2020); Singh et al. (2019); Rahim et al. (2018) identify a positive linkage amongst board size and performance. They argue that big board size exerts a positive and significant effect on firm effectiveness and performance.

Thottoli et al. (2019); Mukhtaruddin et al. (2019) suggest that board size is one of the most crucial and successful CG systems for effective business monitoring and improving performance.

Thottoli et al. (2019) explain that past researchers have identified a wide range of varying results regarding the association amongst board size and performance. Some researchers find a bigger board more effective and productive in performance. They contend that a large board size can direct and maintain the business of the firm and improve performance.

Thottoli et al. (2019) also identify that a large number of directors on a board signifies the variety of perspective in firm decision-making that results in agency cost reduction and an increase in performance.

Alabdullah et al. (2021) identify varying outcomes in previous research in the context of board size and profitability. Some studies support large boards as effective in performance while some other studies find small boards as effective in improving performance. Alabdullah et al. (2019) study the board characteristics in relation to performance and conclude that when a board grows in size in the number of directors, it faces a lack of judgment and interaction among the members. This situation results in a adverse effect on board efficacy. Eyenubo (2013) finds that large board size is harmful to performance in large firms. Alabdullah et al. (2021) conducted a cross-sectional study on the data of non-financial firms listed on the Arab Stock Exchange and using quantitative techniques to explore the connection amongst board size and performance. Measuring performance of the firm with return on assets and board size with the number of directors on the board, the study finds a strong significant and negative impact of board size on performance. It explained profits are high where there is a limited directors in

numbers on the board is. Gill and Mathur (2011) also conclude the negative impact of board size on firm value listed at Toronto Stock Exchange.

H_4: Board size has a negative impact on performance.

2.2.3 CEO/Chairperson Duality and Firm Performance

Previous literature concerning the role of CEO/Chair duality in performance reveals varying and contradictory results. Some previous research supports the agency theory perspective while other studies result in support of stewardship theory. Even some studies with robust techniques find no strong impact of on performance (Javeed and Lefen, 2019; Duru et al., 2016). According to agency theory, where the CEO also holds the position of Chairperson of the board, is viewed as a symbol of high insider control. This arrangement may compromise the effectiveness and oversight of the board. Consequently, there may be a negative linkage amongst and performance (Krause et al., 2014). From the perspective of agency theory, several studies acknowledge the negative and significant impact of on performance. The supporters of agency theory argue that the duality of the CEO may divert the use of resources for personal interest. Tang (2017) has conducted a study using the data of industries listed in the United States to explore the impact of CEO/Chair duality on performance. The results of that study conclude the negative and significant impact on performance. Naseem et al. (2019) study the effect of CEO/Chair duality on performance in the emerging economy, of Pakistan and observe an adverse influence of CEO/Chair duality on performance.

Almashhadani and Almashhadani (2022) states that investors search for companies that have good corporate governance systems when they are making investment decisions in the Middle East capital market. Investors are ready to pay a high premium for investments in firms with robust governance practices.

Consequently, there exists a link amongst governance mechanisms and performance. They suggest that firms must be aware of board features and the role those features have in performance. They conclude that, where the CEO also serves as the Chairperson, negatively affects firm survival, regardless of whether the firms are

foreign or local. Hsu et al. (2021) studied the influence of CEO/Chair duality on performance considering the moderating effect of information costs in the Taiwan capital market.

The study uses data of listed firms from 2000 to 2012 and evidences the co-existence of stewardship theory and agency theory. However, they conclude a noteworthy negative association amongst and performance when there are high information costs.

Mubeen et al. (2021) examined the linkage amongst CEO/Chair duality and performance within Chinese listed companies. They applied the generalized method of moment technique. They found a significant negative impact of CEO/Chair duality on performance. However, the results are more interesting when they use the size of the firm as a moderator.

Large firms exhibited a positive and significant moderating effect on the association amongst CEO/Chair duality and performance while small-size firms show a negative and significant moderating impact for the same linkage. The findings of the study suggest that influence of such linkage varies depending on the size of the company.

Gill and Mathur (2011) examine the linkage amongst CEO/Chair duality and performance using data from manufacturing firms in the Canadian capital market listed on the Toronto Stock Exchange from 2008 to 2010. While using non-experimental and correlational research design, they conclude the positive significant effect of CEO/Chair duality on firm value in the Canadian capital market.

Some other studies evidence the positive and significant impact of CEO/Chair duality on performance in different capital markets and support the stewardship theory perspective (Nekhili et al., 2018; Wang et al., 2014; Guillet et al., 2013; Donaldson and Davis, 1991). Pham and Pham (2020) observe better performance in the presence of CEO/Chair duality in the European capital market.

Guillet et al. (2013) also find evidence in support of stewardship theory by observing a positive and significant association amongst CEO/Chair duality and performance.

H_5: CEO/Chairperson Duality has a negative impact on performance.

2.2.4 Independence of Audit Committee and Firm Performance

The most critical issues for corporate investors in making investment decisions are information asymmetry and agency problems. Corporate governance has emerged to solve these issues by directing, monitoring, and controlling the linkage among managers, board, owners, and auditors of a company (Shbeilat et al., 2018). An independent audit committee in a company is also a good instrument for implementing good governance system for corporate entities. The Independent audit committee must be assigned the responsibilities of applying the standards of accounting and auditing, important communications, and maintaining important linkages with the company stakeholders (Shbeilat and Al Harasees, 2018). The presence of an independent audit committee enhances the quality of financial statements, leading to a positive and significant linkage amongst independent audit committees and performance (Nelson and Jamil, 2012; Van Der Zahn and Tower, 2004; Carcello and Neal, 2003). Independent audit committees can control fraudulent activities within the company (Li et al., 2015; Shororzi et al., 2015; Yunos et al., 2014; Bronson et al., 2009). The Independent audit committee is considered unbiased while evaluating financial statements, resulting in better financial performance (Saibaba, 2013).

ElHawary (2021) studies the influence of audit committee characteristics on performance using data from non-financial listed companies on the Egyptian Stock Exchange from 2016 to 2018. By employing panel data analysis, the study specifically examined the impact of audit committee independence on performance. However, the findings indicate that audit committee independence does not have a significant effect on performance. Al-Jalahma (2022) explores the linkage amongst audit committee attributes and performance in the Bahrain capital market. Utilizing data from listed companies in Bahrain Bourse from 2005 to 2019, the study reveals the poor performance of firms having independent and big-size audit committees. Thus, the study observes the negative influence of audit committee independence on performance. bolton2014audit also reports an insignificant linkage

amongst independent audit committees and performance. Shatnawi et al. (2022) examined the effect of audit committee features on performance. The data from listed companies of Amman Stock Exchange spanning from 2009 to 2017 in both industrial and service sectors were utilized. The results indicate a noteworthy impact of audit committee characteristics on various measures of performance, including return on assets, return on equity, and Tobin's Q. Specifically, audit committee independence was found to have a positive and significant influence on performance.

Peasnell et al. (2005) views independent audit committees as a potent monitoring mechanism within the framework of agency theory. They argue that independent audit committees have the potential to improve performance by mitigating agency conflicts and acting in a way which aligns with the shareholder's interest rather than solely serving the self-interest of managers.

Oroud et al. (2019) and Nawafly and Alarussi (2018) explore the linkage amongst independent audit committees and performance. Their findings suggest a positive and statistically significant association amongst having an independent audit committee and performance. Dakhlallh et al. (2020) investigates the function of independent audit committees in performance, utilizing Tobin's Q measure within Jordan's capital market. Their study also concludes that independent audit committees exert a positive and significant influence on performance of corporate sector.

Bansal and Sharma (2016) study the impact of audit committee attributes on overall performance of firms. They use panel data analysis with fixed effects regression analysis on non-financial firms listed in the NSE 500 from 2004 to 2013. Their results conclude a positive and significant association amongst independent audit committees and overall performance. Alqatamin et al. (2018) examines the effect of audit committee features on performance. Using the data from non-financial companies listed in the Amman Stock Exchange from 2014 to 2016, results reveal a positive and significant association amongst audit committee attributes and performance including independence of audit committee. Chiu et al. (2021); Chaudhry et al. (2020); Kaura et al. (2019), and Aanu et al. (2014) also report a

positive and significant association amongst independent audit committees and performance.

H_6: The independence of the audit committee has a positive impact on performance.

2.2.5 Female Representation on Board and Firm Performance

Female representation in the board of directors is considered to be gender diversity the board (Mans-Kemp and Viviers, 2015). McKinsey (2007) report that according to surveys on women's presentation on boards of companies, it is concluded that the majority of companies show under-representation of women on boards. But now several countries across the world are taking the initiative in giving women an appropriate representation on the board. Moreover, resource dependence theory as well as agency theory considers a positive linkage amongst gender diversity and performance. The agency theory perspective considers women, similar to foreigners, ethnic minorities, and external shareholders, capable of rectifying information biases in solving problems and developing strategies (Darko et al., 2016; Francoeur et al., 2008). Previous studies reveal the significant impact of female directors on important firm decision-making processes. Chen et al. (2018) find the impact of female directors on innovation activities in firms. Shaukat et al. (2016) explore that diversity of gender on a board influence on firm corporate social responsibility significantly and positively. Adams and Ferreira (2009) suggest that female directors are more likely to introduce incentive systems that are based on performance. Miller and del Carmen Triana (2009) evidence a positive association amongst female directors and research and development activities in a firm. Gender diversity in the board not only improves the quality of discussion on the board but also the oversight function of the board (Gul et al., 2011). Gender diversity also makes possible effective communication amongst board members and also improves communication amongst the board and investors (Joy et al., 2008).

Provasi and Harasheh (2021) explore the effect of board gender diversity on financial performance by using data of companies listed at FTSE-MIB index for the period

from 2016 to 2018. With the help of quantitative techniques including yearly regression analysis, differential analysis, and pooled analysis, they do not find a noteworthy impact of gender diversity in firm financial performance. Ionascu et al. (2018); Iacoviello et al. (2015), and Darmadi (2011) study the impact of gender diversity on performance and conclude that women's representation on board does not influence significantly on performance.

Yang et al. (2019); Matsa and Miller (2013), and Ujunwa et al. (2012) find significant but negative associations amongst board gender diversity and performance. Saleh et al. (2021) examine the role of board gender diversity on performance with and without the moderating role of CSR. They conducted a study on the data from the Palestine Security Exchange from the period 2010 to 2017. Panel data regression analysis along with the one-step generalized method of moment is used to find the association amongst dependent and independent variables.

The findings of their study found a positive and insignificant direct association amongst gender diversity and performance. But when CSR is added as a moderator, the linkage amongst gender diversity and performance turns to positive significance. Thus, the study concludes that CSR moderates the association positively and significantly amongst board gender diversity and performance.

Arora (2022) delves into the influence of board gender diversity on performance within India. Utilizing data of companies listed at Bombay Stock Exchange, the study employs panel data analysis to elucidate the linkage amongst these variables. The findings indicate a significant association amongst including women on the company's board and performance. This aligns with prior studies that have also suggested a positive correlation amongst board gender diversity and performance, advocating for the presence of females on corporate boards (Appiadjei et al., 2017; Chen et al., 2017; Kılıç and Kuzey, 2016; Dezsö and Ross, 2012). Khan et al. (2021b) argue that agency theory considers gender diversity on the board to improve the leadership structure of a firm and reduce agency conflict. They explore the impact of board gender diversity on performance. They used listed companies' data of Pakistan from 2005 to 2020 and analyze it by using quantitative analysis techniques. The study suggests a positive and significant association amongst the

presence of female directors on a board and performance. Adams (2016) and Saleh et al. (2018) evidence positive and significant association amongst board gender diversity and performance and observe that where the women representation is high on board, firms achieve high performance.

H_7: Female representation has a positive impact on performance.

2.3 Moderating Role of Board Characteristics amongst CSR and Firm Performance

This section of the literature focuses on investigating the moderating effect of various board characteristics on the linkage amongst CSR and performance. These board characteristics encompass board independence, board size, CEO/Chair duality, independence of the audit committee, and female representation on the board. The board of directors is usually considered one of the fundamental elements of the CG framework. According to literature of finance, for example, Murtaza et al. (2014); Kiran (2015), and Jie and Hasan (2016), corporate governance is defined as "the mechanism by which those who provide financial resources to corporations to ensure their returns on investment".

Rossi et al. (2021) examined the potential impact of Corporate Social Responsibility (CSR) practices on financial performance within ESG firms, while considering the moderating influence of board characteristics. Utilizing panel data analysis with data from 225 listed companies spanning from 2015 to 2019, the study investigated how board characteristics moderate the linkage amongst CSR practices and financial performance. The findings indicated that board characteristics partially moderate this linkage among European ESG (Environmental, Social, and Governance) firms.

2.3.1 Moderating Role of Board Independence amongst CSR and Firm Performance

Jaidi et al. (2022) find the linkage amongst board independence and performance under CSR as a moderator. The study consists of 860 observations of Chinese

companies listed in Stock market of China. The data for the sample period extends from 2010 to 2019, that is for 10 years. To analyze the data panel data regression technique is used to find the linkage amongst board independence and the performance.

The results exhibit a positive linkage amongst board independence and performance and CSR as moderating variables reduced the linkage amongst board independence and performance. This implies that the requirement of selection and appointment of independent board members increases the performance of firms and maximizes shareholder wealth. It also suggests that CSR could be a valuable business strategy. The Chinese government and enterprises need to continuously improve and appreciate the practice of CSR so that firms' performance can be enhanced.

Waheed et al. (2021) explain the linkage amongst CSR and a firm's performance under the moderating role of institutional ownership, corporate governance mechanism, and investment horizon. The study consists of a sample size of 327 firms from listed in the Pakistani Stock market during 2007 to 2018.

To provide more robust and generalizable results the study used the method of Arellano–Bond dynamic panel data estimation. The study discovers that institutional investors positively moderate the linkage amongst CSR and performance. Further, results could not be explained with the agency theory.

Rossi et al. (2021) study, the linkage amongst CSR activities and financial outcomes in ESG firms was investigated, by using board characteristics as a moderator. The study uses linear regressions with panel data analysis, drawing data from 225 companies listed in European countries from 2015 to 2019.

The empirical findings revealed that board characteristics partially moderate the linkage amongst CSR activities and financial outcomes in ESG firms working in Europe. Moreover, the study confirmed a positive linkage amongst CSR practices and the firm's performance. This suggests that CEOs should allocate resources to resolve the issues of all stakeholders, as it can directly influence the financial outcomes of the business. So that a practical and improved CSR strategy could be formulated and implemented this could add value to business.

H_8: Board Independence strengthens the linkage amongst CSR and financial performance.

2.3.2 Moderating Role of Board Size amongst CSR and Firm Performance

Thuy et al. (2022) examine the connection amongst CSR information disclosure and CG along with state ownership as moderator, amongst CG and CSR disclosure. To study the linkage amongst CG and CSRD, they use the GLS and GMM on a sample of one hundred sixty five non-financial listed companies for the sample period 2015–2018, that covers about three-fourths of stock exchange of Vietnam. Their conclusions imply that firms with small board consisting of external directors have a high CSR disclosure level. Moreover, when the CEO is concurrently the Chairman of the board, the level of CSR disclosure goes down. Furthermore, the moderating role of ownership of state improves CSR disclosure.

Decisions made by larger boards can indicate a balance achieved among competing stakeholder demands. Consequently, choices made by larger boards possess an improved capacity to address the interests of stakeholders compared to those made by smaller boards. The presence of agency issues becomes more pronounced in the context of larger boards, thereby affording the CEO a greater ability to influence and oversee board activities (Rachdi and Ameur, 2011; Jilani and Chouaibi, 2021). However, larger boards exhibit the potential for enhanced efficiency, as a greater number of individuals can distribute the workload associated with managerial oversight. This configuration is more likely to reinforce the connection amongst CSR and financial outcomes by effectively accommodating CSR considerations and offering a wider range of tools for consultation and monitoring roles. Earlier research highlights that larger boards benefit from a broader range of expertise and experience, contributing positively to a company's reputation and image (Ntim and Soobaroyen, 2013; Jizi et al., 2014).

Hence, a review of existing literature presents several findings that support the positive association amongst board size and CSR. Ntim and Soobaroyen (2013), using

a sample data from 2002 to 2009 of listed companies, supported the assumption that bigger boards lead towards higher investments in CSR initiatives. Likewise, Jo and Harjoto (2011) documented evidence that firms with larger boards tend to hold CSR commitments. More comprehensive boards ensure compliance with corporate laws and regulations, including those pertaining to CSR.

H_9: Board Size weakens the linkage amongst CSR and financial performance.

2.3.3 Moderating Role of CEO/Chair Duality amongst CSR and Firm Performance

Pasko et al. (2022) investigates the potential impact of CSR on financial performance within the framework of CG as a moderating variable, drawing upon resource dependence and agency theories. The study employs panel data analysis using data collected from 3,576 listed companies in the Chinese Stock Market, comprising 28,200 company-year observations over a ten-years. The findings of the study suggest that corporate social responsibility, when interacting with equity concentration, board size and CEO/Chair duality significantly and positively effects a firm's financial performance. However, contrary to the hypotheses derived from existing literature, the empirical results are not in support of the notion that board gender diversity and board independence moderate the linkage amongst CSR and financial performance. Overall, the study provides empirical evidence on the specific elements of corporate governance that contribute to enhancing financial performance within China's institutional settings.

Voinea et al. (2022) examine the potential effects of a company's performance CEO/Chair duality on CSR disclosure. The study employed the data collected from state-owned enterprises (SOEs), and A-graded companies of Chinese stock markets, China. The data comprises CSR reports of 1600 publicly listed Chinese firms from 2014 to 2019. The empirical findings show a negative association amongst CEO/Chair duality and CSR disclosure. It suggests that sound financial companies disclose higher quality CSR information regularly as compared to poor financial companies. The firm's financial performance and quality of CSR disclosure have

greater value in public enterprises than in state-owned enterprises. It concludes that the structure is less accountable to the concerns of their stakeholders, which reduces the financial performance of firms.

H_{10}: CEO/Chair duality weakens the linkage amongst CSR and financial performance.

2.3.4 Moderating Role of Independence of Audit Committee amongst CSR and Firm Performance

Dakhli (2021) investigates the impact of CSR on performance, with the variable quality of audit serving as a moderator. The study employs a panel data analysis technique and utilizes a sample of 200 French firms spanning from 2007 to 2018. Empirical tests conducted in the study finds a positive association amongst CSR and performance proxies, namely ROA, ROE, and Tobin's Q ratio. This suggests that involvement in social activities contributes to enhancing a financial benefit of firms.

The results suggest that the enhancement in financial performance is due to improved CSR practices. The overall findings encourage all board members to continuously improve and enhance CSR activities so that the social behavior of all stakeholders can be shaped in the favor of firms.

Mohammadi et al. (2021) examine the influence of board and audit committee characteristics on CSR. Using the screening method, a sample of 150 companies are selected from companies listed in the Tehran Stock Exchange and analyzed through descriptive correlation and Multivariate regression. The study finds that there is a noteworthy association amongst board size and CSR, board independence, and CSR. However managerial ownership and CEO/Chair duality do not have a significant effect on CSR. Furthermore, size of audit committee, independence of audit committee, and financial expertise of audit committee members have a substantial effect on CSR. These results suggest that a handful of CSR strategies can help mitigate internal and external agency problems and conflicts among all stakeholders. Empirical results regarding audit committee characteristics strongly

recommended that an effective audit committee mechanism can increase and appreciate the level of CSR activities.

Fuadah et al. (2022) investigates the association amongst ownership and ESG disclosure, performance of firms, and firm value within the context of Indonesia. The ownership structure categories considered include state, public, foreign and family ownership. The study examines 140 companies of the Jakarta Stock exchange during 2018 to 2020, employing the perspectives of legitimacy theory, stakeholder theory, and agency theory. Using PLS-SEM, the study finds that audit committees moderate the relation amongst ESG and firm value. However, it is observed that audit committees do not moderate the linkage amongst ESG disclosure and bottom line.

H_{11}*: Independence of the audit committee strengthens the linkage amongst CSR and financial performance.*

2.3.5 Moderating Role of Female Representation on Board amongst CSR and Firm Performance

Kahloul et al. (2022) study the possible effect of CSR reporting on performance under the role of board composition and gender diversity as moderating variables. To empirically test the undertaken study uses the technique of panel data analysis. The sample comprises of French firms listed on the SBF 120, extending the time from 2008–2015. The empirical results find a neutral effect from CSR reporting using Tobin's Q variable to assess performance. However, a negative linkage is observed with the ROA variable as a measure of performance. The study also finds the moderation effect of board gender diversity amongst CSR reporting and corporate financial performance. This implies that stakeholders should take into consideration the potential effect of CSR reporting and its benefits of having diversity in board composition.

Setyowati et al. (2023) analyze the linkage amongst internal CSR practices and firm efficiency, under the moderating variable of women board members. The sample size consists of 5,997 firms from thirty-nine countries comprises the period 2008

to 2019. The study employed the Data Envelopment Analysis (DEA) to measure firm efficiency and panel regression analysis to examine the moderating effect of women board members. The study finds that the representation of women in board members plays a moderating role amongst internal CSR and firm efficiency. This suggests that the higher the number of women representations in board members the stronger the positive linkage amongst internal CSR and firm efficiency. However, the same results could not be found significant in developing countries. This may be because of the limited role of women board members in devising internal CSR policy selection strategies in such countries.

Masmoudi and Barhoumi (2023) investigate the possible effect of CSR disclosure on a firm's value after the transition of the European directive in large French companies under the moderating role of board gender composition. The study applied the technique of the Ohlson (1995) to the companies listed on the French stock market from 2017 to 2019. The finding reveals that there exists positive linkage amongst CSR disclosure and firm value for the period the undertaken research is studied. Moreover, gender diversity in board composition enhanced the linkage amongst CSR disclosure and firm value and this is because of the inclusion of women on the board of directors and their exceptional psychological and leadership characteristics. The findings of the undertaken study encourage firms to follow the EU directive guidelines regarding social responsibility to improve their valuation.

La Rocca et al. (2023) examine the influence of gender in the linkage amongst CEO/Chair duality and performance, under the context of stewardship arguments and feminist theories. By using a big sample of twenty three companies listed in European countries in the 2014–2020 period, the study reports that CEO/Chair duality has a direct effect on corporate performance when a female carries both the positions of chairperson and CEO. These results underscore the 'bright side' of females in governance, indicating the presence of females in dual governance positions can increase gains and/or limit costs related to CEO/Chair duality. Having a female in CEO-Chair headship may enhance a company's utilization of its funds and efficiently contribute in advancing performance.

Saleh et al. (2021) examine the link of CSR, gender diversity, and performance in the companies listed on the Palestine Stock Exchange by using the data for the period from 2010-2017. To estimate the outcomes, panel data analysis is used, and GMM is applied to address the issue of endogeneity. The study concludes that the impact of gender diversity is found positive and insignificant with performance when it is tested directly, and by considering it as a moderator the impact of gender diversity on performance strengthens in the shape of significant and positive linkage which shows that presence of female on board contributes in improving the CSR and performance link.

H_{12}: Female representation on board is positively associated with the linkage amongst CSR and financial performance.

2.4 Islamic Label, Board Characteristics, and CSR - FP Link

Islam claims to be a complete code of life so it remains an important social force that affects business and society. The ethical principles of Islam are derived from the Holy Qur'an and the Sunnah. Beekun and Badawi (2005) discuss the objective of the firm with respect to Islam. The study furnishes that the objective of the firm is not the maximization of the wealth of the owners at the cost of other stakeholders but to perform its fiduciary responsibilities for all the stakeholders through maintaining equilibrium among the needs and wants of each stakeholder.

Most of the studies linking CSR, moral values, and corporate governance have been conducted in Western societies which are based on Western ethical viewpoint (Dawkins, 2015) and secular morality (Moon et al., 2005) whereas contributions from religious traditions are less represented. The lack of work in the domain of CSR, governance, and Islam is a significant gap in the literature, which needs attention and must be attended to as Islam plays a prominent role as a social force in transforming the business landscape in the Islamic world. Some studies in this domain include (Van Cranenburgh et al., 2014; Chan-Serafin et al., 2013). In Muslim-majority countries, few academic studies examine CSR, governance,

and religion. Murphy and Smolarski (2020) examine CSR through Islam. The study focuses on the objectives of the Sharia and the obligation of individuals within society to present a governance model in light of Islamic principles. It substantiates the point of view through the concept of Islamic business ethics, stakeholder theory, and corporate governance. The study further explains how Islam addresses the fiduciary responsibilities of businesses to various stakeholders where the state is unable to support its obligations to society. It further provides that large businesses have the moral obligation to assist governments in addressing such challenges. Some other important studies (Muhamad et al., 2008; Nalla, 2011) discuss the contribution of Islam to CSR. Ullah et al. (2014) discuss responsible investing, Al-Suhaibani and Naifar (2014) investigate accounting ethics from an Islamic perspective. Islam expects that firms should contribute to society through CSR programs to achieve community development objectives (Muhamad et al., 2008) to bridge the gap unattended by the governments.

2.5 Moderating Role of Sharia Compliant amongst CSR and Firm Performance

Lee and Isa (2023) examine the influence of ESG activities on performance of Sharia compliant companies in Malaysia over the period 2010–2017. The study employs a panel regression model to test the effect of ESG activities on returns and along with moderating role Sharia screening on firms' performance. The study indicates a positive linkage amongst ESG practices and performance, indicating that ESG activities can augment firm value. Furthermore, the study also provide testimony that dual ESG–Sharia screening improves the ESG linkage with performance. Their results are stable and robust to different proxies of performance and estimation methods.

Mohamad Ariff et al. (2023) examine the association amongst ESG performance and cash holdings, along with moderating role of Sharia-compliance status. A sample comprises 9,244 observations from twenty-five countries for the period 2016-2020 is analyzed using OLS Estimation technique. Their findings show that the firms with high ESG performance are found to have high cash holdings. The

direct correlation amongst ESG performance and cash holdings is high for firms that are in compliance of sharia comparison to firms that are not in compliance of sharia. The evidences suggests that Sharia-compliant firms with high ESG commitments also have high cash holdings as part of their corporate strategy.

Azam et al. (2019) contribute to the existing literature by examining the link amongst the profits of firms, CSR practices and dividends and the moderating role of a *Sharia* compliance in companies listed in PSX during 2012-2016. Furthermore, the Tawhidi string relation methodology is employed to create the circular causal model. The study also analyzes data using random effect and fixed effect models to get insight about connection between profitability, CSR activities and dividends, whereas moderation analysis provides that association amongst firm profitability and CSR is weaker for *Sharia*-compliant firms than for *non-Sharia*-compliant firms.

H_{13}*: Sharia compliance strengthen the link between CSR and firm performance.*

2.6 Ownership and Firm Performance

Cheng et al. (2022) examine the linkage amongst common institutional ownership and corporate social responsibility. They find that common institutional ownership is negatively related with the level of CSR, which supports an anti-competitive view and impedes performance. The study employs propensity score matching analysis and a difference-in-differences approach based on a quasi-natural experiment of financial institution mergers. The study concludes that institutional ownership weakens the linkage amongst CSR and performance and hence moderates the linkage.

Ali et al. (2019) examined the linkage amongst CSR and performance in the presence of ownership structure as a moderator for Chinese companies. The study uses disclosure score, ownership structure, and performance indicators for empirical investigation. To examine the data from the Shanghai Stock Exchange, Shenzhen Stock Exchange, and for the period 2006 to 2014. Accounting and market measures are taken as performance indicators. Regression analysis reveals that, after controlling the size of firms, the linkage amongst CSR and firm financial

performance is positively associated, but this linkage turned adverse in case of EPS due to shareholders' uncertainties about CSR.

Ang et al. (2022) examines the effect of CSR on corporate performance by using a sample dataset comprising 6,306 Chinese companies from 2012 to 2019. The study also explores the moderating effect of ownership structure on the linkage amongst CSR and corporate financial performance. To test the proposed hypotheses, the study employs an OLS regression model and uses a Two-Stage Least Squares Method (2SLS), propensity score analysis, and difference-in-difference method for data analysis.

The results of the study suggest that CSR has a positive impact on corporate financial performance among Chinese companies. Additionally, the study reveals that ownership concentration diminishes the positive impact of CSR, while ownership balance enhances the positive effect of CSR on firm financial performance.

2.6.1 Foreign Ownership and Firm Performance

The seminal work of Meckling and Jensen (1976) examines the theory of the firm in the context of agency issues based on the ownership structure of a firm and brings out an important dimension, namely, the relative amount of ownership claims held by internal equity providers, external equity providers, and debt providers. These can be categorized as insiders and outsiders. Insiders here are the management and outsiders are investors who do not participate in the management of the firm. The study provides that when the ownership structure changes, the firm value also changes because of the transformation in the behavior of the owners and managers of the firm.

In literature, the impact of board characteristics and ownership on performance is studied at large whereas few studies are available that examine the joint effect. Dahya et al. (2008) observe a positive association amongst board independence and performance with dominant shareholders, particularly in markets where investor protection laws are weak. Li et al. (2015) report that board independence has a positive influence on profitability when controlling ownership declines.

CG is one of the key areas in the Kullback-Leibler Divergence (KLD) database. This database is used by most of the studies to construct CSR variables, but these studies do not include a specific issue of governance. Even more, the indicators included under CG do not encompass the ownership type. These studies treat here, controlling shareholders and outsider investors as a homogenous group (Johnson and Greening, 1999). However, there is a dire need to consider several types of owners and their diverse impacts on the–CFP links. Insider shareholders follow their way to achieve their goals. Therefore, ownership is among the most powerful instruments that determine the strategic direction of the firm and its performance.

The debate on the role of ownership is mixed. The proponents of ownership concentration argue that higher ownership increases the capability to monitor managers, leads to a reduction of owner-manager conflict, and improves profitability. The critique argues that in case of concentrated ownership, controlling owners may divert firms' resources for their gains and hamper profitability, this tendency is more common in emerging economies where investor protections are weak, and an owner-manager form exists in family-owned businesses (Claessens and Yurtoglu, 2013). Literature further documents many pros and cons of the association amongst family ownership and profitability in the context of emerging economies. Due to the weak institutional and market setting of many emerging markets, this effect may be stronger in developing economies than in developed markets. In case of developing markets usually, family members hold management positions in family-owned firms (Lins, 2003), which in turn helps to enhance managers' interests (Kho et al., 2009). The main reason for the stronger linkage amongst family ownership and profitability in developing markets as compared to developed markets is the more diluted ownership structure of developed markets, where family members usually have less participation in management affairs.

Some studies document the negative effects of family ownership and argue that manager selection problems, such as nepotism in family ownership led to its inefficiency, pursuit of non-financial interests (Chi et al., 2015; Chen et al., 2014), and the risk of expropriation (Claessens et al., 2002). In the literature, there is not only conflict in the theoretical perspective but empirical findings concerning the

influences of ownership structure on profitability are also inconclusive. Literature provides evidence of the presence of a significant linkage amongst board shareholding and performance in many countries, but the signs of the linkage are mixed. An inverted U-shaped association is found in some countries of Europe (Balsmeier and Czarnitzki, 2017), while a U-shaped association is reported in China (Liu et al., 2012) during the crisis period of 2007–2008, Jiang et al. (2009) document negative linkage among the two in New Zealand and it is confirmed by Fauzi and Locke (2012). Meanwhile, a positive link is observed in Japan (Gedajlovic and Shapiro, 2002), Greece (Kapopoulos and Lazaretou, 2007), and Vietnam (Nguyen et al., 2015).

Ahmed and Iwasaki (2021) explored the effects of foreign ownership on supervisory mechanism, representation of external directors and performance. They used sample of 6667 observations for the sample time frame covering years from 2010 to 2014 from Tokyo Stock Exchange, Japan. They noted that foreign ownership is directly and significantly related to presence of external directors and performance.

Naidu et al. (2022) tested the impact of foreign ownership on firms listed in on the South African Stock Market over the period of 2012 to 2018. By employing the system GMM approach, the observed that foreign ownership has a direct effect on ROE when level of foreign ownership is less than 40% but have a inverse effect when foreign ownership is more than 40%. However, no evidence of impact of foreign ownership on performance measured through ROA and Tobin's Q is found.

Putri and Setiawan (2023) examined the influence of foreign ownership on performance using a sample of two hundred and sixty four companies listed in the Indonesian Stock Market. The results suggested that the existence of foreign ownership influences performance significantly and positively.

There is increasing evidence that state ownership influences profitability. Yu (2013) conducts a review of the link amongst ownership and profitability. It provides that, in China, six of fourteen studies have a U-shaped linkage, one reports the inverted U-shape linkage, one has a positive, four have a negative, and two are neutral on the association amongst ownership and performance. Phung and Hoang (2013) report an inverted U-shaped impact of state ownership on the profitability

of Vietnamese listed companies during 2007–2012. Tran et al. (2014) discovered the presence of a negative impact of state ownership on firms' profitability and labor productivity.

2.6.2 Family Ownership and Firm Performance

Zahra et al. (1993) conducted a pioneering study that considers the impact of board structure and ownership on CSR and performance links. This study provides evidence that higher insider shareholding is directly related with higher CSR and profitability. This study further recommends the need for research to explore the differences in CSR and performance links in different ownership settings especially amongst family-owned and non-family-owned firms as both ownership pattern differ in their objectives and strategy, risk-taking behavior, and structure which has an impact on the investments in social domains. CSR initiatives are long-term, require higher financial allocations, and may be incompatible with the shortsighted perspective of non-family firms. These firms are most likely to pursue short-term targets due to compensation and incentive systems.

Family firms usually do not face short-term pressure, for the reason that they cannot move hastily. Therefore, these firms exhibit strong interest not only in financial outcomes but also in competitiveness and social initiatives. Family firms realize the long-term paybacks of sustaining quality, responsiveness to the environmental demands, stakeholder's expectations, and finally exhibiting concern to the community (Johnson et al., 1996). Therefore, this ownership pattern is deemed an internal moderator that can have a significant influence on CSR and profitability linkages.

2.7 Moderating Role of Ownership amongst CSR and Firm Performance

This study further scrutinizes the moderating effect of foreign ownership and family ownership amongst CSR and performance link.

2.7.1 Moderating Role of Foreign Ownership amongst CSR and Firm Performance

Joshi et al. (2023) investigates the trends of CSR investments and activities in various ownership patterns. Their study explains similarities and differences in the CSR practices of organizations embedded within sectoral contexts by using the neo-institutional theoretical framework. Their study uses the CSR activities of 100 companies listed in the Indian Stock Market and implies content analysis technique to arrive at commonalities across activities and ownership patterns. The study finds that ownership plays an important role in CSR activities, which, in turn, improves performance. Particularly, their findings indicate that the top one hundred firms choose to make investment in the areas of "Education," "Sustainability" and "Skill" whereas public-owned firms prefer "Sanitation" and "Environment/Sustainability" showing concern about local development goals. Foreign and Private companies prefer to allocate CSR funds in "Education" and "Skill" development indicating consistency with the worldwide development agendas. Public firms focus on "Environment' and "Sustainability" in the strategic planning.

Ahmad et al. (2023) investigated the moderating effect of ownership type on the connection amongst CSR and earnings management, as well as the performance of companies listed at the Indian Stock Market. The study utilized data for the hundred firms for the period spanning from 2015-2020. The findings revealed that CSR allocations are associated with earnings management in scenarios for founder owners and concentrated domestic shareholders. However, results for institutional or foreign ownership are not consistent with results for domestic shareholders. Additionally, the findings suggest that high levels of foreign ownership undermine the connection amongst CSR allocations and earnings management practices, which consequently diminishes performance.

Foreign firms bring their international practices with them and are more committed to CSR performance nexus, therefore, higher monitoring strengthen the link amongst CSR and performance.

H_{14}: Foreign ownership moderates the linkage amongst CSR and Performance

2.7.2 Moderating Role of Family Ownership amongst CSR and Firm Performance

Two contending theories exist regarding the impact of family ownership on Corporate Social Responsibility (CSR), namely the alignment effect and the entrenchment effect (Wang, 2006). The alignment effect posits that family ownership has a positive influence on the adoption of CSR practices, aligning the family's interests with those of other stakeholders. This perspective is supported by empirical findings, such as a prior investigation indicating higher CSR engagement among family-owned enterprises (Zeng, 2021) aimed to enhance CSR performance (Izzo and Ciaburri, 2018). Family-owned businesses also reveal more concern for environmental investments (Abeysekera and Fernando, 2020).

Conversely, the entrenchment effect contends that family ownership places greater emphasis on profitability, interpreting CSR as obligatory rather than strategic choices. This view assumes that the costs associated with CSR outweigh the benefits, leading to a predicted negative impact of family ownership on CSR efforts. labelle2018family support this argument, revealing that family firms exhibit lower CSR performance as compared to nonfamily firms. This finding aligns with the propositions of institutional theory. Setiawan et al. (2022) explored the influence of CSR on performance in Indonesian stock market. The sample comprises 285 Indonesian firms which are family owned and covers a study period from 2015 to 2019. They found a positive association amongst corporate social responsibility (CSR) initiatives and performance. The study found that the interaction amongst family ownership and CSR exerted a negative impact on performance. This suggests that family owners possess substantial disincentives that negatively influence the CSR to enhance the performance of the firm.

Kaimal and Uzma (2023) examined the moderating influence of family ownership on the association amongst CSR and performance of firm, using data from 288 Indian-listed firms spanning from 2010 to 2021. The study employed panel data analysis to analyze the results. The findings of the study revealed a positive impact of CSR spending on performance. Furthermore, the study identified a positive

moderating effect of family ownership within the CSR-performance linkage when market-based measures were utilized. However, a negative moderating effect was observed in case of book-based measures.

Yeon et al. (2021) explored the moderating role of family ownership in the linkage amongst CSR and performance. The study employed fixed effect model to uncover the results. The findings of the study revealed a positive moderating impact of family ownership on the association amongst CSR and performance. The data spanned from 1994 to 2018.

H_{15}*: Family Ownership moderates the linkage amongst CSR and Performance*

Chapter 3

Data Description and Methodology

3.1 Data Description

The study uses a sample of one hundred thirty one companies that are listed PSX. The companies from the non-financial sector are taken as these are more concerned with CSR activities. The industries include Food and Personal Care Products, Automobile (Automobile Assembler & Automobile), Cement, Cable & Electric Goods, Energy (Oil & Gas Marketing Sector, Oil & Gas Exploration sector), Fertilizer, Steel & Engineering, Chemical, Glass & Ceramics, Technology & Communication, Leather & Tanneries, Paper & Board, Pharmaceuticals, Sugar & Allied Industries, Textile (Textile Composite, Textile Spinning, and Textile Weaving), Tobacco and Miscellaneous. The sample period covers 2006-2019 and the reason for taking a sample from 2006 is the promulgation of corporate governance code in 2005.

3.2 Construction of Variables

The explanatory, moderating, and dependent variables are explained below:

3.2.1 Dependent Variables

The study employed market-based and book-based measures of performance. The book-based measure is Return on Assets is a dependent variable to measure financial outcome. The study also used one market-based measure, Tobin Q as a dependent variable to measure market perspective of performance. This is common as book-based measures are static as these are based on variables that are partially valued at historical cost principle while market-based measures are dynamic as these adjusted with the change in investors' confidence. The same is true for ROA and Tobin Q. These variables are explained as under:

3.2.1.1 Tobin Q

Tobin Q tells about the linkage amongst market value and fair value of assets. It is used to predict whether the share of a company is overvalued or undervalued. Tobin Q is estimated through dividing the market value of company by total asset.

$$\text{Tobin Q} = \frac{\text{Market Value of Equity + Market Value of Debt}}{\text{Total Asset}}$$

3.2.1.2 Return on Asset

Return on assets (ROA) is an indicator of income generation by company through using its assets. It gives insight to managers and investors that company's assets are being used efficiently to generate profitability. ROA is estimated by dividing net profit by total assets:

$$\text{Return on Asset} = \frac{\text{EAT}}{\text{Total Assets}}$$

3.2.2 Independent Variables

Sales Growth, Size of Company, Leverage, Corporate Social Responsibility, and Profitability are independent variables that are explained as under:

3.2.2.1 Corporate Social Responsibility

Most of studies used CSR disclosure as a measure of CSR, however, the actual allocation for CSR activity is an indicator of the commitment of the organization towards society, so a percentage of the funds actually allocated is used as a measure of CSR.

$$\text{Corporate Social Responsibility} = \frac{\text{Funds Allocated for CSR}}{\text{Total Profit}}$$

3.2.2.2 Return on Equity (ROE)

ROE is a measure of profitability used to calculate how much return a company generates from shareholder wealth. It gives insight to investors about how effectively their investment is being used for making profits. ROE is estimated by dividing net profit by total outstanding shares:

$$\text{Return on Equity} = \frac{\text{EAT}}{\text{Shareholder Equity}}$$

3.2.2.3 Sales Growth

Sales growth is the percentage change in sales estimated as under:

$$\text{Sales Growth} = \frac{(S_t - S_{t-1})}{S_{t-1}}$$

3.2.2.4 Size of Company

Size of a business means how big is a business in terms of its value, here, market capitalization is a proxy of size. The market capitalization is the market value of a company computed as under.

$$\text{Size} = \text{Market Price Per Share x Number of Shares}$$

3.2.2.5 Leverage

Leverage is a debt component of the financial structure of a company. The leverage is estimated as under:

$$\text{Leverage} = \frac{\text{Debt}}{\text{Equity}}$$

3.2.3 Moderating Variables

The study explores three moderators which include board characteristics, ownership, and Islamic label. The relevant proxies used are explained below:

3.2.3.1 Board Characteristics

The variable includes various attributes like board size, independence of audit committee, board independence, female representation on board, and CEO/Chair duality.

3.2.3.1.1 Board Independence

An independence of board is linked with presence of external directors who are not involved in dealing with company business. The board's independence is estimated through percentage of non-executive directors on BOD.

$$\text{Board Independence} = \frac{\text{No. of Non Executive Directors}}{\text{Total Directors}}$$

3.2.3.1.2 Size of Board

The board size refers to total directors on the board. The size of the board is estimated by taking log of total directors.

$$\text{Size of Board} = \ln \text{ (No. of directors)}$$

3.2.3.1.3 CEO/Chair Duality

CEO/Chair duality is a situation where CEO and Chairman is the same person.

$$\text{CEO/Chair duality} =$$
$$1, \text{ if Chief executive officer and Chairman are the same person}$$
$$= 0, \text{ otherwise}$$

3.2.3.1.4 Independence of Audit Committee

IAC refers to the proportion of NED members of the Audit Committee. It is estimated as under:

$$\text{Independence of Audit Committee} = \frac{\text{Total No. of NED in the Audit Committee}}{\text{Total Members of the Audit Committee}}$$

3.2.3.1.5 Female Representation on Board

Female representation on the board refers to how many females are members of the BOD. The representation of females on the board is estimated on the basis of the proportion of female directors on BOD.

$$\text{Female Representation on Board} = \frac{\text{No. of Female Directors on Board}}{\text{Total Number of Directors}}$$

3.2.3.2 Ownership Structure

The ownership structure includes family ownership and foreign ownership.

3.2.3.2.1 Family Ownership

Family ownership is used to identify where the major shares of a company are owned by a single family and the percentage of ownership is captured as under.

$$\text{Family Ownership} = \frac{\text{Shares Owned by Family}}{\text{Total Outstanding Shares}}$$

3.2.3.2.2 Foreign Ownership

Foreign ownership is used to identify the companies owned by foreign investors and the percentage of ownership is captured as under.

$$\text{Foreign Ownership} = \frac{\text{Shares Owned by Foreign Investors}}{\text{Total Outstanding Shares}}$$

3.2.3.3 Islamic Label

Islamic labels will be identified through the use of dummy variables.

$$\text{Islamic Label} = 1, \text{ if the Company is Sharia compliant}$$

$$= 0, \text{ otherwise}$$

3.2.3.4 Industry Effect

Industry labels will be identified through the use of dummy variables.

$$\text{Specific Industry} = 1, \text{ if the Company pertains to a specific industry}$$

$$= 0, \text{ otherwise}$$

3.3 Methodology

The study applied panel EGLS and GMM for estimation of results. *"Panel-EGLS is a generalized least square procedure that can combine the features of random effect and fixed effect panel data models and account for the heterogeneity and autocorrelation in the panel data"*. This study uses the Panel Estimated Generalized Least Squares (EGLS) cross-section Fixed Effect (FE) method with Panel Corrected Standard Error (PCSE) estimates. This estimate is robust to heteroscedasticity across cross-sections. Further, Gujarati (2004) *"states that using panel data gives more information by increasing the degree of freedom, anticipating heteroscedasticity problems, and providing better estimation econometrics."* Hansen

(1982) introduces the estimation method to solve this case is a Generalized Method of Moments (GMM) by minimizing criterion weighted function. The generalized Method of Moments is convenient for estimating interesting extensions of the basic unobserved effect model (Wooldridge, 2001) *"Generalized Method of Moments (GMM) is an estimation procedure that allows econometric models, especially in panel data to be specified while avoiding often unwanted or unnecessary assumptions, such as specifying a particular distribution for the errors. GMM has significant advantages over maximum likelihood in this context because GMM allows estimation under the restrictions implied by the theory; there is no need to add distributional assumptions that are not implied by the theory."*

Difference Generalized Method of Moments (Difference GMM) is an econometric technique used primarily for estimating panel data models where the dependent variable is dynamic, meaning that it depends on its past values.

Difference GMM specifically designed to handle panel data where the model includes lagged dependent variables as regressors, and where there is potential endogeneity (e.g., when explanatory variables are correlated with past errors). While, methods like Ordinary Least Squares (OLS) or Fixed Effects (FE) regression do not account for dynamic panel structures or endogeneity in the same way. Difference GMM involves transforming the data to remove fixed effects and then using lagged levels of variables as instruments for differenced variables.

This transformation helps to address endogeneity and autocorrelation by exploiting the panel structure. While, OLS and FE do not necessarily address endogeneity or the dynamic nature of the panel. Fixed Effects models control for unobserved heterogeneity but may still suffer from bias in dynamic panels. Difference GMM utilizes lagged values of the explanatory variables as instruments for the differenced equations.

This approach helps to deal with endogenous regressors by providing valid instruments. While, OLS uses no instruments, while FE may use within transformation but doesn't specifically address endogeneity using instruments. Difference GMM particularly useful for dynamic panel data models where past values of the dependent variable are used as predictors. It accounts for the fact that lagged values can

be endogenous. While, standard OLS and FE models typically do not address the dynamic nature of the panel and may lead to biased estimates if lagged dependent variables are included. Difference GMM assumes that the instruments (lagged levels) are valid, meaning they are correlated with the endogenous regressors but uncorrelated with the error term. It also assumes that the errors are not serially correlated. While, OLS assumes no endogeneity and homoscedasticity, while FE models assume no correlation between individual effects and regressors, which may not hold in the presence of dynamics. Difference GMM widely used in economics and finance to analyse the dynamics of investment, economic growth, and other variables over time. While, OLS is used for simpler models, and FE is used where dynamic elements are less critical.

Difference GMM is a specialized technique for handling dynamic panel data with endogeneity issues, offering a more sophisticated approach compared to traditional methods like OLS or Fixed Effect.

3.3.1 Non-linear Impact of CSR on Firm Performance

This section explains in detail the econometric model used to study the link amongst CSR and company performance. Two proxies are used for company performance, Tobin Q is market-based measure of value, and ROA is book-based measure of performance.

3.3.1.1 Non-Linear Impact of CSR on Tobin Q (TQ)

The impact of CSR on company value in linear and non-linear settings is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (1)$$

Where $BC_{(i,t)}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.1.2 Non-Linear Impact of CSR on Return on Asset (ROA)

The impact of CSR on ROA in linear and non-linear settings is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (2)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2 Impact of CSR on Company Performance: Moderating Role of Board Characteristics

This section covers the econometric model used to examine the moderating role of board characteristics amongst CSR and company performance individually and jointly.

Sections 3.3.2.1 and 3.3.2.2 detail the moderating role of board characteristics collectively. However, due to the presence of some multicollinearity amongst board characteristics the moderating role of each attribute has also been examined individually and reported as 3.3.2.3 to 3.3.2.10.

3.3.2.1 Impact of CSR on Tobin Q (TQ): Moderating Role of Board Characteristics

This section provides the specific model used to examine the moderating role of board characteristics amongst CSR and company performance.

The impact of CSR on Tobin Q in linear and non-linear settings with the moderating role of board characteristics is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}\times CSR_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (3)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.2 Impact of CSR on Return on Assets (ROA): Moderating Role of Board Characteristics

The impact of CSR on ROA in linear and non-linear settings with the moderating role of board characteristics is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}\times CSR_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (4)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.3 Impact of CSR on Tobin Q (TQ): Moderating Role of Board Independence

The impact of CSR on company value in linear and non-linear settings with the moderating role of board independence is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times BI_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (5)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.4 Impact of CSR on Tobin Q (TQ): Moderating Role of Board Size

The impact of CSR on company value in linear and non-linear settings with the moderating role of board size through Tobin Q (market-based) measures is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times BS_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (6)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include: $BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.5 Impact of CSR on Tobin Q (TQ): Moderating Role of CEO/Chair Duality

The impact of CSR on company value in linear and non-linear settings with the moderating role of CEO/Chair duality is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times CEOD_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (7)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.6 Impact of CSR on Tobin Q (TQ): Moderating Role of Female Representation on Board

The impact of CSR on company value in linear and non-linear settings with the moderating role of female representation on board is examined by using the

following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times FRB_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (8)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.7 Impact of CSR on Return on Assets (ROA): Moderating Role of Board Independence

The impact of CSR on company performance in linear and non-linear settings with the moderating role of board independence is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times BI_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (9)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.8 Impact of CSR on Return on Assets (ROA): Moderating Role of Board Size

The impact of CSR on ROA in linear and non-linear settings with the moderating role of board size is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times BS_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (10)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.9 Impact of CSR on Return on Assets (ROA): Moderating Role of CEO/Chair Duality

The impact of CSR on company value in linear and non-linear settings with the moderating role of CEO/Chair duality is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times CEOD_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (11)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.2.10 Impact of CSR on Return on Assets (ROA): Moderating Role of Female Representation on Board

The impact of CSR on company profits in linear and non-linear settings with the moderating role of female representation on the board is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times FRB_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (12)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

3.3.3 Impact of CSR on Company Performance: Moderating Role of Sharia Compliant

This section provides the details of the methodology used to study the moderating role of sharia compliance amongst CSR and firm value measured through market-based and book-based measures of performance. The moderating role of Sharia-compliant amongst CSR and TQ is detailed in 3.3.3.1 and the moderating role of Sharia-compliant amongst CSR and ROA is given in 3.3.3.2.

3.3.3.1 Impact of CSR on Tobin Q (TQ): Moderating Role of Sharia Compliant

This section provides the specific model used to examine the moderating role of Sharia compliance amongst CSR and company performance.

The impact of CSR on company performance in linear and non-linear settings with the moderating role of sharia compliance is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times ISL_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (13)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$ISL_{i,t}$ = Sharia Compliance Dummy

3.3.3.2 Impact of CSR on Return on Assets (ROA): Moderating Role of Sharia Compliant

The impact of CSR on company profit in linear and non-linear settings with the moderating role of sharia compliance is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times ISL_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (14)$$

Where BC_{it} represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$ISL_{i,t}$ = Sharia Compliance Dummy

3.3.4 Impact of CSR on Company Performance: Moderating Role of Ownership

This section explains the methodology used to explore the moderating role of ownership amongst CSR and company performance.

The types of ownership studied include foreign ownership and family ownership. Section 3.3.4.1 and 3.3.4.2 covers the moderating role of foreign ownership whereas section 3.3.4.3 and 3.3.4.4 covers the moderating role of family ownership.

3.3.4.1 Impact of CSR on Tobin Q (TQ): Moderating Role of Foreign Ownership

This section provides the specific model used to examine the moderating role of type of ownership amongst CSR and company performance.

The impact of CSR on company performance in linear and non-linear settings with the moderating role of foreign ownership is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times FOR_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (15)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FOR_{i,t}$ = Foreign Ownership

3.3.4.2 Impact of CSR on Return on Assets (ROA): Moderating Role of Foreign Ownership

The influence of CSR on company profit in linear and non-linear settings with the moderating role of foreign ownership is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times FOR_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (16)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FOR_{i,t}$ = Foreign Ownership

3.3.4.3 Impact of CSR on Tobin Q (TQ): Moderating Role of Family Ownership

The impact of CSR on company value in linear and non-linear settings with the moderating role of family ownership is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times FAM_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (17)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FAM_{i,t}$ = Family Ownership

3.3.4.4 Impact of CSR on Return on Assets (ROA): Moderating Role of Family Ownership

The impact of CSR on company value in linear and non-linear settings with the moderating role of family ownership is examined by using the following

equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times FAM_{i,t}+ \sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (18)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FAM_{i,t}$ = Family Ownership

3.3.5 Impact of CSR on Company Performance: Moderating Role of Sharia Compliant and Ownership

This section explains the details of moderated moderation analysis using sharia compliance and the type of ownership amongst CSR and financial outcomes.

Section 3.3.5.1 and 3.3.5.2 explains the model used to study the moderating role of Sharia compliance and family ownership amongst CSR and company performance measured through Tobin Q and ROA.

Section 3.3.5.3 and 3.3.5.4 provides details about the model used to study the moderating role of Sharia compliance and foreign ownership amongst CSR and company performance measured through ROA and Tobin Q.

3.3.5.1 Impact of CSR on Tobin Q (TQ): Moderating Role of Sharia Compliant and Family Ownership

The impact of CSR on company value in linear and non-linear settings with the moderating role of sharia compliance and family ownership is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times ISL_{i,t}+ \quad (19)$$
$$\beta_4 CSR_{i,t}\times ISL_{i,t}\times FAM_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t}$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FAM_{i,t}$ = Family Ownership

3.3.5.2 Impact of CSR on Return on Assets (ROA): Moderating Role of Sharia Compliant and Family Ownership

The impact of CSR on ROA in linear and non-linear settings with the moderating role of sharia compliance and family ownership is examined by using the following equation.

$$\begin{aligned} ROA_{i,t} = \beta_o ROA_{i,t-1} + \beta_1 CSR_{i,t} + \beta_2 CSR_{i,t} \times CSR_{i,t} + \beta_3 CSR_{i,t} \times ISL_{i,t} + \\ \beta_4 CSR_{i,t} \times ISL_{i,t} \times FAM_{i,t} + \sum_{i=0}^{n} \gamma_i BC_{i,t} + \sum_{i=0}^{n} \delta_i x_{i,t} + \mu_{i,t} \end{aligned} \quad (20)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FAM_{i,t}$ = Family Ownership

3.3.5.3 Impact of CSR on Tobin Q (TQ): Moderating Role of Sharia Compliant and Foreign Ownership

The impact of CSR on company value in linear and non-linear settings with the moderating role of sharia compliance and foreign ownership is examined by using

the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times ISL_{i,t}+ \quad (21)$$
$$\beta_4 CSR_{i,t}\times ISL_{i,t}\times FOR_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t}$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FOR_{i,t}$ = Foreign Ownership

3.3.5.4 Impact of CSR on Return on Assets (ROA): Moderating Role of Sharia-Compliant and Foreign Ownership

The influence of CSR on company value in linear and non-linear settings with the moderating role of sharia compliance and foreign ownership is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\beta_3 CSR_{i,t}\times ISL_{i,t}+ \quad (22)$$
$$\beta_4 CSR_{i,t}\times ISL_{i,t}\times FOR_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t}$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

$FOR_{i,t}$ = Foreign Ownership

3.3.6 Impact of CSR on Company Performance: Moderating Role of Industry

This section covers the econometric model used to examine the moderating role of industry amongst CSR and company performance.

3.3.6.1 Impact of CSR on Tobin Q (TQ): Moderating Role of Industry

The impact of CSR on company performance in linear and non-linear settings with the moderating role of industry is examined by using the following equation.

$$Q_{i,t}=\beta_o Q_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+ \sum_{i=0}^{n}\gamma_i IND_i\times CSR_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (23)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

IND_i = Industrial Dummy

3.3.6.2 Impact of CSR on Return on Assets (ROA): Moderating Role of Industry

The impact of CSR on ROA in linear and non-linear settings with the moderating role of industry is examined by using the following equation.

$$ROA_{i,t}=\beta_o ROA_{i,t-1}+\beta_1 CSR_{i,t}+\beta_2 CSR_{i,t}\times CSR_{i,t}+\sum_{i=0}^{n}\gamma_i BC_{i,t}+ \sum_{i=0}^{n}\gamma_i IND_i\times CSR_{i,t}+\sum_{i=0}^{n}\delta_i x_{i,t}+\mu_{i,t} \quad (24)$$

Where $BC_{i,t}$ represents the family of variables included in Board Characteristics. The variables for company 'i' at time 't' include:

$BS_{i,t}$ = Size of Board

$BI_{i,t}$ = Board Independence

$CEOD_{i,t}$ = CEO/Chairperson Duality

$FRB_{i,t}$ = Female Representation

$IAC_{i,t}$ = Independence of Audit Committee

Similarly, $x_{i,t}$ represents the family of company-specific variables. The variables for company 'i' at time 't' include:

$ROE_{i,t}$ = Return on Equity

$LEV_{i,t}$ = Leverage

$SG_{i,t}$ = Sales Growth

$Size_{i,t}$ = Size of Company

IND_i = Industrial Dummy

Chapter 4

Empirical Results and Discussion

This chapter reports the empirical results of data analysis and discussion related to the results.

4.1 Descriptive Statistics

Table 4.1 presents the descriptive statistics that exhibit the statistical behavior of the data.

TABLE 4.1: Descriptive Statistics

	Mean	**Median**	**Maximum**	**Minimum**	**Std. Dev.**	**Skewness**	**Kurtosis**
TQ	1.502	1.059	16.62	0.156	1.543	4.720	32.13
ROA	0.065	0.054	0.463	-1.174	0.093	-1.067	22.86
CSR	0.350	0.014	13.93	-0.567	1.657	6.635	49.61
LEV	0.648	0.565	12.09	-1.365	0.705	9.014	119.7
SG	0.172	0.103	13.26	-1.000	0.877	11.54	158.4
SIZE	17.41	17.48	23.14	11.44	2.096	0.023	2.464
ROE	0.153	0.121	58.80	-7.476	1.446	37.43	1532
BI	0.448	0.600	1.000	0.000	0.445	0.112	1.178
BS	2.110	2.079	3.884	1.459	0.239	2.310	13.97
CEOD	0.178	0.000	1.000	0.000	0.382	1.694	3.871
FRBP	0.125	0.125	0.425	0.000	0.086	0.552	3.796
IAC	1.949	2.000	4.000	1.000	0.600	2.950	19.11
FOR	0.164	0.030	0.992	0.000	0.303	1.615	3.919
FAM	0.313	0.305	0.955	0.000	0.290	0.454	2.020
ISL	1.316	1.000	2.000	1.000	0.465	0.794	1.630

The average allocation of CSR by the sample firms is 0.35% of profit which is much less than the 2% requirement of CSR expenditure set by regional companies such as Indian companies (Companies Rule 2014). The average debt-to-equity ratio of sample companies is 0.64 indicating that sample firms have a higher part of equity and are less dependent on debt. The average sales growth rate is 17.2%, which is an indication of the future potential of the firm. The presence of non-executive directors is good which is exhibited by 44% representation. The average board size is 2.1103 measured in natural log which is equivalent to an average of 8.25 directors. The Chairperson and Chief Executive Officer of 17.6% of firms are the same person. The kurtosis indicates the TQ, CSR, Leverage, SG, and BS are leptokurtic whereas Size, BI, and CEO/Chair duality are platykurtic. This is an indication of the non-normality of the data. The standard deviation indicates a widespread variation in data series i. e. BI, SG, Leverage. This is common when some companies are state-owned, and others are family-owned. The minimum number of independent directors on the board is 0% whereas the highest representation is 100%. On Average female representation on the board is 12.5% which is equivalent to one female on a board comprising eight directors. Average foreign ownership is 16.4% while average family ownership is 31.3%. However, there are firms with no family or foreign ownership. Data further highlights that Sharia-compliant firms are 31.6%.

The sales growth has also had extreme variation from 100% decreases to more than 100% increases. The average Tobin's Q is more than one indicating that the market value is greater than total assets. This implies that market value exhibits future potential of the company. The average ROA is 6.5% with extremes of the maximum return of 46.3% and maximum loss of more than 100%.

4.2 CSR, Board Characteristics, and Performance Link

Table 4.2 reports the effect of Leverage, Size, Sales Growth, and Board Characteristics on firm value using dynamic panel data analysis. The nonlinear link amongst CSR and firm value is also reported in Table 4.2.

TABLE 4.2: Non-Linear Impact of CSR on Firm Performance (TQ) Using Panel EGLS

*"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses **Tobin Q** as a measure of firm performance. **Tobin Q** is calculated by dividing the market value of the firm by the total asset value of the firm. **Tobin Q (-1)** represents the lag value of performance in t-1. **Lev** represents the leverage of the firm and is measured by the debt-to-equity ratio. **Size** is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share. **SG** represents sales growth i.e., measured by comparing the current period sales with the previous period sales. **BI** represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by **BS** and a natural logarithm is used to calculate the board size. **CEOD** represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board. **FRB** represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors. **IAC** represents the independence of the audit committee which is computed based on the percentage of non-executive directors in the audit committee. **CSR** represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit. **CSR*CSR** represents the quadratic term used to capture the non-linear impact of CSR on firm performance. We apply Panel EGLS for the estimation of empirical results".*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-1.913	0.592	-3.228	0.001
Tobin Q (-1)	0.591	0.101	5.861	0.000
Lev	-0.045	0.017	-2.674	0.008
Size	0.179	0.043	4.163	0.000
SG	-0.053	0.033	-1.615	0.107
BI	0.006	0.088	0.063	0.950
BS	-0.303	0.138	-2.199	0.028
CEOD	-0.156	0.119	-1.307	0.191
FRBP	0.619	0.513	1.207	0.228
IAC	0.036	0.129	0.268	0.789
CSR	-0.079	0.031	-2.588	0.010
CSR*CSR	0.004	0.002	1.967	0.049
Weighted Statistics				
Adjusted R-squared	0.421	Durbin-Watson stat		2.056
F-statistic	109.96	Prob(F-statistic)		0.000

The leverage has a significant negative effect on firm value. The performance of highly debt-dependent firms is weaker than low-debt-dependent firms. This indicates rising financial costs and the risk attributable to the investment is priced by the market.

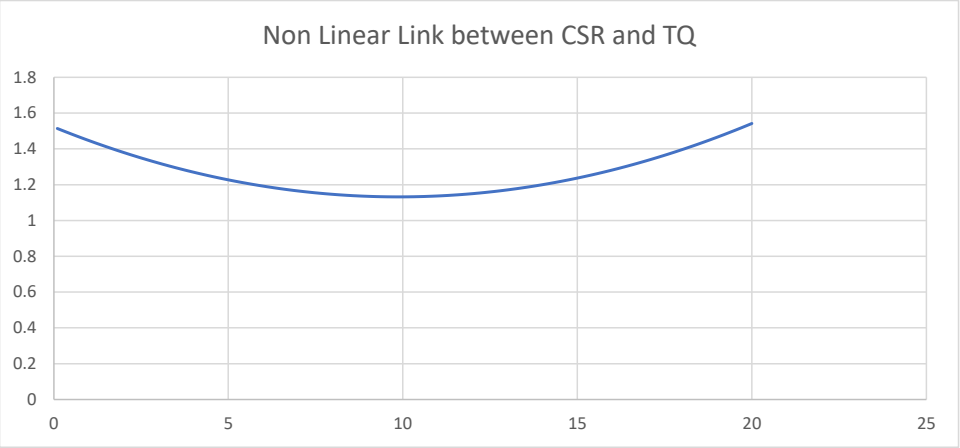
The influence of Size is significant and positive indicating that big firms are more profitable in comparison to small firms. The impact of sales growth on firm value is insignificant.

The results of board characteristics indicate that only board size has a significant negative impact on firm value. It indicates that performance of companies with large boards is weaker than the performance of companies with smaller boards. It is possible that small, and efficient boards can contribute better than large boards where decision-making may be slow as consensus may be difficult to evolve.

The linkage amongst CSR and Q is significant and negative indicating that the market discounts the CSR expenditure as may decrease earnings per share of the firm which results in a lower market price per share. The results are in line with reasoning Milton (1970) that firms exhibiting strong social records face a reduction in equity prices relative to the market average. One possible reason may be that the higher cost of social activities of a firm may result in lowering its market price as compared to its rivals.

The results of this study support the trade-off hypothesis of Aupperle et al. (1985) which posits that social costs tap resources from the socially active firm and place them at a relatively disadvantageous position in contrast to less socially active companies.

The linkage amongst CSR and Tobin Q is observed non-linear in nature. The coefficient of the quadratic term is significant and positive which indicates that the linkage is convex and upward-sloped. It means that with the increase in CSR expenditure, Tobin Q initially decreases slowly and then it increases. The following diagram is drawn to exhibit the nonlinear impact of CSR on Tobin Q estimated above.



The linkage amongst CSR and performance is U-shaped which exists if performance first decreases with the CSR at a decreasing rate to reach a minimum, after which performance increases at an increasing rate as CSR continues to rise. Such a function has exactly one turning point and resembles a "valley-shaped" function. Therefore, the graph of the quadratic function obtained is like a parabola that exhibits convexity. This type of linkage can be explained with a combination of agency cost theory and stakeholder theory. Initially, when trivial funds are allocated for CSR activities, these are considered agency costs so performance decreases but as the commitment of the firm increases and higher levels of allocations are made for CSR activities, these are priced by the stakeholder, and performance increases. The turning point observed in this study is 10%.

The above diagram further adds that an increase in CSR has a positive impact on TQ when CSR allocations are more than 10% of profit. As Pakistani firms are spending just 0.35% of their profit on social activities there is a negative link amongst CSR allocations and financial performance. To reap the benefits of CSR allocations, these firms are required to allocate more funds for social activities. The point of inflection is 10% profit so these firms should allocate at least 10% of profit to social activities. This will be positively priced by the market and contribute towards better financial performance.

Table 4.3 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the

panel EGLS method. The performance is measured through ROA, a book-based measure used to evaluate the performance of the firms.

In case of firm-level attributes, the results are largely similar to the results estimated using market-based measures (Tobin-Q). The leverage has a significant negative impact on performance. The impact of size is significant and positive, suggesting that big firms are more profitable than smaller firms due to the benefits gained because of economies of scale. However, no impact on sales growth is observed.

In the context of board characteristics, except for female representation on the board (FRB), all board characteristics have an insignificant linkage with performance. The significant positive link amongst female representation with performance indicates that the presence of females improves the decision making which is reflected in the bottom line of the financial reports.

CSR has no linkage with performance when ROA is used as a measure of performance. The link is neither linear nor nonlinear in nature. These results are different from market-based measures. The reason is that book-based measures are relatively static as these are based on historical cost principles. The variations are not rapidly priced. The study further observes a dynamic link amongst current and lagged performance as current period performance is predictable using previous period performance.

TABLE 4.3: Non-Linear Impact of CSR on Firm Performance (ROA) Using Panel EGLS

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.*

FRB *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***IAC*** *represents the independence of the audit committee which is computed based on the percentage of non-executive directors in the audit committee.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance. We apply Panel EGLS for the estimation of empirical results.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.067547	0.019821	-3.407776	0.0007
ROA (-1)	0.580101	0.074526	7.783874	0.0000
LEV	-0.012731	0.004215	-3.020682	0.0026
SIZE	0.006208	0.001403	4.426045	0.0000
SG	0.002102	0.003773	0.557029	0.5776
BI	-0.004168	0.003525	-1.182538	0.2372
BS	-0.002678	0.007911	-0.338483	0.7350
CEOD	-0.005138	0.003603	-1.425889	0.1541
IAC	-0.000654	0.002401	-0.272343	0.7854
FRBP	0.023389	0.010596	2.207250	0.0274
CSR	0.001202	0.002078	0.578311	0.5631
CSR*CSR	-0.000160	0.000148	-1.078420	0.2810
Weighted Statistics				
Adjusted R-squared	0.491844	Durbin-Watson stat		1.950293
F-statistic	146.1849	Prob(F-statistic)		0.000000

Table 4.4 reports the impact of CSR, Leverage, Size, Sales Growth, and Board Characteristics on Tobin Q using the Generalized Method of Moments. It further exhibits the nonlinear linkage amongst CSR and performance.

TABLE 4.4: Non-Linear Impact of CSR on Firm Performance (TQ) Using Generalized Method of Moments (GMM)

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.*

Size *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list*"

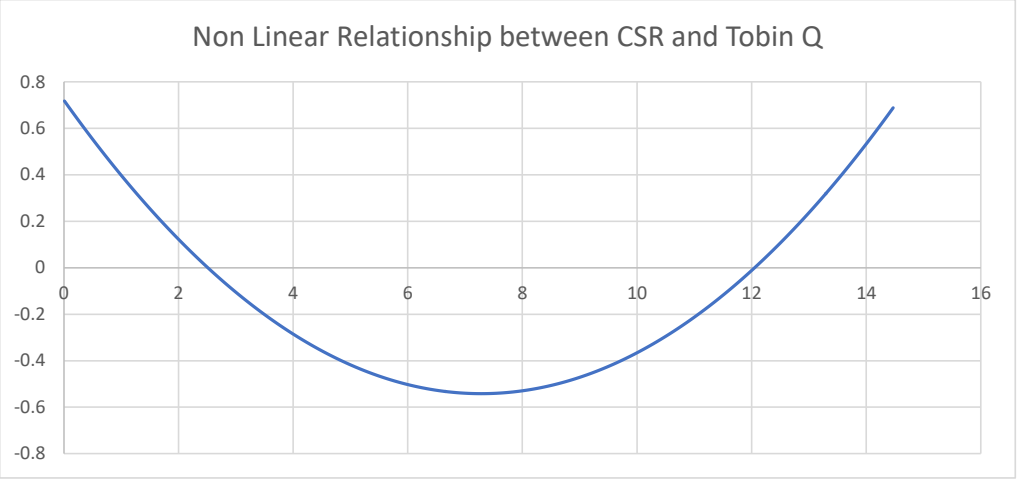
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.090484	0.009562	9.462723	0.0000
ROE	0.258366	0.045266	5.707754	0.0000
LEV	-0.264134	0.040756	-6.480915	0.0000
SIZE	0.542479	0.031668	17.12996	0.0000
SG	0.009608	0.007812	1.229903	0.2189
BI	-0.019045	0.070002	-0.272066	0.7856
BS	-3.767059	0.289824	-12.99774	0.0000
FRBP	-2.502367	1.657269	-1.509935	0.1313
CEOD	-2.582948	0.078736	-32.80511	0.0000
CSR	-0.346759	0.066421	-5.220591	0.0000
CSR*CSR	0.023808	0.005449	4.369408	0.0000
Cross-section fixed (first differences)				
J-statistic	86.54915	Prob(J-statistic)		0.054336

The linkage amongst CSR and Tobin Q is significant and negative indicating that the market discounts the CSR expenditure as a decrease in earnings may result

in a decrease in market price per share. These results are consistent with agency theory that firms exhibiting strong social credentials experience a reduction in stock prices as the higher cost of social activities of a firm may lower its financial performance as compared to its competitors.

These findings of the current study further support the trade-off hypothesis of Aupperle et al. (1985) which posits that social costs tap resources from the socially active firm and place them at a relatively disadvantageous position in comparison to less socially active firms.

The linkage amongst CSR and performance is found non-linear in nature. The coefficient of the quadratic term is significant and positive which indicates that the linkage is convex and upward-sloped. It means that with the increase in CSR expenditure, Tobin Q initially decreases at a decreasing rate and then it increases at an increasing rate. The following diagram exhibits the nonlinear impact of CSR on Tobin Q.



This type of linkage can be explained with a combination of agency cost theory and stakeholder theory. Initially, when small allocations are made for CSR activities, these are considered agency costs so performance decreases but as the commitment of the firm increases and higher allocations are made for CSR activities, these are priced by the stakeholder, and performance increases. The turning point observed in this study is 8%.

The results of board characteristics indicate that only board size has a significant negative impact on performance. It confirms that the companies with large boards perform weaker than the companies with small boards. Small, and efficient boards can contribute better than large boards where decision-making may be slow due to conflicting views. The CEO/Chair duality has a significant negative impact on firm value. In the context of board characteristics, board independence and female representation on the board have an insignificant linkage with performance.

The leverage has a significant negative impact on performance. The performance of highly debt-dependent firms is weaker than low-debt-dependent firms. The influence of size is significant and positive indicating that big firms are more profitable in comparison to small firms. The impact of sales growth on performance is insignificant.

Table 4.5 reports the impact of CSR, Leverage, Size, Sales Growth, and Board Characteristics on return on assets using the Generalized method of moments. It further exhibits the nonlinear linkage amongst CSR and performance.

TABLE 4.5: Non-Linear Impact of CSR on Firm Performance (ROA) Using Generalized Method of Moments (GMM)

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares with the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.*

CSR*CSR *represents the quadratic term used to capture the non-linear impact of CSR on firm performance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.100908	0.005133	19.65910	0.0000
LEV	-0.006048	0.004201	-1.439680	0.1502
SIZE	0.004755	0.001196	3.977396	0.0001
SG	0.009922	0.001520	6.529580	0.0000
BI	-0.071178	0.007644	-9.311827	0.0000
BS	-0.066713	0.020733	-3.217669	0.0013
FRBP	-0.859810	0.173805	-4.946995	0.0000
CEOD	-0.013618	0.005036	-2.704196	0.0069
CSR	0.010690	0.005111	2.091713	0.0366
CSR*CSR	-0.000991	0.000443	-2.239925	0.0252
Cross-section fixed (first differences)				
J-statistic	76.76679	Prob(J-statistic)		0.218200

The impact of CSR on ROA is significant and positive. The relationship between CSR and ROA is found non-linear. The impact of size is significant and positive which shows that performance of big firms is better as compared to small firms, sales growth has also significant and positive. The impact of board independence, board size, female representation on board and CEO/Chair duality has significant and negative which are in contravention to the results estimated using market-based measures. The possible reason may be the static nature of book-based measures.

4.3 Moderating Role of Board Characteristics amongst CSR and Firm Performance

Table 4.6 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel

EGLS method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of board characteristics is also tested.

TABLE 4.6: Impact of CSR on Firm Performance (TQ): Moderating Role of Board Characteristics Using Panel EGLS

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.*

BI *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated on the basis of the proportion of female directors with respect to total directors.* ***IAC*** *represents the independence of the audit committee which is computed on the basis of the percentage of non-executive directors in the audit committee.* ***CSR*** *represents corporate social responsibility which is computed on the basis of actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*FRBP, BS*CSR, IAC*CSR, BI*CSR,*** *and* ***CEOD*CSR*** *represent the interaction terms (moderating effect) amongst CSR and board characteristics, namely female representation on board, board size, independence of audit committee, board independence, and CEO Duality. We apply Panel EGLS for the estimation of empirical results.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.449077	0.206934	-2.170149	0.0301
TQ (-1)	0.853305	0.066779	12.77796	0.0000
SG	-0.055881	0.039080	-1.429941	0.1529
FRBP	0.221482	0.175739	1.260291	0.2077
CSR	0.098851	0.102254	0.966723	0.3338

LEV	-0.038550	0.023946	-1.609882	0.1076
SIZE	0.069229	0.018671	3.707944	0.0002
BS	-0.255476	0.104937	-2.434573	0.0150
BI	-0.013122	0.055374	-0.236972	0.8127
CEOD	-0.063687	0.083309	-0.764469	0.4447
CSR*FRBP	-0.173809	0.052201	-3.329592	0.0009
BS*CSR	-0.071868	0.038589	-1.862362	0.0627
IAC*CSR	0.012911	0.007954	1.623215	0.1047
BI*CSR	-0.036161	0.067270	-0.537556	0.5910
CEOD*CSR	-0.210361	0.107867	-1.950199	0.0513
IAC	0.033346	0.049815	0.669395	0.5033
CSR*CSR	0.003828	0.001789	2.139418	0.0325
Weighted Statistics				
Adjusted R-squared	0.716791	Durbin-Watson stat		2.267629
F-statistic	262.0056	Prob(F-statistic)		0.000000

CSR has a nonlinear connection with impact on performance measured through Tobin Q as a quadratic term is significant. The coefficient of the quadratic term (0.0038) is significant at a 95% confidence interval with a P-value of 0.0325. The study further observes a dynamic link amongst current period performance and previous period performance.

To have deeper insights the study also includes the moderating role of board characteristics i.e., FRBP, BS, IAC, BI, and CEOD. The board size has had significant and negative impacts on the linkage at 95% level of significance which is also in line with the theory because larger boards usually face the problem of monitoring and delay in decision-making. The interaction term (BS*CSR) is significant and negative at a 90% level of significance which shows that large boards have a negative impact on CSR and performance link. The BS is significant at the 5% level whereas the interaction term CSR*BS is not significant (given its statistical significance at l0% level). This suggests that BS has a direct effect on performance

and it does not moderate the linkage amongst CSR and performance. The female presence on the board plays a moderating role amongst CSR and performance. The impact of CSR on performance is positive and higher for companies that have a higher representation of females on board. FRBP is not significant but CSR*FRBP is significant at l% level. Hence, there is a pure moderation effect of FRBP. However, no moderating role of board independence and CEO/Chair duality is observed when the moderating role of board characteristics is tested jointly. In case of firm-level attributes, our results regarding firm size are similar to the findings of market-based measures (Tobin-Q) in the baseline model in Table 4.2 The impact of size is significant and positive on performance.

Table 4.7 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel EGLS method. The performance is measured through ROA, a book-based measure used to gauge the performance of the firms. Moreover, the moderating impact of board characteristics is also explored.

TABLE 4.7: Impact of CSR on Firm Performance (ROA): Moderating Role of Board Characteristics Using Panel EGLS

"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***IAC*** *represents the independence of the audit committee which is computed based on the percentage of non-executive directors in the audit committee.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.*

CSR*CSR *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*FRBP****,* ***BS*CSR, IAC*CSR, BI*CSR,*** *and* ***CEOD*CSR*** *represent the interaction terms (moderating effect) amongst CSR and board characteristics, namely female representation on board, board size, independence of audit committee, board independence, and CEO Duality. We apply Panel EGLS for the estimation of empirical results.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.171511	0.039170	-4.378584	0.0000
ROA (-1)	0.278545	0.066022	4.218946	0.0000
SG	0.001493	0.002877	0.519108	0.6038
FRBP	0.055905	0.021468	2.604126	0.0093
CSR	0.036006	0.008579	4.197000	0.0000
LEV	-0.012024	0.003148	-3.819535	0.0001
SIZE	0.012996	0.002569	5.058330	0.0000
BS	-0.002864	0.008029	-0.356715	0.7214
BI	-0.002283	0.004641	-0.491846	0.6229
CEOD	0.005485	0.004413	1.242857	0.2141
CSR*FRBP	-0.033608	0.006839	-4.914090	0.0000
BS*CSR	-0.014032	0.003483	-4.028888	0.0001
IAC*CSR	0.004085	0.001079	3.785284	0.0002
BI*CSR	-0.009900	0.005142	-1.925273	0.0544
CEOD*CSR	0.007157	0.006368	1.123901	0.2612
IAC	-0.001183	0.007496	-0.157874	0.8746
CSR*CSR	-0.000310	9.95E-05	-3.118061	0.0019
Weighted Statistics				
Adjusted R-squared	0.208579	Durbin-Watson stat		1.807156
F-statistic	28.17863	Prob(F-statistic)		0.000000

The results show that the coefficient of CSR is significant and positive at a 99% significance level. In other words, at 1% increase in CSR spending can increase 3.6%

the performance of the firm. The results also reveal that the quadratic impact of CSR on performance is significant at a 99% level of significance but turns negative. This indicates the non-linearity of the linkage amongst CSR and return on asset. This is in line with earlier results and conforms with the theory. In case of linear and nonlinear settings, our first and second null hypotheses are rejected, and the alternative hypothesis is accepted. The study further found that current period performance is also influenced by previous period performance.

The study also explored the moderating role of board characteristics i.e., FRBP, BS, IAC, BI, and CEOD. The independence of the audit committee has no linkage with performance. However, the presence of independence of the audit committee strengthens the positive association amongst CSR and performance. Board Size has no association with return on asset as observed in the baseline model.

BS and IAC exhibit full moderation effects. However, Board size negatively influences the link amongst CSR and performance which is conformity to earlier results that underscore that large boards have negative implications for performance. Female representation on board has a significant positive link with performance but it weakens the link amongst CSR and performance using Panel EGLS, the moderation effect for FRBP is only partial. This is because both FRBP and CSR*FRBP are statistically significant.

Board independence has no association with performance, but it has significant and negative impacts on the linkage amongst CSR and performance. A possible reason may be the maturing board structure of many firms that follow a stable representation on the board.

In case of firm-level attributes, our results are similar to the findings of market-based measures (Tobin-Q). Leverage has a significant and negative influence on performance and size has a significant and positive linkage with performance. However, no association amongst sales growth and performance is observed. Endogeneity has been a major problem in the CSR research area. Due to this problem, scholars have not been able to obtain robust results concerning the antecedents and outcomes of the firm's CSR. New methodologies have emerged that can help alleviate some of the endogeneity concerns within CSR research (Hill et al., 2021; Sande and

Ghosh, 2018). Therefore, the robustness of the results has also been tested using the estimation technique of the generalized method of moments.

Table 4.8 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of board characteristics is also tested.

TABLE 4.8: Impact of CSR on Firm Performance (TQ): Moderating Role of Board Characteristics Using Generalized Method of Moments (GMM)

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents the corporate social responsibility which is computed on the basis of actual allocation of funds for CSR by the firms with respect to the total profit.*

CSR*CSR *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*FRBP***, ***BS*CSR, BI*CSR,*** *and* ***CEOD*CSR*** *represent the interaction terms (moderating effect) amongst CSR and board characteristics, namely female representation on the board, board size, independence of audit committee, board independence, and CEO Duality. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TQ (-1)	0.074669	0.010690	6.984894	0.0000

ROE	0.291599	0.061730	4.723766	0.0000
LEV	-0.364868	0.060522	-6.028729	0.0000
SIZE	0.545985	0.038081	14.33743	0.0000
SG	0.033729	0.015102	2.233474	0.0257
BI	-0.234990	0.107265	-2.190735	0.0286
BS	-4.783406	0.359811	-13.29422	0.0000
FRBP	-1.103465	2.081170	-0.530214	0.5960
CEOD	-2.412871	0.098423	-24.51539	0.0000
CSR	0.144016	0.659682	0.218312	0.8272
CSR*CSR	0.037567	0.013628	2.756613	0.0059
CSR*FRBP	2.457078	1.031602	2.381808	0.0174
BS*CSR	-1.115659	0.289487	-3.853913	0.0001
CEOD*CSR	-3.393564	1.235138	-2.747519	0.0061
BI*CSR	1.908388	0.418904	4.555668	0.0000
Cross-section fixed (first differences)				
J-statistic	83.90325	Prob(J-statistic)		0.060345

The results reveal that the link amongst CSR and performance is nonlinear in nature as the quadratic has a significant and positive impact on performance.

In case of board characteristics, the BS, BI, and CEO/Chair duality have a significant and negative impact on performance. Jensen (1993) argues that boards with more than about seven to eight members are unlikely to be effective. According to him, large boards result in less effective coordination, communication, and decision-making, and are more likely to be controlled by the CEO. Empirical findings by Yermack (1996), based on US firms, and Eisenberg et al. (1998), based on Finnish firms, support Jensen's hypothesis and find that large boards are associated with lower firm value (as measured by Tobin's Q). Board independence has a significant negative linkage with firm value. Similar results are reported by various studies (Zahra and Stanton, 1988; Anderson et al., 2000; Beiner et al., 2004; Boone et al., 2007; Bhagat and Bolton, 2008). CEO/Chair duality and performance

have a negative linkage, which conforms with the agency theory perspective, which posits that symbolizes greater 'insider control' in which a powerful CEO who is also a chairperson weakens board oversight. Due to the concerns of weak board monitoring under CEO/Chair duality, regulators prefer the separation of the positions of the Chair and CEO (Krause et al., 2014). This may imply a negative linkage with performance. However, female representation on board has no linkage with performance.

The study also examines the moderating role of board characteristics. The interaction terms of board size and CEO/Chair duality with CSR are significant and negative. It means concentration of the power on one hand weakens the link amongst CSR and performance. Similarly large boards also have a negative influence on CSR and performance nexus.

The negative perception of large board and CEO/Chair duality also has negative reflections on CSR and firm value connection. Female representation on board and board independence has significant and positive impacts on the linkage amongst CSR and performance. FRBP is not significant but CSR*FRBP is significant at l% level. Hence, there is a pure moderation effect of FRBP. This may be because these groups believe in a stakeholder approach.

There is also the possibility of overlapping in these groups i.e., a reasonable number of independent may be females. BS, BI and CEO/Chair duality have significant impact on performance. Further interaction terms of these variables with CSR have also significant impact on performance, therefore, the moderation is partial in nature.

In case of firm-level attributes, leverage has a significant and negative impact on performance. Higher debt dependency results in low performance. It means that market discounts have higher leverage and market prices decrease with an increase in debt. There exists a significant and positive association amongst ROE and Tobin Q which means that profitability is priced by the market. High profitability leads to higher market prices which results in higher Tobin Q.

Similarly, size has a significant and positive linkage with performance, indicating that big firms which are blue chips perform better than smaller firms. The link

amongst sales growth and performance is significant and positive indicating that growth is translated into better performance. The study further found that current period performance is also influenced by previous period performance.

The study also examines the moderating role of each board characteristic separately as a weak linear linkage amongst board characteristics may lead to biased results.

Table 4.9 reports the results of the moderating effect of CEO/Chair duality on the link amongst CSR and performance measured through market-based measures. The Leverage has a negative influence on performance which is in line with earlier studies conducted in Pakistan.

TABLE 4.9: Impact of CSR on Firm Performance (TQ): Moderating Role of CEO Duality

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.*

FRBP *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*CEOD*** *represents the interaction terms (moderating effect) amongst CSR and CEO Duality. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.174806	0.012029	14.53223	0.0000
ROE	0.354568	0.069470	5.103868	0.0000

LEV	-0.529894	0.073136	-7.245307	0.0000
SIZE	0.380056	0.038136	9.965855	0.0000
SG	-0.012772	0.008648	-1.476842	0.1399
BI	0.440306	0.087822	5.013593	0.0000
BS	-2.687267	0.387963	-6.926615	0.0000
FRBP	8.259294	2.343141	3.524881	0.0004
CEOD	-2.120568	0.082547	-25.68911	0.0000
CSR	-0.440482	0.103607	-4.251466	0.0000
CSR*CSR	0.042014	0.009086	4.624301	0.0000
CSR*CEOD	-2.483517	0.778849	-3.188703	0.0015
Cross-section fixed (first differences)				
J-statistic	64.35486	Prob(J-statistic)		0.158113

The return on equity is positively associated with Tobin Q. A higher return leads to higher market value. Similarly, sales growth contributes to the higher market value of the firm which is an indicator of the firm's future potential. Large firms exhibit higher performance and as the size of the firm grows, its performance improves.

As far as board characteristics are concerned, board independence has a significant positive impact on performance. Board size negatively influences performance. Female representation contributes positively towards performance. The CEO/Chair duality has a negative impact on performance. All these links are in line with the conceptualization of the role of the corporate governance framework in supporting performance has significant impact on performance and its interaction term with CSR has also significant impact on performance, therefore, the moderation is partial in nature.

CSR allocations and performance have a nonlinear linkage. The linkage is U-shaped. Initially, the Tobin Q decreases and after a specific level, it increases as discussed in earlier sections. CEO/Chair duality plays a moderating role amongst CSR and performance. CSR has a negative impact on Tobin Q, and it intensifies if the CEO and Chairperson are the same person. These results are consistent with Jiraporn

and Chintrakarn (2013) who state that "as the CEO becomes substantially more powerful, he is more entrenched and no longer invests more in CSR. When CEO power goes beyond a certain threshold, more powerful CEOs significantly reduce CSR investments."

Table 4.10 reports the results of the moderating effect of female representation on the link amongst CSR and performance measured through Tobin Q which is a market-based measure of performance. The study again substantiates the link amongst firm-specific variables and performance in the Pakistani equity market. Leverage has a negative influence on performance. The return on equity is positively associated with Tobin Q. Similarly, sales growth contributes to the higher market value of the firm. Large firms present better performance as the size of the firm grows, it is priced by the market and reflected in higher Tobin Q.

Again, the results about the impact of board characteristics are consistent with earlier results and theoretical framework based on agency theory, stakeholder theory. Board independence has a significant positive impact on performance. Board size negatively influences performance. Female representation contributes positively towards performance. The CEO/Chair duality has a negative impact on performance. CSR allocations and performance have a nonlinear linkage. The linkage again is U-shaped. Initially, the Tobin Q decreases and after a specific level, it decreases as discussed in earlier sections. Female representation on board plays a moderating role amongst CSR and performance. CSR has a negative impact on Tobin Q, and it reduces when the female representation on the board increases. Female representation on board has significant impact on performance and its interaction term with CSR has also significant impact on performance, therefore, the moderation is partial in nature.

TABLE 4.10: Impact of CSR on Firm Performance (TQ): Moderating Role of Female Representation on the Board

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.*

Lev *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRB*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR****represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*FRBP*** *represents the interaction terms (moderating effect) amongst CSR and female representation on the board. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.156728	0.013350	11.74037	0.0000
ROE	0.345819	0.063675	5.431001	0.0000
LEV	-0.497821	0.089173	-5.582618	0.0000
SIZE	0.387098	0.042540	9.099581	0.0000
SG	0.037924	0.008570	4.425434	0.0000
BI	0.302010	0.096244	3.137949	0.0017
BS	-3.652325	0.372401	-9.807511	0.0000
FRBP	7.988807	2.468832	3.235865	0.0012
CEOD	-2.161560	0.083805	-25.79275	0.0000
CSR	-0.728932	0.249005	-2.927382	0.0035
CSR*CSR	0.034801	0.014883	2.338290	0.0195
FRBP*CSR	3.228772	0.938991	3.438554	0.0006
Cross-section fixed (first differences)				
J-statistic	64.94145	Prob(J-statistic)		0.146331

Table 4.11 presents the findings of the study about the moderating effect of board size on the link amongst CSR and performance measured through market-based measures i.e., Tobin Q. Size and sales growth are positively related to performance. Leverage has a negative linkage with performance. Return on equity is positively priced by the market. The board independence and female representation have a positive effect on Tobin Q. The CEO/Chair duality has a negative impact on firm value.

TABLE 4.11: Impact of CSR on Firm Performance (TQ): Moderating Role of Board Size

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*BS*** *represents the interaction terms (moderating effect) amongst CSR and board size. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.129912	0.013944	9.316537	0.0000
ROE	0.362073	0.077915	4.647011	0.0000
LEV	-0.601506	0.090591	-6.639820	0.0000
SIZE	0.441090	0.041595	10.60437	0.0000
SG	0.034939	0.009533	3.665024	0.0003

BI	0.240807	0.109783	2.193478	0.0284
BS	-3.316391	0.420556	-7.885727	0.0000
FRBP	8.898534	2.581573	3.446942	0.0006
CEOD	-2.199081	0.093395	-23.54604	0.0000
CSR	1.196427	0.347473	3.443228	0.0006
CSR*CSR	0.017883	0.008262	2.164468	0.0306
CSR*BS	-0.641418	0.159088	-4.031848	0.0001
Cross-section fixed (first differences)				
J-statistic	73.09637	Prob(J-statistic)		0.042767

The linkage amongst CSR and performance is non-linear. The impact board size is negative performance. Board size also plays a moderating role amongst CSR and Tobin Q, board size weakens the link amongst CSR and performance, indicating that as size increases, the impact of CSR on performance decreases. Board size has significant impact on performance and its interaction term with CSR has also significant impact on performance, therefore, the moderation is partial in nature.

Table 4.12 reports the findings of the study about the moderating effect of board independence on the link amongst CSR and performance measured through Tobin Q, size, sales growth, and return on equity are positively related to performance. Leverage has a negative linkage with performance. Board size and CEO/Chair duality have a negative impact on firm value. Female representation has influenced performance positively. Board independence also influences positively but it is not significant at a 95% level of significance.

TABLE 4.12: Impact of CSR on Firm Performance (TQ): Moderating Role of Board Independence

"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.*

Size *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*BI*** *represents the interaction terms (moderating effect) amongst CSR and board independence. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.15853	0.01077	14.72604	0.0000
ROE	0.28990	0.07597	3.81602	0.0001
LEV	-0.41197	0.08920	-4.61838	0.0000
SIZE	0.03701	0.01143	3.23839	0.0012
SG	0.41446	0.03284	12.61991	0.0000
BI	0.18707	0.10077	1.85644	0.0636
BS	-2.16372	0.38655	-5.59748	0.0000
FRBP	8.67719	2.13122	4.07146	0.0000
CEOD	-2.01380	0.07537	-26.71958	0.0000
CSR	1.26204	0.30852	4.09062	0.0000
CSR*CSR	0.03345	0.00967	3.45991	0.0006
BI*CSR	-1.90520	0.39788	-4.78845	0.0000
Cross-section fixed (first differences)				
J-statistic	70.7977	Prob(J-statistic)		0.0622

The link amongst CSR and performance is nonlinear. The board independence

moderates the linkage amongst CSR and Tobin Q but against the expectation of strengthening the link amongst CSR and Tobin Q positively, it weakens the connection as indicated by the negative sign of the interaction term. The J statistic value is 17.7977 and the Prob(J-Statistic) is 0.0622.

This means that we cannot reject the null hypothesis that the instruments are valid at a 95% significance level. Board independence has insignificant impact on performance and its interaction term with CSR has significant impact on performance, therefore, the moderation is pure in nature.

Table 4.13 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method.

The performance is measured through ROA, a book-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of board characteristics is also explored.

TABLE 4.13: Impact of CSR on Firm Performance (ROA): Moderating Role of Board Characteristics Using Generalized Method of Moments (GMM)

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.*

***CSR*FRBP**, **BS*CSR, BI*CSR,** and **CEOD*CSR** represent the interaction terms (moderating effect) amongst CSR and board characteristics, namely female representation on the board, board size, independence of audit committee, board independence, and CEO Duality. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.113359	0.009622	11.78134	0.0000
ROE	-0.000427	0.002108	-0.202631	0.8395
LEV	-0.002409	0.006037	-0.398987	0.6900
SIZE	0.004411	0.001848	2.387413	0.0171
SG	0.020674	0.003388	6.102299	0.0000
BI	-0.066066	0.011295	-5.848926	0.0000
BS	-0.039797	0.026711	-1.489911	0.1365
FRBP	-0.765212	0.220569	-3.469270	0.0005
CEOD	-0.015995	0.007519	-2.127346	0.0336
CSR	-0.051696	0.038832	-1.331281	0.1833
CSR*CSR	0.000563	0.000879	0.640641	0.5219
CSR*FRBP	0.155786	0.094435	1.649659	0.0992
BS*CSR	-0.037370	0.017937	-2.083419	0.0374
CEOD*CSR	0.095167	0.065800	1.446315	0.1483
BI*CSR	0.122286	0.018568	6.585999	0.0000
Cross-section fixed (first differences)				
Adjusted R-squared		Instrument rank		78
J-statistic	75.50467	Prob(J-statistic)		0.134294

When the impact of CSR on performance measured using ROA is examined in linear and non-linear settings, it is observed that CSR has an insignificant impact on ROA. The results using book-based measures are not in agreement with results estimated through market-based measures. This is common as book-based measures are static as

these are based on variables that are valued at historical cost principle while market-based measures are dynamic as these adjusted with the change in investors' confidence. The same is true for ROA and Tobin Q. Sales growth and Size are positively related to ROA while no link is seen amongst leverage and ROA. CEO/Chair duality has a negative influence on ROA, but it does not influence the link amongst CSR and performance as the interaction term is found insignificant. Female representation has a negative association with performance, and it does not moderate the link amongst CSR and ROA. Board size has an insignificant direct linkage with ROA. However, it moderates the link amongst CSR and ROA negatively. This board size suppresses the linkage amongst CSR and ROA. The large board weakens the link amongst CSR and performance. Board independence strengthens the association amongst CSR and ROA. An independent board has led to a strong positive link amongst CSR and performance. Therefore, as far as the moderating role of board characteristics i.e., FRBP, BS, BI, and CEO/Chair duality is concerned, FRBP and BI have significant and positive impacts on the linkage amongst CSR and performance whereas BS has also a significant but negative impact on performance. Board size, Board independence and CEO/Chair duality have significant impact on performance and their interaction terms with CSR have significant impact on performance, therefore, the moderation is partial in nature.

Table 4.14 presents the results of the analysis conducted to examine the moderating effect of board size on the link amongst CSR and performance measured through book-based measures i.e., ROA, size and sales growth are positively related to performance. Leverage has a negative linkage with performance but is insignificant.

TABLE 4.14: Impact of CSR on Firm Performance (ROA): Moderating Role of Board Size

"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses ***ROA*** as a measure of firm performance. ***ROA*** is calculated by dividing the net profit by the total assets of the firm. ***ROA (-1)*** represents the lag value of performance in t-1. ***ROE*** is calculated by dividing the net profit by the total outstanding shares of the firm. ***Lev*** represents the leverage of the firm and is measured by the debt-to-equity ratio. ***Size*** is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding

shares by the market price of the share. ***SG*** represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales. ***BI*** represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by ***BS*** and a natural logarithm is used to calculate the board size. ***CEOD*** represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board. ***FRBP*** represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors. ***CSR*** represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit. ***CSR*CSR*** represents the quadratic term used to capture the non-linear impact of CSR on firm performance. ***CSR*BS*** represents the interaction terms (moderating effect) amongst CSR and board size. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.163247	0.009353	17.45492	0.0000
LEV	-0.001125	0.005728	-0.196429	0.8443
SIZE	0.036336	0.003825	9.499430	0.0000
SG	0.024568	0.004576	5.368639	0.0000
BI	-0.053309	0.013426	-3.970528	0.0001
BS	-0.036364	0.023889	-1.522191	0.1282
FRBP	0.551709	0.244418	2.257234	0.0241
CEOD	-0.033275	0.011400	-2.918773	0.0036
CSR	0.045398	0.021240	2.137331	0.0327
CSR*CSR	0.001663	0.000740	2.247231	0.0248
CSR*BS	-0.029111	0.010284	-2.830666	0.0047
Cross-section fixed (orthogonal deviations)				
J-statistic	77.75930	Prob(J-statistic)		0.173402

CEO/Chair duality has a significant negative impact on performance. The female representation has a positive effect on performance. Board size has no impact on the return on assets while board independence is negatively affected the performance of the firm. The results of BI are not as per expectation; however, such deviation

may be the outcome of book-based measures which are based on the historical cost principle and static. The link amongst CSR and performance is nonlinear. Board size moderates the linkage amongst CSR and performance. The negative sign of the interaction term shows that as the size of the board increases the link amongst CSR and performance weakens. Board size has insignificant impact on performance and its interaction term with CSR has significant impact on performance, therefore, the moderation is pure in nature.

The study further examines the moderating effect of female representation on the link amongst CSR and performance i.e., ROA using interaction variables, and results are shown in Table 4.15. Size and sales growth have a positive linkage with return on assets. Leverage has no impact on performance. Female representation on board results in better performance as the linkage is significant and positive. CEO/Chair duality leads to a decrease in return on assets. Board size has no impact on the return on assets while board independence is negatively affected the performance of the firm.

TABLE 4.15: Impact of CSR on Firm Performance (ROA): Moderating Role of Female Representation on Board

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"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm*

performance. ***CSR*FRB*** *represents the interaction terms (moderating effect) amongst CSR and female representation on board. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.159511	0.010680	14.93551	0.0000
LEV	0.005714	0.007267	0.786340	0.4318
SIZE	0.041954	0.004690	8.945224	0.0000
SG	0.019513	0.004664	4.184087	0.0000
BI	-0.052001	0.014821	-3.508659	0.0005
BS	-0.018807	0.025090	-0.749584	0.4536
FRBP	0.579249	0.263161	2.201116	0.0279
CEOD	-0.044510	0.014181	-3.138596	0.0017
CSR	-0.026851	0.017610	-1.524740	0.1275
CSR*CSR	0.002326	0.001060	2.194252	0.0284
CSR*FRBP	0.044782	0.066744	0.670955	0.5024
Cross-section fixed (orthogonal deviations)				
J-statistic	79.30263	Prob(J-statistic)		0.144408

The linkage amongst CSR and performance is non-linear. Female representation on board does not moderate the linkage amongst CSR indicating that the increase or decrease in female representation on the board neither strengthens nor weakens the link amongst CSR and return on asset.

The next conduct slope dummies variable analysis (Table 4.16) to examine the moderating effect of CEO/Chair duality on the link amongst CSR and performance measured through book-based measures i.e., ROA, size, and sales growth are positively related to performance.

Leverage has an insignificant link with return on asset. Female representation on the board leads to better performance as the linkage with ROA is significant and positive. CEO/Chair duality leads to weak performance linkage with ROA is

significant and negative. Board size has no impact on the return on assets while board independence negatively influences the performance of the firm.

TABLE 4.16: Impact of CSR on Firm Performance (ROA): Moderating Role of CEO Duality

*"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses **ROA** as a measure of firm performance. **ROA** is calculated by dividing the net profit by the total assets of the firm. **ROA (-1)** represents the lag value of performance in t-1. **ROE** is calculated by dividing the net profit by the total outstanding shares of the firm. **Lev** represents the leverage of the firm and is measured by the debt-to-equity ratio. **Size** is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares with the market price of the share. **SG** represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales. **BI** represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by **BS** and a natural logarithm is used to calculate the board size. **CEOD** represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board. **FRBP** represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors. **CSR** represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit. **CSR*CSR** represents the quadratic term used to capture the non-linear impact of CSR on firm performance. **CSR*CEOD** represents the interaction terms (moderating effect) amongst CSR and CEO Duality. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.156919	0.010542	14.88568	0.0000
LEV	0.001541	0.005842	0.263745	0.7920
SIZE	0.041512	0.003783	10.97291	0.0000
SG	0.018286	0.003907	4.680763	0.0000
BI	-0.047352	0.013831	-3.423562	0.0006
BS	-0.023472	0.022831	-1.028085	0.3041
FRBP	0.556514	0.272163	2.044781	0.0410
CEOD	-0.039732	0.013850	-2.868795	0.0042

CSR	-0.014901	0.007657	-1.945950	0.0518
CSR*CSR	0.001661	0.000684	2.427370	0.0153
CSR*CEOD	0.022395	0.057027	0.392701	0.6946
Cross-section fixed (orthogonal deviations)				
J-statistic	79.33685	Prob(J-statistic)		0.143809

The linkage amongst CSR and performance measured through ROA is non-linear.

CEO/Chair duality does not moderate the linkage. It indicates that the link amongst CSR and ROA remains the same whether the CEO and Chairperson are the same or two different persons.

Table 4.17 reports the findings of the study about the moderating effect of board independence on the link amongst CSR and performance measured through ROA. Size and sales growth are positively related to performance. Leverage has no linkage with performance.

CEO/Chair duality and Board Size has a negative impact on firm value. The linkage amongst CEO/Chair duality with ROA is significant at a 95% confidence level while the linkage amongst Board Size with ROA is significant at a 90% level of significance.

Female representation also influences performance positively at a 90% level of significance. Board independence has a negative linkage with ROA.

The behavior of Board independence for Book-based measures and market-based measures are opposite to each other.

TABLE 4.17: Impact of CSR on Firm Performance (ROA): Moderating Role of Board Independence

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.*

Size *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.*

FRBP *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*BI*** *represents the interaction terms (moderating effect) amongst CSR and board independence. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.157310	0.009503	16.55381	0.0000
LEV	0.001116	0.005271	0.211816	0.8323
SIZE	0.040050	0.003204	12.49841	0.0000
SG	0.020954	0.003724	5.626966	0.0000
BI	-0.049442	0.014107	-3.504929	0.0005
BS	-0.041432	0.023713	-1.747268	0.0808
FRBP	0.415814	0.233138	1.783552	0.0747
CEOD	-0.034120	0.013439	-2.538805	0.0112
CSR	0.032911	0.014012	2.348720	0.0190
CSR*CSR	0.001552	0.000767	2.023334	0.0432
CSR*BI	-0.055483	0.016969	-3.269697	0.0011
Cross-section fixed (orthogonal deviations)				
J-statistic	75.36619	Prob(J-statistic)		0.226109

The link amongst CSR and ROA is nonlinear. The Board's independence moderates the linkage amongst CSR and return on assets. The increase in board independence

leads to a weakening of the link amongst CSR and performance. The positive linkage amongst CSR and ROA reduces with the increase in board independence. Board independence has significant impact on performance and its interaction term with CSR has also significant impact on performance, therefore, the moderation is partial in nature.

4.4 Moderating Role of Sharia Compliant amongst CSR and Firm Performance

Table 4.18 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of Sharia compliance is also explored.

TABLE 4.18: Impact of CSR on Firm Performance (TQ): Moderating Role of Sharia Compliant

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"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.*

ISL*CSR *represents the interaction terms (moderating effect) amongst CSR and Sharia compliance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

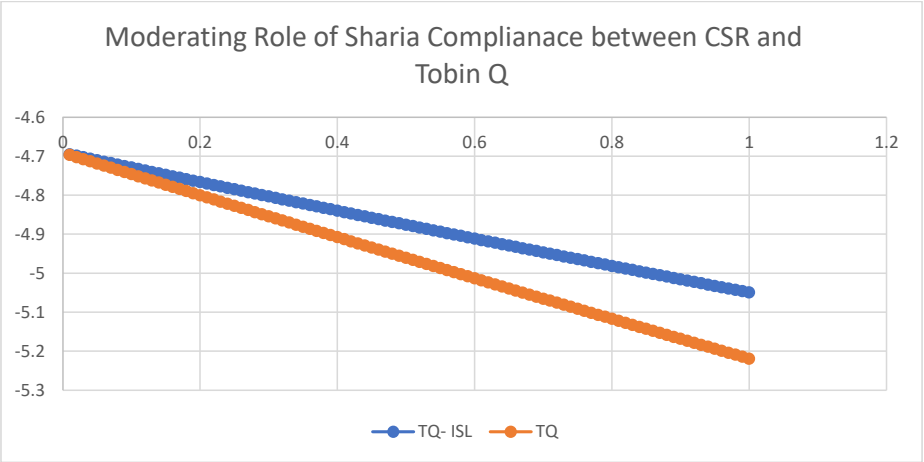
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.089986	0.009999	8.999746	0.0000
SG	-0.008706	0.007718	-1.128040	0.2595
LEV	-0.238832	0.045537	-5.244825	0.0000
ROE	0.247044	0.046283	5.337652	0.0000
SIZE	0.530171	0.033461	15.84438	0.0000
BI	-0.045580	0.079996	-0.569778	0.5689
BS	-3.928263	0.303464	-12.94473	0.0000
CEOD	-2.653361	0.088087	-30.12209	0.0000
FRBP	-2.357475	1.728620	-1.363791	0.1728
CSR	-0.549384	0.105744	-5.195427	0.0000
CSR*CSR	0.021652	0.007416	2.919538	0.0036
ISL*CSR	0.169601	0.054116	3.134018	0.0018
Cross-section fixed (first differences)				
J-statistic	84.11963	Prob(J-statistic)		0.065638

In case of linear and non-linear settings, CSR has a significant and negative impact on performance while the quadratic term has a significant and positive impact. This indicates that a nonlinear linkage exists amongst CSR and performance.

The study also examined the moderating role of sharia complaint (ISL) in the linkage amongst CSR and performance.

The interaction term of Sharia Compliance and CSR is significant and positive highlighting that Sharia compliance influences the link amongst CSR and performance positively.

This is in line with the theory that the market expects that sharia compliance is an added responsibility as it is consistence with stakeholder theory.



In case of board characteristics, BS and CEO/Chair duality have a significant and negative impact on performance. The large boards are unlikely to be effective according to Jensen (1993) as large boards result in less effective coordination, communication, and decision-making, and are more likely to be controlled by the CEO. Empirical findings by Yermack (1996) and Eisenberg et al. (1998) support Jensen's hypothesis and find that large boards are associated with lower firm value (as measured by Tobin's Q). CEO/Chair duality and performance have a negative linkage, which conforms to the agency theory perspective, which posits that CEO/Chair duality symbolizes greater 'insider control' in which a powerful CEO who is also a chairperson weakens board oversight.

In case of firm-level characteristics, leverage has a significant and negative impact on performance which is also reported by earlier studies. ROE and Size have a significant and positive impact on performance. The sales growth has no linkage with performance. The study further observes a dynamic linkage in performance that current period performance is also predicted by previous period performance.

Table 4.19 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through ROA, a book-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of Sharia compliance is also explored.

TABLE 4.19: Impact of CSR on Firm Performance (ROA): Moderating Role of Sharia Compliant

*"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses **ROA** as a measure of firm performance. **ROA** is calculated by dividing the net profit by the total assets of the firm. **ROA (-1)** represents the lag value of performance in t-1. **ROE** is calculated by dividing the net profit by the total outstanding shares of the firm. **Lev** represents the leverage of the firm and is measured by the debt-to-equity ratio. **Size** is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share. **SG** represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales. **BI** represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by **BS** and a natural logarithm is used to calculate the board size. **CEOD** represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board. **FRBP** represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors. **CSR** represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit. **CSR*CSR** represents the quadratic term used to capture the non-linear impact of CSR on firm performance. **ISL*CSR** represents the interaction terms (moderating effect) amongst CSR and Sharia compliance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.156583	0.006028	25.97584	0.0000
ROE	0.002119	0.002689	0.788237	0.4307
SIZE	0.001378	0.001612	0.854940	0.3927
LEV	-0.001956	0.005181	-0.377485	0.7059
SG	0.015028	0.003055	4.919371	0.0000
BS	-0.065248	0.025300	-2.579012	0.0100
BI	-0.069950	0.009549	-7.325288	0.0000
CEOD	-0.019548	0.006273	-3.116168	0.0019
CSR	-0.006769	0.006757	-1.001689	0.3167
CSR*CSR	0.000223	0.000654	0.341614	0.7327

ISL*CSR	0.001167	0.002396	0.487186	0.6262
Cross-section fixed (first differences)				
J-statistic	73.22764	Prob(J-statistic)		0.281171

The CSR has an insignificant impact on performance in linear and nonlinear settings. The study also examines the moderating role of Sharia complaints in the linkage amongst CSR and performance and finds an insignificant impact.

In case of firm-specific attributes, SG has a significant and positive impact on performance while leverage, size, and ROE have no association with ROA. These results are consistent across various models estimated using book-based measures of performance. The study further observes that current period performance is also linked with previous period performance, so a dynamic linkage is there. The results of board characteristics conform with earlier results that, BS, BI, and CEO/Chair duality have a significant and negative impact on performance while female representation on board does not influence ROA.

The large boards are unlikely to be effective according to Jensen (1993) as large boards result in less effective coordination, communication, and decision-making, and are more likely to be controlled by the CEO. Empirical findings by Yermack (1996) and Eisenberg et al. (1998) support Jensen's hypothesis and find that large boards are associated with lower firm value (as measured by Tobin's Q). CEO/Chair duality and performance have a negative linkage, which conforms to the agency theory perspective, which posits that CEO/Chair duality symbolizes greater 'insider control' in which a powerful CEO who is also a chairperson weakens board oversight.

4.5 Moderating Role of Ownership amongst CSR and Firm Performance

The study examines the role of ownership in explaining performance for two main classes of ownership i.e., foreign ownership and family ownership. Moreover, the

moderating role of foreign ownership and family ownership in influencing the link amongst CSR and performance is examined. These two types are chosen to keep in the closed form of corporate ownership which is common in Pakistan and countries of mainland Europe and Asia excluding Japan and Korea.

4.5.1 Moderating Role of Foreign Ownership amongst CSR and Firm Performance

Table 4.20 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of foreign ownership on corporate social responsibility and performance is also explored.

TABLE 4.20: Impact of CSR on Firm Performance (TQ): Moderating Role of Foreign Ownership

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"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed on the basis of the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.*

CSR*FOR *represents the interaction terms (moderating effect) amongst CSR and foreign ownership. We Panel apply GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.091771	0.009749	9.413297	0.0000
LEV	-0.258716	0.045268	-5.715252	0.0000
SG	0.016863	0.010255	1.644350	0.1003
SIZE	0.532084	0.033824	15.73080	0.0000
ROE	0.241810	0.048650	4.970417	0.0000
BI	-0.052025	0.075758	-0.686732	0.4924
BS	-3.651949	0.292655	-12.47870	0.0000
FRBP	-2.718835	1.730445	-1.571177	0.1163
CEOD	-2.608399	0.081229	-32.11176	0.0000
CSR	-0.297931	0.078576	-3.791620	0.0002
CSR*FOR	-0.001704	0.001648	-1.033795	0.3014
CSR*CSR	0.021259	0.005955	3.570229	0.0004
Cross-section fixed (first differences)				
J-statistic	86.40899	Prob(J-statistic)		0.046748

CSR has a significant negative impact on performance in a linear setting. Moreover, the quadratic term has a significant and positive impact on performance again indicating the presence of a nonlinear linkage. The convexity of the linkage shows that CSR is initially considered as agency cost but when allocation increases from a specific level i.e. 10%, it has positive implications for performance.

The study also examined the moderating role of foreign ownership (FOR) in the linkage amongst CSR and performance and found an insignificant impact. It means the linkage amongst corporate social responsibility and performance does not change with the change in the level of foreign ownership.

In case of firm-level attributes, leverage has a significant and negative impact that indicates that higher debt is considered negative for performance. ROE and Size

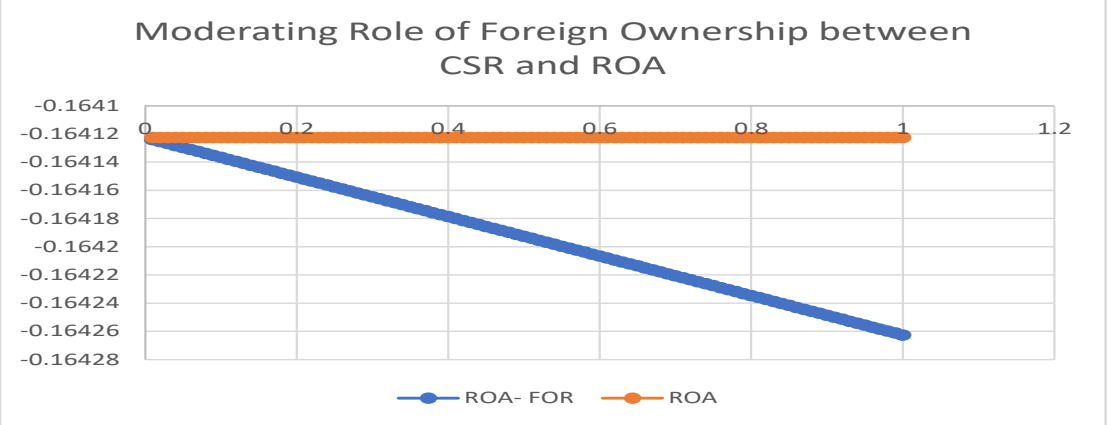
have a significant and positive impact on performance. As the return on equity increases, it is priced by the market and reflected in higher Tobin Q. Similarly, the big firms which are the blue-chip items have higher market prices and higher Tobin Q. The study further observes the presence of dynamic linkage in Tobin Q as current period performance has a significant linkage with performance of the previous period. In case of board characteristics, BS and CEO/Chair duality have a significant and negative impact on performance as routine whereas Female representation and Board independence do not influence performance. Table 4.21 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through ROA, a book-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of foreign ownership is examined.

TABLE 4.21: Impact of CSR on Firm Performance (ROA): Moderating Role of Foreign Ownership

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR* FOR*** *represents the interaction terms (moderating effect) amongst CSR and foreign ownership. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA (-1)	0.090464	0.007388	12.24415	0.0000
LEV	-0.018577	0.004311	-4.309141	0.0000
SG	0.011783	0.002526	4.664626	0.0000
SIZE	0.003577	0.001461	2.448510	0.0145
ROE	-0.003277	0.001720	-1.905063	0.0570
BI	-0.041829	0.008240	-5.076210	0.0000
BS	-0.048598	0.019994	-2.430665	0.0152
FRBP	-0.805877	0.199058	-4.048454	0.0001
CEOD	-0.008623	0.005697	-1.513698	0.1303
CSR	0.005105	0.006022	0.847697	0.3967
CSR*FOR	-0.000400	0.000148	-2.704004	0.0069
CSR*CSR	-0.000163	0.000551	-0.296148	0.7672
Cross-section fixed (first differences)				
J-statistic	75.75589	Prob(J-statistic)		0.192707

It is observed again that CSR has no significant impact on performance in linear or nonlinear settings. These results reveal that book-based measures do not price information rapidly while market-based price the information immediately which is in line with market efficiency theory. This theory posits that prices adjust to the arrival of new information so that market prices reflect all available information. This means that Tobin Q exhibits recent information and adjusts frequently. The study also examines the moderating role of foreign ownership (FOR) in the linkage amongst CSR and performance and found a significant and negative impact. This shows that the link amongst CSR and ROA weakens with an increase in foreign ownership.



In case of firm-level attributes, leverage and ROE have a significant and negative impact while SG and Size have a significant and positive impact on performance. The results leverage and size are consistent with results observed for market-based measures i.e., Tobin Q. Further, a significant positive linkage of sales growth with ROA shows that as sales increase the profitability of the firm increases. The findings of the study further reveal that current period performance is also linked with previous period performance.

As far as board characteristics, BS, BI, and FRBP have a significant and negative impact on performance. The results for board size are consistent with earlier results but results of female representation and board independence are inconsistent for market-based and book-based measures of performance. The possible reason may be the construct of the variable. ROA is based on the past while TQ is based on future expectations.

4.5.2 Moderating Role of Family Ownership amongst CSR and Firm Performance

Table 4.22 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of family ownership is also examined.

TABLE 4.22: Impact of CSR on Firm Performance (TQ): Moderating Role of Family Ownership

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"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by the market price of the share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.*

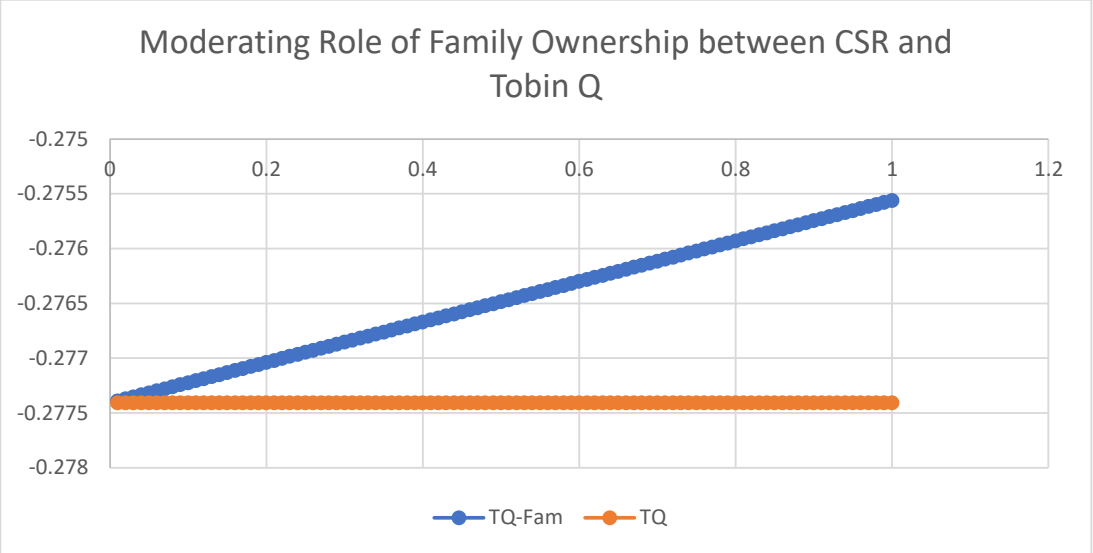
BI *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*FAM*** *represents the interaction terms (moderating effect) amongst CSR and family ownership. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.093703	0.010503	8.921415	0.0000
LEV	-0.280253	0.051593	-5.431998	0.0000
SIZE	0.513737	0.034973	14.68960	0.0000
SG	0.036249	0.010730	3.378349	0.0007
ROE	0.254159	0.055584	4.572513	0.0000
BI	-0.107315	0.103764	-1.034228	0.3012
BS	-3.914469	0.316701	-12.36016	0.0000
FRBP	-2.326510	1.922469	-1.210168	0.2264
CEOD	-2.563774	0.083596	-30.66856	0.0000
CSR	-0.494556	0.132729	-3.726074	0.0002
CSR*CSR	0.027559	0.009303	2.962565	0.0031
CSR*FAM	0.005280	0.001958	2.696226	0.0071
Cross-section fixed (first differences)				
J-statistic	86.85017	Prob(J-statistic)		0.043697

CSR has a significant negative impact on performance in a linear setting. However, the quadratic term has a significant and positive impact on performance again indicating the presence of a nonlinear linkage. The convexity of the linkage shows that CSR is initially considered as agency cost but when allocation increases from a specific level i.e., it has positive implications for performance.

The study also examined the moderating role of family ownership (FAM) in the linkage amongst CSR and Tobin Q and found a significant positive impact on the said linkage. It means the linkage amongst corporate social responsibility and

performance changes with the change in the level of family ownership. This increase in family ownership leads to strengthening the link amongst CSR and Tobin Q.



In case of firm-level attributes, leverage has a significant and negative impact that indicates that higher debt is considered negative for performance. ROE and Size have a significant and positive impact on performance. As the return on equity increases, it is priced by the market and reflected in higher Tobin Q. Similarly, the big firms which are the blue-chip scripts have higher market prices and higher Tobin Q. Further, a significant positive linkage of sales growth with Tobin Q shows that as sales increase the sale growth of the firm increases the value of the share also increases, which increases Tobin Q. The study further observes the presence of dynamic linkage in Tobin Q as current period performance has significant linkage with performance of previous period.

In case of board characteristics, BS and CEO/Chair duality have a significant and negative impact on performance as routine whereas Female representation and Board independence do not influence performance.

Table 4.23 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through ROA, a book-based

measure used to evaluate the performance of the firms. Moreover, the moderating role of family ownership is also examined.

TABLE 4.23: Impact of CSR on Firm Performance (ROA): Moderating Role of Family Ownership

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.*

FRBP *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed on the basis of the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*FAM*** *represents the interaction terms (moderating effect) amongst CSR and family ownership. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	0.091421	0.005747	15.90765	0.0000
LEV	-0.008782	0.004807	-1.827014	0.0679
SIZE	0.004421	0.001326	3.334996	0.0009
SG	0.011009	0.001638	6.722858	0.0000
ROE	-0.001470	0.001383	-1.063477	0.2877
BI	-0.067399	0.007726	-8.723737	0.0000
BS	-0.066603	0.021344	-3.120427	0.0018
FRBP	-0.910140	0.183677	-4.955106	0.0000
CEOD	-0.012903	0.005825	-2.215125	0.0269
CSR	0.015549	0.007199	2.159896	0.0309
CSR*CSR	-0.001425	0.000575	-2.477065	0.0134

CSR*FAM	-5.20E-05	7.69E-05	-0.675997	0.4991
Cross-section fixed (first differences)				
J-statistic	74.10236	Prob(J-statistic)		0.230937

CSR has a significant and positive impact on performance in a linear setting. However, the quadratic term has a significant and negative impact on performance again indicating the presence of a nonlinear linkage. The study also examines the moderating role of family ownership (FAM) in the linkage amongst CSR and ROA and finds an insignificant impact on the said linkage. This means the linkage amongst corporate social responsibility and ROA does not change with the change in the level of family ownership. In case of board characteristics, BS and CEO/Chair duality have a significant and negative impact on performance which is in line with earlier results. In case of ROA, female representation and board independence have a negative influence on ROA which is in contravention to the linkage revealed by using market-based measures i.e., Tobin Q.

In case of firm-level attributes, leverage has a significant and negative impact that indicates that higher debt is considered negative for performance. Sales growth and Size have a significant and positive impact on performance. As the sales growth increases, it is priced by the market and reflected in higher ROA. Similarly, the big firms have higher performance. The study also observes the presence of a dynamic linkage in Tobin Q as current period performance has a significant linkage with the performance of the earlier period.

4.6 Moderating Role of Sharia Compliance and Ownership amongst CSR and Firm Performance

This section covers the moderated moderation analysis considering Sharia compliance and ownership. Section 4.6.1 reports the results of moderated moderation analysis using Sharia compliance and family ownership. Section 4.6.2 reports the results of moderated moderation analysis using Sharia compliance and foreign ownership.

4.6.1 Moderating Role of Sharia Compliance and Family Ownership amongst CSR and Firm Performance

Table 4.24 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderated moderation analysis is also conducted to evaluate the moderating role of sharia compliance and ownership.

TABLE 4.24: Impact of CSR on Firm Performance (TQ): Moderating Role of Sharia Compliant and Family Ownership

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*ISL*** *represents the interaction term (moderating effect) amongst CSR and Sharia compliance.* ***CSR*ISL*FAM*** *represents the moderated moderation of Sharia compliance and family ownership in the linkage amongst CSR and firm performance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TQ (-1)	0.092189	0.010363	8.895860	0.0000

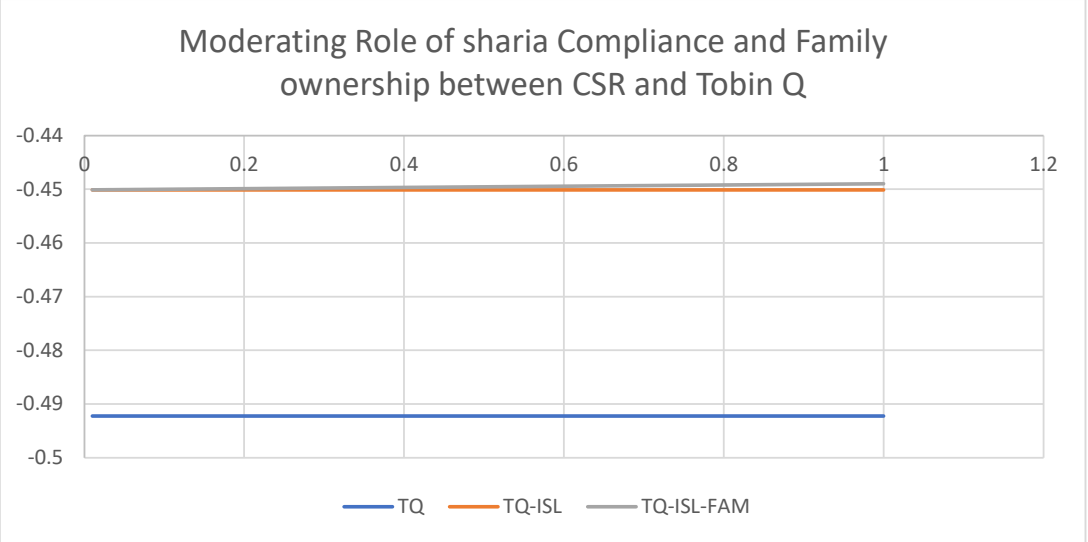
LEV	-0.287018	0.048354	-5.935743	0.0000
ROE	0.239223	0.046218	5.175974	0.0000
SG	0.001546	0.008461	0.182716	0.8550
SIZE	0.522107	0.033216	15.71835	0.0000
BI	-0.043724	0.085314	-0.512512	0.6084
BS	-4.059974	0.312511	-12.99146	0.0000
CEOD	-2.653098	0.090255	-29.39547	0.0000
FRBP	-2.440888	1.943631	-1.255839	0.2094
CSR	-0.599172	0.124153	-4.826087	0.0000
CSR*CSR	0.024563	0.008489	2.893526	0.0039
CSR*ISL	0.120310	0.052937	2.272711	0.0232
CSR*ISL*FAM	0.003275	0.001655	1.978358	0.0481
Cross-section fixed (first differences)				
J-statistic	83.69736	Prob(J-statistic)		0.059156

CSR has a significant negative impact on performance in a linear setting. The quadratic term has a significant and positive impact on performance measured through Tobin Q again indicating the presence of a nonlinear linkage.

The study examines the moderating role of sharia compliance amongst CSR and Tobin Q and reveals that sharia compliance strengthens the link amongst CSR and performance. It shows that the investors consider that Sharia compliance companies are more committed to society which is appreciated by the stakeholders and priced by the market.

The study further uses the moderated moderation analysis and finds that family ownership (FAM) strengthens the moderating role of sharia compliance amongst CSR and Tobin Q. To be more specific, CSR has a positive influence on performance and this link is stronger for sharia-compliant firms.

Further, if the sharia compliant firm is family owned then the link amongst CSR and performance further strengthens. The reason may be a higher level of monitoring and socially responsible behavior companies. This higher level of monitoring and socially responsible behavior is the outcome of dual monitoring by Sharia compliance requirements and the family controlling and governing the business.



Leverage has a significant and negative impact that indicates that debt dependence is considered negative for performance. ROE and Size have a significant and positive impact on performance which is consistent with earlier results. As far as board characteristics are concerned, the results exhibit that BS and CEO/Chair duality again have significant and negative impacts on performance.

Table 4.25 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through ROA, a book-based measure used to evaluate the performance of the firms. Moreover, the moderating impact of board characteristics is also explored.

TABLE 4.25: Impact of CSR on Firm Performance (ROA): Moderating Role of Sharia Compliant and Family Ownership

"This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.*

SG *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*ISL*** *represents the interaction terms (moderating effect) amongst CSR and Sharia compliance.* ***CSR*ISL*FAM*** *represents the moderated moderation of Sharia compliance and family ownership in the linkage amongst CSR and firm performance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	-0.183974	0.004495	-40.92437	0.0000
LEV	0.036707	0.005758	6.375205	0.0000
ROE	-0.009959	0.003122	-3.190346	0.0015
SG	-0.012465	0.002642	-4.718387	0.0000
SIZE	-0.011280	0.001706	-6.613740	0.0000
BI	-0.010701	0.009801	-1.091805	0.2751
BS	-0.014658	0.025914	-0.565636	0.5717
CEOD	0.036069	0.007667	4.704455	0.0000
FRBP	-0.994323	0.190960	-5.206976	0.0000
CSR	-0.040007	0.008990	-4.450230	0.0000
CSR*CSR	0.001472	0.000702	2.096481	0.0362
CSR*ISL	0.011822	0.002584	4.575379	0.0000
CSR*ISL*FAM	5.00E-05	8.79E-05	0.569089	0.5694
Cross-section fixed (first differences)				
J-statistic	83.65956	Prob(J-statistic)		0.059487

The findings of the study again show that CSR has a significant negative impact on performance in linear settings. The quadratic term has a significant and positive impact on performance measured through ROA indicating the presence of a nonlinear linkage. The study observes the moderating role of sharia compliance

amongst CSR and ROA and uncovers that sharia compliance strengthens the link amongst CSR and performance. The study further uses the moderated moderation analysis and finds that family ownership (FAM) does not play the moderating role of sharia compliance amongst CSR and ROA. To be more specific, CSR has a positive influence on performance and this link is stronger for Sharia-compliant firms. The interaction term CSR x ISL x FAM is insignificant. It means the linkage does not change with an increase in family ownership. It means that Sharia compliance strengthens the linkage amongst CSR and performance. This linkage does not change with the change in level of family ownership. This relation is again different for book-based measures and market-based measures. The link amongst Board Independence and Board Size with ROA is insignificant. The results for female representation on board, CEO/Chair duality, and firm-specific variables are not in agreement with results obtained using Tobin Q. The results in general indicate that market-based measures are more consistent theoretically and empirically.

4.6.2 Moderating Role of Sharia Compliant and Foreign Ownership amongst CSR and Firm Performance

Table 4.26 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through Tobin-Q, a market-based measure used to evaluate the performance of the firms. Moreover, the moderated moderating analysis is performed to study the difference in the moderating role of Sharia compliance with the change in foreign ownership.

TABLE 4.26: Impact of CSR on Firm Performance (TQ): Moderating Role of Sharia Compliant and Foreign Ownership

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.* ***Tobin Q (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.*

Lev *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed on the basis of the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*ISL*** *represents the interaction term (moderating effect) amongst CSR and Sharia compliance.* ***CSR*ISL*FOR*** *represents the moderated moderation of Sharia-compliant and foreign ownership in the linkage amongst CSR and firm performance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
TQ (-1)	0.089056	0.010293	8.652434	0.0000
CSR	-0.582799	0.136410	-4.272419	0.0000
ROE	0.243849	0.051326	4.750990	0.0000
SIZE	0.525110	0.035992	14.58946	0.0000
LEV	-0.224200	0.052304	-4.286496	0.0000
SG	-0.010528	0.008169	-1.288826	0.1977
BI	-0.047451	0.086545	-0.548285	0.5836
BS	-4.041092	0.311001	-12.99381	0.0000
CEOD	-2.637944	0.089652	-29.42424	0.0000
FRBP	-2.491759	1.780646	-1.399357	0.1619
CSR*CSR	0.021325	0.008347	2.554731	0.0107
CSR*ISL	0.192119	0.061482	3.124820	0.0018
CSR*ISL*FOR	-7.50E-05	0.001744	-0.042975	0.9657
Cross-section fixed (first differences)				
J-statistic	83.15370	Prob(J-statistic)		0.064068

The findings of the study are again the CSR has a significant negative impact on performance in linear settings. The quadratic term has a significant and positive

impact on performance measured through Tobin Q indicating the presence of nonlinear linkage. The study observes the moderating role of sharia compliance amongst CSR and Tobin Q and uncovers that sharia compliance strengthens the link amongst CSR and performance. The study further uses the moderated moderation analysis and finds that foreign ownership (FOR) does not play the moderating role of sharia compliance amongst CSR and Tobin Q. To be more specific, CSR has a positive influence on performance and this link is stronger for sharia-compliant firms. Further, if the Sharia-compliant firm is foreign-owned then the link amongst CSR and performance does not change with the change in foreign ownership. The results for the impact of BS and CEO/Chair duality on performance are consistent with earlier results as these have a significant and negative impact on performance. In case of firm-level attributes, leverage has a significant and negative impact whereas ROE and Size have a significant and positive impact on performance. The study also finds that current period performance is linked with previous period performance. Table 4.27 reports the linear and non-linear impact of CSR on performance in the presence of Leverage, Size, Sales Growth, and Board Characteristics using the panel GMM method. The performance is measured through ROA, a book-based measure used to evaluate the performance of the firms. Moreover, the moderated moderation analysis is conducted to study the difference in the moderating role of sharia compliance with change in foreign ownership.

TABLE 4.27: Impact of CSR on Firm Performance (ROA): Moderating Role of Sharia Compliant and Foreign Ownership

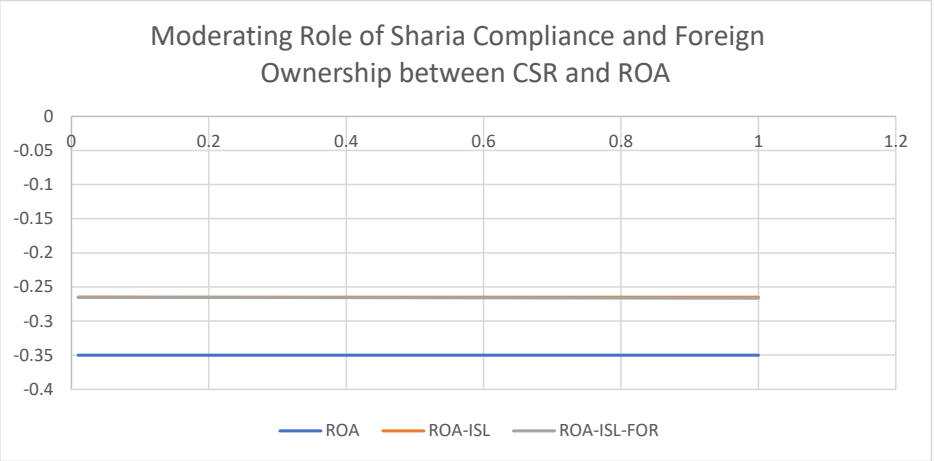
"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate*

the board size. ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*** *represents corporate social responsibility which is computed based on the actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***CSR*ISL*** *represents the interaction terms (moderating effect) amongst CSR and sharia compliance.* ***CSR*ISL*FOR*** *represents the moderated moderation of Sharia-compliant and foreign ownership in the linkage amongst CSR and firm performance. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list."*

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA (-1)	-0.149533	0.003777	-39.59382	0.0000
CSR	-0.261541	0.020838	-12.55085	0.0000
ROE	0.269272	0.008799	30.60091	0.0000
SIZE	-0.007959	0.001390	-5.725049	0.0000
LEV	-0.119436	0.005433	-21.98536	0.0000
SG	0.001752	0.001151	1.521984	0.1282
BI	0.002868	0.008196	0.349886	0.7265
BS	-0.028319	0.015344	-1.845636	0.0651
CEOD	0.068789	0.008185	8.404451	0.0000
FRBP	-0.222011	0.120768	-1.838330	0.0662
CSR*CSR	0.001824	0.000598	3.049311	0.0023
CSR*ISL	0.242585	0.017574	13.80326	0.0000
CSR*ISL*FOR	-0.001457	0.000228	-6.395699	0.0000
Cross-section fixed (first differences)				
J-statistic	64.33139	Prob(J-statistic)		0.500112

The results of the study indicate that CSR has a significant negative impact on performance in a linear setting. The quadratic term has a significant and positive impact on performance measured through ROA indicating the presence of a nonlinear linkage. The study observes the moderating role of sharia compliance amongst CSR and ROA and uncovers that sharia compliance strengthens the link amongst CSR and performance. The results for this set of variables are aligned with book-based performance measures and market-based performance measures. The study further uses the moderated moderation analysis and finds that foreign

ownership (FOR) plays the moderating role of sharia compliance amongst CSR and ROA. To be more specific, CSR has a positive influence on performance and this link is stronger for Sharia-compliant firms. Further, if the Sharia-compliant firm is foreign-owned then the link amongst CSR and performance weakens with the increase in foreign ownership.



Additionally, Leverage has a significant negative impact on ROA whereas ROE has a significant positive impact on performance. The results for these firm-level attributes are consistent and in line with the theory. For board characteristics, BS has a significant and negative impact on performance. CEO/Chair duality has a significant and positive impact and FRBP has a significant and negative impact on performance which is not consistent with estimates obtained by using market-based performance measures i.e., Tobin Q. The results estimated using market-based measures are more consistent and theoretically stable in comparison to results estimated using book-based measures i.e., ROA.

4.7 Moderating Role of Industry amongst CSR and Firm Performance

This section examines the industry effect on CSR and performance links. The difference in CSR and Tobin Q link across industries is reported in Table 4.28. The

difference in CSR and return on asset link is presented in Table 4.29.

Table 4.28 presents the results for industry effect on the linkage amongst CSR and Tobin Q. The linkage amongst CSR and Tobin is nonlinear and U-shaped. The impact of CSR on Tobin Q is significant and positive in Food, Pharma, and Tobacco. industries at a 95% confidence level. An important commonality in these industries is that these sectors have companies with higher foreign ownership. The food sector has a representation of Unilever, Nestle, etc., Pharma has a representation of Abbott, Glaxo, etc., Tobacco has a representation of Phillip Morris, Pakistan Tobacco Company, etc. The CSR and Tobin Q link is significant in Fertilizer, Paper, glass, and Cement at a 90% level of significance. However, no significant link amongst CSR and Tobin Q is witnessed in the automobile, cable, chemical, energy, engineering, leather, sugar, textile, technology and communication, and misc. sectors which are dominated by domestic ownership.

The firm-specific variable such as Leverage, size, and Sales growth has a significant impact on Tobin Q. Leverage is negatively priced by the market whereas sale growth and firm size has a significant positive impact on Tobin Q. However, no significant link amongst return on equity and Tobin Q is observed.

As far as Board characteristics are concerned, the results are generally consistent with the results discussed earlier. CEO/Chair duality and Board size have a negative impact on the market value of the firm while no significant impact of female representation on Tobin Q is observed. The Board independence has a significant and negative association with Tobin Q. This deviation has also been revealed in earlier results.

The J-statistic is 64.55 and the Prob(J-statistic) is 0.08. This means that we cannot reject the null hypothesis that the instruments are valid at a 95% level of significance.

TABLE 4.28: Impact of CSR on Firm Performance (TQ): Moderating Role of Industry

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***Tobin Q*** *as a measure of firm performance.* ***Tobin Q*** *is calculated by dividing the market value of the firm by the total asset value of the firm.*

Tobin Q (-1) *represents the lag value of performance in t-1.* ***CSR*** *represents the corporate social responsibility which is computed on the basis of actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.* ***Size*** *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*AUTO***, ***CSR*CABEL, CSR*CEMENT, CSR*CHEMICAL, CSR*ENERGY, CSR*ENGINEERING, CSR*FERTILIZER, CSR*FOOD, CSR*GLASS, CSR*LEATHER, CSR*PAPER, CSR*PHARMA, CSR*SUGAR, CSR*TECH, CSR*TEXTILE, CSR*TOBBACO,*** *and* ***CSR*MISC*** *represent the interaction terms (moderating effect) amongst CSR and different industries, namely automobile, cable, cement, chemical, energy, engineering, fertilizer, food, glass, leather, paper, pharma, sugar, tech, textile, tobacco and Misc. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list. "*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TQ (-1)	0.019433	0.016864	1.152342	0.2494
CSR	-5.620678	1.564050	-3.593668	0.0003
CSR*CSR	0.306065	0.080036	3.824099	0.0001
ROE	0.144002	0.127760	1.127129	0.2599
LEV	-0.926362	0.461966	-2.005258	0.0451
SIZE	0.351465	0.058879	5.969270	0.0000
SG	0.227249	0.097860	2.322185	0.0204
BI	-1.948484	0.245583	-7.934110	0.0000
BS	-4.450168	0.555769	-8.007232	0.0000
CEOD	-0.848834	0.189554	-4.478056	0.0000
FRBP	-2.905947	3.597324	-0.807808	0.4193
CSR*AUTO	2.036879	1.328835	1.532830	0.1255
CSR*CABEL	11.17259	11.75080	0.950794	0.3419

CSR*CEMENT	2.234133	1.274181	1.753388	0.0797
CSR*CHEMICAL	0.571047	1.668791	0.342192	0.7323
CSR*ENERGY	1.913652	1.429209	1.338959	0.1808
CSR*ENGINEERING	2.242069	14.02421	0.159871	0.8730
CSR*FERTILIZER	2.767500	1.610840	1.718047	0.0860
CSR*FOOD	20.27852	3.339034	6.073171	0.0000
CSR*GLASS	35.33210	19.83472	1.781326	0.0751
CSR*LEATHER	3.901706	16.40695	0.237808	0.8121
CSR*PAPER	14.61965	7.728072	1.891759	0.0587
CSR*PHARMA	4.870852	2.003956	2.430619	0.0152
CSR* SUGAR	12.44849	8.138407	1.529598	0.1263
CSR*TECH	3.974800	3.867094	1.027852	0.3042
CSR*TEXTILE	1.093395	4.887335	0.223720	0.8230
CSR*TOBBACO	41.33447	7.660837	5.395556	0.0000
CSR*MISC	-13.91802	14.93483	-0.931917	0.3515
Cross-section fixed (first differences)				
J-statistic	64.55833	Prob(J-statistic)		0.080787

Table 4.29 presents the results for the industry effect on the linkage amongst CSR and ROA. The linkage amongst CSR and ROA is insignificant. The impact of CSR on ROA across industries is not different as the interaction term is not significant at a 95% confidence level. The firm-specific variable such as leverage, size and sales growth have a significant impact on ROA. Leverage is negatively priced by the market whereas sale growth has a significant and positive impact on ROA. However, no significant link amongst firm size and ROA is observed.

As far as board characteristics are concerned, the results have contradictions. CEO/Chair duality and board size have no impact on ROA while no significant impact of female representation and impact of board independence on ROA is negative. ROA is concerned with historical information, and Tobin Q is concerned with the future prospects of the firm viewed by the stock market. Hence, it may not be surprising to find different results using these two indicators at the same time.

Another possible explanation may be that as the capital markets are efficient, we can imply that the difference amongst market and book value refers to the

pricing of intangibles or off-balance sheet items. Behavioral finance attributes the difference to the perception of the market about expected market performance. In general, we should be careful when comparing accounting data with market data. The market base measures are generally considered better as they represent contemporaneous information. The J-statistic is 65.3 and the Prob(J-statistic) is 0.0856. This means that we cannot reject the null hypothesis that the instruments are valid at a 95% level of significance.

TABLE 4.29: Impact of CSR on Firm Performance (ROA): Moderating Role of Industry

"*This table reports the benchmark results for the impact of CSR on firm performance in a non-linear setting. This study uses* ***ROA*** *as a measure of firm performance.* ***ROA*** *is calculated by dividing the net profit by the total assets of the firm.* ***ROA (-1)*** *represents the lag value of performance in t-1.* ***CSR*** *represents the corporate social responsibility which is computed on the basis of actual allocation of funds for CSR by the firms with respect to the total profit.* ***CSR*CSR*** *represents the quadratic term used to capture the non-linear impact of CSR on firm performance.* ***ROE*** *is calculated by dividing the net profit by the total outstanding shares of the firm.* ***Lev*** *represents the leverage of the firm and is measured by the debt-to-equity ratio.*

Size *is proxied through the market capitalization of the firm and the value of the size of a firm is captured by multiplying the number of outstanding shares by market price of share.* ***SG*** *represents sales growth i.e., measured through comparing the current period's sales with the previous period's sales.* ***BI*** *represents board independence which is computed based on the percentage of outside directors with respect to the total number of directors. Board Size is represented by* ***BS*** *and a natural logarithm is used to calculate the board size.* ***CEOD*** *represents the CEO Duality which means that the CEO also holds the position of the Chairperson of the board.* ***FRBP*** *represents the female representation on the board which is calculated based on the proportion of female directors with respect to total directors.* ***CSR*AUTO, CSR*CABEL, CSR*CEMENT, CSR*CHEMICAL, CSR*ENERGY, CSR*ENGINEERING, CSR*FERTILIZER, CSR*FOOD, CSR*GLASS, CSR*LEATHER, CSR*PAPER, CSR*PHARMA, CSR*SUGAR, CSR*TECH, CSR*TEXTILE, CSR*TOBBACO,*** *and* ***CSR*MISC*** *represent the interaction terms (moderating effect) amongst CSR and different industries, namely automobile, cable, cement, chemical, energy, engineering, fertilizer, food, glass, leather, paper, pharma, sugar, tech, textile, tobacco and Misc. We apply Panel GMM for the estimation of empirical results. Constant added to instrument list.*"

Variable	Coefficient	Std. Error	t-Statistic	Prob.

ROA (-1)	0.090078	0.010084	8.932785	0.0000
CSR	-0.005635	0.037424	-0.150564	0.8803
CSR*CSR	-0.000275	0.001355	-0.202741	0.8394
LEV	-0.027449	0.012053	-2.277365	0.0229
SIZE	-0.000636	0.001755	-0.362585	0.7170
SG	0.007677	0.002329	3.296750	0.0010
BI	-0.041810	0.016994	-2.460267	0.0140
BS	0.011168	0.027915	0.400064	0.6892
CEOD	-0.007184	0.006948	-1.033956	0.3013
FRBP	-0.824611	0.249275	-3.308045	0.0010
CSR*AUTO	0.015430	0.033112	0.465993	0.6413
CSR*CABEL	-0.342935	0.719053	-0.476926	0.6335
CSR*CEMENT	0.005088	0.032167	0.158168	0.8743
CSR*CHEMICAL	0.015468	0.042962	0.360033	0.7189
CSR*ENERGY	0.028719	0.027459	1.045889	0.2958
CSR*ENGINEERING	0.074538	0.175937	0.423661	0.6719
CSR*FERTILIZER	0.007753	0.050566	0.153323	0.8782
CSR*FOOD	0.004386	0.148187	0.029595	0.9764
CSR*GLASS	-0.080266	0.154232	-0.520421	0.6028
CSR*LEATHER	-0.229039	0.496310	-0.461483	0.6445
CSR*PAPER	0.004842	0.063676	0.076043	0.9394
CSR*PHARMA	0.028321	0.044814	0.631969	0.5275
CSR* SUGAR	0.067678	0.054793	1.235154	0.2170
CSR*TECH	0.020229	0.048274	0.419037	0.6752
CSR*TEXTILE	-0.041055	0.062168	-0.660394	0.5091
CSR*TOBBACO	0.042952	1.000155	0.042945	0.9658
CSR*MISC	0.309905	0.193944	1.597911	0.1103
Cross-section fixed (first differences)				
J-statistic	65.30248	Prob(J-statistic)		0.085876

Chapter 5

Conclusion and Recommendations

5.1 Conclusion

The study explores the link amongst CSR and performance in light of the debate amongst Freeman (1984) and Milton (1970) under the theoretical framework of Stakeholder theory and agency theory. The existence of mixed results provides empirical support for the presence of positive as well as negative connections amongst CSR and performance. This study examines the link amongst CSR and performance by using a sample of 131 firms of non-financial firms listed at the Pakistan Stock Exchange from 2006 to 2019 in linear and nonlinear settings. The study uses Tobin Q as a market-based measure of performance and ROA as a book-based measure of performance. An important feature of the study is the use of actual allocation of profit for social activities which is in line with the old adage that actions speak louder than words. The study uses the generalized method of moments for the estimation of results along with panel EGLS.

The findings of the study highlight that the linkage amongst CSR and Tobin Q is nonlinear in nature. The convexity of the linkage indicates that when small allocations are made for social causes these are considered as agency costs and are discounted by the market which results in decreasing the Tobin Q. However,

when CSR allocation increases these are priced by the market and Tobin Q starts increasing. The point of inflection is 10% and the linkage is U-shaped indicating that with the increase in CSR expenditure, Tobin Q initially decreases at a decreasing rate and after touching the point of minimum at 10%, Tobin Q subsequently increases.

With some exceptions, the results of board characteristics are generally consistent and can be summarized as board size and CEO/Chair duality have a negative impact on Tobin Q while board independence and female representation has a positive impact on performance measured through Tobin Q. The significant negative impact of board size on performance indicates that the performance of companies with large boards is weaker than the performance of companies with small boards. It is possible that small, and efficient boards can contribute better than large boards where decision-making may be slow as consensus may be difficult to evolve. These results are consistent with Jensen (1993) who argues that boards with more than seven to eight members are unlikely to be effective as large boards result in less effective coordination, communication, and decision-making, and are more likely to be controlled by the CEO. These results are also consistent with the studies of Nazar and Rahim (2015); Rodríguez-Fernández (2015), and Shukeri et al. (2012). The linkage amongst CEO/Chair duality and performance is negative, which is consistent with the agency theory perspective. It theorizes that symbolizes greater 'insider control' in which a powerful CEO who is also a chairperson weakens board oversight. Due to these concerns of weak board monitoring under CEO/Chair duality, regulators prefer the separation of the positions of the chair and CEO. These results are also consistent with the studies of Tang (2017) and Naseem et al. (2019). Female representation on board and board independence has significant and positive impacts on the linkage amongst CSR and performance. The results are consistent with the studies by Alabdullah et al. (2021); Alabdullah (2017); Haji (2014); Alyaarubi et al. (2021); Alsulmani et al. (2021); Ahmed et al. (2020a); Yermack (1996). It means that the presence of females improves the decision making which is reflected in the bottom line of the financial reports. This may be because these groups believe in a stakeholder approach. There is also the

possibility of overlapping in these groups i.e., a reasonable number of independent may be females. The results using book-based measures are not in agreement with results estimated through market-based measures. This is common as book-based measures are static as these are based on variables that are partially valued at historical cost principle while market-based measures are dynamic as these adjusted with the change in investors' confidence. The same is true for ROA and Tobin Q.

The firm-specific variables also report consistent results. The leverage has a significant negative impact on performance. The performance of highly debt-dependent firms is weaker than low-debt-dependent firms. This indicates rising financial costs and the risk attributable to the investment is priced by the market. The influence of size is significant and positive indicating that big firms are more profitable in comparison to small firms. The impact of sales growth on performance is positive, which is in line with theory. There exists a significant positive association amongst ROE and Tobin Q which means that profitability is priced by the market. High profitability leads to higher market prices which results in higher Tobin Q. Similarly, size has a significant and positive linkage with performance, indicating that big firms which are blue chips perform better than smaller firms. The link amongst sales growth and performance is significant and positive indicating that growth potential is translated into better market price that increases the Tobin Q. In case of firm-specific attributes results are, in general, consistent across various models estimated using market-based and book-based measures of performance.

The study also provides insight into the moderating role of board characteristics, ownership, and sharia compliance in explaining the link amongst CSR and Performance. The board size moderates the linkage amongst CSR and performance. Large boards have a negative impact on CSR and performance links. The interaction terms of CEO/Chair duality with CSR are significant and negative. These results are consistent with the study of (Voinea et al., 2022). It means concentration of the power on the one hand weakens the link amongst CSR and performance. Board size and CEO/Chair duality are not only negatively associated with performance but also negatively influence the link amongst CSR and Tobin Q. Results for moderating the role of board independence are mixed. Board independence

strengthens the association amongst CSR and ROA while board independence weakens the linkage amongst CSR and Tobin Q. These results are consistent with the study of Jaidi et al. (2022).

The female presence on the board plays a moderating role amongst CSR and performance. The impact of CSR on performance is higher for companies that have a higher representation of females on board. Board independence strengthens the association amongst CSR and ROA.

The study also reveals the presence of a moderating role of Sharia complaint (ISL) in the linkage amongst CSR and performance. Sharia compliance influences the link amongst CSR and performance positively. In Sharia-compliant firms, the link amongst CSR and performance is stronger in comparison to non-sharia-compliant firms. This is in line with the stakeholder theory where the market expects that Sharia compliance places an added commitment and responsibility on firms that will be honored so it is priced by the market. However, no moderating role is observed when book book-based measure of performance is used.

The results for the moderating role of foreign ownership amongst CSR and performance are not consistent for market-based and book-based measures of performance. The moderating role of foreign ownership (FOR) amongst CSR and performance for Tobin Q is insignificant which means that the linkage amongst corporate social responsibility and performance does not change with the change in the level of foreign ownership. On the other hand, the link amongst CSR and ROA is significantly negative. This shows the impact of CSR on ROA weakens with an increase in foreign ownership. The study also examined the moderating role of family ownership (FAM) in the linkage amongst CSR and Tobin Q and found a significant positive impact on the said linkage.

These results are consistent with the study (Abeysekera and Fernando, 2020; Yeon et al., 2021). It means the linkage amongst corporate social responsibility and performance changes with the change in the level of family ownership. This increase in family ownership leads to strengthening the link amongst CSR and Tobin Q. The study also examines the moderating role of family ownership (FAM) in the linkage amongst CSR and ROA and finds an insignificant impact on the said

linkage. This means the linkage amongst corporate social responsibility and ROA does not change with the change in the level of family ownership.

The possible explanation may be that book-based measures do not price information rapidly while market-based price the information immediately which is in line with market efficiency theory.

This theory posits that prices adjust to the arrival of new information so that market prices reflect all available information. This means that Tobin Q exhibits recent information and adjusts frequently to better explain the response of stockholders.

The study further reveals that CSR has a positive influence on performance and this link is strong for Sharia-compliant firms. Further, if the sharia compliant firm is family owned then the link amongst CSR and performance further strengthens.

The reason may be a higher level of monitoring and socially responsible behavior companies. This higher level of monitoring and socially responsible behavior is the outcome of dual monitoring by Sharia compliance requirements and the family controlling and governing the business.

The study further finds that CSR has a positive influence on performance and this link is stronger for Sharia-compliant firms. Further, if the Sharia-compliant firm is foreign-owned then the link amongst CSR and performance does not change with the change in foreign ownership.

The growing integration of social concern into business operations is one of the major trends across the globe. With a focus on averting adverse outcomes and augmenting constructive influences on society and the environment, CSR has become an integral component of business. Therefore, companies have to adopt a broad and long-term perspective on their operations and consider all of the stakeholders.

An emphasis on responsibility and openness is likely to characterize CSR in the future. Due to these trends, businesses will need to take a more proactive and strategic approach to CSR and think about how their actions will affect society and the environment over the long term.

5.2 Recommendations and Policy Implications

i. CSR is priced by the market if commitment is visible through reasonable financial allocations. Currently, on average 0.35% of profit is being used to finance social activities. Therefore, allocations should be increased to win the confidence of the market.

ii. A higher female representation on board should be encouraged. Initially, the current requirement of one female member of the board of directors may be doubled.

iii. CEO/Chair duality should be discouraged and ideally be banned.

iv. Board size may be optimized as larger boards have a negative influence not only on performance but also on CSR and performance links.

v. Debt has negative impact on performance so use of debt be monitored by stakeholders.

vi. Firm value lies in profitability and sales growth so management should focus on these fundamental drivers of value.

vii. Impact of CSR on performance has significant in case of sharia compliant so the role of sharia compliant is priced by the market so it matters.

viii. The role of foreign ownership and family ownership in influencing the social performance and financial performance link is observed so investors should consider the ownership pattern while making resource allocation.

5.3 Limitations and Directions for Future Research

This study is limited to Pakistan and considers broad characteristics and ownership in a structural context. The policy guidelines like the implementation of CSR,

a mandatory requirement of one female director, and modification in the code of corporate governance are not examined specifically. Future research on the CSR-Performance link may concentrate on these issues. Researchers may also look into the role of board committees in influencing CSR goals and performance. This study examines the two most important types of ownership structures i.e. family ownership and foreign ownership. In the future, the impact of managerial ownership, state ownership, and institutional ownership may be studied in Pakistan as well as other emerging markets. The impact of cultural and geographic disparities on CSR strategy may also be important for research.

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