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Impact of Corporate Governance on Financial Performance; Mediating Role of Corporate Social Responsibility: Empirical Evidence from BRICS Countries

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Waseem Akhter

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By

Waseem Akhter

(DMS183002)

Dr. Jessica West, Associate Professor

Stetson University, Florida, USA

(Foreign Evaluator 1)

Dr. Ozge K. Kocaaslan, Associate Professor

Hacettepe University, Cankaya-Ankara, Turkiye

(Foreign Evaluator 2)

Dr. Arshad Hassan

(Research Supervisor)

Dr. S. M. M. Raza Naqvi

(Head, Department of Management Sciences)

Dr. Arshad Hassan

(Dean, Faculty of Management & Social Sciences)

DEPARTMENT OF MANAGEMENT SCIENCES

CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

ISLAMABAD

2024

Dedicated to my family, whose unwavering support and encouragement sustained me throughout my studies. Their patience and belief in me made it possible to attain this distinctive honor.

CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY
ISLAMABAD
Expressway, Kahuta Road, Zone-V, Islamabad
Phone:+92-51-111-555-666 Fax: +92-51-4486705
Email: info@cust.edu.pk Website: https://www.cust.edu.pk

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Student Name : Waseem Akhter (DMS183002)

The Examination Committee unanimously agrees to award PhD degree in the mentioned field.

Examination Committee :

(a) External Examiner 1: Dr. Syed Muhammad Amir Shah
Professor
AIOU, Islamabad

(b) External Examiner 2: Dr. Qaisar Ali Malik
Professor
Foundation University, Rawalpindi

(c) Internal Examiner : Dr. Imran Riaz Malik
Associate Professor
CUST, Islamabad

Supervisor Name : Dr. Arshad Hassan
Professor
CUST, Islamabad

Name of HoD : Dr. S. M. M. Raza Naqvi
Professor
CUST, Islamabad

Name of Dean : Dr. Arshad Hassan
Professor
CUST, Islamabad

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(**Waseem Akhter**)

Dated: 28 August, 2024

Registration No : DMS183002

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Dated: 26 August, 2024

Registration No : DMS183002

List of Publications

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

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(Waseem Akhter)
Registration No: DMS183002

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(Waseem Akhter)

Abstract

This study examines how board structure (including board size, independence, audit committee independence, CEO duality, and gender diversity) and ownership structure (family, institutional, and foreign shareholding), along with control variables (firm size, cash flow, sales growth, and leverage), impact firm performance in 495 firms in BRICS countries from 2011 to 2021. Firm performance is measured using ROA, ROE, and Tobin's Q ratio. The study also investigates the mediating role of CSR in the relationship between corporate governance and firm performance, using stakeholder, agency, and resource dependency theories. Structural Equation Modeling (SEM) and Generalized Method of Moments (GMM) are employed for regression analysis, with mediation effects analyzed using Baron and Kenny (1986) and Preacher and Hayes (2013) models. The results show that within board structure, board size and independence positively impact all firm performance measures (ROA, ROE, Tobin's Q), while CEO duality negatively impacts performance. Audit committee independence and gender diversity have no significant effect. These findings are consistent across both SEM and GMM methodologies. In terms of ownership structure, family, institutional, and foreign shareholdings positively influence ROA and ROE. However, institutional shareholding negatively affects Tobin's Q in SEM, but positively in GMM analysis The study further identifies that CSR significantly mediates the relationship between board size, board independence, CEO duality, and firm performance (ROA, ROE, and Tobin's Q). However, CSR does not mediate the impact of audit committee independence or gender diversity on firm performance. CSR also significantly mediates the relationship between family, institutional, and foreign shareholdings and firm performance across both SEM and GMM methodologies. These findings are valuable for managers, investors, regulators, and policymakers. Future research could explore other CSR measures as mediators, extend the study to different country groups, and examine the impact of recent governance reforms.

Key words: Corporate Governance, CSR, Firm Performance, BRICS, Board Structure, Ownership Structure, SEM, GMM

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Chapter 1

Introduction

1.1 Introduction

Both developed and developing nations emphasize the importance of corporate governance (CG) within their businesses (Abushammala et al., 2015). CG is pivotal in structuring and overseeing organizational frameworks (Jan et al., 2021). By leveraging robust mechanisms and principles of corporate governance, companies can bolster shareholder interest; ensuring actions align with transparency and disclosure standards. Recognized for its positive influence on a company's performance and valuation, corporate governance also fosters market and economic growth when implemented effectively (Danoshana and Ravivathani, 2019; Jia et al., 2019). By adopting CG, businesses can optimize their value proposition, gaining a competitive edge, elevating performance, and consequently uplifting a nation's economy (Alabdullah et al., 2019). Enhanced governance measures curtail opportunistic managerial actions, enhancing the credibility of earnings management (Gulzar, 2011). Emphasizing sound corporate governance is crucial for all entities, ensuring the welfare of every stakeholder involved (Alabdullah et al., 2018).

Corporate governance is multi-dimensional, encompassing elements such as the code of corporate governance, board independence, board size, audit committee autonomy, board diversity, and ownership patterns (Dewji and Miller, 2013; Narwal and Jindal, 2015). Companies with robust corporate governance frameworks

typically achieve superior stock returns (Peni and Vähämaa, 2012). Particularly in non-financial sectors, the drive behind corporate governance revolves around ensuring a company's longevity and enhancing its value proposition (Alabdullah et al., 2016; Manab et al., 2010; Alabdullah and Ahmed, 2020). Moreover, businesses that emphasize social responsibility tend to receive more favorable credit evaluations.

As companies aim to secure a substantial position in the global market, integrating social responsibility becomes paramount. This integration not only enforces long-term corporate viability by addressing the interests of stakeholders, including suppliers, investors, and employees but also positions firms favorably in the global arena. The integration and execution of CSR play a pivotal role for Multinational Enterprises in promoting developmental objectives (Tai and Chuang, 2014). Ethically, businesses should prioritize corporate governance to address stakeholders' societal and environmental concerns, facilitating sustainable growth (Dzingai and Fakoya, 2017). As stakeholder emphasis on sustainable growth intensifies, CSR emerges as a central pillar for businesses, transitioning the traditional business paradigm from mere financial performance to a comprehensive approach that emphasizes ecological conservation, societal benefits, stakeholder participation, and overall economic vitality (Sidhoum and Serra, 2018; Alabdullah et al., 2014).

The debate whether managers should perform activities for the maximization of the wealth of the shareholders only or should take care of all stakeholders is not new (Jackson, 2011). There are strong arguments in support of both prospective. Friedman (1962) presents shareholder theory, suggesting that prime liability and purpose of a firm is maximization of shareholder's wealth. Advocates of the shareholder's theory claim that maximizing the shareholder's value is actually beneficial to all the stakeholders (O'Connell and Ward, 2020). Shareholder theory can be seen as a normative extension of agency theory, providing a guiding principle for managerial decision-making and corporate governance. The principal-agent relationship described by agency theory is a fundamental concept in understanding how managers act on behalf of shareholders. Shareholder theory aligns with the perspective of agency theory, as it emphasizes on managers' roles as agents of shareholders and advocates for their accountability to shareholders' interests. Contrary

to shareholder theory, stakeholder theory advocates protection of all stakeholders including shareholders (Freudenreich et al., 2020; Freeman et al., 2021). This theory places the shareholders amongst the other stakeholders and suggests that taking care of all stakeholders while making the decisions is of immense importance (Donaldson and Preston, 1995). Stakeholder theory argues that organizations need to maintain legitimacy by addressing the concerns and expectations of stakeholders. In the recent age, stakeholders including investors pay more attention to CG practices and CSR activities and thus firms report such actions to get hold of confidence of all concerned which ultimately affects performance of the firms (Kim et al., 2013; Grant, 2015).

Based on nature of variables used in this study and association established between CG, CSR and firm performance, stakeholder theory is followed. Stakeholder theory emphasizes on protection of various stakeholders. Corporate governance frameworks provide mechanisms to ensure accountability and responsibility toward stakeholders. For example, boards of directors are obligated to prioritize the best interests of shareholders as part of their fiduciary duty; however, they are also tasked with responsibly taking into account the concerns and interests of other stakeholders. Overall, stakeholder theory and corporate governance complement each other by providing frameworks and principles for organizations to protect stakeholders' interest, promote accountability, and ensure long-term value creation (Oppong and Lartey, 2023). Similarly, Stakeholder theory and CSR are interconnected concepts that share a common focus on the broader impact of businesses on society. Both stakeholder theory and CSR recognize the importance of considering the interests of stakeholders beyond just shareholders. CSR initiatives are often driven by the desire to respond to the requirements of stakeholders.

Before analyzing interrelationship among CG, CSR and firm performance, it is important to explain said attributes, out of which financial performance is explained first. Financial performance refers to the evaluation of how well a company or organization has performed financially over a specific period of time, typically a fiscal year or a quarter (Dada et al., 2023). It offers insights into the firm's capacity to generate revenue, control expenses, and deliver value to its shareholders or stakeholders. The growth of firms is dependent on their financial health and

operational efficiency. It is considered in terms of accomplishment of financial objectives by a firm (Verma and Sharma, 2021).

The outcomes of firms' policies and operations are measured in monetary terms. Financial performance is typically assessed by various stakeholders to gauge the firm performance and make informed decisions. Comparative analysis against industry peers and historical performance is often performed to gain understanding of a firm's standing in the market and its growth trajectory. Financial performance is a crucial aspect of assessing a firm's health, stability, and growth potential. Financial performance is estimated in terms of financial ratios like return on equity (ROE), return on assets (ROA), market share, Tobin's Q, sales growth and stock price (Singh et al., 2016).

The second primary factor examined in the research is Corporate Governance. This framework facilitates the management and oversight of corporate entities (Cadbury, 1992). Corporate governance encompasses the set of regulations, methods, and procedures guiding a company's direction and oversight. It seeks to harmonize the interests of diverse stakeholders. At its core, corporate governance aims to ensure that a firm's management prioritizes the well-being of its shareholders and other vested parties, upholding principles of transparency, accountability, and integrity (Hasanudin, 2023). Crucial components of this governance structure encompass the board of directors, senior management, shareholders, and various oversight bodies and protocols focused on corporate direction, risk mitigation, and adherence to legal standards (Shui et al., 2022). Robust corporate governance practices can bolster a firm's image, instill trust among investors, and foster enduring growth and prosperity.

McWilliams and Siegel (2001) describe CSR as endeavors that promote societal benefits beyond the firm's interests and legal obligations. Brammer et al. (2012), as well as Matten and Moon (2008), indicate that CSR encompasses a company's policies and actions that reflect its dedication to the broader community. (Aguilera et al., 2006; Aguinis and Glavas, 2012), describe CSR as specific actions and strategies by organizations that consider stakeholder expectations and focus on the triple dimensions of economic, social, and environmental performance. Sachs et al. (2009), emphasize the ethical foundation of CSR, highlighting corporations' duty

to avoid societal and environmental harm while enhancing societal well-being and benefiting stakeholders. Carroll (2015), and Agudelo et al. (2019), suggest that CSR addresses contemporary social demands and is closely linked to the sustainable development goals.

Primarily, financial performance was the only measure to assess corporate governance, however, after introduction of separate corporate ownership and control, discussion initiated whether corporate governance be limited to maximizing profitability or firms should focus on CSR activities also (Man and Terence, 2011). As per agency theory, although separation of corporate ownership and control causes agency problems, better corporate governance system protects rights of minority shareholders. Hence, there must be a system which aligns interest of both principles and agents. It is responsibility of the directors to establish such a system which may help to govern the firm at its best (Shrivastava and Addas, 2014). An effective governance system not only enhances the wealth of shareholders but also safeguards the interests of all other stakeholders.

"Can corporate governance impact financial performance? Previous research has generated mixed evidence on this matter, with some studies indicating positive effects (Brown and Caylor, 2009; Ammann et al., 2011; Arora and Sharma, 2016; Pillai and Al-Malkawi, 2018), while others have found negative outcomes (A et al., 2018) or neutral results (Young, 2003). These inconsistent and inconclusive findings are attributed to differences in methodologies, contextual factors, variables, and measurements utilized in the studies. However, another potential explanation for the varying results in existing research lies in the oversight of certain mechanisms. One such mechanism, often overlooked, is CSR.

Aras and Crowther (2008), contend that the relationship between corporate governance and CSR is intrinsic and essential for a company's sustained prosperity. Shrivastava and Addas (2014), suggest that effective corporate governance can promote a strong CSR stance. A dependable corporate governance framework is pivotal in ensuring that managerial decisions resonate with the interests of shareholders and wider stakeholders. This entails integrating CSR values and addressing the economic, social, and environmental expectations of stakeholders within the company's strategic and operational frameworks (Morioka and de Carvalho, 2016).

Consequently, solid corporate governance not only boosts financial outcomes but also enhances CSR effectiveness (Dočekalová and Kocmanová, 2016).

The firm's value is not only influenced by CG and CSR, it is also affected by accounting and market ratios of financial performance. Vishnani and Shah (2008), postulate that important information regarding the current financial position of the firm is sent to the market through the accounting profitability ratios which generate some signals towards the financial position of firm and as per signaling theory these signals affect the market value of a firm. On the same lines, agency theory holds that maximization of wealth is the main interest of the investors and these signals towards the market attract and retain the investors which ultimately improves the market value of firm by increasing share prices in the market (Haseeb-Ur-Rahman et al., 2017).

The existing literature lacks a unanimous conclusion regarding the correlation between accounting and market measures. Some studies assert an insignificant relationship (Combs et al., 2005; Lama et al., 2012), while others indicate a positive connection (Hair et al., 2009). (Romero et al., 2010), in contrast to a negative relationship suggested by (Zarowin, 1989). These inconclusive findings in the literature highlight the need for further investigation into the relationship between corporate governance (CG), corporate social responsibility (CSR), and firm performance, utilizing both accounting and market measures, particularly in the context of BRICS countries.

Two important components of CG including board structure and ownership structure are used in this study. Board structure includes board size, board independence, audit committee independence, CEO duality and gender diversity. For ownership structure three proxies including family shareholding, institutional shareholding and foreign shareholding are analyzed for evaluating their impact on financial performance. Both corporate governance and CSR are essential for maintaining a company's reputation, building trust with stakeholders, and contributing to long-term success (Salvioni and Gennari, 2019). The firms that successfully integrate robust CG practices and give priority to CSR generally experience enhanced risk management, strengthened relationships with customers and investors, and a favorable influence on both society and the environment.

CG serves as a crucial framework for overseeing and regulating corporate social conduct. Typically, the primary goal of any business or company is profit maximization (Aluchna and Roszkowska-Menkes, 2019). Hence, corporate governance employs diverse strategies to enhance the company's profitability. Numerous studies emphasize the significance of effective corporate governance in augmenting firm profits and other related activities (Bhagat and Bolton, 2019; Bhatt and Bhatt, 2017). CG policies involving CSR practices enhance firm profitability. Different aspects of CG have impact on CSR which ultimately influence firm performance.

1.2 Board Structure, Firm Performance and CSR

The corporate boards represent the central and paramount component of the internal corporate governance system. Their primary responsibility is to oversee the management's actions and making sure protection of all stakeholders. By exercising care and diligence, they establish financial control, which contributes to the profitability of corporate firms. The boards also play a critical role in providing strategic direction to the management and approving their proposals. Additionally, they identify issues within the company and develop solutions to address them.

The role of boards in monitoring can be referred to as the "control role". Scholars from various disciplines, such as finance, management, law, sociology, and economics, have examined the monitoring function of boards for many years (Pandey et al., 2023). The theoretical foundation of the monitoring function of boards originates from the agency model, which highlights the conflicting interests between principals and agents due to the separation of ownership and management. The agency model posits that boards primarily serve to oversee managerial actions, safeguarding the interests of shareholders. From a legal standpoint, directors bear a fiduciary responsibility to ensure that agents act in the best interests of principals. In modern corporate firms, managers may prioritize their self-interest over the principle of profit maximization, leading to agency costs, as (Berle and Means, 1991) explained. Monitoring board members can mitigate these costs, as described by Fama (1980), and Zahra and Pearce (1989). According to the agency model,

incentives are a critical aspect of efficient monitoring. Board members' incentives to monitor and oversee activities in the corporate firm vary, and linking these incentives to the interests of principals can improve financial firm performance (Fama, 1980; Jensen and Meckling, 1979). Therefore, incentives are crucial for effective monitoring.

Apart from agency theory, stakeholder theory establishes relationship with board structure by emphasizing protection of interests of all stakeholders. Boards that adopt stakeholder-oriented approaches have normally diverse compositions, including non-executive directors who can represent various stakeholder interests and provide objective oversight. They may also establish committees focused on stakeholder concerns, such as sustainability or social responsibility. Stakeholder theory encourages boards to be more inclusive and considerate of all stakeholders, who can lead to changes in board structure and governance practices to better address these diverse interests. This approach aims to create a more balanced and responsible approach to corporate decision-making and management.

The aim of this empirical investigation is to offer a comprehensive elucidation of diverse elements within board structure, encompassing board size, board independence, audit committee independence, CEO duality, and gender diversity and ownership structure covering family shareholding, institutional shareholding and foreign shareholding. This analysis leverages supporting theories such as agency theory, stakeholder theory and resource dependency theory. More specifically, the study delves into the influence of different board structure and ownership variables on firm performance in BRICS countries, grounded in both theoretical frameworks and empirical findings. The subsequent section elaborates on the relationship between various components of board structure, ownership structure, CSR, and firm performance.

1.2.1 Board Size, Firm Performance and CSR

Evaluating the correlation between board size and firm performance is crucial for enhancing the board's efficacy (Yan et al., 2021). Various theories offer insights into this relationship and provide different perspectives on this connection. In

line with stakeholder theory, a board's principal duty is to weigh the interests of all the company's stakeholders, extending beyond shareholders alone (Freeman, 1984). This theory encompasses all stakeholders involved in and benefiting from the firm's operations (Jones et al., 2018). For example, customers' contributions refer to the payments they make for the products or services they receive. Kaczmarek and Nyuur (2016), suggest that companies should surpass their basic legal obligations to fulfill societal and stakeholder expectations. Adopting such an approach is crucial for maintaining a competitive edge. Hence, the stakeholder theory proposes a hypothesis assessing a firm's performance when the board prioritizes all stakeholders over just the shareholders (Adedeji et al., 2020).

Apart from stakeholder theory, both agency theory and resource dependency theory also explore the impact of board size on firm performance. Agency theory underscores the division between a firm's ownership and control, giving rise to issues such as conflicts of interest, information imbalances, and moral hazards (Tekin and Polat, 2020). This theory posits that smaller boards might be more adept at enhancing shareholder value, as they can mitigate communication costs, coordination challenges, and free-riding issues associated with agency dilemmas. Conversely, the resource dependency theory indicates a favorable correlation between board size and firm performance. According to Liu et al. (2015), larger boards possess greater resources, enabling them to allocate more effectively to bolster the firm's performance. In essence, this study seeks to identify the ideal board size that maximizes firm performance.

The size of a board is associated with CSR concerns as indicated by Jizi et al. (2014). The stakeholder viewpoint suggests that a larger board not only represents shareholders but also caters to other stakeholders. Consequently, the varied perspectives on such boards might compel managers to engage in CSR initiatives. Additionally, according to the Resource Dependency Theory, firms with larger boards stand to gain. This is because an expanded board comprises more directors, each offering unique resources like specialized expertise and networking opportunities, as mentioned by (Hillman et al., 2011). Specifically, a greater number of directors can enhance a company's external connections and knowledge base, ensuring access to crucial CSR resources, as well as enriching the firm with

diverse CSR-related insights and guidance (Endrikat et al., 2021). While there is some conflicting evidence regarding the link between board size and CSR disclosure, the majority of prior studies indicate a positive correlation (Jizi et al., 2014; Garcia-Sanchez et al., 2017).

1.2.2 Board Independence, Firm Performance and CSR

The board of directors consists of two types of directors: managerial directors (also known as executive directors) and non-executive directors, each serving distinct roles. As a whole, the board is responsible to both the company's shareholders and other stakeholders. Board independence pertains to the degree to which the board members are not connected to the company or its management (Jizi et al., 2014; Garcia-Sanchez et al., 2017). This means that they are free from any conflicts of interest that may arise from being associated with the company. The notion of board independence is widely acknowledged as a crucial element in fostering effective corporate governance and ensuring that companies are operated in the best interests of shareholders.

Stakeholder theory emphasizes the necessity for businesses to attend to the interests of all stakeholders, including shareholders, employees, customers, suppliers, communities, and others (SagarMenghwar et al., 2023). It advocates for firms to extend their focus beyond solely maximizing shareholder's value and instead consider the diverse needs and concerns of various stakeholders. Board independence aligns with this approach by guaranteeing that the board of directors, the company's governing body, remains impartial and unaffected by undue influence (Lipton et al., 2019).

Independent directors can act as fiduciaries for the company as a whole, making decisions that benefit the broader stakeholder community. Independent directors do not engage directly in day-to-day operations, enabling them to impartially assess the company's performance and strategic decisions. (Guluma, 2021). They serve as a safeguard against management, aiding in the avoidance of conflicts of interest and ensuring the company operates with ethical and transparent practices. Stakeholder theory reinforces the importance of accountability to various

stakeholder groups (Civera and Freeman, 2019). Independent directors play a key role in holding management accountable for its actions, making sure protection of interests of all stakeholders.

According to agency theory, managers may prioritize their own interests over those of shareholders, and the presence of independent directors is crucial in ensuring that managerial decisions align with the best interests of shareholders (Lin et al., 2018; Cherian et al., 2020). Furthermore, independent directors are expected to act as representatives of shareholders, bridging the gap between shareholders and management. A board with a substantial number of independent directors increases the likelihood of aligning the interests of managers with those of shareholders. Additionally, independent directors contribute diverse perspectives and expertise to the board, thereby enhancing the quality of decision-making and corporate governance (Godos-Díez et al., 2018). Overall, board independence is seen as an essential mechanism to address agency problems and enhance corporate governance. As per resource dependency theory, board of directors play an important role in managing an organization's external dependencies and resource acquisition (Ozturk, 2021). Independent directors, being uninvolved in the day-to-day operations of the company, can provide an external viewpoint and assist in recognizing and tapping into valuable resources within external networks. (Porter and Nohria, 2018; Bendig et al., 2020). The theory suggests that organizations strive to reduce their dependence on specific external resources to avoid vulnerability. Having a board with a strong presence of independent directors can help reduce reliance on particular individuals, groups, or entities, thus diversifying the sources of critical resources.

The studies indicate that board independence can positively influence a company's performance. Companies with boards that have greater independence are often more inclined towards value-adding actions like mergers, acquisitions, and divestitures (Cho et al., 2021). Additionally, research by Saidat et al. (2019), suggests that firms with more independent boards typically exhibit stronger financial performance. However, it is crucial to acknowledge that the connection between board independence and firm performance is not always straightforward or direct. Other elements, including the composition of the board, the competence of management,

and the competitive environment in which the firm operates, may also significantly influence a company's performance (Baysinger and Butler, 2019). The presence of board independence is generally regarded as a crucial aspect of effective corporate governance, and firms that emphasize independence in their board structures may have a higher likelihood of attaining long-term success.

The independence of the board is a vital corporate governance mechanism to supervise the management team and safeguards the interests of shareholders, particularly minority shareholders (Rodríguez-Ariza et al., 2014). Viewing it through the lens of agency theory, external directors offer superior oversight of managers since they operate independently from the senior management team and the organization itself (Hillman et al., 2011). Given that CSR aligns with a company's longer-term vision (Eccles et al., 2014), and requires time to manifest as tangible firm value (Carroll and Shabana, 2010), external directors might be more inclined to support CSR initiatives. This inclination stems from their tendency to have extended time horizons, enabling them to recognize the long-term benefits of investments in environmental and social initiatives (Villiers et al., 2011). Additionally, as per resource dependency theory, the presence of independent directors is likely to correlate positively with CSR. This is because they are better positioned to offer and access diverse CSR-related knowledge and networks compared to directors with direct ties to the company.

The independence of a board can greatly influence how a company approaches CSR (Mohammadi et al., 2021). An independent board is less likely to be swayed by conflicts of interest and can make more objective decisions regarding CSR initiatives. This can lead to the prioritization of CSR activities that genuinely benefit the company, its stakeholders, and society at large. Independent directors frequently contribute a more extensive viewpoint in the boardroom (Pang et al., 2020). Their pivotal role lies in recognizing and overseeing potential risks linked to CSR initiatives. They may provide a balanced view of the potential risks and benefits, helping the company to adopt CSR strategies that align with its risk tolerance and overall business strategy. Further, they can enhance the transparency and accountability of a company's CSR activities. They can verify the accuracy and integrity of the company's CSR reporting, a critical aspect for

upholding trust among stakeholders such as investors, customers, employees, and the broader public (Wang et al., 2021).

Independent directors can encourage effective engagement with stakeholders in CSR decision-making. By involving a diverse group of voices, companies can better understand the expectations and concerns of various stakeholders, leading to more relevant and impact ful CSR initiatives. Independent directors can influence the allocation of resources to CSR initiatives (Terjesen et al., 2016). They can guide the company to invest in projects that align with its core competencies and have the greatest potential for positive impact, while avoiding initiatives that may be less aligned or less impactful. As societal expectations around CSR evolve, an independent board can help a company adapt its strategies to stay relevant and responsible. They can provide insights into emerging trends and shifting stakeholder demands, leading to the adjustment of CSR efforts over time. It is important to note that while board independence can positively influence CSR, it is not the only factor at play. A company's overall culture, leadership's commitment to CSR, and the engagement of various stakeholders also play crucial roles in shaping CSR strategies and outcomes (Gotsch et al., 2023).

1.2.3 Audit Committee Independence, Firm Performance and CSR

Various definitions exist for an audit committee. For example, Arens et al. (2017) describe it as a select group of board members tasked with aiding auditors in maintaining independence from the management." Consequently, the primary role of the audit committee encompasses recommendations for changes and the selection of the external auditor. This responsibility extends to broader areas, such as overseeing management and the company's internal control mechanisms (Aldamen et al., 2012). Generally, audit committees are comprised of board members who do not hold positions in the company's executive leadership (Arens et al., 2017). Additionally, these committees play a crucial role in enhancing the quality of financial reporting and reducing audit risks (Contessotto and Moroney, 2014). As such, they significantly oversee company management to protect the interests

of shareholders (Kallamu and Saat, 2015). By ensuring the accuracy and reliability of information disseminated to shareholders and other stakeholders, the audit committee helps mitigate information imbalances and potential conflicts of interest (Agyemang-Mintah and Schadewitz, 2018).

The correlation between stakeholder theory and audit committee independence is intricately connected to the principle of taking into account the interests of all stakeholders (Appuhami and Tashakor, 2017). When the audit committee maintains independence, there is a greater likelihood of it acting impartially and diligently when assessing the company's financial reporting, internal controls, and adherence to relevant regulations. This impartiality and diligency contribute to fostering a higher level of trust and confidence among stakeholders in the accuracy and reliability of the company's financial information. Furthermore, an independent audit committee is better equipped to evaluate the potential impact of business decisions on diverse stakeholders (Buallay and Al-Ajmi, 2020). By considering the interests of different stakeholders, the audit committee can provide valuable insights to the board of directors, fostering a more comprehensive approach to decision-making that goes beyond short-term profit maximization. Stakeholder theory and audit committee independence advocate for a broader consideration of stakeholder interests and independent oversight of financial reporting (Ojuwa and Mwangi, 2023). When organizations implement and adhere to these principles, they can build stronger relationships with stakeholders, promote sustainable business practices, and enhance the overall governance and accountability of the company.

According to agency theory, an independent audit committee serves as a mechanism to mitigate the self-interest of agents. To minimize information asymmetry, governance structures like board subcommittees, comprising managers possessing traits like autonomy, expertise, and experience are essential to counteract or reduce the agent's self-centered motivations (Wiseman et al., 2012). According to agency theory, an independent audit committee functions as a 'watchdog' overseeing management actions, thereby, decreasing the probability of opportunistic behavior or the presentation of misleading financial reports. Through offering an unbiased evaluation of the company's financial matters, the audit committee aids

in alleviating agency conflicts. Effective internal controls can help prevent fraudulent activities and ensure compliance with laws and regulations, thereby reducing agency costs and protecting the interests of shareholders.

In essence, agency theory underscores the likelihood of conflicts of interest between shareholders and management, with audit committee independence serving as a mechanism to alleviate these conflicts. Resource dependency theory highlights the need for organizations to manage their dependence on external resource providers, such as financiers and investors. An independent audit committee can help instill confidence in external stakeholders by providing an objective and impartial assessment of the company's financial reporting and internal control systems. This, in turn, can strengthen the organization's relationships with external resource providers, ensuring continued access to critical resources. As per resource dependency, by reducing the risks associated with resource dependence, the audit committee contributes to the organization's long-term sustainability (Buallay et al., 2017). Audit committee independence contributes to this effort by enhancing the credibility of financial reporting, reducing resource dependence risks, and building trust with external stakeholders (Velte, 2019).

Independent members of an audit committee play a crucial role in mitigating agency issues, minimizing information imbalances, and preventing potential collusion by management. Their effective oversight enhances CSR reporting (Fama, 1980; Fama and Jensen, 1983). Although the audit committee primarily concentrates on financial aspects, its independence can indirectly shape the company's stance on CSR. Through its oversight of financial reporting, internal controls, and auditing procedures, the audit committee's independence can impact the organization's approach to managing CSR. The audit committee's oversight of financial matters can indirectly influence the allocation of resources to CSR initiatives.

If the committee promotes efficient resource allocation across the organization, it can lead to more effective and impactful CSR initiatives. An independent audit committee can play effective role in identifying ethical and reputational risks associated with CSR initiatives (Rawi and Muchlish, 2022). By ensuring CSR activities are aligned with the company's ethical standards and values, the committee can help mitigate potential reputational damage. An independent audit

committee can facilitate a culture of continuous improvement in CSR reporting and practices. Through regular reviews and assessments, the committee can guide the company toward refining and advancing its CSR efforts over time (Zaman et al., 2022).

1.2.4 CEO Duality, Firm Performance and CSR

CEO duality occurs when the CEO simultaneously holds the role of Chairperson, leading to an accumulation of executive authority over the board of directors (Surroca and Tribó, 2008). According to Jensen (1986), and other scholars, this centralized power raises concerns. The risk emerges that the individual could devise strategies benefiting their personal interests at the expense of the organization. Such actions might foster opportunistic behaviors and undermine the board's effectiveness, ultimately diminishing the firm's performance.

The relationship between stakeholder theory and CEO duality relates to the governance structure of a company and how it impacts the consideration of various stakeholders' interests in decision-making processes (Mititean, 2022). Stakeholder theory promotes the inclusion of all stakeholders' interests in decision-making processes. In companies where CEO duality exists, a potential issue arises as the CEO, also serving as the board chair, may possess concentrated power and decision-making authority. This concentration of power may result in an increased emphasis on short-term shareholder interests, potentially overlooking the concerns of other stakeholders. This is particularly concerning if the CEO prioritizes their own interests over those of other stakeholders.

As per stakeholder theory, separating the roles of CEO and board chair (independent chair) can provide a better balance of power within the organization (Banerjee et al., 2020). An independent chair can play a crucial role in representing the interests of stakeholders, including shareholders, employees, and customers. Having an independent chair can ensure that the board provides objective oversight of management decisions and acts in the best interest of all stakeholders, promoting a more inclusive approach to decision-making. With the CEO also serving as the board chair, there may be fewer opportunities for robust board discussions

and challenging the CEO's decisions effectively (Krause, 2017). This lack of independence can hinder the objective assessment of the CEO's performance and may not fully address potential conflicts of interest. While CEO duality can lead to a more streamlined decision-making process, it may also raise concerns about stakeholder representation, checks and balances, and transparency. Organizations need to carefully consider their governance structure and ensure mechanisms are in place to incorporate stakeholder interests effectively, regardless of whether CEO duality is present (Tibiletti et al., 2021).

The relationship between agency theory and CEO duality is connected to the concept of corporate governance and how the structure of the organization's leadership can impact the potential agency conflicts between shareholders and top management. As per agency theory, on one hand, having CEO duality can streamline decision-making and provide clear accountability, as the CEO holds both executive and board leadership roles (Sjöstrand and Kanstedt, 2022). As a result, it could mitigate certain agency conflicts, especially if the CEO is genuinely committed to the best interests of shareholders. On the other hand, CEO duality may also present risks and potential agency conflicts. When the CEO also chairs the board, it concentrates significant power in one individual, leading to a lack of checks and balances (Haynes et al., 2019). This situation may create opportunities for the CEO to act in their self-interest, which can be detrimental to shareholders and other stakeholders.

The relationship between resource dependency theory and audit CEO duality is linked to the governance structure of a company and how it can influence the organization's management of external resource dependencies. When the CEO holds both the executive and board leadership roles, it can provide more efficient decision-making and coordination in managing these external dependencies (Singh et al., 2018). On the other hand, while CEO duality may enhance decision-making efficiency, it also concentrates significant power in one individual. Resource dependency theory emphasizes the importance of checks and balances in managing external resource dependencies. Separating the roles of CEO and board chair (independent chair) can provide a better balance of power and increase the board's independence in overseeing resource allocation decisions. Organizations should

carefully consider their governance structure to ensure effective management of external resource dependencies and alignment with the interests of various stakeholders for enhancement in financial performance (Madhani, 2017).

The interplay between CEO duality and CSR is nuanced, presenting both positive and negative implications. When the CEO concurrently holds the role of Chairman of the Board, there is a potential for streamlined decision-making processes. This could potentially enable quicker implementation of CSR initiatives without extensive deliberation. A single leader in both positions might facilitate stronger alignment of corporate strategy and CSR goals (Ahmad et al., 2017). The CEO would have direct influence over both aspects, potentially leading to more integrated and effective CSR efforts. On the other hand, one of the main concerns with CEO duality is the lack of independent oversight (Lew et al., 2018). If the same individual holds both positions, there might be insufficient checks and balances on their decisions, which could lead to a lack of accountability in CSR efforts. Further, CEOs often have the primary responsibility of maximizing shareholder value, which might sometimes conflict with CSR goals that focus on broader societal and environmental considerations. In cases of CEO duality, these conflicting priorities might not be effectively managed.CSR initiatives often require specialized expertise in areas like sustainability, social impact, and ethical practices. CEOs might not always possess this expertise, and without independent oversight from a separate Chairman, there might be a lack of informed decision-making in CSR-related matters (Endrikat et al., 2021).

1.2.5 Gender Diversity, Firm Performance and CSR

Gender diversity refers to the representation of both men and women across various levels and roles within an organization. Achieving gender diversity involves ensuring equal opportunities, eliminating gender-based biases, and promoting a work environment where everyone, regardless of gender, can contribute to their fullest potential (Coe et al., 2019). Gender diversity is a critical aspect of promoting fairness, inclusivity, and improved decision-making within organizations. In the literature, this concept is discussed under different theories including stakehloder.

Stakeholder theory promotes decision-making that is inclusive and takes into account the perspectives and interests of all stakeholders. The inclusion of gender diversity on boards introduces a range of viewpoints and experiences to the decision-making process. Women can provide distinct insights and considerations that contribute to well-rounded and informed decisions, ultimately benefiting all stakeholders. Increased female representation on boards can strengthen the board's capacity to represent the interests of a diverse range of stakeholders, including female employees, customers, and shareholders(Azmat and Rentschler, 2017). Boards with a balanced representation of gender are more likely to consider the needs and concerns of all stakeholders when making strategic decisions. As per stakeholder theory, gender-diverse boards may lead to better governance practices by reducing the risk of groupthink and fostering more open and constructive discussions (Kaczmarek and Nyuur, 2016). Increased diversity can result in greater oversight, accountability, and risk management, ultimately benefiting stakeholders.

In summary, the relationship between stakeholder theory and gender diversity underscores the importance of considering the interests of all stakeholders and promoting diverse perspectives in decision-making processes. Female representation on boards can lead to more inclusive and informed decision-making, improved corporate governance, enhanced talent attraction, and a positive reputation for the organization's social responsibility efforts. Embracing gender diversity on boards aligns with the principles of stakeholder theory and contributes to long-term sustainability and success for the organization and its stakeholders.

The relationship between agency theory and gender diversity is centered on how gender diversity in corporate leadership can influence the potential agency conflicts within organizations. As per agency theory, gender diversity in corporate leadership, including boards of directors, may contribute to mitigating certain agency conflicts (Ullah et al., 2020). The Studies indicate that increased gender diversity in boardrooms contributes to more vigorous discussions and enhances the quality of decision-making, reducing the risk of agency conflicts where personal interests of management override shareholder interests (Saad and Belkacem, 2022). Female representation on boards can enhance accountability within an organization.

Effective corporate governance is underscored by agency theory. The inclusion of diverse perspectives, including those brought by female board members, can result in stronger oversight, risk management, and strategic decision-making (Johnson, 2017).

Resource dependency theory highlights the importance of effectively managing external resource dependencies to reduce risks and ensure the organization's sustainability. Female representation on boards can contribute to this effort by providing a more diverse set of perspectives in resource management decisions. Women in leadership roles may bring unique insights and considerations that can enhance the organization's ability to effectively manage its external resource dependencies (Shi et al., 2018)(Shi et al. 2018). Gender diversity on boards can positively impact the organization's reputation and image, making it more appealing to external resource providers. A diverse board signals a commitment to inclusivity and openness, which can enhance the organization's ability to negotiate and collaborate with external stakeholders.

Agency theory suggests that female leadership styles may enhance the transparency of CSR issues, making female directors potentially effective proponents of CSR initiatives. Distinctly, female leaders are often perceived as more empathetic, compassionate, and cooperative compared to their male counterparts, suggesting a propensity for collaboration (Kim et al., 2013). Viewed through the stakeholder approach, having women directors on boards can signal a company's dedication to CSR, reflecting a stakeholder-centric orientation toward society (Ibrahim and Hanefah, 2016).

Additionally, this viewpoint posits that women on boards might bolster CSR disclosures. Their broader perspective could better align with stakeholders' interests, leading firms towards greater environmental and social responsibility, as well as fostering a more democratic corporate environment (Hillman et al., 2002; de Celis et al., 2015). Organizations that prioritize gender diversity and demonstrate their commitment through CSR initiatives can enhance their reputation and credibility. The impact of gender diversity on CSR can vary depending on the specific industry, organizational culture, and the level of commitment to diversity and inclusion. Organizations that genuinely value gender diversity and integrate it into

their CSR strategies are more likely to experience positive outcomes for both their business and society at large (Grosser and Moon, 2019).

1.3 Ownership Structure, Firm Performance and CSR

The correlation between ownership structure and corporate performance is a pivotal element of corporate governance, extensively explored in the realms of finance and management studies (Ciftci et al., 2019). The ownership structure of a firm refers to how the ownership and control of the company are distributed among various stakeholders, such as shareholders, management, and other entities (Aluchna and Kaminski, 2017). In this study, three facets of ownership structure are analyzed to investigate their relationship with firm performance i.e. family shareholding, institutional shareholding and foreign shareholding. The ownership structure of a company can influence CSR initiatives and practices. The ownership structure influences how decisions are made within the company and the priorities that are set. The relationship of each component of ownership structure with CSR is also discussed in this section:

1.3.1 Family Shareholding, Firm Performance and CSR

Family shareholding indicates ownership of a company's shares by a family or a group of related individuals. Family-owned firms often exhibit a long-term perspective on business operations and strategy (Kenyon-Rouvinez, 2017). This long-term orientation can lead to stability, continuity, and sustainable growth. The success of the business holds a significant interest for family owners, leading to a high level of commitment and dedication to its operations and performance (Powell and Eddleston, 2017). Family members who are actively involved in the business typically share a strong alignment of interests with the company's success. Their personal wealth is often tied to the company's performance. Family-owned firms can benefit from faster decision-making processes due to reduced bureaucracy and a more direct line of communication between owners and management (Kano and

Verbeke, 2018). Many family businesses are built on a foundation of strong values and ethics, which can contribute to a positive corporate culture and reputation.

On the other hand, family-owned businesses might struggle with professionalizing their operations, especially when family members are appointed to key positions based on nepotism rather than qualifications (Aras and Crowther, 2008). In-family disputes and disagreements can negatively impact decision-making, leading to suboptimal choices and delays in implementing strategic decisions. Planning and executing smooth transitions of leadership from one generation to the next can be challenging, and poorly managed successions can disrupt business operations and strategy. Family-owned firms might face challenges in raising external capital, as some investors might be concerned about lack of transparency or potential conflicts of interest (Li, 2018). Family-owned firms can be more risk-averse due to the desire to protect family wealth and reputation, potentially limiting their willingness to pursue innovative strategies. Family members might be hesitant to diversify the business into new areas, leading to a narrower range of business activities (Hennart et al., 2019).

Family ownership can have a significant impact on CSR practices within a company. Family-owned businesses often differ from publicly-owned or non-family businesses in terms of their priorities, decision-making processes, and long-term orientation (Debicki et al., 2017). Family-owned businesses often have a longer-term perspective on their operations due to their focus on generational continuity. This can lead to a greater willingness to invest in CSR initiatives that might not yield immediate financial benefits but can contribute to the company's reputation and sustainability over time. Such businesses tend to be deeply rooted in the values and culture of the founding family. If the family places a high emphasis on social and environmental responsibility, this is likely to be reflected in the company's CSR activities (Lamb et al., 2017). These values can be carried across generations, reinforcing the commitment to CSR.

Family-owned businesses often have a more streamlined decision-making process compared to larger, publicly-owned corporations (Eseryel, 2019). This agility can make it easier for them to implement CSR initiatives and make changes to their practices in response to societal and environmental concerns. Family businesses

often have strong ties to their local communities and stakeholders (Memili et al., 2018). This can cultivate a feeling of accountability and responsibility towards these groups, resulting in a stronger dedication to CSR initiatives that positively impact these communities. While family-owned businesses might have a genuine desire to engage in CSR, they might face resource limitations compared to larger corporations (Hennart et al., 2019). Balancing the financial commitments required for CSR with the need for profitability and growth can be a challenge. Family-owned businesses may face unique challenges in terms of transparency and reporting in their CSR activities (Alsaadi, 2022). Keeping a balance between sharing information with stakeholders and maintaining the privacy that some families value can be tricky. Family-owned enterprises frequently place emphasis on the enduring prosperity of the company by engaging in succession planning. The commitment to CSR can be integrated into these plans to ensure that the next generation of leadership continues to uphold responsible practices.

1.3.2 Institutional Shareholding, Firm Performance and CSR

Institutional shareholding pertains to the ownership of a company's stock by institutional investors, including mutual funds, pension funds, insurance companies, and other substantial financial entities (Klettner, 2021). These institutions typically invest on behalf of their clients or beneficiaries. Institutional investors can hold significant stakes in a company, often influencing its decision-making processes and overall governance.

The correlation between institutional shareholding and firm performance is intricate and can fluctuate depending on various factors like governance, long term focus, influence on management, monitoring and management, agency issues etc. (Ozdemir, 2020).

In corporate governance, institutional investors frequently contribute by actively participating in shareholder meetings, exercising their voting rights, and interacting with company management (Melis and Nijhof, 2018). Their engagement can contribute to ensure that companies are directed in the shareholders' best interest,

potentially enhancing firm performance. They often have longer investment horizons compared to individual investors, who might be more focused on short-term gains (Ghaly et al., 2020).

This long-term perspective can influence companies to prioritize sustainable growth strategies that enhance firm performance over time. Institutional investors can use their significant ownership stakes to influence management decisions. This can include advocating for changes in executive compensation, operational strategies, capital allocation, and more, all of which can impact a company's performance. Institutional investors typically have access to extensive research and analysis resources (Palepu et al., 2020). The evaluations and perspectives they provide can enhance the precision of comprehending a company's strengths, weaknesses, opportunities, and threats.

Conversely, agency issues may arise where institutional investors prioritize short-term gains over long-term value creation, particularly when their performance is linked to short-term measures (Sewchurran et al., 2019). If a significant portion of a company's shares is held by a small group of institutional investors, the company could be susceptible to coordinated actions that might detrimentally affect firm performance if their interests diverge from long-term value creation.

The relationship between institutional shareholding and firm performance is intricate, and the impact can vary based on the unique circumstances of each company, industry, and market conditions (Tsouknidis, 2019). Ultimately, the impact of institutional shareholding on firm performance hinges on how effectively these investors exercise their ownership rights, engage with company management, and align their interests with the long-term goals of the company and its shareholders (Gupta et al., 2020; Wei and Chengshu, 2024).

Institutional investors often have significant influence and voting power in the companies they invest in (Bebchuk et al., 2017). This influence can be used to encourage companies to adopt more responsible business practices, including those related to CSR. Institutional investors may engage in dialogue with company management, propose shareholder resolutions, or vote on important matters, thereby influencing corporate behavior towards more sustainable practices (Melis and Nijhof, 2018) Further, Institutional investors often prioritize transparency and

disclosure in their investments. They may push companies to provide more comprehensive and accurate information about their CSR activities, environmental impacts, and social practices. This pressure for transparency can lead companies to improve their reporting and accountability in CSR matters.

Institutional investors, particularly pension funds and certain types of mutual funds, often have a longer investment horizon (Duijm and Bisschop, 2018). This long-term perspective can align well with CSR initiatives, which often involve investing in sustainable practices that may yield benefits over time. Institutional investors may encourage companies to take into account long term effect of their actions on both financial performance and societal well-being (Matos, 2020).

Such investors are concerned about minimizing risks that could impact their investments. Companies with poor CSR practices may face legal, regulatory, reputational, and operational risks that can affect their financial performance. Institutional investors may advocate for better CSR practices to mitigate these risks (García-Meca and Pucheta-Martínez, 2018). Some institutional investors have specific mandates to invest in companies with strong ESG performance. Companies with robust CSR practices can attract investments from these funds, leading to a positive cycle where improved CSR practices lead to increased institutional ownership and capital inflow (Ho et al., 2022).

Research findings on the correlation between CSR and firm performance have been inconclusive, with some studies indicating varying outcomes (Cho et al., 2019; Barauskaite and Streimikiene, 2021). Nevertheless, certain investors maintain the belief that effectively implemented CSR endeavors can enhance a company's enduring success and value generation (Islam et al., 2021).

Institutional investors seeking sustainable growth may support companies that demonstrate a commitment to CSR. It is crucial to highlight that the influence of institutional ownership on CSR may fluctuate based on factors such as the investor's specific policies, the industry of the company, prevailing market conditions, and the company's dedication to responsible practices (Arena et al., 2018). While institutional ownership can certainly influence a company's CSR activities, it is just one of many factors that shape a company's approach to social and environmental responsibility.

1.3.3 Foreign Shareholding, Firm Performance and CSR

Foreign shareholding refers to the ownership of a company's stock by investors and institutions based in other countries (Arena et al., 2018). This type of ownership can have various effects on firm performance, similar to institutional shareholding through different means. Foreign investors can provide additional sources of capital for a company, which can be particularly beneficial for companies in need of funds for expansion, research and development, and other growth initiatives (Sabirov et al., 2021). This increased access to capital can positively impact firm performance by supporting strategic investments. It can lead to increased diversification of a company's shareholder base. This diversification can contribute to greater stability in the company's stock price and potentially reduce the impact of domestic economic fluctuations on the company's performance. Foreign investors often bring in new technology, expertise, and industry knowledge from their home countries (Liang, 2017). This can help enhance a company's operations, product development, and overall competitiveness, leading to improved performance.

Foreign investors may advocate for international corporate governance standards and best practices, which can improve transparency, accountability, and overall management quality (Areneke et al., 2022). These improvements can positively impact firm performance by reducing the risk of mismanagement and improving decision-making processes. It may provide valuable insights and networks that help a company access new markets and customers abroad (Luo and Bu, 2018).

This can lead to increased revenue streams and growth opportunities, positively affecting performance. Companies with foreign shareholding might benefit from exposure to a wider range of economic conditions, regulatory environments, and geopolitical risks (Xie et al., 2017). This diversification of risks can contribute to better risk management and more sustainable performance.

On the other hand, foreign shareholding can also introduce currency risk if the company's performance is influenced by fluctuations in exchange rates (Jiang et al., 2021). Currency risk management strategies become important in such cases. Depending on the country, there might be regulations or restrictions on foreign ownership in certain industries or sectors (Abate et al., 2020). Companies need to

navigate these regulations and ensure compliance, which could affect their operational and performance strategies. Further, high levels of foreign ownership might lead to concerns about loss of control over company's operations and strategic decisions. Balancing foreign investors' interests with domestic stakeholders can be a challenge (Puig and Shaffer, 2018). It may have less familiarity with the domestic market and regulatory environment, which could lead to information asymmetry between them and local investors. This can impact their decisions and assessments of firm performance.

Presently, CSR is recognized as a vital tool to mitigate such information gaps (Oh et al., 2011). Consequently, foreign owners often push for enhanced information transparency and reduced asymmetry, encouraging firms to engage more in CSR activities. Drawing from the stakeholder theory, CSR disclosures in publicly listed firms aim to convey information to international shareholders (Pratamaa et al., 2020). Lee et al. (2019), suggest that through CSR initiatives, companies can address diverse stakeholder needs, effectively signaling credibility to foreign investors and thereby fostering increased investments and support for host entities. Foreign shareholding can have several effects on a company's CSR initiatives and practices. These effects are influenced by factors such as the motivations of foreign investors, the regulatory environment, cultural differences, and the company's own commitment to CSR.

Foreign investors may bring with them expectations based on global CSR standards prevalent in their home countries or regions (Husted et al., 2016). This could influence the company to adopt or enhance CSR practices that align with these international standards. They might have greater exposure to ESG (Environmental, Social, and Governance) factors and may closely scrutinize a company's CSR performance.

This increased scrutiny can lead to pressure on the company to improve its CSR practices to meet the expectations of foreign shareholders. Different countries have different cultural norms and values, which can lead to diverse perspectives on CSR priorities (Jamali and Carroll, 2017). Foreign investors might emphasize certain aspects of CSR, such as environmental conservation or labor rights, more than domestic shareholders, prompting the company to address a broader range of

concerns. Further, foreign investors might introduce new technologies, processes, or best practices related to CSR that they've encountered in other markets (Nor and Masron, 2018). This transfer of knowledge can contribute to the enhancement of the company's CSR initiatives. Companies with strong CSR practices might attract foreign investors who have specific ESG-focused investment mandates (Lee et al., 2019).

Foreign investors often consider ESG risks as part of their investment decision-making process. Companies with poor CSR practices might be perceived as higher-risk investments due to potential legal, regulatory, reputational, and operational risks (Meng and Zhang, 2022). Foreign investors could advocate for better CSR practices to mitigate these risks. Foreign investors may push for greater transparency in the company's CSR reporting and disclosure.

This can lead to improved communication with stakeholders about the company's environmental, social, and governance performance. Companies with substantial foreign ownership may find themselves under increased pressure to meet or exceed local or international CSR regulations and standards (Chiou and Shu, 2019).

This can lead to lobbying efforts for more stringent regulations or industry guidelines. In cases where foreign investors come from countries with different social and environmental challenges, the company might need to adapt its CSR initiatives to address the specific needs and context of the regions where it operates.

1.4 Theoretical Background of the Study

This section reviews the theoretical foundations of the link between corporate governance mechanisms and corporate performance. Theories are crucial in academic research as they provide a framework for understanding the underlying principles and expected outcomes. They assist in organizing thoughts, generating meaningful explanations for relationships, predicting and setting expectations for groups, individuals, and situations, and ultimately achieving a deeper understanding of the subject matter. Theories utilized to predict the relationship between corporate governance; CSR and firm performance are explored in detail below.

1.4.1 Agency Theory

Friedman (1962) introduces shareholder theory which asserts that a company's principal obligation is to increase shareholder value. Managers are recommended to pursue projects with positive net present value (NPV) to strengthen the firm's value and enhance investors' wealth. Proponents of this theory argue that by prioritizing shareholder value, all stakeholders' interests are ultimately served (Sundaram and Inkpen, 2004). They postulate that shareholders are the residual claimants after making all the payments that are due to stakeholders i.e. wages and salaries, supplier's payments, payments to creditors, interest payments, and the government taxes. Moreover, being the residual claimants, when all the business risks are absorbed by the shareholders, it becomes logical to contemplate all the efforts towards the value creation of these investors.

Corporate governance is closely related to two important theories: shareholder theory and agency theory. Shareholder theory posits that a firm's basic goal is to increase shareholder value by maximizing profits, increasing the share price, and paying dividends (LoPucki, 2022). According to this perspective, a firm's managers are entrusted with the fiduciary responsibility to prioritize shareholders' interests and make choices that amplify shareholder value.

Conversely, agency theory focuses on the dynamics between a company's shareholders (owners) and its managerial team (Macho-Stadler and Pérez-Castrillo, 2021). This theory indicates potential conflicts of interest between these parties, as managers might favor their personal agendas over shareholders' concerns. To address such conflicts, agency theory suggests strategies like executive compensation structures, performance-linked incentives, and board supervision to synchronize the goals of managers with those of shareholders.

While shareholder theory and agency theory share the goal of protecting the interests of shareholders, they differ in their focus. Shareholder theory emphasizes maximizing shareholder value, whereas, agency theory aligns the interests of managers and shareholders. Although, this model has gained a wide acceptance due to its superior benefits, some researchers has criticized its value. Empirical research proves that managers become more risk averse when their incentives are connected

with the performance of the corporation. In comparison to that, studies also reveal that some executives take more risky projects and larger high risk bets when they are offered incentive schemes such as stock options (Sanders and Hambrick, 2007).

1.4.2 Resource Dependency Theory

Salancik and Pfeffer (1978), describe the theoretical aspect of the resource dependency model. They state that when an individual is appointed to a board, the organization expects them to support the organization, address its issues, present it positively to others, and provide assistance.

Boards can provide four primary benefits, including legitimacy, a channel for communication and information transfer between the corporate firm and external organizations, preferential access to commitments or support from crucial external elements, and advice and guidance. Initially, this perspective broadly explains the resources available to board members.

Resource dependency theory emphasizes the role of stakeholders in an organization's success. Effective corporate governance involves engaging with stakeholders, understanding their needs and expectations, and managing relationships to ensure alignment with the organization's objectives.

It suggests that dependencies can create vulnerabilities for organizations. Effective corporate governance involves identifying and managing risks associated with dependencies, including regulatory, financial, and reputational risks.

Further, theory emphasizes the importance of strategic decision-making in managing dependencies and securing necessary resources. Effective corporate governance involves strategic planning and decision-making processes that consider the organization's external environment and dependencies.

The theory provides valuable insights into the challenges and opportunities organizations face in managing external dependencies and relationships. By understanding and applying the principles of Resource Dependence Theory, organizations can enhance their governance practices and create value for their stakeholders.

1.4.3 Stakeholder Theory

Stakeholder's theory advocates all the stakeholders that are directly or indirectly affected by the decisions of the firm. Opposing the shareholder's model which says that the managers should focus only on the maximization of shareholders wealth, the stakeholder theory places the shareholders amongst the other stakeholders and suggests taking care of all stakeholders while making the decisions (Donaldson and Preston, 1995). All the internal and external stakeholders who are the claimants of firm's resources are included in this group, such as employees, suppliers, environment, customers and society as a whole (Ruf et al., 2001). Under the setup, managers are expected to inspire and build the relations with their stakeholders and develop the societies where everyone tries to do their best to deliver the value.

Shareholders theory is criticized on the grounds that it only focuses the improvement of shareholders wealth and largely ignores the other stakeholders who play imperative part in the organizational success. Proponents of stakeholder view point suggest that the interests of all the contributors including employees, suppliers, government and the society should be protected during the decision making process of the corporation's (Freeman et al., 2004; DesJardins and McCall, 2014). Executives are advised to build good relationships with the stakeholders failing whom the firm may face some repercussions in shape of lost value creations. Research shows that firms having pension liabilities on their balance sheet may cause to divest the shareholders of any value created, as these liabilities must be paid before any payments to the shareholders who are residual claimants. The discussion holds that the companies that take care of all the stakeholders will be financially rewarded in better ways (Laplume et al., 2008).

1.5 Interrelation Between CG, CSR and Firm Performance

With the intention to analyze relationship among CG, CSR and financial performance of the firms, this study intends to follow stakeholder theory (Freeman, 1994). As per stakeholder theory, objective of the firm is not only to shield the

concerns of the shareholders rather interests of other stakeholders should also be observed for value creation. Previous studies narrate that performance of the firms is judged by long term environmental, social and economic objectives and value addition rather by short term goals (Hardjono and van Marrewijk, 2001). As per stakeholder theory, apart from shareholders there are groups which are influenced by the firm's activities and they should be considered while taking managerial decisions (Freeman et al., 2010). These groups include employees, suppliers, consumers, local community and environment. Thus, having good relationship with stakeholders enhances long term performance of the firm (Brown and Forster, 2013).

Nowadays, firms understand the value of paying attention to CSR activities and reporting such actions knowing that running and potential investors and other stakeholders have keen interest in different aspects of the business (Kim et al., 2013). Grant (2015), shows that most of business firms are performing the CSR activities in shape of charities, in shape of providing free products and services or money and a half of such firms consider reporting such activities as best practices for sustainability and financial performance because customers demand environmental friendly activities and socially sustainable actions, indicating that CSR is an integral part of the business.

As per institutional theory, CSR is as important as other fields of economic governance distinguished by different models consisting of market, institutional directives and ahead of that, (Brammer et al., 2012). It means CSR is one of the institutions which is influenced by corporate governance of the firms and economy (Brammer et al., 2012). CSR has governance implications and is an example of multinational "new governance" regimes that have been flourishing as base of business regulations (Blair et al., 2011). It helps firms to institutionalize environmental and social standards into business practices. CSR policies and practices represent priorities of the manager and shareholders which determine how the firms are governed (Ferré-Pavia and Tambra, 2018).

The disclosure of information works as a vital tool to manage the asymmetry of information between the stakeholders and management of organizations (Wu et al., 2022). Bolourian et al. (2021), suggest adopting CSR activities because

it enhances the reputation of the firm and ultimately improves the firm performance. The theory of stakeholders (Freeman, 1984), supports the role of CSR as a mediating feature between firm financial performance and the corporate governance. The majority of prior research has concentrated solely on developed countries, with only a limited number of studies examining the connection between corporate governance (CG), corporate social responsibility (CSR), and financial performance in firms operating in emerging economies such as BRICS (Brazil, Russia, India, China, and South Africa) (Jhawar and Gupta, 2017). The preceding text has acknowledged the scarcity of information regarding the correlation between corporate governance, CSR initiatives, and firm performance in BRICS nations. Given the shifts in the global economy, there is now increased significance in studying the interplay of corporate governance, CSR, and financial performance specifically in the BRICS countries.

This study examines the intermediary function of CSR in linking CG with firm performance within the BRICS countries. Given their significant influence in the global economy, the BRICS nations hold pivotal importance. Collectively, BRICS nations represent a substantial portion of the world's population and GDP. Their diverse markets and increasing influence in international economic and political arenas make them crucial players in shaping global economic policies and trends. Studying these nations offers valuable insights into emerging market dynamics and the shifting balance of global power. China and India, in particular, are among the fastest-growing major economies, driving global economic growth. BRICS countries are major players in international trade. China is the world's largest exporter, while Brazil and Russia are key exporters of commodities like oil, gas, and agricultural products (Chatterjee and Saraf, 2024). These countries also attract significant foreign direct investment (FDI) and are increasingly investing abroad.

BRICS nations possess vast natural resources. Russia and Brazil are rich in energy and minerals, while South Africa has substantial mineral wealth (Streltsov et al., 2021). These resources are crucial for the global supply chain and energy security. BRICS countries are increasingly influential in global finance. The establishment of the New Development Bank (NDB), also known as the BRICS Bank, aims to mobilize resources for infrastructure and sustainable development projects in

BRICS and other emerging economies. Each BRICS country plays a crucial role in their respective regions, contributing to regional stability and economic integration. For instance, South Africa is a leading economy in Africa, while Brazil is pivotal in South America.

In summary, the BRICS countries are crucial to the global economy due to their economic size, growth potential, resource wealth, and increasing influence in global trade, finance, and geopolitics. Their collective actions and policies can significantly impact global economic stability and development. Due to significant impact of BRICS countries on global economy , this study selects BRICS countries as sample group for analyzing effect of different components of CG on firm performance and identifying role of CSR as a mediator on the relationship between CG and firm performance. The study delves into the impact of diverse CG factors like board size, board independence, audit committee independence, gender diversity, CEO duality and aspects of ownership structure, encompassing family, foreign, and institutional shareholdings, on the performance of firms in the BRICS context. Rani and Kumar (2022), postulate that understanding the economic policies, corporate governance mechanism, and CSR practices is essential for businesses, policymakers, and investors seeking opportunities in these markets. Effective corporate governance policies are critical for ensuring that firms are regulated in a way that increases shareholder value, minimizes risks, and maintains the trust of investors and stakeholders. Further, the effectiveness of CSR programs may take time to manifest in financial results, as the benefits often accrue gradually over the long term. Therefore, CSR should be viewed as a strategic investment rather than a quick-fix solution for improving firm performance (Shanyu, 2022).

1.6 Corporate Governance and BRICS

The BRICS alliance, consisting of Brazil, Russia, India, China, and South Africa, represents a formidable economic entity due to its significant growth prospects. While these economies exhibit diverse business reporting methods and distinct corporate governance practices, they are often collectively analyzed across various business and economic dimensions.

In Brazil, formal corporate governance practices began to take shape around 2000, marked by the establishment of three high-governance listings by the Sao Paulo Stock Exchange (BM & FB ovespa): Novo Mercado, Level I, and Level II (Black et al., 2014). Around 2002, prompted by the Federal Commission on Securities Market, the Russian Government introduced 'The Code of Corporate Governance' (Yakovlev, 2004). In India, corporate governance took a structured direction following the release of the Kumar Mangalam Birla Committee report in 1996. Meanwhile, in the 1990s, China transitioned towards its current corporate governance framework with the establishment of the Shanghai and Shenzhen Stock Exchanges and the introduction of the China Securities Regulatory Commission (CSRC) to oversee its burgeoning stock market (Kang and Ratti, 2015). South Africa's comprehensive guideline on corporate governance, particularly within firms, is encapsulated in the King Report on Corporate Governance from 1994 (Rossouw et al., 2002).

This research investigates the impact of corporate governance on financial performance and delves into the mediating role of corporate social responsibility among 495 firms situated in the emerging economies of BRICS countries—Brazil, Russia, India, China, and South Africa—spanning the period from 2011 to 2021. Given the significant role of BRICS nations in the global economy, the study assesses how various corporate governance factors, including board size, board independence, audit committee independence, gender diversity, CEO duality, and ownership structure elements such as family, institutional, and foreign shareholdings, influence firm performance in BRICS countries.

1.7 Problem Statement

The future global economic development is connected with economic progress of the BRICS countries, as these countries represent 42 % of the population of world, 23 % of total world's GDP and 17 % of the global trade. However, due to rapid economic development, these countries are facing both environmental and natural resources stress problems. Although, studies are found in the literature which reveal impact of CG and CSR on firms' financial performance (Arena et al., 2018),

few studies explore such relationship in the emerging economies (Ekatah et al., 2011; Stjepcevic and Siksnelyte, 2017), and hardly any study uses CSR as mediator on the relationship between CG and FP in BRICS countries.

Nevertheless, this is the only study which uses broader set of corporate governance components including board structure consisting of board size, board independence, independence of audit committee independence, CEO duality and gender diversity and ownership structure comprising of family shareholding, foreign shareholding and institutional shareholding for analyzing their impact on financial performance of the firms in BRICS countries.

Moreover, examining the interconnection between corporate governance, corporate social responsibility, and firm performance contributes methodologically to a widely accepted framework for a more comprehensive understanding of the link between CG, CSR, and Firm Performance. This research incorporates both accounting and market measures of performance within the context of emerging economies, such as the BRICS countries(Singh et al., 2016).

1.8 Contribution of the Study

While there are studies focusing on corporate governance disclosure in BRICS countries (Oliveira et al., 2016), the influence of corporate governance on the financial performance of companies within the BRICS nations has been largely neglected in academic literature. Contini et al. (2020), analyze impact of CSR on consumer's loyalty in BRICS countries and Arrive and Feng (2018), investigate CSR practices for the said countries.

However, there is a scarcity of studies assessing the impact of broader components of corporate governance on firm performance in BRICS countries. Additionally, the examination of the mediating role of CSR in the relationship between CG and firm performance in BRICS countries remains an overlooked area in the literature. This study aims to fill this gap by analyzing the influence of various corporate governance components, including board structure and ownership structure, on firm performance in BRICS countries, while also exploring the mediating role of CSR in

the financial performance of the firms. Effective corporate governance practices often promote transparency, accountability, and ethical behavior within a company. These governance practices may lead the company to prioritize CSR initiatives and ethical conduct, as they align with the principles of good governance.

CSR practices can have a positive impact on various aspects of firm performance. For example, companies that engage in CSR activities may enhance their reputation, attract socially responsible investors, reduce operational risks, and improve relationships with stakeholders (Khuong et al., 2021).

All of these factors can contribute to better financial and non-financial performance. CSR practices may act as a mediator or intermediary factor between CG and firm performance. In this mediation process, the relationship between CG and firm performance is partially explained by the influence of CG on CSR practices. In other words, CG influences CSR practices, which, in turn, impact firm performance (Gangi et al., 2021). Through the mediation of CSR, the positive effects of effective corporate governance can be translated into enhanced firm performance. This can include improved financial results, increased shareholder value, better stakeholder relations, and long-term sustainability. Ultimately, this mediation concept highlights the importance of integrating corporate governance and CSR as complementary components of responsible and sustainable business practices. Companies that effectively link these two aspects are more likely to enjoy the benefits of improved firm performance while contributing positively to society and the environment. Further, with respect to relationship between accounting profit and market measures, there are researchers who of the view that there is no relationship between said two measures (Combs et al., 2005; Lama et al., 2012). Nevertheless, as per signaling theory there is a positive association between accounting measures of profitability and market measures because better accounting profits results into increase in market value (Vishnani and Shah, 2008; Baker and Anderson, 2010). Due to contrasting arguments, this study analyzes relationship between said two measures with relation to impact of CG and CSR on firm performance. Building on the identified research gaps, this study makes the following contributions to the literature: Firstly, it examines the impact of a broader set of corporate governance components on the financial performance

of firms in BRICS countries. Secondly, it evaluates the mediating role of CSR in the relationship between corporate governance and firm performance in BRICS countries.

Thirdly, the study analyzes the relationship between market and accounting measures of financial performance for firms operating in BRICS countries.

1.9 Research Questions

Above research gap gives rise to following research questions:

1. Does board size have impact on firm performance in BRICS countries?
2. Does board independence have impact on firm performance in BRICS countries?
3. Does audit committee independence have impact on firm performance in BRICS countries?
4. Does CEO duality have impact on firm performance in BRICS countries?
5. Does gender diversity have impact on firm performance in BRICS countries?
6. Does family shareholding have impact on firm performance in BRICS countries?
7. Does institutional shareholding have impact on firm performance in BRICS countries?
8. Does foreign shareholding have impact on firm performance in BRICS countries?
9. Does CSR have impact on firm performance in BRICS countries?
10. Does CSR mediate the relationship between board size and firm performance?
11. Does CSR mediate the relationship between board independence and firm performance?

12. Does CSR mediate the relationship between audit committee independence and firm performance?

13. Does CSR mediate the relationship between CEO duality and firm performance?

14. Does CSR mediate the relationship between gender diversity and firm performance?

15. Does CSR mediate the relationship between family shareholding and firm performance?

16. Does CSR mediate the relationship between institutional shareholding and firm performance?

17. Does CSR mediate the relationship between foreign shareholding and firm performance?

1.10 Objectives of the Study

The objectives of this study ot analyze the impact of Board Structure and Ownership Structure on firm performance along with the mediating role on the relationship between corporte governance and firm financial perfromance are listed as under:

1. To examine impact of board structure on firm performance in BRICS countries?

2. To investigate impact of ownership structure on firm performance in BRICS countries?

3. To examine impact of CSR on firm performance

4. To investigate the mediating role of CSR on the relationship between board structure and firm performance

5. To examine the mediating role of CSR on the relationship between ownership strcuture and firm performance

1.11 Scheme of Study

This study is structured as follows: The subsequent section examines previous research on the correlation between two principal aspects of corporate governance—namely, board structure and ownership structure—and firm performance in the literature. It also explores the connection between CSR and firm performance in both developed and developing countries. Additionally, the mediating role of CSR in the relationship between corporate governance and firm performance will be addressed. Following that, the study will elucidate the research methodology, data sample, data source, data collection methods, and the research model to be employed in the study.

Chapter 2

Literature Review

Corporate governance (CG) is defined as a systematic approach through which corporations are directed and controlled (Cadbury, 1992). Shareholders elect board of director and delegate the powers to board making them responsible to implement the governance. The board of directors and auditors make sure that the company is being run in accordance with the rules and regulations prescribed in the memorandum and articles of association and the rules designed and implemented by the board. Auditors are also accountable for making financial statements reliable presented by the management.

Empirical research suggests that the board bears the responsibility for implementing corporate governance. The strategies formulated and executed by the board significantly influence the performance of the firm. Therefore, it becomes imperative to discuss and comprehend the characteristics of board and its relationship with firm performance. Recently, researchers emphasize the topic, particularly with the emergence of agency theory highlighting the distinction between ownership and control. CG is identified as a key mechanism to mitigate agency costs. According to agency theory (Jensen and Meckling, 1979; Fama and Jensen, 1983), the principal (or shareholder) aims to enhance the firm's value and performance and thus entrusts authority to the agent (or manager).

Rahayu and Handayani (2019) find that stakeholders are predominantly concerned with the relationship between (CG) and a firm's financial performance. This relationship has continued to be a focal point in recent literature. Naciti (2019),

highlights the beneficial influence of board interconnections on firm performance, particularly for companies with constrained resources. Terjesen et al. (2016) employ ROA and Tobin's Q to assess the impact of the effectiveness of female board members, revealing a positive correlation between gender diversity and firm performance. Meanwhile, Brown and Caylor (2009) utilize seven corporate governance metrics to inspect the individual impact of each component on firm performance. Empirical studies generally conclude that board characteristics and its composition affect the financial performance of the firm (Bhatt and Bhatt, 2017; Ciftci et al., 2019; Wang, 2020; Sanan et al., 2021).

Cornett et al. (2008) discuss various aspects of corporate governance mechanism that include stocks owned by the board members and executive officers, ownership of institutions in the firm, CEO tenure, age and pay scales, CEO pay-for-performance sensitivity, and board characteristics. They further investigate that by having large investments in the firm, institutional owners may have the power to influence the managers, resources and abilities to monitor the firm operations. Stock ownership by the directors encourage them to behave in the large interest of the firm which will improve the firm value but at the same time it may cause some inverse effect when the directors use the powers to increase their own perks and benefits by selling the stocks and options.

This study intends to use two important components of corporate governance, including board structure and ownership.

2.1 Board Structure

Corporate Governance pertains to the protocols and methods through which enterprises are guided and overseen by their Chief Executive Officers, directors on the board, and higher level leadership. The corporate board serves as a pivotal entity within an organization, fulfilling multifaceted functions that contribute to effective corporate governance and strategic management. It carries out two essential roles within firms: appointing and supervising the executive management team, including the CEO and secondly, overseeing the company operations, ensuring their alignment with long term objectives and adherence to ethical standards.

Furthermore, the boards functions as a link connecting shareholders and management representing and guarding the interest of shareholders (Huse et al., 2008). Most of the literature on board structure is built on agency theory, resource dependency theory and stakeholder theory (Abdullah and Valentine, 2009; Madhani, 2017; Marashdeh et al., 2021; Stoelhorst and Vishwanathan, 2022). These theories surround three distinct areas and functions of the board, i.e. supervisory function, provision of resources to the management for business operations and protecting interests of all stakeholders including shareholders.

Agency theory underpins the board's oversight role, emphasizing the inherent conflict of interest between the principal and agent due to the separation of ownership and control within the organization. (Jensen and Meckling, 1976). Agency theory perceives the board of directors as a crucial component of the control framework, strategically positioned to navigate challenges arising from the principal-agent relationship. (Fama and Jensen, 1983). Majority of the literature and theoretical framework on corporate board structure is grounded on agency theory (Shleifer and Vishny, 1997).

Beyond the agency theory, and in alignment with the resource dependency theory, which is the other important function of the board is to help organizations advance their performance by plummeting the reliance on the external environment and exposure to uncertainties (Salancik and Pfeffer, 1978). According to this perspective, the board serves as a vital conduit, connecting the organization with the external resources required to optimize performance (Salancik and Pfeffer, 1978).

Stakeholder theory posits that a company should take into account the perspectives of all its stakeholders, extending beyond just shareholders, in it's process to decide the company matters. The directors on the board, serving as a pivotal governance mechanism, holds significant responsibility for upholding and monitoring the principles of stakeholder theory. Board structure, particularly its composition and diversity, can influence how effectively stakeholder interests are represented. A diverse board, including individuals with different perspectives and experiences, is more likely to consider a broader range of stakeholder concerns (Francoeur et al., 2019). According to these theories, an effective board builds an effectual corporate governance system that enhances the confidence of investors

and talent in the company which ultimately improves the firm performance. In this context, earlier research has evidenced the influence of specific board features on firm performance, including factors such as board size (Pucheta-Martínez and Gallego-Álvarez, 2020), board independence (Kao et al., 2019), audit committee independence (Alodat et al., 2023), CEO duality (Yu, 2023), and gender diversity Brahma et al. (2021) that are discussed in detail in the next sections.

2.1.1 Board Size and Firm Performance

In this study, the initial board attribute examined is the board's size and its influence on firm performance. Board size refers to the count of directors authorized to oversee the company, and it has a direct bearing on the firm's performance. When the directors on the board are decision makers, it is obvious that the decision-making process may be affected by its characteristics (Oba and Fodio, 2013). The size of a board can vary depending on a firm's compliance with board regulations, including the inclusion of external directors. A company that proactively adheres to board regulations may exhibit a different board size in contrast to a company that adopts a more passive approach (Min, 2018).

The corporate board stands as a crucial element of the governance framework, tasked with guiding and overseeing the company's activities while mitigating agency costs (Khan et al., 2021; Hoitash and Mkrtchyan, 2022). The literature establishes the fact that boards are effective only when the directors are bestowed with a high level of knowledge (Mkrtchyan, 2013; Alabdullah et al., 2018). Board of director holds a central position in the realm of corporate governance (Terjesen et al., 2015) and wield significant authority or exert influence on the pivotal choices that shape listed companies. Consequently, they assume vital responsibilities in the domains of strategic decision-making and the selection of risk-taking approaches (Su et al., 2019).

The concept of a larger board finds support in both shareholder theory and resource dependence theory. Shareholder theory suggests that a larger board enhances the board's effectiveness and advancement, given the broader range of perspectives to address and manage various situation (Jensen and Meckling, 1976).

Therefore, with provisions of shareholder theory, larger boards are more efficient and vigilant in making decisions and improving the firm performance.Coles et al. (2008) examine the relationship between a larger board and firm financial performance, revealing a direct association between the two using Tobin's Q across a dataset encompassing 8,165 firm years. They state that large board enables to gather more ideas that help to enhance the firm performance. Singh et al. (2018) report a direct relationship between said variables for the companies listed on PSX (Pakistan).

Zahra and Pearce (1989) are of the view that every member of the board possesses different personal skills, abilities, variety of opinions, experience and linkages with other organizations and external environment. Therefore, larger board can help increase efficiency, betterment in performance, improved corporate governance tactics, and availability of critical resources. Buniamin et al. (2008) show that higher level of efficiency, better knowledge and rich expertise are achieved through the larger boards.

Badu and Appiah (2017) investigate the influence of the size of company board size on firm performance, analyzing a hundred thirty seven corporations from Ghana and Nigeria. The conclusion of study indicate a statistically significant and positive association between the size of the board, and financial performance. The findings suggest that, within the specific context of Ghana and Nigeria, adopting a flexible approach to corporate board size in accordance with firm size contributes to an augmentation of firm performance. The findings offer empirical validation to the principles of agency theory, which posits that an optimally scaled corporate board effectively assumes roles of guidance, monitoring, and management oversight, ultimately leading to an enhancement in firm performance.

Alabdullah et al. (2018) explore the interplay between size of board, firm size, and firm profitability in Jordan, an emerging economy. They utilize a quantitative approach, employing metrics such as Return on Assets (ROA) and Return on Equity (ROE) to evaluate financial performance. Their results indicate that the size of a company's board significantly influences the financial performance of industrial firms in Jordan. Specifically, the research underscores a positive correlation between board size and Return on Assets, although it notes that board size

does not have a significant effect on ROE. Coles et al. (2008) identify a beneficial relationship for board size and firm performance, as quantified by Tobin's Q, especially among larger corporations. Their research suggests that an expanded board can positively influence a company's overall performance. Similarly, Singh et al. (2018) present empirical findings that uphold a positive correlation between board size and firm value for firms operating in Pakistan, listed on the Karachi Stock Exchange. Expanding on this perspective, Lehn et al. (2009) argue that the ideal board size should be tailored to a company's specific attributes, such as its size and growth potential, rather than adhering to a one-size-fits-all approach. As a result, boards are advised to maintain a size that facilitates effective decision-making and reduces operational costs, ensuring a diverse range of perspectives aligned with the specific needs of the business (Pucheta-Martínez and Gallego-Álvarez, 2019).

Wang (2012) study the firm size and its relevance to the risky policies and their impact on firm performance. The study find that larger boards feel less pressure while making risky decisions as compared to the board with a smaller number of directors as they force the CEO to take more risky decisions which harms the profitability and performance of the firm. (Kogan and Wallach, 1964) examine the board size on the basis of group-decision making theory and conclude that decisions by the groups become more connected as the number of participants increase in the group which leads to safer, more inclined, middle-grounded and moderate decisions. Brown and Caylor (2006) state that it becomes more difficult to reach a consensus on important matters when there are more members sitting at corporate board, as everyone has multiple interests.

Yermack (1996) shows that firms need to have larger boards to reduce the resource dependency and contractual conflicts but every increase in the number of directors increases the cost to the firm. Moreover, in addition to the increased costs, the opportunistic behaviour and motives of members to become free rider makes the conditions more complex in terms of decision making. Fich and Slezak (2008) also indicate that companies with smaller boards are more inclined to undertake essential adaptations when they encounter financial distress, thereby increasing their chances of avoiding bankruptcy. Ozkan (2007) study the effect of board size on remuneration packages for board directors and suggest having smaller boards

because it's easier to get communicated and interacted well with lower number of members which helps to reach timely decisions and to have better firm performance. Fischer and Pollock (2004) support the effectiveness of smaller boards in supervising CEOs. This effectiveness emerges from their ability to address coordination challenges and counteract problems associated with free-rider behavior. This approach can lead to more efficient and focused CEO oversight, ultimately benefiting the organization. Empirical research (Cheng, 2008; Guest, 2009) lends support to the notion that smaller boards contribute to enhanced firm performance. These studies indicate that a larger board size is correlated with poorer firm performance and an elevated prevalence of earnings management.

Certain country-specific research offers divergent findings, indicating a negative correlation between board size and financial performance. Investigations into the impact of board size in England, India, and Ireland consistently reveal an adverse relationship between corporate governance and firm performance (O'connell and Cramer, 2010). Yermack (1996) find an inverse relation of larger board with the shareholders' value and also negative association with asset utilization, profitability and Cheng (2008) also determines that firm performance exhibits a negative correlation with the board's size, suggesting that as the number of board members increases, performance of the firm tends to decrease..

A comprehensive study regarding the optimal size of board by Lehn et al. (2009) suggests that the ideal board size is one which is based on the company size and the growth opportunities the company is looking in future. Hence, the optimal board size involves a thorough cost and benefit analysis, ensuring that the board effectively facilitates decision-making processes while concurrently minimizing operational costs (Pucheta-Martínez and Gallego-Álvarez, 2019). Based on the previous investigation, following hypothesis is developed:

H1: There is a positive relationship between board size and firm performance.

2.1.2 Board Independence and Firm Performance

The terms "independent directors," "non-executive directors," and "outside directors" are often used interchangeably. However, it is important to note that not

all non-executive directors necessarily exhibit independence. When exploring the connection between board independence and firm performance, the results exhibit variability: some studies indicate a positive association, others suggest a negative one, and some find no notable correlation with firm performance. These diverse findings shed light on the nuanced relationship between board independence and firm performance across various countries and scenarios. The discrepancies in these studies may stem from model inaccuracies and the omission of pivotal variables, such as managerial behaviors in the marketplace and shifts in institutional factors, which can profoundly influence firm performance (Hussain et al., 2019).

Shareholder theory supports the argument that boards become more efficient in handling, governing and controlling the management when boards have larger number of independent directors (Jensen and Meckling, 1976; Fama and Jensen, 1983). Volonté (2015) propose that increasing the number of directors can mitigate agency conflicts because they work as good monitors and likely to shield the shareholders' interest. Additionally, the observation indicates that independent directors, leveraging their positive strategic decision-making abilities, can generate additional value. This, in turn, promotes a positive influence on firm performance by enhancing strategic decision-making (Gabrielsson, 2007).

Building on prior research that highlights a favorable link between independent directors and firm performance, Dahya et al. (2008) investigate UK-based companies. Their findings reveal that firms with independent outside directors on their board exhibit marked enhancements in financial performance. Similarly, Weir et al. (2002) identify a beneficial impact of independent directors on firm performance in the UK, using the Tobin's Q metric. Studies conducted in diverse countries echo these results, suggesting that vigilant oversight by independent directors facilitates improved decision-making for the attainment of long-term goals. Both Ritchie (2007) and Masulis et al. (2012) employ metrics like Tobin's Q, ROE, and ROA. Their research reveals a clear association between the presence of independent directors and a positive impact on firm performance.

When professionals who have no relationship with the management of firm are placed on the board of directors, it is assumed that they will abstain to influence their personal opinions to affect the corporate decisions (Agarwala et al., 2023).

Many researchers view independent directors as one of the best control mechanisms for companies because they are expected to take better decisions as compared to the mangers and shareholders. They provide newer and more focused view point on the financial issues.

Lehmann and Weigand (2000) use accounting and market measures to provide evidence that every addition to number of independent directors enhances the quality of corporate governance and hence improves the firm performance. Moreover, they suggest that independent directors are more concerned regarding the supervision of management to align their interest to the objectives of the firm measured by value added efficiency of the intellectual and physical resources.

Lin et al. (2009), identify favorable outcomes for firms in China, while O'connell and Cramer (2010) note positive findings for Irish-listed companies, and Kyere and Ausloos (2021) observe encouraging results for UK-based firms. In a contrasting vein, Stanwick and Stanwick (2002) report adverse outcomes for Canadian firms, and Canada, Bhagat and Black (2001) document negative findings for US companies. On the other hand, studies by Dey and Chauhan (2009) focusing on Indian enterprises and by Lehn et al. (2009) examining firms in the US and Japan indicate a lack of a significant correlation.

Bhagat and Black (2001) highlight significant agency-related concerns, including the divergence between ownership and control within a firm, as well as challenges tied to information asymmetry and conflicting interests. Their research underscores a disconnection between shareholders and the firm's management, granting managers considerable discretion in company operations. Such circumstances inherently foster conflicts of interest. To address these challenges, the oversight of managerial actions by independent directors becomes crucial, a sentiment echoed by Leung et al. (2014) and Terjesen et al. (2016).

Anderson and Reeb (2003) and Noor and Fadzil (2013) present findings that underscore a beneficial association between board independence and Total Quality (TQ). Similarly, Tulung and Ramdani (2018) reveal a positive correlation between board independence and Return on Assets (ROA). Additionally, research by Kao et al. (2019) highlights a significant positive relationship between the presence of independent directors on the board and the firm's overall performance.

Hussain et al. (2019) investigate the impact of specific attributes of the board of directors, such as board size, independence, and compensation, on the performance of non-financial firms listed on the UK FTSE 100 index. Their findings emphasize a noteworthy positive link between board compensation and firm performance, particularly in terms of Return on Assets (ROA) and Tobin's Q. Furthermore, the research indicates that larger board sizes positively influence return on assets, and there is a favorable correlation between board independence and Tobin's Q. The study also uncovers a significant negative relationship among control variables, including company size, industry, and Return on Assets.

Liu et al. (2015) offer insights into the connection between board independence and firm performance in the context of China. The study reveals that independent directors consistently enhance the operational performance of Chinese firms. Even after rigorous testing, including evaluations for endogeneity using instrumental variables, the difference-in-differences approach, and the dynamic generalized method of moment estimator, the results remain robust. Moreover, their study underscores that the substantial positive correlation between board independence and firm performance is especially noteworthy in government-controlled entities and firms characterized by lower information acquisition costs.

In addition to the observed positive correlation between board independence and firm performance, some studies identify a negative link between these variables. Bhagat and Black (2001) highlight this negative perspective, indicating that an excessive focus on board independence might actually hinder a firm's ability to maximize its value. Similarly, the findings of Coles et al. (2008) posit that while Research and Development levels are generally considered contributors to enhanced firm performance, there exists a negative correlation between R&D and board independence. Moreover, research conducted by Weir et al. (2002) as well as El-Faitouri (2014) identify a negligible link between board independence and firm performance.

Rashid (2018) delves into the influence of board independence on the financial performance of publicly traded companies in Bangladesh. This analysis encompasses data from 135 listed entities on the Dhaka Stock Exchange, utilizing both accounting and market-based performance indicators. The results indicate that

there is no apparent correlation between board independence and the financial performance of the company.

Conversely, numerous empirical studies corroborate a lack of significant correlation between board independence and firm performance. Hooy and Chwee-Ming (2010) investigate 21 selected government-affiliated Malaysian companies to ascertain the link between independent directors and firm performance, determining that the inclusion of independent board members does not influence firm performance. Meanwhile, Anderson et al. (2004) assert that the cost of debt exhibits a negative association with the quantity of external directors.

Brown and Caylor (2006) do not find effect of board independence on firm performance using Tobin's Q, but predicts a positive relationship using profit margin, return on assets, stock repurchase and dividend yield. They also suggest that CEO should not be the part of the board to get the better and improved results. Rosenstein and Wyatt (1990) study the impact of announcement of independent directors on the stock price reaction and declare a positive effect of the proportion of outside directors on the shareholder's value.

Based on the above discussion and drawn on the theory of resource dependence and agency theory, this study postulates that board independence can enhance the internal control of the firm, improves the quality of information disclosure and helps to find more efficient ways to improve the shareholders protection.

Accordingly, this study postulates that board independence has positive effect on firm performance, proposing the following hypothesis:

H2: There is a positive relationship between board independence and firm performance.

2.1.3 Audit Committee Independence and Firm Performance

Arens et al. (2017) defines the audit committee as "a selected group of board members within a company tasked with the responsibility of aiding auditors in maintaining independence from management". The audit committee, as outlined

by OJK (2014), is an integral part of the board with the responsibility of overseeing financial reporting. It serves as an internal controller, effectively reducing agency conflicts between management, shareholders, and stakeholders. Kallamu and Saat (2015) state that Audit Committee is a powerful sub-team that is liable to guarantee the safety of investor interest regarding the financial drift and control. The ultimate role of an Audit Committee is to oversee the firm's reporting process, controlling the accounting processes, evaluating the financial reporting, supervising the audit process and above to all its risk management strategies (Klein, 2002). Furthermore, to become more reliable and getting better financial performance, it is important to have an independent Audit Committee (Aldamen et al., 2012).

The efficacy of the audit committee depends on its members' autonomy, ensuring they remain uninfluenced and unpressured by senior management (Lin et al., 2008; Kallamu and Saat, 2015). Therefore, autonomy of the committee enhances its effectiveness, lessens agency issues, and diminishes the likelihood of any insider impoundment (Yeh et al., 2011). Previous research by (Bouaziz and Triki, 2012; Anderson et al., 2004) suggest that larger audit committees tend to contribute to better company performance. Furthermore, an independent audit committee's presence is linked with a reduced probability of fraud within the company, as indicated by (Arens et al., 2017).

Additional study by Bouaziz and Triki (2012) reinforce the notion that independent audit committees can enhance company performance. The agency theory, as articulated by Jensen and Meckling in 1976, is a framework that provides predictions and explanations regarding the behavior of agents and principals within organizational structures. The concept primarily tackles the issues arising from divergent interests emerging between managers (agents) and shareholders or owners (principals) due to the prevalent division of ownership and control in contemporary corporations. To address challenges like agency costs and information asymmetry, companies frequently implement control mechanisms, including the formation of an audit committee (Kalbers and Fogarty, 1998). (Pincus et al., 1989) argue that such committees play an essential role, particularly in scenarios marked by elevated agency costs. They help improve the transparency and quality of communication from managers (agents) to shareholders or owners (principals).

In contemporary research, audit committee independence is recognized as a critical characteristic, and it is often deemed mandatory for ensuring the accuracy of information regarding financial matters (Bedard and Compernolle, 2014). The independence of audit committee members is typically granted by the board of directors, enabling them to effectively perform their supervisory roles. Previous studies indicate that the presence of external members on the audit committee can reduce managerial opportunism, enhance the quality and transparency of company information by reducing the occurrence of false or misleading information (Vlaminck and Sarens, 2015; Sultana et al., 2015), and proceed further to improved company performance (Dinu and Nedelcu, 2015; Kallamu and Saat, 2015). These findings underscore the significance of audit committee independence in ensuring effective governance and transparency.

The audit committees primarily comprise board members distinct from the company's executive management, as noted by (Arens et al., 2017). These committees hold the potential to elevate financial reporting quality and diminish audit risks, as highlighted by (Contessotto and Moroney, 2014). Consequently, they are pivotal in supervising company management to safeguard owners' interests, as emphasized by (Kallamu and Saat, 2015). Oussii et al. (2019) identify crucial characteristics for an effective audit committee, emphasizing the importance of skilled members possessing authority and independence. They also stress the need for transparent financial reporting, facilitating stakeholders in making informed business decisions. Internationally, many studies explore the attributes, functions, and structures of audit committees. These studies commonly probe into various committee traits, such as their size, independence, industry expertise, and meeting frequency. Consequently, there's a prevailing expectation for audit committees to prioritize shareholder value optimization and act as a check against executives pursuing personal gains, as posited by Bansal and Sharma (2016).

In recent years, there has been an increased recognition of the crucial role played by audit committees, serving as a pivotal instrument in corporate governance aimed at strengthening oversight of the management board (Hamdan et al., 2013). A proficient audit committee is committed to improving the company's efficiency and competitiveness, especially in a swiftly evolving business environment beyond

the company's direct control, as evidenced by (Herdjiono and Sari, 2017). The assertion suggests that informed audit committees play a fundamental role in elevating the company's performance. Thus, the existence of robust attributes in an audit committee correlates with enhanced company outcomes, as highlighted by (Zabri et al., 2016).

The empirical studies examining the link between autonomous audit committee and quality of the firm offer varied results. Chan and Li (2008) identify a beneficial effect of audit committee independence on firm performance, using Tobin's Q as a metric. Within the firms in financial sector of the Stock Exchange of Amman, Hamdan et al. (2013) indicate a notable positive influence of audit committee independence on companies' financial outcomes, as gauged by ROE and EPS. Tornyeva and Wereko (2012) highlight a positive association between audit committee autonomy and financial performance in insurance firms based in Ghana. Additionally, both Kallamu and Saat (2015) and Nazalia and Triyanto (2018) report a significant and positive relationship between the presence of an independent audit committee and a measure of corporate performance, particularly profitability.

Aldamen et al. (2012) underscore the significance of the audit committee in enhancing the caliber of financial reporting, risk evaluation, and oversight, leading to improved company performance. Similarly, Dakhlallh et al. (2020) highlight the impact of the audit committee's size, autonomy, and financial acumen on company outcomes. These findings align with a theory suggesting that a larger audit committee can enhance its efficiency, and agency theory supports the idea that independent audit committees with financial expertise can enhance company performance. According to Bronson et al. (2009) an independent audit committee plays a crucial role in providing reliable company information to the public. Independence within the audit committee can reduce instances of fraudulent financial reporting, leading to improved firm performance, as suggested by Bansal and Sharma (2016). The length of time that audit committee members serve in their roles can also impact their independence, as noted by Aldamen et al. (2012). Furthermore, (Alqatan et al., 2019) have found a direct association between audit committee independence and firm performance.

Puwanenthiren (2020) examine the relationship between audit committee (AC) characteristics and firm outcomes within the Sri Lankan framework. The study analyzed a dataset of hundred corporations listed on the Colombo exchange (CSE) from 2014 to 2018. The findings suggest that specific attributes of the audit committee, such as its size, independence, and financial expertise, are notably associated with the performance of the firms. Similarly, Oussii et al. (2019) find that non-fraudulent companies tend to have a higher percentage of independent members as compared to companies involved in fraudulent activities. This finding aligns with the belief that an independent audit committee can adeptly scrutinize financial reporting and supervise the activities of management, ultimately contributing to the enhancement of firm performance. In contrast to above Leung et al. (2014) suggest that there is an inverse relationship between the audit committee independence and firm performance. Hamdan et al. (2013) measure the firm performance by taking ROA as performance measure and find no effect of independent audit committee on the operational performance of the firm for the firms listed on Jordanian exchange.

Concluding the empirical discussion on independent audit committee based on the stakeholder theory, agency theory and resource dependence theory, it suggests that making audit committee more autonomous will result in a reduction in agency problem. Thus, our hypothesis developed on the basis of discussion above is:

H3: There is a positive relationship between the independence of the audit committee and firm performance.

2.1.4 CEO Duality and Firm Performance

The Chief Executive Officer (CEO) and the board chairman hold crucial positions that shape the governance mechanisms and future direction of the company (Doan, 2020). While the CEO oversees the daily routine operations and management, the chairman directs and leads the board. CEO duality occurs when a single individual assumes both the roles of CEO and board chair, as highlighted by (Eckles et al., 2011). According to agency theory, consolidating the roles of CEO and chairman may lead to weakened corporate governance, subsequently impacting

the company's performance negatively, as proposed by (Jensen, 1986). Goyal and Park (2002) second the views of agency theory and explore that separation of the functions of CEO and the Chairperson is preferable to develop an efficient controlling system and to limit the use of perks and benefits for the personal use of CEO (Hashim and Devi, 2010). Fosberg and Nelson (1999) find that to eliminate the agency cost and to improve the performance of the firm it is better to build a clear line between the controlling authorities and the management of a company.

It is important to note that the results regarding CEO duality have varied in prior research, with some studies reporting positive relationships (Kota and Tomar, 2010) for Indian companies; (Elsayed, 2007) in Egypt; negative relationships (Endrikat et al., 2021) for Nigeria; (Judge et al., 2003) for Russia; and no relationships (Baliga et al., 1996) for the United States; and (Lin et al., 2009) for China. These mixed findings underscore the complexity and context-specific nature of CEO duality's impact on firm performance. The Studies by authors like Christensen et al. (2010) and Dahya and McConnell (2007) suggest that CEO duality has a detrimental impact on company profitability.

This is because it hampers the board of directors' ability to autonomously oversee and control management. Dakhlallh et al. (2019) study the firms listed on Jordan Stock Exchange and find that CEO duality has inverse relationship with statuary ownership, managerial ownership and firm performance, but at the same time it is positively correlated to the family ownership. Isik (2017) explore the effect of CEO duality for financial firms in Turkey using the data for bank financial performance. The study reports a significant positive relationship of CEO duality to the firm performance. Kota and Tomar (2010) declare a positive relationship for Indian companies and for companies in Egypt.

The Studies in the U.S.A. reveal inverse relationship between CEO duality and firm performance using longitudinal data. It is established that CEO with dominant powers and having no clear boundaries between the role of CEO and the chairperson can pursue his own interests which causes negative effect on firm performance (Yasser and Mamun, 2016). Empirical research on CEO duality in different countries like New Zealand (Prevost et al., 2002), Canada (Bozec, 2005)

and USA (Jermias and Gani, 2014) conclude that CEO duality negatively influences firm performance. Pham and Pham (2020) examine the consequences of CEO duality on company objectives using the theory of life-cycle framework, analyzing 442 publicly listed companies in Vietnam from 2012 to 2018. Their findings suggest that during the growth phase, CEO duality has a favorable influence on firm performance.

This result is in accordance with the principles of stewardship theory, which posit that CEO duality can be advantageous for firm performance during periods of expansion due to the unity of command it provides. Contrarily, in the mature stage of a firm's life cycle, CEO duality is noted to have an adverse impact on performance. This observation follows agency theory, which suggests that CEO duality can be detrimental to firm performance during the maturing stage as it compromises the effectiveness of monitoring and controlling the CEO's behavior.

While the literature commonly suggests a negative correlation between audit committee independence and firm performance, certain studies present a contrary positive relationship between these variables. Isik (2017) explore the relationship between CEO duality and the financial outcomes of banks in Turkey over the period 2007 to 2013. The findings from this research highlight a notably positive impact of CEO duality on bank financial performance assessed using the net income to average total assets ratio.

Conversely, certain studies suggest that CEO duality does not notably influence firm performance. For instance, Korir and Tenai (2020) investigate the relationship between CEO duality and the performance of firms listed on the Nairobi Securities Exchange from 2002 to 2017.

The primary results of their research indicate that CEO duality has an insignificant effect on firm performance. Put simply, when an individual simultaneously holds the positions of CEO and board chair, it seems to have no discernible effect on the overall performance of companies listed on the Nairobi Securities Exchange. In light of the findings from prior research studies, the following hypothesis is formulated:

H4: There is a negative relationship between CEO duality and firm performance.

2.1.5 Gender Diversity and Firm Performance

As per Agency theory, presence of females on the board contributes to increased board independence, a reduction in agency costs, and enhanced value for shareholders (Hillman and Dalziel, 2003). Adams and Ferreira (2009) discover that female directors excel in overseeing board matters and serve as effective mechanisms of supervision. (Solimene et al., 2017) conduct a study on the qualification and experience of the female directors and find that in the recent era, female directors are highly skilled and have achieved high qualifications such as Masters and Post graduate degrees.

Within the context of literature on board diversity, resource dependency theory suggests that the inclusion of women on corporate boards can enable access to a more extensive range of human capital (Chijoke-Mgbame et al., 2020a). This, in turn, brings supplementary skills and perceptions to the board's oversight and decision-making processes, with positive implications for firm performance. This viewpoint is supported by scholars such as Hillman et al. (2002) and Dezsö and Ross (2012), who also suggest that gender diversity may stimulate innovative thinking within the boardroom. When board directors possess diverse knowledge, experience, and skills, it can lead to the emergence of a variety of perspectives, as noted by (Campbell and Mínguez-Vera, 2008; Griffin et al., 2021).

Carter et al. (2003) employ Tobin's Q and find that, for United States-based companies, and declare a direct association for gender diversity and firm value. This suggests that diversity exerts a favorable influence on overall firm performance. Moreover, a study conducted by Erhardt et al. (2003) centered on US companies, unveils a positive effect of board diversity on firm performance. Furthermore, Konrad et al. (2008) observe that there is more impact of gender diversity, when multiple women are present in the board meetings. In such cases, a sense of collective strength among women can amplify their influence in decision-making processes, indicating not only a stronger voice but also a heightened sense of value.

Brammer et al. (2007) and Isidro and Sobral (2015) argue that having gender diversity on a company's board not only enhances the company's legitimacy but also sends a positive message about its image and reputation, both of which hold

significant importance for its long-term success. Consequently, gender diversity contributes to the company's external credibility and fosters a deeper understanding of the market by aligning the diversity of the board with that of potential customers and employees. This alignment is believed to lead to an increase in the company's share in market (Chijoke-Mgbame et al., 2020a). More specifically, proponents argue that women have a propensity to convey unique leadership traits and skills to the boardroom. These qualities include attributes like a caring attitude, high standards of ethical judgment, a tendency towards risk aversion, a cooperative mindset, and a preference for less radical decision-making. It is believed that these traits can contribute to improved financial performance for the firm. This viewpoint is supported by research conducted by (Adams and Ferreira, 2009; Croson and Gneezy, 2009; Liu et al., 2014).

According to Seierstad (2016) the significance of female directors on boards can be attributed to two factors: the business model and social justice. The first reason posits that the inclusion of women on boards brings forth fresh skills, ultimately enhancing firm performance. Conversely, the second reason underscores the importance of introducing diversity to boards to ensure representation of all team members. The first rationale is more appropriate as it asserts that the presence of women directors can introduce diverse perspectives in decision-making processes, proving highly advantageous for business, as argued by Hoobler et al. (2018). Adams and Ferreira (2009) suggest that women directors show significantly higher attendance rates at corporate board meetings. Additionally, Liu et al. (2014) put forward the idea that female directors are more thoroughly prepared for board meetings, resulting in enhanced quality of discussions and, consequently, improved firm performance. Likewise, research conducted by (Almarayeh, 2023) and Bernardi et al. (2009) advances the notion that the inclusion of women on corporate boards cultivates an environment where diverse perspectives on corporate strategies are put forward. This, in turn, facilitates the critical analysis of complex problems and promotes the adoption of innovative solutions, ultimately contributing to enhanced firm performance.

Francoeur et al. (2019) analyze that female on board and external shareholders generate alternative perspectives on diverse strategic issues that help to disband

biases related issues regarding the strategy formulation and problem solving. Research indicates that female members uphold a higher level of ethics and principles and play a more active and influential role compared to their male counterparts on the board. Moreover, Women are more vigilant to raise questions (Bilimoria and Wheeler, 2000) bear high moral character and ethics (Uyar et al., 2020) possess participative leadership style, team work tactics and have useful discussion with the key stakeholders.

Conyon and He (2017) show positive impact of gender diversity on accounting return, while Adams and Ferreira (2009) report a negative impact of gender diversity. Some studies also report a nonlinear (Owen et al., 2023), or non significant (Pletzer et al., 2015) relationship between the two. Based on previous research and theatrical arguments, this study proposes the following hypothesis:

H5: There is a positive relationship between gender diversity and firm performance.

2.2 Ownership Structure

Second major aspect of corporate governance is ownership which may be divided into further three components including family shareholdings, foreign shareholdings and institutional shareholdings.

Corporate governance remains a matter of discussion for last many decades, trying to describe the relationship between structure of ownership and the financial performance in the view of corporate governance theories.

The research suggest that the matter of ownership concentration is worst in the developing countries as compared to the developed countries where the firms have made it difficult for small groups or individuals to control the firm, by diluting the ownership to minority shareholders (Donaldson and Preston, 1995).

This settlement allows shareholders to elect the best professionals on the board and skillful managers bestowed with the decision-making powers, to work in the highest interest of firm as an agent. Such a scenario is seen as the separation of ownership and control (Berle and Means, 1991). The literature review in respect of three components of ownership structure is presented in this section.

2.2.1 Family Shareholding and Firm performance

Family-managed publicly traded companies boast a lengthy history and a substantial global presence. These corporations play a fundamental function in driving fiscal growth by creating service opportunities, generating assets, and contributing to industrial transformation (Dharmadasa, 2014). The importance of family firms has been underscored by (Claessens and Yurtoglu, 2013) in their investigation of CG matters and their effect on firm performance. Family enterprises represent a prevalent ownership structure in developed as well as emerging markets.

Research by Porta et al. (1999) indicates that approximately 30 percent of companies globally are under family control. In the United States, one-third of firms are family-owned (Anderson and Reeb, 2003; Villalonga and Amit, 2006), while in Europe, family owned firms make up over 40 percent of publicly managed corporations (Faccio and Lang, 2002). Interestingly, in East Asian economies, family firms represent up to two-third of all businesses (Claessens et al., 2000).

The widespread existence of family-owned enterprises globally has sparked in-depth studies regarding the impact of family ownership of publicly traded companies. Scholars such as Anderson and Reeb (2003), Danoshana and Ravivathani (2019), and Villalonga and Amit (2006) have delved into this research area, aiming to elucidate the correlation between family ownership and corporate performance.

Agency theory offers a useful perspective for examining the performance variations between family-owned businesses and those that are not family-owned. As per this theory, executives might not consistently prioritize the company's optimal long-term interests (Jensen and Meckling, 1976). Rather, they might favor choices that cater to their personal inclinations and immediate benefits, possibly overlooking the concerns of shareholders (Kallmuenzer, 2015).

From the perspective of agency theory, it is widely anticipated that family-owned businesses will outperform those that are not family-owned. This expectation arises because when family members are involved in both owning and managing the business, it tends to alleviate divergent interests between management and ownership. Moreover, family enterprises often adopt longer-term investment strategies, potentially resulting in enhanced investment effectiveness. Such firms

are deeply committed to maintaining the value of the business for succeeding generations (Achleitner et al., 2014; Hasso and Duncan, 2013).

Attempts to explore and comprehend the connection between family ownership and participation in businesses and their influence on performance have produced varied results, frequently without a clear trend. Research has shown both positive and negative correlations, as well as neutral links, between family ownership and company performance. The conclusions regarding agency costs within family-run enterprises are also inconsistent. While some studies, such as those by Anderson and Reeb (2003), Villalonga and Amit (2006), and Martin-Reyna and Duran-Encalada (2012), anticipate fewer agency issues and superior performance in family-owned businesses. Conversely, Gomez-Mejia et al. (2001), Morck et al. (2005), and Schulze et al. (2003) have reported findings suggesting that family ownership can exacerbate agency problems and negatively affect firm performance. This variability in outcomes may stem from factors such as family oligarchic control, altruistic nepotism, or a focus on private benefits.

Numerous studies have proposed that family shareholding adds value for shareholders, as demonstrated by research conducted by Anderson and Reeb (2003), Chu (2011), and Martin-Reyna and Duran-Encalada (2012). These inquiries affirm that family involvement positively influences firm performance. Over the past several decades, family-owned firms have been established as robust contributors to economic advancement, playing a crucial role in industrialization, wealth creation, and employment generation (Dharmadasa, 2014). According to Claessens and Yurtoglu (2013), family-owned businesses remain pivotal for the economic progress of both developed and developing economies. They observe that these firms employ more effective corporate governance practices, resulting in a more significant influence on firm performance.

These results prompt researchers to delve into the repercussions of this ownership type and the challenges confronted by firms (Anderson and Reeb, 2003). Numerous scholars investigate this aspect of financial management to discern the precise impact of family ownership. However, no definitive consensus has emerged, with studies presenting mixed results that indicate positive, negative, and insignificant effects of family ownership on firm performance (Kowalewski et al., 2010).

Research conducted by Razzaque et al. (2020) and Muttakin et al. (2014), concerning Bangladeshi manufacturing companies, proposes that the existence of family ownership exerts a positive impact on the overall performance of these firms. Herrera-Echeverri et al. (2016) observe that when families are involved in both ownership and management, it frequently results in more consistent leadership within Colombian family-owned businesses. Similarly, Blanco-Mazagatos et al. (2018) uncover a positive impact of family ownership for Spanish companies, particularly in their second and subsequent generations. Additionally, Anderson and Reeb (2003) point out that family-operated firms within the S&P 500 generally demonstrate heightened performance levels.

Srivastava and Bhatia (2022) examines the impact of family ownership and governance on the performance of businesses in a developing market. Using a panel dataset that includes non-financial firms listed on the National Stock Exchange (NSE) of India from 2011 to 2017, the research uncovers a non-linear relationship between family ownership and company performance. The results indicate a growing impact on firm performance, but only up to a certain threshold. Beyond this point, an increase in family ownership tends to have a negative effect on the firm's overall performance. Moreover, the research affirms that the active participation of family members in governance is linked with enhanced company performance. In summary, the study suggests that companies experience positive outcomes when family members are actively involved in governance activities.

Expanding on the previous discussion, Anderson and Reeb (2003) argue that agency theory does not consistently support a straightforward correlation between family-owned businesses and firm performance. While family ownership may, at times, result in minimal agency costs, it can also pose challenges, particularly when there is a significant concentration of ownership, potentially leading to family opportunism. Both Anderson and Reeb (2003) and Kowalewski et al. (2010) underscore the positive impact of family ownership on firm performance up to a certain threshold. However, once this threshold in ownership concentration is exceeded, the favorable effects on firm performance may be reversed.

Koji et al. (2020) investigate the firms in the Japanese manufacturing industry to discern the connection between CG and financial performance. The data utilized

in the study is sourced from Bloomberg and spans the period from 2014 to 2018, encompassing over 1,400 non-family firms and more than 500 firms with family shares. Initial findings, based on a univariate analysis, suggest that family firms demonstrate superior performance in metrics such as ROA and Tobin's Q compared to their non-family counterparts. However, after conducting a multivariate analysis, it becomes evident that family firms exhibit enhanced performance specifically in terms of Tobin's Q, when juxtaposed with firms lacking family ownership. Nevertheless, it is noteworthy that family ownership appears to have a negative impact on firm performance when the financial impact is measured using ROA.

However, contradictory evidence questions the idea that family firms consistently surpass firms without family ownership. Researchers such as Filatotchev et al. (2005) and Miller et al. (2013) present findings that question the presumed performance advantage of family firms. Filatotchev et al. (2005) even suggest an inverse impact of listed family-owned firms on overall firm performance. Srivastava and Bhatia (2022) in reviewing the findings of various researchers, assert that no empirical consensus has been reached to explain the contradictory results regarding family ownership and firm performance. They highlight that family members' involvement in governance introduces variability in performance outcomes. Factors in defining family-owned firms may contribute to these conflicting results. In light of these considerations, the following hypothesis is proposed:

H6: There is a positive relationship between the family ownership and firm performance.

2.2.2 Institutional Shareholding and Firm Performance

Over the past few decades, there has been a rapid surge in share ownership by institutional investors, largely propelled by financial globalization (Aggarwal et al., 2011). This trend has garnered research interest not just in nations with shareholder-focused or market-driven systems, such as the United States, but also in stakeholder-centric systems like Japan. Institutional investors serve an essential oversight function, especially in countries with widespread ownership patterns, as exemplified by the United States (Hartzell and Starks, 2003).

Institutional shareholders are often classified as block shareholders, equipped with the capability to monitor and supervise the companies they have ownership in. Their oversight efforts are generally effective, driven by their financial interest in protecting their investments in these firms (Pound, 1988). Moreover, institutional shareholders often possess industry-specific knowledge that surpasses that of smaller shareholders, giving them a unique information advantage that allows for cost-effective and effective monitoring. Numerous studies have delved into empirical inquiries regarding the monitoring function of institutional ownership in relation to corporate performance (Gillan and Starks, 2003).

Based on agency theory, increased institutional shareholdings are expected to boost firm value or performance for two primary reasons. Firstly, institutional investors are well-positioned to undertake monitoring responsibilities, which helps reduce agency conflicts and addresses issues arising from information imbalances (Jensen and Meckling, 1976; Myers and Majluf, 1984). In practical terms, they can motivate managers to steer clear of underinvestment, which could otherwise lead to diminished future outcomes. Secondly, institutional shareholders are proactive in dismantling managerial protection mechanisms, such as poison pills, among others (Gine et al., 2017). These mechanisms can create situations where management retains excessive power or control over the company, potentially to the detriment of shareholders. Institutional investors actively work to counteract such arrangements, which can contribute to improved corporate governance and ultimately better firm performance

In addressing the potential concern of family firms prioritizing their personal profits over those of minority owners, institutional ownership is widely acknowledged as an effective solution (Sheikh et al., 2022). (RL et al., 2021), emphasize the positive impact of institutional ownership on the financial performance of family firms in India. Likewise, a study encompassing 134 listed firms in Kuwait, documented by Koji et al. (2020), reveals that institutional investors have a favorable influence on both Return on Assets and Tobin's Q.

Institutional investors have the capability to effectively address many of the agency issues commonly linked with family-owned businesses. Their influence is largely attributed to the significant equity stakes they hold in the company, as highlighted

by Charfeddine and Elmarzougui (2010). Compared to individual shareholders, institutional investors are often seen as having greater sway in voting and selling shares, especially when management decisions conflict with shareholder interests (Arikawa et al., 2017; Lin and Fu, 2017). Furthermore, institutional investors are instrumental in safeguarding the rights of minority shareholders and tackling the agency problem through proactive supervision of the company's leadership. Institutional investors act as monitors of management while executing trades on behalf of individual investors, evaluating the risk profile to optimize returns (Chung and Zhang, 2011). Representing small investors and empowered by their authority, institutional investors can directly contest management decisions and influence their behavior to mitigate agency problems (Gillan and Starks, 2003).

In their analysis of Japanese companies, Mizuno and Shimizu (2015) note that businesses with greater institutional investment typically demonstrate better performance than those with limited or no institutional backing. Similarly, Arikawa et al. (2017) find a notable positive correlation between institutional ownership and Tobin's Q among Japanese firms, though they did not find a comparable link with ROA.

Within the realm of strategy studies, scholars have long explored the relationship between composition of board, firm strategic decisions, and performance outcomes. For instance, David et al. (1998) find that institutional investors influence CEO compensation packages, aligning them more closely with the firm's performance in the long-term. Kim et al. (2019) discovers that the presence of institutional investors drives greater investment in R&D, with an aim to boost long-term profits and overall performance. Kabir et al. (2020) argue that institutional investors positively influence a firm's innovation levels by enhancing the R&D process. Institutional investors possess the capacity to stress strategic concerns and guide management toward more robust and profitable strategies through their significant shareholdings.

Wright et al. (1996) contend that institutional investors promote a firm's risk-taking orientation, prioritizing long-term financial performance. Firms with substantial institutional investor presence tend to outperform those with fewer institutional investors, a phenomenon observed globally (Ferreira and Matos, 2008).

Institutional investors are known to prefer investing in firms with strong CSR ratings, as CSR criteria play a vital role in their investment decisions. Alshammari (2015) find that as a firm's CSR rating improves, more institutions become investors and hold shares in the firm. Moreover, Dyck et al. (2019) establishes that the involvement of institutional investors improves a firm's social performance, particularly in aspects such as employee relations, diversity and inclusion, community engagement, and product quality. Importantly, it should be noted that the effect of institutional investors on a firm's financial performance has generally been found to be positive.

Institutional investors use all their experience to choose the most profitable portfolio applying due diligence and exercise strong hold on the management decisions. Nashier and Gupta (2016) suggest that institutional ownership positively influences firm performance. Lin and Fu (2017) report, using the data of companies listed at Stock Exchange of Shanghai, positive relationship between fraction of institutional ownership and Tobin's Q. Another study held for US restaurant firms using Tobin's Q as a determinant of performance also declare a positive relationship for the said variables in the tourism industry (Tsai and Gu, 2007). Return volatility is inversely correlated to the institutional ownership in the Macao's casino industry (Lin et al., 2018).

Although, the most of the empirical investigations find the positive impact of institutional ownership on firm performance, researchers also document a negative effect or find no effect at all for the mentioned relationship. Bhattacharya and Graham (2007), study the impact of institutional owners that have management powers too, and find a negative effect on firm performance. Conversely, Ahmad et al. (2019) discover a notable negative correlation between institutional investors and ROA for Pakistani firms. Charfeddine and Elmarzougui (2010) uncovered a significant adverse impact of institutional ownership on Tobin's Q for French corporations. However, Artha et al. (2021) observe no considerable impact of institutional ownership on either ROA or ROE for Jordanian firms. In view of the above, following hypothesis is developed:

H7: There is a positive relationship between institutional ownership and firm performance.

2.2.3 Foreign Shareholding and Firm Performance

The significant transformations in ownership structure, particularly the rise in foreign shareholdings, have sparked a pour of research focused on the ownership structure and corporate performance (Kabir et al., 2020). Ahmadjian and Robbins (2005) note that foreign investors have a propensity to enhance the likelihood of divestitures, which usually results in improved firm performance.

Nagaoka (2006) identify that, the firms with elevated levels of foreign shareholdings experience an increase in overall value. Additionally, David et al. (2006) find that foreign shareholders promote increased investment in research and development, particularly for high-growth firms. Furthermore, Do et al. (2020) demonstrates that an uptick in dividend payouts correlates with an increase in the involvement of foreign investors in the company.

Numerous studies have delved into examining the connection between foreign ownership and firm profitability. Some key findings in this regard are presented in this section. For example, Aydin et al. (2007) discover that firms in Turkey with foreign ownership tend to exhibit superior ROA as compared to firms with higher levels of domestic ownership. A study involving Tunisian firms, conducted by Moez et al. (2015) identify that foreign ownership positively influences firm performance. Choi and Park (2019) discover that foreign ownership enhances the long-term growth rate of firms, thereby increasing their value, as measured by Tobin's Q. These findings collectively suggest that foreign ownership can have a beneficial effect on firm profitability across various national contexts. Beatson and Chen (2018) conclude that investments in the firms by foreign institutional investors has positive impact on ROA and Tobin's Q. Huang and Zhu (2015) analyzes 1300 firm in China for the period from 2005 to 2007and identify that minority's interest is protected in a better way by the foreign investors after the recent split-share reforms. For the firms in Korea and Egypt, CSR rating experiences a notable improvement following the inclusion of investment from foreign investors (Soliman et al., 2013). Arouri et al. (2014) report a positive impact of foreign investments of firm performance the GCC background banks. Wang and Chen (2017) postulate a positive impact of foreign investments in social contest for the firms in China. Yoshikawa et al.

(2010), investigate the dynamic interaction between foreign ownership and Return on Equity (ROE) among Japanese manufacturing firms listed on the OTC market. Their findings indicate that foreign investors play a pivotal role in influencing family owners, leading to enhancements in overall firm performance. Rashid (2020) in a meticulous analysis of 527 annual reports from listed companies in Bangladesh spanning the years 2015-2017, concludes that foreign ownership positively impacts both accounting and market-based firm performance. In contrast, some studies reveal negative or weaker impact of foreign investment of firm's financial performance, e.g. Barnea and Rubin (2010), show a weaker and Borghesi et al. (2014), a negative relationship for foreign investment. Dam and Scholtens (2012) study the European markets and report a weaker relationship between these two variables. Koji et al. (2020) find a negative association between foreign shareholdings and earnings quality. In view of above, following hypotheses is developed:

H8: There is a positive relationship between foreign shareholding and firm performance.

2.3 Corporate Social Responsibility and Firm Performance

Corporate social responsibility (CSR) activities are actions taken by a company that go beyond what is legally required to address social issues (Campbell and Mínguez-Vera, 2008). While CSR has been extensively studied, the reasons behind firms engaging in CSR activities remain unclear (Lamb and Butler, 2018). However, demonstrating values through CSR has become increasingly important for firms to connect with stakeholders, both internal (Rupp et al., 2018) and external to the organization (Moon et al., 2010).

Understanding why companies engage in endeavors that go beyond financial gain, as proposed by Friedman (1970), becomes particularly important given the scarcity of empirical evidence definitively establishing a clear connection between Corporate Social Responsibility (CSR) investments and financial performance (Aguinis and Glavas, 2012). Consequently, CSR stands as a widely debated subject in both

the realms of management research and practical application. A substantial body of literature has been dedicated to the discussion of CSR, with researchers exploring this topic over many decades. While a majority of empirical studies assert a positive correlation between CSR and firm performance, some investigations suggest a negative relationship between CSR initiatives and corporate financial performance.

Rettab et al. (2009) identify that CSR positively influences firm performance in the emerging economies taking two variables controlled, i.e. age and firm size. By taking market performance as a determinant of firm performance, donations by the firms as CSR, and with size of the firm taken as control variable, Brammer et al. (2007) declare that impact of CSR and firm performance is positive.

Mallin et al. (2014) also show a positive impact of CSR by using CSR index as independent variable and lagged values of return on asset and return on equity as proxies for firm performance. Adewale and Rahmon (2014) explore the Banking Sector in Nigeria, and Islam et al. (2012) examine the Bangolian Banking Sector, and both the studies suggest a positive impact of CSR activities in the business development.

Brown and Caylor (2009) identify that corporations with larger number of directors on the board pay more for corporate foundation establishment and philanthropic purposes. It is also to note that, the firms that bear higher level of debt contribute less towards the social activities. Barnea and Rubin (2010) find that to increase their own reputation and to satisfy personal ego, managers make extraordinary and unnecessary investments in CSR activities. They declare a negative relationship between CSR and insider ownership after analyzing the association among ownership structure, CSR framework and financial structure.

Dhaliwal et al. (2011) argue that CSR activities mitigate the likelihood of lawsuits and other environmental costs, leading to a reduction in uncertainty and an improvement in product efficiency, and thereby improve the firm performance. In the long run, CSR activities build the positive impact of firms, and people try to resist transaction that are unfair and punish those firms, which result in the poor financial performance in the long run, implying that firms showing fairness through CSR framework produce better financial returns (Kahneman, 2003).

Presently, due to pressure from shareholders and general community, there is a continued debate on CSR activities by firms. The irresponsible social actions of the firms are considered as social cost by the shareholders and societies (Jacoby et al., 2019).

Further, in emerging markets, there is a weak trust level between management and shareholders and through CSR this level may be increased. CSR as an external control act as tool of corporate governance (King et al., 2005).

The association between CSR and firm performance is supported by stakeholder theory which postulates that management should work not only for shareholders but also for all stakeholders and in this respect, CSR serves the purpose. Oeyono et al. (2011) state that relationship between firms and other stakeholders is enhanced by social activities by the firms.

The relationship with stakeholders helps to increase profit as it increases acceptance of such firms in the society (Aerts et al., 2008). After analysis of many research papers, Kong et al. (2020) concludes that CSR has positive impact on business outcomes. Naseem et al. (2020), analyze that business performance is improved when firms take part in social activities as shareholders' confidence is increased through CSR.

Despite the literature suggesting a positive relationship between Corporate Social Responsibility (CSR) and firm performance, some studies indicate a negative or insignificant effect of CSR. For example, Brammer et al. (2007) investigates the effect of CSR on firm performance using the input of companies towards the environment, employment and community and reporta an inverse relationship between CSR and stock returns.

Aras and Crowther (2008) study the impact of CSR measures in the emerging markets by using ROA and ROE as proxies for firm performance along with the risk, size, and expenditures on R&D as control variables, and find no significant effect of CSR. Notably, they declare a positive impact of philanthropy by businesses, on the financial performance of the firm.

In view of the above, following hypotheses may be developed:

H9: There is a positive relationship between CSR and firm performance.

2.4 The Mediating Role of Corporate Social Responsibility on Corporate Governance and Firm's Financial Performance

Executives and directors on the board always explore the ways to enhance the firm performance and for this intention CSR is taken as an instrument that improves the image of firm which ultimately enhances the firm financial performance (Jizi et al., 2014). Ullah et al. (2019) assert that in emerging economies, the majority of components of corporate governance are significantly linked to CSR. Researchers also report CSR as a controlling mechanism that motivates the executives to participate in the social activities (Jamali et al., 2008). For the firms in Malaysia, Said et al. (2009) report a positive relation between CSR and two governance factors; audit committee and government ownership. Zhuang et al. (2018) find that CSR activities urge the board members to disclose the information regarding the knowledge and experience of board members that ultimately enhances the value of board composition. Guerrero-Villegas et al. (2018) also report a positive connection between board size, board independence and the financial performance of the firm.

Within the context of Pakistan, Lone et al. (2016) establish that corporate governance plays a significant and essential role, exhibiting a positive association with CSR practices. Awan et al. (2019) propose that CSR activities are inclined by some characteristics of corporate, such as the board size, independence of board and ownership structure. Naseem et al. (2020) find an enhancement in shareholders returns and CSR activities with an improvement in corporate governance in the Pakistani firms. Gul et al. (2017) declare CSR measures as a tool that motivate and control the corporate governance factors and hence improve the firm performance. Javeed and Lefen (2019) examine the influence of CEO power, managerial and concentrated ownership on firm performance through CSR practices, discovering a positive impact on the financial performance of firms in Pakistan.

Cong and Freedman (2011) find corporate governance and environment disclosure positively associated to each other. Li (2018) work on the CEO Powers and suggest

that empowering the CEO increases the chances to better environmental practices and the profitability of firm. Cong and Freedman (2011), demonstrate that CEOs use social practices as a measure for managing earnings. Kock and Min (2016) postulate that corporate control; managerial incentives, auditors and board of directors are entirely associated with the social and environmental performance of the firm. Javeed et al. (2020) study the impact of environmental regulations on the social performance of the firms in Pakistan and postulate that these regulations push the firms to act accordingly for the betterment of society.

CEOs are forced by the environmental regulations to implement the best recommended practices to build up the image of corporation and increase the profits, Shahab et al. (2019). Javeed and Lefen (2019) report a positive impact of CEO, managerial ownership and ownership concentration on the corporate social activities of the firms in Pakistan.

They conclude that these CSR practices help improve the firm financial performance as well. Researchers declare that good corporate governance leads towards the higher CSR practices in a view to gain some good will in the eyes of stakeholders and to increase the profitability (Welford, 2007).

The discussion to reach conclusion on the relationship between CSR and firm performance is enduring (Beatson and Chen, 2018), but no consensus can be developed due to the mixed nature of findings on the association between these two variables where some studies find a curvilinear relationship along with others who report positive or negative relationship. Even though the findings are mixed, Margolis et al. (2007) report on the basis of their meta-analysis the most of the studies suggest a positive relationship as compared to negative or curvilinear association.

Orlitzky et al. (2003) state the CSR disclosure and its association to the corporate performance remain an agenda of discussion for the businessmen and academicians during the last three decades. Lynch (2010) find that both the internal and external stakeholders are concerned with the quality and quantity of CSR information disclosure as this reduces the asymmetry of information between the stakeholders (Olthuis and van den Oever, 2020). The firms build their reputation and concrete their connections to the society using the CSR activities to prove they are socially responsible (Adams and Mehran, 2003).

Freeman et al. (2010) postulate that the activities of the firm not only affect the shareholders but the other stakeholders and groups i.e. employees, local community and environment as well. Therefore, stakeholder theory suggests that the management should consider these groups equally while making the fundamental decisions. Brown and Forster (2013) view the corporate performance as a signal of high-quality relationship between management and the stakeholders.

von Arx and Ziegler (2014) and Kim et al. (2013), find that the stakeholders are normally well aware of the price variations in stocks and the firm performance and nowadays their interest is increasing to get fully informed regarding the CSR activities of the firm as well. Moreover, Kim et al. (2014), suggest that value to shareholders and corporate level risk also decreases with company management's greater attention and involvement towards the CSR activities. The studies also prove that effect of CSR on firm performance is positive as computed through profitability, sales growth and market share (Menguc and Ozanne, 2005). Withisuphakorn and Jiraporn (2016) study the short-term and long-term effect of CSR on firm performance and declare that environment related older firms pay more attention to CSR activities as compared to other firms.

Aguilera et al. (2006) declare that reputation of firm in the market is improved with an increase in CSR activities that helps to develop the relationship with important stakeholders. The studies also suggest management to apply efficient CG measures along with CSR activities to overcome the conflicts among different stakeholders, which will result in a positive impact of CSR engagements on the corporate governance mechanism that will ultimately improve the effect of CG on performance of the firm.

Conversely, a positive relationship between Corporate Governance (CG) and Corporate Social Responsibility (CSR) may be anticipated if CSR initiatives are perceived by the CG mechanism as an endeavor to resolve conflicts among various stakeholders.

For the purpose of establishing mediating role of CSR on the relationship between CG and firm performance, this study will establish mediating relationship of CSR with every variable related to board structure and ownership. The explanation for mediating effect is detailed below.

2.4.1 Board Size and CSR

As a crucial component of corporate governance (Amran et al., 2014; Allegrini and Greco, 2013), the size of board plays a pivotal role in shaping corporate governance mechanisms, through which CSR serves as a mediator that impacts firm performance. The literature, encompassing both theoretical and empirical perspectives, presents divergent interpretations regarding the interplay between board size and CSR. From the standpoint of agency theory, a larger board is posited to enhance monitoring effectiveness, providing diversity in competencies and greater capability for managerial oversight (Larmou and Vafeas, 2010; Uwuigbe et al., 2011). Elzahar and Hussainey (2012) further contend that an increase in directors with accounting or financial backgrounds, potentially exert a positive impact on CSR. In line with these viewpoints, empirical studies by (Rouf and Akhtaruddin, 2020; Samaha et al., 2015; Liao et al., 2018; Jizi et al., 2014; Ntim and Soobaroyen, 2013), consistently report a positive correlation between board size and the extent of CSR disclosure.

Moreover, Kathyayini and Nagaraju (2012) contends that making well-informed decisions regarding the content and extent of CSR disclosure necessitates efficient communication and coordination among board members. Consequently, one could expect an inverse relationship between board size and the extent of CSR disclosure, a proposition substantiated by empirical studies like those of Bouaziz and Triki (2012) and Uwuigbe et al. (2011).

In contrast, some empirical studies, including Amran et al. (2014), show that there is no significant correlation between the size of the board and the extent of voluntary disclosure. Given these divergent outcomes in both theoretical and empirical investigations, it remains uncertain whether a positive, negative, or neutral relationship exists between board size and the strength of CSR disclosure. Therefore, an expanded board, with its increased collective experience and expertise, is likely to elevate the commitment to CSR activities, which ultimately affect firm performance. Based upon the above discussion, following hypothesis is developed

H10: CSR mediates the relationship between the board size and firms' performances.

2.4.2 Board Independence and CSR

Independent directors represent the stakeholders and maintain a different perspective for contributing their best to make the management efficient and effective (Andres and Vallelado, 2008). These directors performing as mediators of the stakeholders also affect the CSR disclosure and activities of entities (Haniffa and Cooke, 2005). Research shows that higher number of independent directors direct the entities to involve more in the CSR activities corresponding to the social values (Khan, 2010). As a result, to ensure the firms behave rationally and in an environmentally & socially responsible way, board are enforced to have more independent directors on the board (Rao et al., 2012). As CSR activities are expected to increase performance of the firms, it is anticipated that effect of CG on firm performance will be enhanced for the firms which are engaged in CSR (Haniffa and Cooke, 2005). Hence, next hypothesis is:

H11: CSR mediates the relationship between the board independence and firms' performances.

2.4.3 Audit Committee Independence and CSR

CSR may mediate the relationship between audit committee independence and firm performance. This suggests that a company's dedication to social responsibility serves as a connection between effective governance oversight and positive organizational outcomes. The literature highlights the influence of audit committee independence on CSR. Mangena and Tauringana (2007) uncover a positive link between thel elvel of independence of an audit committee and CSR disclosure. Similarly, McMullen et al. (1996) observe a positive correlation between the independence of the audit committee and the quality of financial reporting. The presence of independent members in the audit committee may contribute to the improvement of CSR activities to protect stakeholders from managerial opportunistic behavior by improving oversight effectiveness (Li, 2018).

Persons (2009) argue that the likelihood of detecting financial misstatements and improper business transactions is heightened by the inclusion of independent audit committee members possessing expertise in accounting and finance. This is

attributed to the imperative for adhering to professional and ethical codes to maintain the committee's reputation. Appuhami and Tashakor (2017) explore the impact of audit committee characteristics on Corporate Social Responsibility (CSR) disclosure in Australian firms. The results unveil a noteworthy positive association between audit committee characteristics, encompassing size, independence, and gender diversity, and CSR disclosure. An independent audit committee is suggested to have a positive influence on CSR practices, with its oversight functions contributing to the identification and management of risks, promotion of responsible business practices, and ultimately enhancing firm performance. In view of the above, following hypothesis is developed:

H12: CSR mediates the relationship between the audit committee independence and firms' performances.

2.4.4 CEO Duality and CSR

CSR practices may serve as a mechanism to mitigate potential risks associated with CEO duality. By demonstrating a commitment to ethical conduct and stakeholder interests, companies can counterbalance concerns related to concentrated executive power. CEO duality occurs when the dual role of the CEO Job is combined with the board chairperson role (Bui et al., 2020; Corvino et al., 2020). The associations between CEO duality and CSR disclosure may stem from the agency problem preventing good governance, and the consequence is a negative and insignificant association with disclosure (Cherian et al., 2020; Fallah and Mojarrad, 2018; Husted and de Sousa-Filho, 2019; Mudiyanselage, 2018; Pang et al., 2020).

Moreover, Corvino et al. (2020), using the Johannesburg Stock Exchange data, argue that CEO duality has insignificant impact on environmental disclosure (Corvino et al., 2020). Similarly, a study in heavily polluting industries in Iran showed an insignificant association between CEO duality and CSR disclosures (Fallah and Mojarrad, 2018). Likewise, a study of a sample of 100 listed firms in Sri Lanka also show the insignificant influence of CEO duality on sustainability disclosure (Mudiyanselage, 2018). Nonetheless, there are, however, positive association studies. For instance, a study showed that CEO duality correlates

statistically with carbon performance (Elsayih et al., 2021). The studies showing negative relationship between CEO duality and CSR activities surpass the studies evidencing insignificant or positive relationship between the two. This study assumes that CSR as a mediator lessen negative influence of CEO duality on firm performance. Bases on the above, following hypothesis is developed:

H13: CSR mediates the relationship between CEO duality and firms' performances.

2.4.5 Gender Diversity and CSR

Incorporating Corporate Social Responsibility (CSR), representing a company's commitment to ethical, social, and environmental considerations, could be seen as a plausible mediator in the connection between gender diversity and firm performance. The infusion of CSR practices into operational strategies may function as a means by which gender diversity influences the overall performance of a company.

Within the literature, various studies investigate the influence of gender diversity on Corporate Social Responsibility (CSR). In the Australian context, Galbreath (2017) identifies a positive correlation between gender diversity and CSR within a sample of ASX 300 firms. Similarly, Nadeem et al. (2017) observe a positive influence of gender diversity on the sustainability reporting practices of ASX-listed companies over the period 2010 to 2014. Hussain et al. (2019) identify that an increased presence of women on the board enhances a company's sustainability performance, and they highlighte the significant positive role played by the sustainable development committee in a company's environmental and social performance. Romano and Papastefanaki (2020) conclude that greater gender diversity on boards has an overall positive impact on Environmental, Social, and Governance (ESG) performance.

While the majority of prior research suggests that having gender diversity on corporate boards positively impacts CSR-related performance (Byron and Post, 2016), alternative findings propose that its influence may be constrained or even adverse. A prominent challenge frequently highlighted in the literature is the existence of gender biases or stereotypes faced by women in senior positions, limiting their ability to contribute fully to corporate strategy and governance (Galbreath,

2011). Accordingly, some earlier studies examine the correlation between board diversity and ESG scores, revealing a negative relationship between gender diversity and the ESG score (Husted and de Sousa-Filho, 2019; Cucari et al., 2018).

Based on previous studies showing positive effect of gender diversity on CSR and direct relationship between CSR and firm performance, following hypothesis may be developed:

H14: CSR mediates the relationship between gender diversity and firms' performances.

2.4.6 Family Shareholding and CSR

The financial objectives of family firms are achieved through elongated possession of offices by the chief executive officers (Lansberg, 1999), proper use of continuing resources (Sirmon and Hitt, 2003), and lengthy time horizons (Hussain et al., 2019). Apart from financial objectives, family firms try to achieve objectives that are not related to financial aspects to maintain their social and emotional wealth (Laguir et al., 2016) and to transfer businesses to successors (Miller et al., 2008). These non-financial objectives compel family-managed firms to build a constructive image in the society (Berrone et al., 2010). Thus corporate governance policies in family firms affect CSR activities. Several studies indicate increasing effect of CSR on value of the firm (Lin and Fu, 2017; Zamir and Saeed, 2020). The family ownership has mixed effect on financial performance of the firms and it is anticipated that this relationship is mediated by CSR activities. Hence, next hypothesis is:

H15: CSR mediates the relationship between family ownership and firms performances.

2.4.7 Institutional Shareholding and CSR

Incorporating CSR initiatives into a company's activities is increasingly seen as a pivotal component of its overall strategy. Businesses with significant institutional ownership that actively embrace CSR often build a favorable image, fostering

greater trust from a range of stakeholders. Such a positive image can boost company performance by enhancing customer loyalty, bolstering investor trust, and elevating employee satisfaction (Chang et al., 2019; Lev et al., 2010; Lin and Fu, 2017). Drawing from agency theory, when large corporations face higher agency costs, they tend to disclose more information to reduce organizational expenditures. Moreover, prominent companies that disclose extensively can also diminish their political expenses, demonstrating their commitment to corporate social responsibility (Sembiring, 2005).

Institutional ownership is highly motivated to closely oversee a company's activities. Given that management's primary responsibility is to enhance shareholder value, robust oversight by institutional owners can aid in optimizing the company's worth. Consequently, a significant institutional ownership amplifies the impact of CSR on a firm's value. Companies typically allocate resources to CSR initiatives based on their profitability. As a company's profits rise, it tends to engage more in CSR endeavors, and conversely, reduced profits may lead to fewer CSR initiatives. Thus, when a company intensifies its CSR efforts, it enhances its chances of receiving a CSR Award. Winning such an award prompts heightened investor attention, manifested by rising stock prices and increased trading volumes. Investors perceive award-winning companies as having fully committed to CSR, influencing stock prices, which serve as a barometer of a company's value.

Within academic literature, there are various studies examining the impact of institutional shareholding on CSR. For instance, Hong and Kacperczyk (2009) determine that institutions bound by specific norms, like pension funds, are less inclined to invest in sin stocks, focusing primarily on industries like alcohol, tobacco, and gambling. Meanwhile, Fernando et al. (2010) demonstrate that institutional investors generally maintain smaller stakes in both environmentally-conscious and environmentally-harmful companies compared to neutral ones. Additionally, Chava (2014) identifies a negative correlation between institutional ownership and a company's environmental initiatives. It's noteworthy that the latter two research pieces predominantly address the environmental dimensions of CSR. Recently, research by Nofsinger et al. (2016) indicates that institutional investor portfolios often steer clear of stocks linked to CSR controversies, yet they don't

necessarily prioritize stocks with notable CSR merits. Starks et al. (2017) observe that companies boasting stronger ESG credentials tend to attract investors with lengthier investment horizons. Using institutional ownership as a gauge for corporate governance, Jo and Harjoto (2011) establishes a link between superior corporate governance practices, elevated CSR ratings, and diminished concern scores. Dyck et al. (2019) present global insights, examining how cross-country social norms shape the dynamics between international investors and CSR. Furthermore, Dimson et al. (2015) offer empirical findings highlighting the influence of ESG-focused activism by a singular institutional investor on CSR issues through private engagements, noting a notably high success rate for such initiatives. Based on the previous studies, this study hypothesizes the following:

H16: CSR mediates the relationship between institutional ownership and firms' performances.

2.4.8 Foreign Shareholding and CSR

Foreign investors may be more attracted to companies with strong CSR practices, which can enhance the company's reputation and stakeholder relations, potentially influencing firm performance. CSR practices can contribute to risk mitigation, and foreign investors may view companies with robust CSR policies as more stable and less prone to negative events, positively impacting firm performance. Amidst the ongoing global integration, researchers have explored the interplay between ownership structure and Corporate Social Responsibility (CSR).

Several scholars have undertaken extensive investigations into the effects of foreign investment on Corporate Social Responsibility (CSR), although the scope and depth of these studies are somewhat limited. The initial research focus predominantly centers on assessing the impact of foreign direct investment on CSR at a macroscopic level. (Wu et al., 2022; Huang and Zhu, 2015).

In subsequent studies, scholars have redirected their focus to scrutinizing the influence of foreign ownership on CSR from a more detailed, microscopic perspective. Despite variations in research perspectives and evaluation methods, the fundamental findings consistently indicate that foreign ownership significantly enhances

CSR performance (Wang et al., 2014; Xuzhong et al., 2018). Some researchers have found proof suggesting that foreign trade enterprises demonstrate improved Corporate Social Responsibility (CSR) practices (Muller and Kolk, 2010; Gu, 2012). Moreover, additional literature, emphasized by (Zheng and Huang, 2018) indicates that Foreign Direct Investment (FDI) in both upstream and downstream industries motivates firms to enhance their fulfillment of CSR obligations. The research conducted by Huang and Zhu (2015) leads to the conclusion that FDI acts as a catalyst for advancing CSR practices among Chinese enterprises, especially through the supply chain channel involving suppliers from foreign enterprises.

Cai et al. (2019) conclude that CSR helps address the information deficit for foreign investors. Looking at the macro perspective, Nguyen et al. (2019) identify several positive and significant impacts of Foreign Direct Investment (FDI) on the sustainable development of provinces in Vietnam. As a result, foreign investors tend to closely monitor the CSR activities of companies in China. Numerous scholars explore the relationship between foreign ownership and CSR. Conversly, Tai and Chuang (2014) illustrate that foreign shareholding does not exert a positive impact on the Corporate Social Responsibility (CSR) practices of listed non-renewable energy companies. Kang et al. (2019) reveal that directors from various countries had distinct influences on CSR investments, indicating diverse CSR tendencies across different nations. The studies conducted by Lee et al. (2019) and Yan and Hu (2020) suggest that foreign investors tend to exhibit increased interest in the CSR initiatives of host countries.

Xuzhong et al. (2018) provide empirical evidence demonstrating a significant positive impact of foreign ownership on CSR. Dyduch and Krasodomska (2017) highlight that companies with a restricted proportion of foreign shares are less inclined to provide comprehensive disclosure regarding the impact of their business operations on Corporate Social Responsibility (CSR). Shi et al. (2018), focusing on Korean listed companies, discover positive effects of foreign institutional investors' ownership on the sustainable development of enterprises from a sustainability standpoint. Foreign institutions are found to be effective in monitoring management, fostering enterprise innovation, and contributing to the long-term sustainable development of companies. Choi et al. (2020) conclude that foreign

ownership stakes exhibit a negative correlation with earnings management in Vietnamese listed companies. Keeping in view foregoing discussion, following hypothesis may be developed:

H17. CSR mediates the relationship between foreign shareholding and firms' performances.

In this chapter, literature on effect of different components of board structure including board size, board independence, audit committee independence, CEO duality, gender diversity and variables of ownership structure consisting of family shareholding, institutional shareholding and foreign shareholding on firm performance has been reviewed. Also, previous studies on effect of said variables on CSR have been analyzed in order to establish mediating role of CSR on the relationship between corporate governance and firm performance. The studies on different theories including stakeholder theory, agency theory and resource dependency theory have also been reviewed in this section for establishing relationship between corporate governance, CSR and firm performance.

Out of total 17 hypotheses developed in this section, 8 hypotheses establish relationship between board structure, ownership structure, and firm performance. One hypothesis proposes that CSR has significant impact on firm performance and remaining 8 hypotheses postulate mediating role of CSR in the relationship between each component of board structure as well as ownership structure and firm performance. The review of related theories and previous studies helps to hypothesize that out of five components of board structure, board size, board independence, audit committee independence and gender diversity have significant positive effect and CEO duality has significant negative impact on firm performance in BRICS countries. Similarly, for all three variable of ownership structure, this study assumes significant positive effect on firm performance.

Although, some researchers identify effect between different components of board structure, ownership structure and CSR on firm performance differently than theories and most of the studies in the literature, this study hypothesizes the relationship between the said variables as per related theories and major studies in the literature. In the subsequent sections, effect of different variable of corporate governance and CSR on firm performance along with meditating role of CSR in

the relationship between corporate governance and firm performance is analyzed with the help of empirical data and recommended methodologies and techniques for firms in BRICS countries.

Chapter 3

Research Methodology

This study uses two components of corporate governance i.e. Board Structure and ownership structure and CSR is used as mediating variable. This chapter outlines the data and methodology employed in the study to test the hypotheses formulated in Chapter 2. The detail about data is elucidated in section 3.1. The variables are illustrated in section 3.2; Section 3.3 explains panel data and estimation technique related to the model. Section 3.4 provides model specification and methodological framework for testing the hypotheses. The diagnostic testing is carried out in the section 3.5.

3.1 Data and Sample Selection

Initially, data of 11,000 firms operating in BRICS are collected from Thomson Reuters' EIKON database for 11 years from 2010 to 2021. However, number of firms is condensed to 495 because of missing data. The number of observations in the sample is 5,445 representing firm years for five BRICS countries. EIKON provides firm's fundamentals published in quarterly and annual reports, market news, CG and CSR reporting data etc. (Refinitiv, 2020). EIKON database covers 99% of global market capitalization (Shahbaz et al., 2020). Financial data of 72,000 firms from 150 countries are available in database, whereas, data on corporate governance and CSR are present for 7,000 firms (Karaman et al., 2021).

Following the criteria set by Buertey et al. (2020) and Buvanendra et al. (2017), firms in the financial and insurance sectors have been omitted from the sample due to the unique characteristics of their variables. The accrual characteristics and accounting practices of these entities differ from those of non-financial firms, rendering them incompatible for inclusion in the analysis sample. To qualify for inclusion in the study sample, a firm must possess data not only on all the financial variables under scrutiny but also on various CG and CSR variables. To address the issue of outliers, all variables are subjected to winsorization at the 5% tail.

The data consists of different components of board Structure and ownership structure, CSR and firm specific financial variables including ROA, ROE, Tobin's Q, free cash flows, sales growth, leverage and firm size. The sample consists of 22 companies from Brazil; 33 from Russia; 98 from India; 247 from China and 95 from South Africa

3.2 Construction of Variables

The detail of dependent, independent and moderating variables is explained below:

3.2.1 Dependent Variable

For purposeful analysis, selection of appropriate performance measures is important to investigate effect of CG on firm performance. For strategic as well as diagnostic purposes, it is important to use unbiased performance measures (Song et al., 2021). Although there is a discussion among scholars about which indicators should be employed as proxies for evaluating firm performance (Griffin and Mahon, 1997). Various financial measures are commonly used as proxies of firm performance to examine the correlation between CG and firm performance: Tobin's Q ratio (Lioui and Sharma, 2012), return on assets (Wang et al., 2016; Buertey et al., 2020), sales revenue (Bayer et al., 2020), return on equity (Hussain et al., 2019), earnings per share (Kao et al., 2019), net profit margin (Rahman et al., 2019), and economic value added (Soewarno and Tjahjadi, 2020). Three measures of firm performance i.e. ROA, ROE and Tobin's Q are used as proxies of firm performance.

Financial performance may be alienated into two main categories i.e. accounting based measures and market based measures. Each measure is criticized in the literature. For example, accounting measures are considered as backward looking and governed under accounting standard formulated by each country in different ways, whereas, market based measures are based on perception of investors which are influenced by human biases like mental accounting errors, loss aversion, herd behavior, selective perception etc. of the investors and their estimation about future outcomes (Gentry and Shen, 2010). In this study, for firm performance, book ratios including return on assets (ROA) and return on equity (ROE) are used, whereas, Tobin's Q ratio is applied as measure of market performance of the firm.

3.2.1.1 Return on Assets

Return on Assets (ROA) functions as a metric that gauges the efficiency of a firm in utilizing its assets. It gives insight to managers and investors about how efficiently a company's resources are being used to generate profitability. ROA serves as an indicator of a firm's short-term financial performance and is frequently utilized as a proxy for firm performance in the current literature (Inoue and Lee, 2011; Rhou et al., 2016; Wang and Chen, 2017).

A greater return signifies more effective and efficient management in utilizing economic resources. ROA is influenced by corporate governance of the firm (Muttakin et al., 2014). That is why this ratio is taken as dependent variables. ROA is calculated by dividing net profit on total assets (Tai and Chuang, 2014):

Return on Asset = EAT / Total Assets

3.2.1.2 Return on Equity

Return on Equity (ROE) serves as a profitability metric, gauging the extent to which a company generates returns from shareholders' wealth. It is a composite ratio derived by juxtaposing net income or profit from the income statement against shareholders' equity from the balance sheet. ROE provides a holistic perspective on the firm's capacity to translate equity investments into profits, representing the overall return on equity capital.

A consistently growing and sustainable ROE suggests that a company excels at creating shareholder value, indicating its adeptness in reinvesting earnings judiciously to enhance productivity and profitability. The calculation of ROE involves dividing net profit by shareholder equity (Rossi et al., 2015).

Return on Equity = EAT / Shareholder Equity

3.2.1.3 Tobin's Q Ratio

Tobin's Q ratio is a measure of firm performance which is based on market expectations. It is advocated by the researchers as it overcomes some of the problems inherent in accounting measures like earning management (Kyere and Ausloos, 2021). It is more robust as it cannot be manipulated by the managers (Kouaib and Lacombe, 2023). This ratio identifies whether a firm has positive net present value projects available (Brush et al., 2000).

Tobin's Q ratio is a metric that evaluates the market value of a company in relation to the book value of its assets. As indicated by (Mysaka and Derun, 2021), a Tobin's Q ratio surpassing unity suggests that the firm is motivated to undertake a project. This implies that the value of the capital investment by the firm exceeds its cost. The formula for calculating Tobin's Q ratio is as follows:

Tobin's Q ratio = (Market value of the equity + Book value of debt) / Book value of the assets

3.2.2 Independent Variables

In this study, corporate governance is utilized as an independent variable, focusing on two key aspects: Board Structure and Ownership Structure. The examination of board structure involves the consideration of five variables, namely board size, board independence, audit committee independence, CEO duality, and gender diversity. These variables are drawn from the works of (Yekini et al., 2015; Chams and García-Blandón, 2019; Naciti, 2019). The variables for ownership structure include family shareholding, institutional shareholding and foreign shareholding (Black et al., 2014; Kuzey and Uyar, 2017).

(a) Board Structure

The board structure of a firm encompasses the arrangement, functions, responsibilities, and interactions within its governing body, commonly referred to as the board of directors. The board plays a vital role in supervising the management of the organization, guiding its strategic direction, and safeguarding the interests of both shareholders and other stakeholders.

The configuration of the board can exhibit notable variations among organizations, influenced by factors like size, industry, ownership structure, and the regulatory landscape.

In the context of this study, five specific components of board structure are examined for analysis. These components are board size, board independence, audit committee independence, CEO duality, and gender diversity. Each of these factors contributes to the overall understanding of how the board is structured and operates within the examined organizations.

3.2.2.1 Board Size

The board size means number of members on the board of directors (Jia et al., 2019). It is one of the most essential tools to ensure that business activities of the firm are being managed properly by their agents (Alabdullah et al., 2019). Board represents advisory and monitoring role of members of the board (Shen et al., 2022).

As per resource dependency theory, firms with large board size have more sharing of knowledge, expertise and experience in decision making, so firm performance is enhanced in such firms (Pfeffer and Salancik, 2015). As per Kufo and Shtembari (2023), board size has positive impact on return of equity and return on capital employed.

Further, a larger board may bring together diverse expertise, skills, and perspectives that can contribute to more comprehensive discussions and decision-making on CSR issues, such as sustainability, ethics, and stakeholder engagement. The size of the board is calculated as follows:

Board Size = ln (No. of Directors)

3.2.2.2 Board Independence

An independent board is characterized by having a majority of outside directors who are not engaged in handling the company's business affairs. The board's effectiveness and monitoring of the management is improved with presence of independent directors (Rohaida et al., 2013). Independent directors provide independent views on strategies and operations of the firm. They improve CG and hence firm performance is enhanced. (Hoitash and Mkrtchyan, 2022), argue that monitoring functions are better performed in the presence of independent directors which ultimately lead to improved firm performance. Further, Independent directors, by virtue of their lack of affiliation with management or major shareholders, are often perceived as having a greater capacity to provide objective oversight, challenge management decisions, and promote transparency in CSR-related practices and disclosures. The board independence is calculated on the basis of the percentage of non-executive directors on the board.

Board Independence = Number of Non-Executive Directors/ Total Directors

3.2.2.3 Audit Committee Independence

Audit Committee independence pertains to the percentage of Non-Executive Directors (NED) within the Audit Committee. It is an important part of CG and independence of audit committee influences firm performance by performing monitoring functions to keep in check misconduct of the managers (Bansal and Sharma, 2016). The reliability of financial reporting system is enhanced in the presence of independent audit committee as such committee prevents from self-centered and manipulative activities of the managers (Cohen et al., 2014). In all countries of the world following corporate governance system, governance codes require firms to set audit committees to ensure independence (Bansal and Sharma, 2016). The presence of a higher number of members in the audit committee leads to a reduction in earnings management, thereby positively impacting firm performance. (Nelwan and Tansuria, 2019). Further, Independent audit committees can enhance accountability, transparency, and integrity in financial and non-financial reporting, aligning with CSR principles, standards, and stakeholder expectations. It is

calculated as under:

Audit Committee independence = Total Number of NED in the Audit Committee / Total Members of Audit Committee

3.2.2.4 CEO Duality

CEO duality occurs when the CEO concurrently possesses the title of Chairman of the board. There are studies which identify that decision making power in the hand of one person may not be beneficial to the shareholders (Lin, 2011; Ujunwa, 2012). On the other hand, as per studies of Yu (2023)and Krause et al. (2022), CEO duality reduces chances of disagreement on viewpoint and helps in timely decision making. Further, the combining positions of CEO and Chairman may limit the board's independence, objectivity, and capacity to provide effective oversight of management, including its role in evaluating and guiding CSR strategies, performance, and reporting. To examine the impact of CEO duality on firm performance, this study employs CEO duality as the independent variable. CEO duality is assessed through the use of dummy values; a value of 1 is assigned if the CEO concurrently serves as the Chairman of the board of directors, and 0 is designated otherwise (Mubeen et al., 2020).

CEO Duality = 1; if Chief executive officer and Chairman are the same person; otherwise= 0

3.2.2.5 Gender Diversity

Gender diversity refers to how many females are serving as members of the board. Resource based theory asserts that female directors bring enriched expertise, experience and knowledge to the boardroom which enhances firm performance (Ferrary and Déo, 2023). This also suggests that directors with diverse knowledge and perspective influence strategic decisions of the firm and thus improve financial and non- financial performance (Shahab et al., 2020). Female directors are more inclined to possess superior social and ethical skills compared to their male counterparts and thus behave in more socially responsible way which leads to better firm performance (Pucheta-Martínez and Gallego-Álvarez, 2020).

Further, Gender diversity can contribute to fostering an inclusive organizational culture that values diversity, equality, and respect, aligning with CSR principles and promoting employee engagement, well-being, and performance. Following the studies of (Liu et al., 2014) and (Chijoke-Mgbame et al., 2020b), the variable is computed by dividing the number of females on the board by the total number of board members, expressed as a percentage (Chijoke-Mgbame et al., 2020a).

Gender diversity = Number of Female Directors on Board / Total Number of Directors

(b) Ownership structure

Ownership structure refers to how ownership rights and control are distributed among different stakeholders, including shareholders, institutional investors, management, and other entities. The ownership structure of a firm can significantly influence its governance, management practices, strategic decisions, and overall performance. Three variables for ownership structure including family shareholding, institutional shareholding and foreign shareholding are used in this study.

3.2.2.6 Family Shareholding

Family shareholding is identified when the majority of a company's shares are owned by a single family (Amosh and Khatib, 2022). Existing literature demonstrates use of different thresholds to classify family firms (Ha et al., 2022; Caselli et al., 2023; Razzaque et al., 2020). If two or more directors on the board share a familial relationship and collectively possess at least 10% of the total outstanding shares, the firm could be categorized as having family shareholding. It is anticipated that firms under family control will exhibit improved performance, given that family members can efficiently supervise the firm's operations, thereby mitigating agency problems (Fama and Jensen, 1983).

Furthermore, family owners are guided by trust-based values and possess extensive knowledge of the firm's operations, having been involved with the company since its establishment. Additionally, the organization's stance on Corporate Social Responsibility (CSR) can be influenced by family values, traditions, and legacies,

fostering a culture of responsibility, integrity, and community engagement. This signifies the family's commitment to making a positive contribution to both society and the environment (Anderson and Reeb, 2003). Family Ownership is calculated as under:

Family Shareholding = Shares Owned by Family/ Total Outstanding Shares

3.2.2.7 Institutional Shareholding

The ownership of institutional investors is simply the number of outstanding shares owned by the institutions at the close of financial year recorded in the books of the firm (Gurusamy, 2017). Institutional investors play a significant role in capital markets and governance, influencing firms' strategic decisions, governance structures, and operational performance. Institutional investors often engage in active monitoring and oversight of their portfolio companies, advocating for improved governance practices, transparency, and alignment with shareholder interests, which can contribute to enhanced firm performance and value creation (Chiu and Katelouzou, 2017).

Further, Institutional investors often emphasize the importance of long-term value creation, sustainable growth, and resilience in their investment strategies, engagement practices, and expectations for companies to integrate CSR considerations into their business models and operations. Institutional ownership is calculated as under:

Institutional Shareholding = Shares Owned by institutional Investors/ Total Outstanding Share

3.2.2.8 Foreign Shareholding

Foreign shareholding means percentage of common equity shares owned by foreign individuals and institutions (Do et al., 2020). Foreign shareholding can facilitate capital inflows, improve liquidity, and enhance firms' access to international capital markets, enabling them to finance growth opportunities, strategic initiatives, and innovation that can contribute to improved firm performance (Klagge and Zademach, 2018). Further, Foreign shareholding can influence companies to

strengthen their governance practices, board effectiveness, and oversight mechanisms related to CSR strategies, risk management, and performance monitoring to mitigate risks and align with sustainability objectives. Foreign ownership is used to identify the companies owned by foreign investors (Bajaher et al., 2022). The percentage of foreign ownership is calculated as under:

Foreign Shareholding = Shares Owned by Foreign Investors/ Total Outstanding Shares

3.2.3 Mediating Variable

In this research, CSR is employed as a mediating variable. Due to its subjective nature, measuring CSR is more challenging compared to other variables in the study. Many prior studies rely on company documents as a CSR measure, yet this approach lacks reliability, given that each firm interprets CSR based on its own objectives. Consequently, the measurement of CSR tends to be biased and inconsistent (Maqbool and Bakr, 2019). Thomson Reuters ESG, as a third-party rating entity, incorporates CSR variables that are deemed trustworthy and reliable, as supported by previous research (Giannopoulos et al., 2022). The data is meticulously ensured to be reliable, comparable, and standardized, in accordance with Thomson Reuters standards.

ESG (Environmental, Social, and Governance) is often used as a framework for measuring a company's CSR performance. ESG factors are used to evaluate how a firm's activities affect society and the environment (Egorova et al., 2022), as well as its overall corporate governance practices. Social factors examine how a company influences its stakeholders, encompassing employees, customers, suppliers, and communities. This involves aspects like employee well-being, customer satisfaction, community involvement, and policies related to diversity and inclusion. Governance factors evaluate a company's internal policies and procedures, encompassing leadership, risk management practices, and the composition of the board.

Assessing a company's ESG performance allows stakeholders to understand how the company handles its impact on the world, enabling more informed decisions

regarding investment or business engagement (Zhou et al., 2022). Moreover, ESG factors can pinpoint areas where a company can enhance its CSR practices, fostering a more sustainable and socially responsible business model.

The recent studies use ESG as a measure of CSR (Velte, 2019; Gillan et al., 2021; Bofinger et al., 2022). There are 55 indicators which calculate data for environmental and social categories. Six performance indicators from seven categories of environmental and social aspects carry financial data, whereas, other indicators are measured based on scores from 0 to 100. This study follows Munir et al. (2019) and uses environmental and social aspects as proxies for CSR as this study uses CG as a separate independent variable. Out of the said two main aspects, environmental pillars have three categories including resource use, emission and innovation, wheres, social aspects consist of four types including workforce, community, human rights, and product responsibility.

As per Maqbool and Bakr (2019), the true extent of CSR is not accurately reflected unless the measure of CSR is based on the actual amount spent on various CSR activities. Initially, five financial indicators, including salaries and wages from CSR reporting, Environmental expenditure, total training costs, environmental R&D expenditure, and total donations, were considered for analyzing effect of CSR on firm performance. However, as complete financial data is not available for most of the firms, the study incorporates only two variables: environmental expenditure and total donations. Hence, CSR is computed by dividing the sum of environmental expenditure and donations by the total assets of the firm.

3.2.4 Control Variables

When investigating the interplay between CG, CSR, and firm performance, researchers frequently incorporate control variables. These variables serve the purpose of addressing and adjusting for other factors that could potentially influence firm performance. Including control variables helps researchers isolate and assess the specific impact of CG and CSR, enhancing the accuracy and reliability of their findings by accounting for additional variables that might contribute to variations in firm performance.

In the light of prior studies, following control variables are used in this study (Kang and Ratti, 2015; Youn et al., 2015; Rhou et al., 2016):

3.2.4.1 Free Cash Flow

Free cash flow refers to the cash that remains available for shareholders and creditors after a company has met its investment requirements in fixed assets and working capital (Nazalia and Triyanto, 2018). In essence, it represents the surplus cash generated by a business that can be used for various purposes, such as paying dividends, reducing debt, or pursuing new opportunities. Free cash flow, obtained by subtracting capital expenditures and changes in working capital from operating cash flow, offers valuable insights into financial flexibility and potential returns a company has beyond its immediate operational need.

Free cash flow indicates financial health of a company. It can be used for discretionary purposes like capital expenditure, dividend and debt payments. This implies that a company is in better financial health when it has more free cash flow. As per Sayari and Mugan (2017), cash flow provides information about financial health of the company. If a company has better amount of cash flow, it will build confidence for creditors that the company can meet its financial obligations (Tutliha and Rahayu, 2019). This also helps in determining smooth performance of company activities. Free cash flow is calculated as under (Park and Jang, 2013).

Free Cash Flow = EBIT (1-t) + Depreciation – CAPEX + Working Capital

3.2.4.2 Sales Growth

Sales growth is quantified as the percentage change in sales over a preceding period, as highlighted by Li (2018) and Jaiswall and Raman (2021). Research conducted by King and Santor (2008) indicates that sales growth positively influences value of the firm. This suggests that an increase in sales over time contributes favorably to enhancing the overall value of the company. It measures how fast a company is growing its sales. If sales growth declines, there is a risk that the firm may be overtaken by the competitors. It is strategic indicator which board of directors and executives use in formulation of business strategy. The literature finds positive

relationship between sale growth and profitability of the firm (Coad, 2010). For a firm, growth is not a goal but a mean to obtain profitability (Delmar et al., 2013). Sales growth is calculated as under:

Sales Growth = (St – St-1) / St-1

3.2.4.3 Size of Firm

The large firms have better financial performance as compared to small firms (Zuhroh, 2019). Firm size is an important control variable for analyzing relationship between firm performance, CG and CSR as larger firms are equipped with more economic resources and funds to invest in CSR activities and for effective governance mechanism (Baum and Lewbel, 2019). Su et al. (2008) hypothesize that large firms have larger board size which create agency problem and ultimately results into negative profitability. On the contrary, Abeyrathna and Priyadarshana (2019) find that large firms have more profit due to economies of scale which small firms do not enjoy. Also, larger firms have easy access to the cheaper resources and hence positively influence the profit of the firm (Ciftci et al., 2019). This study employs the natural logarithm of total assets as a proxy for measuring firm size (Beck et al., 2018):

Firm Size = Log natural of total assets

3.2.4.4 Leverage

The leverage ratio indicates the extent to which a firm utilizes debt to finance its assets. The level of debt in a firm influences investor's interest and confidence in investing (Dirman, 2020). The amount of debt has effect on financial distress a firm may face during its operations. Leverage is used as a control variable in analyzing interrelationship between CG, CSR and firm performance as if a firm is under heavy debt, it will not be able to carry out CSR practices and deploy effective corporate governance (Reverte, 2009; Barnea and Rubin, 2010). Leverage positively or negatively affects firm performance. As per Bintara (2020), leverage negatively influences firm performance as higher intensity of obligations increases risk of bankruptcy, whereas, as per Jensen (1986), increase in debt reduces agency

problems and improves firm performance as funds available to the managers is reduced for their discretionary use (Ciftci et al., 2019). Debt to equity ratio is used to measure percentage of debt as compared to equity of the firm (Dirman, 2020). The leverage is calculated as under:

Leverage= Total Debt / Equity

3.3 Methodological Framework

To examine the relationship between CG, CSR, and firm performance, this study adopts the Structural Equation Modeling (SEM) utilized by Ouni et al. (2022). Following model is estimated to investigate the impact of CG on firm performance in BRICS countries:

$$FFP_{jit} = \alpha_0 + \sum_{j=1}^{5} \alpha_1 BS_{jit} + \sum_{j=1}^{3} \alpha_2 OS_{jit} + \sum_{j=1}^{4} \alpha_3 Firm_{jit} + \varepsilon_{jit} \tag{3.1}$$

Where, FFP_{it} indicates one of the measures of firm performance (ROA, ROE or Tobin's Q) for the firm i at time t; BS is board structure which is a vector of five variables including board size, board independence, audit committee independence, CEO duality and gender diversity; OS is ownership structure which is a vector of three attributes i.e. family, institutional, and foreign shareholdings; Firm means control variables including free cash flow, sales growth, size of the firm and leverage.

To examine whether CSR mediates the effect of CG on firm performance, this study employs the methodology proposed by Baron and Kenny (1986). This mediation model is a widely used statistical framework in psychology and social sciences. Developed by Baron and Kenny (1986), this model provides a systematic approach to assess and quantify the indirect effect of an IV on a DV through a mediator.

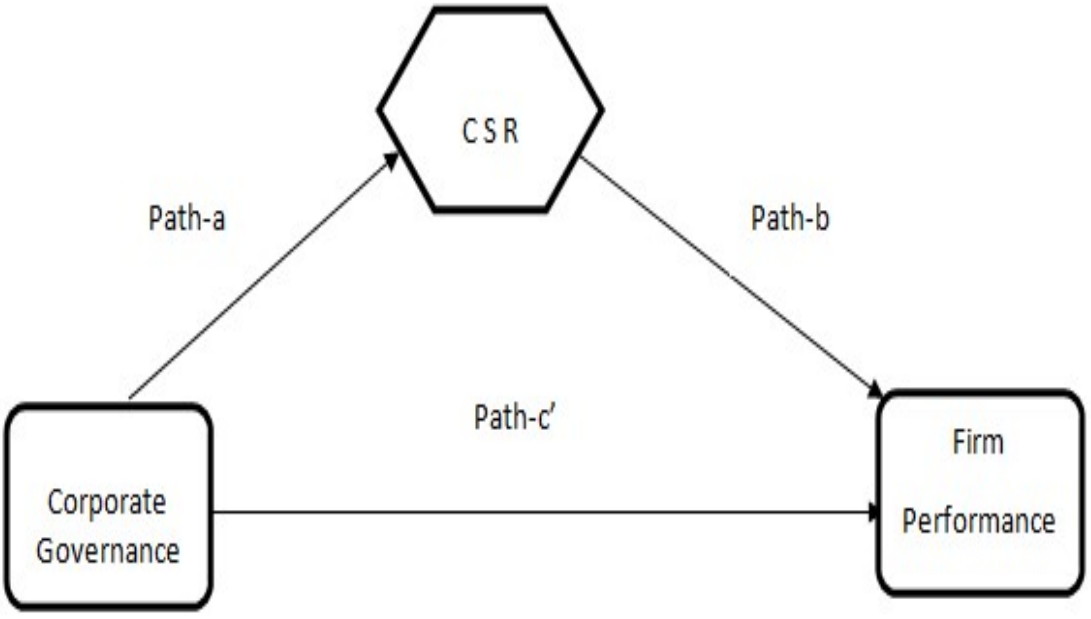
Building on the research of Judd and Kenny (1981), Baron and Kenny (1986) elucidate the concept of statistical mediation and put forth a straightforward method that seemingly facilitates the identification of mediating variables through sequential adjustments in several linear regression models. Over the course of twenty-five

years, few works have garnered more citations than Baron and Kenny's (with over 129,000 mentions as of July 2024), and perhaps none has so profoundly influenced the way applied researchers comprehend and analyzed mediation in health and social sciences.

Baron and Kenny's approach has not only been extensively utilized in recent years to illustrate mediation in social and health sciences (MacKinnon et al., 2002; Wood et al., 2008) but is very likely still the most widely employed method. The significant impact that Baron and Kenny (1986) proposal has had and continues to have, coupled with the recognition that it serves as an analytical strategy to identify the effect of a mediator between an independent variable (IV) and a dependent variable (DV).

In order to apply model proposed by (Baron and Kenny, 1986) this study follows the process used by Muller et al. (2005) and following paths are identified:

FIGURE 3.1: Theoretical Model



Path-a

Path-a, is established to test whether two main components of CG including board Structure and ownership structure affect CSR:

$$CSR_{jit} = \beta_0 + \sum_{j=1}^{5} \beta_1 BS_{jit} + \sum_{j=1}^{3} \beta_2 OS_{jit} + \varepsilon_{jit} \tag{3.2}$$

If the coefficients of the components within board structure and ownership structure prove statistically significant, it signifies a substantial influence of CG on CSR, meeting the preliminary requirement for mediation. Conversely, if the outcomes lack statistical significance, one may deduce that CSR does not act as a mediator in the connection between CG and firm performance.

Path-b

In the second phase under path-b, the effect of CSR on the dependent variable i.e. (ROA, ROE or Tobin's Q) as a proxy of firm performance is analyzed through the following econometric specification:

$$FFP_{jit} = \gamma_0 + \gamma_1 CSR_{jit} + \sum_{j=1}^{4} \gamma_2 Firm_{jit} + \varepsilon_{jit} \tag{3.3}$$

To identify a mediator, the significance of the coefficient of CSR is crucial; a significant coefficient suggests that CSR can be employed as a mediating variable.

Path-c

In the third phase, specifically under path-c, the study tests the mediating role of CSR in the relationship between CG and firm performance, using ROA/ROE/Tobin's Q as a measure of firm performance. The analysis of this effect is conducted through the following econometric specification:

$$FFP_{jit} = \delta_0 + \sum_{j=1}^{5} \delta_1 BS_{jit} + \sum_{j=1}^{3} \delta_2 OS_{jit} + \delta_1 CSR_{jit} + \sum_{j=1}^{4} \delta_3 Firm_{it} + \varepsilon_{jit} \tag{3.4}$$

There will be full mediation by CSR for the CG-FP association if it is significant, and the components of CG i.e., board structure and ownership structure, are insignificant. If both CG and CSR exhibit significant coefficient values, there is an indication of a partial mediating impact of CSR on the association between CG and firm performance. Conversely, if the coefficients of CG are significant and CSR has an insignificant coefficient, it implies no mediation.

This study examines the mediating role of CSR in the correlation between firm performance and CG mechanisms. It specifically focuses on two primary structures of CG: board structure and ownership structure. The aim is to understand how CSR acts as an intermediary factor in influencing the connection between firm performance and the established governance frameworks, shedding light on the complex dynamics between these elements. Traditionally, the evaluation of mediation effects has been conducted through a sequence of linear regression models, as outlined by Baron and Kenny (1986). Nevertheless, the application of SEM allows for the estimation of a model that captures the direct, indirect, and total effects, as discussed by Ouni et al. (2022). The research proposes that nearly every panel data encounters endogeneity issues, and SEM stands out as the optimal technique for analysis capable of addressing potential endogeneity and simultaneity concerns (Zaefarian et al., 2017).

The endogeneity problem emerges when a variable of interest, known as the endogenous variable, is correlated with the error term in a regression model ,as explained by Sajons (2020). Essentially, this issue occurs when a two-way causal relationship exists between the variable under investigation and other variables included in the model. In simpler terms, the endogeneity problem reflects a situation where the variable being studied is influenced by, and at the same time, influences other variables in the model, leading to potential biases and challenges in drawing causal inferences. Endogeneity may occur due to omitted variables, measurement errors, simultaneity, or other factors that violate the assumptions of a classical linear regression model (Hill et al., 2021). The existence of endogeneity, when not adequately addressed, can result in biased and inconsistent parameter estimates in regression analysis (Becker et al., 2022). This can make it challenging to establish causal relationships between variables.

Structural Equation Modeling (SEM) as a research methodology has its origins in the early 20th century, notably developed by Sewall Wright in 1916, as discussed by Bollen and Brand (2010). The escalating complexity of research inquiries and the availability of versatile, user-friendly computer software, as underscored by Hershberger and Marcoulides (2006), have contributed to a growing interest in SEM (Hair et al., 2009). SEM has gained widespread adoption across various

disciplines, encompassing psychology (Bollen, 1990), education, social sciences(Fan et al., 1999), biology, economics, medicine, marketing (Raykov and Marcoulides, 1999), demography, and even genetics (Hair et al., 2009).

Moreover, it has profound applications in fields related to this research, such as consumer behavior (Jarratt, 2000) and ethical decision-making (Hair et al., 2009). In the field of CG research, there has been a gradual and consistent increase in the adoption of SEM, as noted by Lin et al. (2005); Sahnoun and Zarai (2009); Fan et al. (2010).

For example, Sánchez et al. (2011) uses a structural equation model to assess board composition, while Lin et al. (2005) examine the effect of the board of directors and major external shareholders on CEO compensation through SEM. Tam and Tan (2007) explore the relationship between ownership types and firm performance using SEM. Sahnoun and Zarai (2009) utilizes SEM to examine the impact of auditee business risk, audit risk, and auditor business risk evaluation on auditor–auditee negotiation outcomes. Furthermore, Fan et al. (2010) employs SEM to explore how corporate boards can establish a sustainable competitive advantage.

Structural Equation Modeling (SEM) is fundamentally constructed on the concept of creating a model that illustrates the relationships between variables (Jr et al., 2021). This model employs symbols to denote variables, the relationships between them, and even the error term within the model. The SEM process commences with a theory, where the researcher aims to examine the relationships among the constructs of interest in the study (Thakkar, 2020). These connections are then conceptualized into a theoretical framework, depicted by a schematic diagram that outlines the hypotheses to be tested in the study.

It is crucial to note that SEM is a causal modeling approach, but it does not establish causation between two variables (Bollen and Pearl, 2013). This presents a common misconception associated with SEM. The modeling uses a covariance matrix as its input, thereby examining the correlation between variables to understand how one influences the other. However, it does not imply causation; a high correlation between two variables does not necessarily indicate that one causes the other.

SEM operates as a statistical modeling framework employed to analyze a system of linear equations where variables are interconnected sequentially (Stein et al., 2012). These equations typically represent diverse relationships in the system and may include both endogenous and exogenous variables. The distinctive advantage of SEM is its capability to articulate relationships among independent and dependent variables within the same structural model, even when dependent variables transform into independent variables in other relationships. This allows SEM to offer a streamlined approach for simultaneously handling multiple relationships, providing statistical efficiency.

In the context of exploring the relationship between CG, CSR, and firm performance, it is recognized that both CG and CSR influence on firm performance, and reciprocally, they are influenced by firm performance. Furthermore, CG and CSR concurrently influence each other. These intricate relationships are estimated sequentially within the SEM framework, allowing for a comprehensive understanding of the inter-dependencies in the model.

Theory holds significance in all multivariate analyses, but its role is particularly crucial in SEM, given its status as a confirmatory form of analysis. SEM serves the purpose of testing and potentially confirming theories (Hair et al., 2011). Theoretical frameworks are essential for specifying relationships within structural models in SEM. The SEM process begins with the selection of variables measured to establish relationships among different variables and concludes with assessing the overall fit of the structural model. Theory plays a pivotal role at each step throughout this entire process.

The primary objective of SEM is to test theories, as a genuine SEM test cannot be conducted without a theoretical foundation (Mueller, 1997). In the context of this study, SEM emerges as a valuable tool for empirically investigating and validating the principles and constructs proposed by agency theory and stakeholder theory. SEM empowers researchers to model and analyze complex relationships between CG, CSR, and firm performance. The majority of corporate governance variables are latent, implying that they are challenging to measure directly, as highlighted by Azim (2012). In multivariate analyses, the assumption often assumes that there is no error in the variables.

However, both practical and theoretical perspectives recognize the impossibility of perfectly measuring a latent concept without accounting for error. Structural Equation Modeling (SEM) enhances statistical estimates by explicitly accounting for this type of error. SEM is particularly advantageous because it concurrently examines a series of dependent relationships, which becomes especially beneficial when a dependent variable becomes an independent variable in subsequent relationships, as emphasized by Astrachan et al. (2014). This capability helps address the issue of multicollinearity in the analysis.

In evaluating mediation hypotheses, a bootstrap re-sampling procedure is employed. While the traditional causal step approach, introduced by Baron and Kenny (1986), is commonly used in mediation analyses, methodologists argue that it may be less suitable for small and medium samples, where the normality assumption of the sampling distribution of indirect effects (i.e., the product term a x b) could be at risk of violation (Hayes, 2009). On the contrary, the bootstrapping method, serving as a nonparametric re-sampling procedure, is capable of accommodating non-normality in the sampling distribution (Preacher and Hayes, 2008). Moreover, previous simulation studies (MacKinnon et al., 2004, 2002) have suggested that bootstrapping demonstrates greater power and a lower Type I error rate compared to the causal step approach.

For robustness, this study adheres to the bootstrap re-sampling procedure outlined in Preacher and Hayes (2008), utilizing random sample with replacement. Addressing the challenge of endogeneity requires a nuanced approach in econometrics. All forms of endogeneity have the potential to lead to inconsistent Ordinary Least Squares (OLS) estimation, as highlighted by Sajons (2020). While the ideal scenario involves eliminating measurement error, introducing omitted or unobserved variables, restricting the interpretation's generality to mend sample selection bias, estimating a system of simultaneous equations, and so on, in practice, these solutions are often unattainable. Dealing with reverse causality, in particular, is notably challenging (Kawachi et al., 2010). As an alternative, researchers often turn to the instrumental variables (IV) method, also known as two-stage least squares (2SLS). This approach entails introducing a variable Z that triggers changes in the explanatory variable but has no independent effect on

the dependent variable. This enables researchers to reveal the causal effect of the explanatory variable on the dependent variable.

This study follows a step-by-step procedure to detect the endogeneity in the data and reveals how SEM provides the vigorous results as opposed to OLS and fixed effect estimates noting that they are unable to control for endogeneity/simultaneity (Farooque et al., 2020). For this purpose, the study starts with OLS analysis, and then takes the 2SLS estimation which is required to test the endogeneity. Durbin-Wu-Hausman test is then carried out to test the endogeneity which is followed by fixed effect model. The results are reported in Tabel 4.12. Although, fixed effect model accounts for endogeneity problem, yet it fails to capture the simultaneity concern. SEM method addresses this weakness by incorporating all equations simultaneously in its estimation.

The following section delineates a systematic approach to demonstrate the superior accuracy of SEM estimates compared to OLS and fixed-effects estimates. Initially, this study employs an OLS analysis and employs the Durbin-Wu-Hausman test to identify endogeneity problems. We then use a fixed-effects model, but it is unable to account for simultaneity. Finally, the SEM model is presented, which effectively address endogeneity concerns and generate reliable estimates through a rigorous process.

3.3.1 Applying SEM Estimation

An ordinary least squares regression model may be insufficient in addressing unobserved heterogeneity, and both fixed-effects and random-effects models offer potential solutions to this challenge. Specifically, fixed-effects estimation is employed to tackle endogeneity concerns in cases where firm-specific characteristics (which are time-invariant) are correlated with the explanatory variable, as explained by Wintoki et al. (2012). Fixed-effect model assumes strict exogeneity, meaning that unobserved time-invariant factors are not correlated with the independent variables. A violation of this assumption can result in biased parameter estimates.

While fixed effect models are valuable for certain types of data and research questions, they have limitations in terms of model complexity, causal inference, and

handling missing data compared to SEM (Lowry and Gaskin, 2014). SEM, with its ability to incorporate latent variables and measurement error, provides more flexibility in handling endogeneity and omitted variable bias. SEM is a more versatile and flexible approach for modeling complex relationships among variables and is better suited for a wide range of research questions, especially those involving simultaneity and structural relationships (Ghanbar and Rezvani, 2023). However, it also comes with its own challenges, such as model complexity and the need for larger sample sizes.

3.3.2 Post Estimation Techniques

To verify whether SEM is employed as an appropriate econometric model, researchers need to conduct a post-estimation test. The Sobel test is indeed a post-estimation technique commonly used in statistics to assess the significance of a mediation effect in a statistical model, particularly in the context of linear regression or SEM (Gusmerotti et al., 2023). The Sobel test is a statistical analysis employed in mediation studies to evaluate the significance of the indirect effect of an independent variable on a dependent variable through the mediation of another variable.

This test helps determine whether the mediating variable significantly contributes to explaining the relationship between the independent and dependent variables. The Sobel test is typically applied after the parameters of the mediation model have already been estimated (Fiedler et al., 2011). It is a post-estimation test because it relies on the coefficients or path estimates obtained from the mediation model, specifically the path coefficients for the direct and indirect effects.

To utilize the Sobel test, this study first estimates the coefficients of the SEM mediation model, encompassing paths from the independent variable to the mediator (path-a), from the mediator to the dependent variable (path-b), and the total effect of the independent variable on the dependent variable (path-c). The indirect effect is subsequently calculated by multiplying the coefficients of path-a and path-b. Following this, the Sobel test is employed to ascertain whether this indirect effect (a x b) significantly differs from zero. This assessment involves

dividing the indirect effect by the standard error of the indirect effect. If the resulting test statistic is significantly different from zero, often evaluated using a normal distribution or z-test, it indicates the significance of the mediation.

3.3.3 Generalized Method of Movement (GMM) As a Robustness Test

In the user context, the interaction between explanatory variables and firm performance is dynamic. The literature suggests and confirms that past outcomes of dependent variables (performance) can influence current-year performance. This simultaneity introduces a potential challenge as it may violate strict exogeneity assumptions (Schultz et al., 2010). For example, in a fixed-effect model, the relationship between various variables related to board characteristics, ownership structure, and firm performance might be determined simultaneously.

Board size and family ownership could be influenced by the anticipated corporate performance in the same year. Consequently, using a conventional fixed-effects panel data static model may yield inconsistent and biased results (Wooldridge, 2015). Acknowledging the enhanced robustness of Generalized Method of Moments (GMM) estimation in addressing such endogeneity issues, this study performs a final check using the two-step system GMM as a robustness check. A crucial distinction between fixed-effects and GMM lies in the reliance on 'strict exogeneity' assumptions in fixed-effects estimation.

In the subsequent phase, an explanation is provided on how the two-step system GMM can effectively address these endogeneity concerns. This study employs dynamic panel data estimation to mitigate the endogeneity issues arising from reverse causality. The findings are outlined in column 4 of Table 4.12. Definitions for all explanatory variables can be found in Table 4.12. ROA(-1) signifies one lag of the dependent variable ROA (performance in the previous year), while ROA(-2) the second lag of the dependent variable, representing performance in the year before the previous year. These lags are included as explanatory variables in the GMM estimation. The GMM model effectively tackles endogeneity concerns by internally manipulating the data and incorporating lagged values of the dependent

variable. This approach substantially enhances the estimation quality of the GMM model. Essentially, the GMM method addresses various forms of endogeneity by introducing prior financial performance (lagged values of the dependent variable ROA) as an explanatory variable in the model. Notably, the GMM model adeptly manages the three primary sources of endogeneity:

(i) unobserved heterogeneity;

(ii) simultaneity; and

(iii) dynamic endogeneity.

3.3.4 Post Estimation Techniques

In the application of the Generalized Method of Moments (GMM) model, researchers are required to conduct two post-estimation tests to ensure the appropriateness of the econometric model: (i) the Sargan test; and (ii) the Arellano-Bond test for first-order and second-order correlation. A crucial assumption for the validity of GMM estimates is that instruments are exogenous (Guevara, 2018; Ullah et al., 2021).

In simple terms, GMM results may lack validity if the instruments are endogenously determined. The Sargan test is employed to evaluate the validity of the econometric model and the proper specification of instruments (Baum and Lewbel, 2019). To put it differently, if the null hypothesis is rejected, the researcher must reconsider either the model or the instruments used in the estimation process. The post-estimation Sargan test can be executed in STATA using the "estat Sargan" command. If the Sargan test indicates insignificance, it implies that the instruments included in the econometric specifications are exogenous.

To evaluate the robustness of the strong exogeneity assumption, the study employs the Arellano-Bond test for no auto-correlation. This test operates under the null hypothesis that the error terms of two different time periods are not correlated with each other (Wursten, 2018). Essentially, this implies that the lagged variables do not exhibit correlation with the error term in the governance performance equation. The post-estimation execution of this test in STATA is performed using the "estat abond" command (Ullah et al., 2021). The outcomes of the Sargan test

and Arellano-Bond test are presented in Table 4.12, where ROA is employed as the dependent variable. The p-value for lag-1 of the Arellano-Bond test is significant, whereas the results for lag-2 are insignificant, indicating the absence of serial auto-correlation in the model. Likewise, the results of the Sargan test in all three cases are insignificant, signifying that the instruments utilized are exogenous.

Chapter 4

Results and Discussion

In this chapter, results of study are reported following descriptive statistics, correlation analysis and regression analysis. The description section includes mean, median, standard deviation, maximum and minimum, Skewness and Kurtosis of different components of board structure, ownership structure and control variables. It also provides the descriptive statistics for CSR. The correlation analysis covers the relationship between variables of interest. Finally, regression analysis explains the impact of different components of board structure and ownership structure on firm performance using different measures including ROA, ROE and Tobin‘s Q ratio. The SEM technique and GMM methodology are used to study the link between board structure, ownership structure and firm performance. Also, mediation analysis is carried out to estimate mediating role of CSR on the relationship between different variables of board structure and ownership structure by using approaches developed by Baron and Kenny (1986) and Hayes and Preacher (2013).

4.1 Descriptive Statistics

Table 4.1 states descriptive statistics of dependent, independent and control variables for firms operating in BRICS countries. In descriptive statistics, the average value is measured by arithmetic mean and median, the variation is measured by standard deviation, asymmetry of the probability distribution of a random variable

TABLE 4.1: Descriptive Statistics

Variable	Mean	Median	Std. dev	Min	Max	Skewness	Kurtosis
roa	0.084	0.069	0.235	0.001	0.063	0.847	2.987
roe	0.139	0.122	0.380	0.001	0.103	0.712	2.825
tobq	2.436	1.820	4.990	0.820	1.496	0.726	1.987
csr	13.681	8.971	33.011	0.003	13.022	0.488	1.603
bs	10.315	10.000	28.000	2.000	2.958	1.189	5.953
bi	0.445	0.429	0.938	0.000	0.150	0.261	3.312
aci	0.740	0.750	1.000	0.000	0.270	-1.093	3.842
gend	0.861	1.000	1.000	0.000	0.346	-2.087	5.354
cod	0.143	0.125	0.500	0.000	0.104	0.799	3.647
famsh	0.063	0.000	0.740	0.000	0.156	2.727	9.582
instsh	0.026	0.000	0.310	0.000	0.057	2.737	11.004
forsh	0.056	0.000	0.590	0.000	0.143	2.841	9.966
lev	0.312	0.300	0.757	0.000	0.226	0.249	1.930
sg	0.153	0.117	0.656	-0.158	0.197	0.836	3.447
fcf	13.979	14.196	18.345	9.264	2.523	-0.320	2.469
fsize	17.169	17.064	20.729	13.989	1.830	0.194	2.271

Note: ROA=Return on assets, ROE= Return on Equity TOBQ = Tobin's Q BS= board size, BI = board independence, ACI= Audit committee independence, COD= CEO duality, GEND= gender diversity, FAMSH= Family shareholdings, INSTSH = Institutional shareholdings, FORSH = Foreign shareholdings, CSR=Corporate Social Responsibility, FCF= Free cash flows, SG=Sale growth, FSIZE=Firm size, LEV=Leverage

around its mean is measured through skewness and "tailedness" of the probability distribution is estimated through Kurtosis. Maximum and minimum values for each variable are also reported under descriptive statistics.

In this study, dependent variable i.e. firm performance is measured by three proxies, out of which two i.e. return on assets (ROA) and return on equity (ROE) are based on book value and one variable i.e. Tobin's Q (TOBQ) is a market based measure. Table 4.1 shows descriptive statists of all said three variables. For BRICS countries, the results of the descriptive statistics show that return on assets (ROA) has mean value of 0.084, median value is 0.069 and standard deviation is 0.063, which indicates that on average the firms in the sample generate 8.40% return on its assets, but this return can vary from year to year and from firm to firm, and the standard deviation of 6.30% shows how much the actual returns on assets tend to deviate from the average return. This level of variability can be important

for investors and analysts to consider when assessing the risk associated with the investment or the firm's performance in BRICS countries. The minimum and maximum ROA are 0.00 and 0.24 respectively. A skewness value of 0.847 indicates that the distribution of the ROA values of the firms in the sample is positively skewed. It means the right tail of the distribution is longer or more spread out than the left tail. A kurtosis value of 2.987 indicates that the distribution of the data of ROA is slightly platykurtic, specifically having heavy tails compared to a normal distribution.

The results further indicate that mean and median values of ROE are 0.139 and 0.122 respectively with standard deviation of 0.103. ROE of the firms in BRICS countries has deviation of 0.103 around the mean. The minimum and maximum values of ROE are 0.00 and 0.38 respectively. The values of skewness and Kurtosis for ROE are 0.712 and 2.825 respectively. Table 4.1 also shows mean and median values of Tobin‘s Q, which are 2.436 and 1.820 respectively with standard deviation of 1.496. The minimum and maximum values of Tobin‘s Q are 0.82 and 4.99 respectively. The values of skewness and kurtosis for Tobin‘s Q are 0.726 and 1.987 respectively.

Following Molnar et al. (2017), descriptive statistics of different aspects of two important components of corporate governance i.e. board structure comprising board size, board independence, audit committee independence, CEO duality and gender diversity and ownership structure including family ownership, institutional ownership and foreign ownership are presented in Table 4.1. Board size has mean value of 10.31 and standard deviation of 2.96. This value indicates that the average board size may differ up to 2.96 from year to year and from firm to firm. The minimum board size is 3 and the maximum number is reported as 17. The values of skewness and kurtosis for board size are 1.189 and 5.953 respectively.

Table 4.1 also shows mean and median value for board independence as 0.445 and 0.429 respectively with standard deviation of 0.150. The mean value of 0.445 indicates that on average 44.50% of board of directors are independent and 0.150 standard deviation shows that number of independent directors for firms in the sample may deviate by 15% around mean. The table also shows minimum and maximum values of 0.00 and 0.94 respectively for board independence. The values

of skewness and kurtosis for board independence are 0.261 and 3.312 respectively. The mean and median of Audit committee independence (ACI) are 0.740 and 0.750 respectively with standard deviation of 0.270. The mean value of 0.740 indicates that on average 74.00% members of audit committee are independent and 0.27 standard deviation shows that number of independent directors in audit committee for firms in the sample may deviate by 27 % around mean value of 0.74. The minimum and maximum values of audit committee independence are 0.00 and 1.00 respectively. The values of skewness and kurtosis for audit committee independence are -1.093 and 3.842 respectively.

The mean and median of CEO duality (COD) are 0.861 and 0.125 respectively with standard deviation of 0.346. The mean value of 0.861 shows that on average in 86.10 % firms, a single person holds both positions of CEO and Chairman board. The minimum and maximum values of CEO duality are 0.00 and 1.00 respectively. The values of skewness and kurtosis for CEO duality are 0.799 and 3.647 respectively. The mean and median values of 0.142 and 0.125 respectively for gender diversity (GEND) are shown in the Table 4.1 along with standard deviation of 0.104. The mean value of 0.142 shows that on average 14.20 % board members are females and the minimum and maximum values are 0.00 and 0.50 respectively. It means that there are firms in the sample with no female director and some firms have maximum 50 percent female directors. The values of skewness and kurtosis for gender diversity are -2.087 and 5.354 respectively.

Among the ownership structure, family shareholding (FAMSH) has mean and median values of 0.063 and 0.000 respectively with standard deviation of 0.156. The mean value of 0.063 shows that on average 6.30 % shares are held by family and 0.156 standard deviation shows that family shareholding for firms in the sample may deviate by 15.60 % around mean value. The minimum and maximum values of 0.00 and 0.74 respectively for family shareholding are also shown in the Table 4.1. The values of skewness and kurtosis for family shareholding are 2.727 and 9.582 respectively.

Institutional shareholding has mean and median values of 0.026 and 0.000 respectively with standard deviation of 0.057. The mean value of 0.026 shows that on average 2.60 % shares are owned by institutions and 0.057 standard deviation

shows that institutional shareholding for firms in the sample may deviate by 5.70 % around mean value. The minimum and maximum values of 0.00 and 0.31 for institutional shareholding are also shown in the Table 4.1. The values of skewness and kurtosis for institutional shareholding are 2.737 and 11.004 respectively. Foreign shareholding has mean and median values of 0.056 and 0.000 respectively with standard deviation of 0.143. The mean value of 0.056 shows that on average 5.60 % shares are owned by foreigner and 0.143 standard deviation shows that foreign shareholding for firms in the sample may deviate by 14.30 % around mean value. The minimum and maximum values for foreign shareholding are 0.00 and 0.59 respectively. The values of skewness and kurtosis for foreign shareholding are 2.841 and 9.966 respectively.

CSR has mean and median values of 12.681 and 12.971 respectively with standard deviation of 11.022. The mean value of 12.681 shows that firms in the sample spend on average 12.68% of total assets for CSR and 11.02 % standard deviation shows that percentage of CSR expenditure to total assets for firms in the sample may deviate by 11.02 % around mean value of 12.68%. The minimum and maximum values for CSR are 0.00 and 28.91 respectively. The values of skewness and kurtosis for audit committee independence are 0.488 and 1.603 respectively

The descriptive statistics also show that mean and median values of leverage are 0.312 and 0.117 respectively and standard deviation is 0.227. The mean value of 0.117 shows that firms in the sample have on average leverage of 31.2 % of total assets and 0.227 standard deviation means that leverage for firms in the sample may deviate by 22.7 % around mean value. The maximum and minimum values are 0.76 and 0.00 respectively. It means maximum leverage for any firm is 76 % and minimum is 0.00 % of total assets. The values of skewness and kurtosis for leverage are 0.249 and 1.930 respectively. The mean and median values of sales growth are 0.153 and 0.300 respectively and standard deviation is 0.198. The mean value of 0.153 shows that firms in the sample have on average sales growth of 15.3% and 19.8 % standard deviation indicates that sales growth for firms in the sample may deviate by 19.8 % around mean value. The maximum and minimum values are 0.66 and -0.16 respectively. The values of skewness and kurtosis for sales growth are 0.836 and 3.447 respectively.

The descriptive statistics also show that mean and median values of free cash flow are 13.979 and 14.196 respectively and standard deviation is 2.523. The mean value of 13.979 shows that firms in the sample have on average 13.98% of total assets in the form of free cash and 2.52 % standard deviation means that percentage of free cash flow to total assets for firms in the sample may deviate by 2.52 % around mean value. The maximum and minimum values are 18.34 and 9.26 respectively. It means maximum free cash flow for any firm is 18.34 % and minimum is 2.26 % of total assets. The values of skewness and kurtosis for free cash flow are -0.320 and 2.469 respectively. The mean and median values of firm size are 17.169 and 17.064 respectively and standard deviation is 1.830. The maximum and minimum values are 20.729 and 13.989 respectively. The values of skewness and kurtosis for firm size are 0.194 and 2.271 respectively.

4.2 Correlation Analysis

In Table 4.2, the results of the correlation analysis are reported for BRICS countries which show the relationship between variables used in the study. The results show that among the dependent variables, return on assets (ROA) is positively correlated with return on assets (ROE), Tobin‘s Q, CSR, board independence (bi), audit committee independence (aci), CEO duality (cod), gender diversity(gend), family shareholding (famsh), foreign shareholding (forsh), free cash flow (fcf), sales growth (sg), and negatively associated with board size (bs), leverage (lev), firm size (fsize) and institutional shareholding (instsh).

Likewise, the results show that return on equity has same direction of relationship with other variables of the study as of ROA. The same is true for Tobin‘s Q except for free cash flow and audit committee independence, where, Correlation of Tobin‘s Q with said variables is negative as opposed to ROA and ROE which have positive correlation with said variables. Almost similar direction of ROA, ROE and Tobin‘s Q with other variables is due to the reason that said three variables capture similar phenomena i.e. firm performance. Among the different components of board structure, board size has positive correlation with audit committee independence, CEO duality, institutional shareholding, free cash flow, leverage and firm size and

negative correlation with return on assets, return on equity, Tobin‘s Q, board independence, gender diversity, family shareholding, foreign shareholding, CSR and sales growth. Board independence is positively correlated with audit committee independence, gender diversity, CEO duality, family shareholding, institutional shareholding, and CSR and negatively correlated with foreign shareholding, free cash flow, leverage, sales growth and firm size. Audit committee independence has positive correlation with gender diversity, CEO duality, institutional shareholding, foreign shareholding, CSR, free cash flow and firm size and has negative correlation with family shareholding, leverage and sales growth. Gender diversity is positively correlated CEO duality, family shareholding, institutional shareholding and CSR and negatively correlated with foreign shareholding, free cash flow, leverage, sales growth and firm size. CEO duality has positive correlation with institutional shareholding and foreign shareholding and has negative correlation with family shareholding, CSR, free cash flow, leverage, sales growth and firm size.

Out of three components of ownership structure, family shareholding is positively correlated with CSR and sales growth and negatively correlated with institutional shareholding, foreign shareholding, free cash flow, leverage and firm size. Institutional shareholding has positive correlation with foreign shareholding, free cash flow and firm size and has negative correlation with CSR, leverage and sales growth. Foreign shareholding is positively related with free cash flow and firm size and is negatively correlated with corporate social responsibility, leverage and sales growth. Similarly correlation of CSR with control variables shows that it has positive correlation with sales growth and negative correlation with free cash flow, leverage and firm size. All the explanatory and control variables exhibit weak correlations with each other, so, there is no serious problem of multi-co-linearity. According to (Hair et al., 2011) high correlation i.e. more than 0.90 between explanatory variables might create a problem of multi-co-linearity. Further, multicollinearity problem is identified through Variance inflation factor (VIF). If value of VIF is less than 5 for each variable, it means there is no problem of multicollinearity between variables (Hair et al., 2011; Gotsch et al., 2023). It is evident from Table 4.2 that all variables under study have VIF value lesser than 2 showing that multicollinearity does not exist among variables.

Table 4.2: Correlation Matrix

Variables																	VIF
roa	1.00																1.21
roe	0.72	1.00															1.36
tobq	0.50	0.41	1.00														1.92
csr	0.09	0.11	0.14	1.00													1.06
bs	0.00	0.01	-0.17	-0.02	1.00												1.15
bi	0.09	0.08	0.05	0.06	0.01	1.00											1.35
aci	0.04	0.04	-0.06	0.01	0.15	0.37	1.00										1.20
gend	-0.02	-0.02	-0.02	-0.03	0.03	0.00	0.00	1.00									1.01
cod	0.06	0.05	0.09	0.06	-0.01	0.27	0.09	0.07	1.00								1.14
famsh	0.13	0.07	0.20	0.13	-0.15	0.03	-0.04	-0.03	0.03	1.00							1.12
instsh	-0.04	-0.04	-0.16	-0.02	0.11	0.30	0.16	0.01	0.13	-0.07	1.00						1.16
forsh	0.06	0.05	0.09	0.06	-0.01	0.27	0.09	0.07	1.00	0.03	0.13	1.00					1.18
lev	-0.39	-0.20	-0.37	-0.06	-0.01	-0.08	-0.05	-0.03	-0.11	-0.10	-0.03	-0.11	1.00				1.27
sg	0.22	0.08	0.25	0.04	-0.14	-0.03	-0.08	0.01	0.00	0.13	-0.05	0.00	-0.02	1.00			2.12
fcf	0.15	0.19	-0.22	-0.04	0.26	0.00	0.10	-0.02	-0.09	-0.13	0.02	-0.09	0.02	-0.17	1.00		1.10
fsize	-0.16	-0.06	-0.50	-0.17	0.27	0.00	0.09	-0.03	-0.20	-0.21	0.04	-0.20	0.29	0.66	-0.19	1.00	2.69
	roa	roe	tobq	csr	bs	bi	aci	cod	gend	famsh	instsh	forsh	lev	sg	fcf	fsize	

Note: ROA=Return on assets, ROE= Return on Equity TOBQ = Tobin's Q BS= board size, BI = board independence, ACI= Audit committee independence, COD= CEO duality, GEND= gender diversity, FAMSH= Family shareholdings, INSTSH = Institutional shareholdings, FORSH = Foreign shareholdings, CSR=Corporate Social Responsibility, FCF= Free cash flows, SG=Sale growth, FSIZE=Firm size, LEV=Leverage

4.3 Impact of Board Structure and Ownership on Firm Performance

In this section, regression results showing effect of different components of board structure and ownership structure on firm performance using different measures including ROA, ROE and Tobin‘s Q ratio are presented by employing SEM technique and GMM methodology. Further, mediation effect of CSR on the relationship between corporate governance and firm performance is also delineated by using models proposed by Baron and Kenny (1986) and Hayes and Preacher (2013).

In order to verify the results obtained through ROA , this study uses alternative measures of firm performance, such as Return on Equity (ROE) and Tobin‘s Q ratio to analyze the relationships between corporate governance (CG), corporate social responsibility (CSR), and firm performance. While ROA, ROE, and Tobin‘s Q are all valuable measures for financial analysis, they provide different perspectives on a company’s performance, financial structure, and market valuation. ROA and ROE are book ratios which may be subject to accounting biases and personal judgment, whereas, Tobin‘s Q is a market measure which is used to assess the market valuation of a firm relative to its asset base and can provide indications about investment opportunities and potential market mispricing.

4.3.1 Impact of Board Structure and Ownership on Firm Performance (ROA) and Mediating Role of CSR, using SEM

In this section, analysis is carried out showing impact of CG on ROA along with mediating role of CSR in the relationship between CG and ROA (Singh et al., 2018; Pham and Pham, 2020; Pucheta-Martínez and Gallego-Álvarez, 2020; Ullah et al., 2020). ROA is a financial metric that measures a company’s profitability in relation to its total assets. It provides an indication of how effectively a company is using its assets to generate profit. ROA is a useful metric for investors, analysts, and stakeholders to evaluate a company’s operational efficiency and profitability. It

highlights the effectiveness of a company's asset management strategy. A company with a high ROA may be better at managing its assets and converting them into profits. Since ROA is calculated using total assets, companies with higher debt levels may have lower ROA even if they are generating good profits. In such cases, ROA should be interpreted alongside other financial ratios like ROE to get a comprehensive view of a company's performance. In the subsequent section, effect of CG on firm performance is also analyzed using ROE as a measure of firm performance.

4.3.1.1 Impact of Board Structure and Ownership on ROA using SEM

Table 4.3 exhibits the results obtained through SEM methodology analyzing the impact of CG on ROA and the mediating role of CSR on the relationship between CG and ROA.

Table 4.3 exhibits the results obtained through SEM methodology analyzing the impact of CG on ROA. The findings indicate a positive association between board size and firm performance, aligning with stakeholder theory and resource dependency theory. This positive relationship follows the conclusions drawn by Feng et al. (2017); Badu and Appiah (2017); Singh et al. (2018), thereby supporting H1.

However, it's noteworthy that agency theory posits a negative relationship between board size and firm performance. According to agency theory, smaller boards are considered more effective in monitoring and controlling managerial actions, as individual directors may exhibit higher engagement and accountability. Additionally, Table 4.3 highlights the positive impact of board independence on firm performance for firms in BRICS countries. Independent directors are considered to be more likely to act in the best interests of shareholders rather than the interests of company's executives. They can provide valuable checks and balances, enhance accountability, and contribute to better decision-making. This positive association aligns with various theories examined in the study, including stakeholder theory, agency theory, and resource dependency theory. The findings are consistent with prior literature (Volonté, 2015; Tulung and Ramdani, 2018; Alqatan et al., 2019), and corroborate the results hypothesized by H2.

TABLE 4.3: Impact of Board Structure and Ownership on ROA using SEM

Variables	ROA	CSR
csr	0.0002***	
	(0.000)	
bs	0.061**	12.364**
	(0.029)	(5.943)
bi	0.037***	4.934***
	(0.006)	(1.131)
aci	0.0001	0.291
	(0.003)	(0.600)
cod	-0.005**	-0.945**
	(-0.002)	(0.403)
gend	0.000	0.812
	(0.008)	(1.571)
famsh	0.026***	6.726***
	(0.005)	(0.984)
instsh	0.070***	-5.197*
	(0.013)	(2.733)
forsh	0.048***	-1.985*
	(0.005)	(1.064)
lev	0.081***	1.439**
	(0.003)	(0.714)
sg	0.070***	0.602
	(0.004)	(0.082)
fcf	0.009***	0.326***
	(0.000)	(0.769)
fsize	-0.009***	-1.555***
	(0.001)	(0.122)
$\beta 0$	0.111***	27.161***
	(0.008)	(1.684)

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Regarding audit committee independence, the results presented in Table 4.3 reveal that it does not have a significant impact on firm performance for companies operating in BRICS countries. This lack of a significant relationship aligns with findings from prior studies (Hamdan et al., 2013; Zhou et al., 2018; Puwanenthiren, 2020). However, it not only contradicts stakeholder theory, agency theory, and resource dependency theory but also refutes H3. Other studies have demonstrated a positive relationship (Kallamu and Saat, 2015; Puwanenthiren, 2020; Dakhlallh et al., 2020; Alqatan et al., 2019), or a negative relationship (Leung et al., 2014; Dakhlallh et al., 2020; Pang et al., 2020), between audit committee independence

and firm performance.

Table 4.3 further portrays the influence of CEO duality on firm performance, revealing a significant negative impact. This observation is consistent with stakeholder theory, agency theory, and resource dependency theory, as well as findings by Singh et al. (2018); Pham and Pham (2020); Pucheta-Martínez and Gallego-Álvarez (2020) and Dakhlallh et al. (2019). This alignment supports H4. CEO duality can lead to a lack of checks and balances within a company. When the CEO is also the Chairman of the Board, there may be limited oversight and accountability. This can result in decisions that prioritize the CEO's interests over those of the shareholders.

The findings indicate that gender diversity has an insignificant effect on firm performance among companies in BRICS countries. This corresponds with similar studies that have shown no significant relationship between gender diversity and firm performance (Pletzer et al., 2015; Provasi and Harasheh, 2021). However, these results diverge from anticipations based on stakeholder theory, agency theory, and resource dependency theory. Additionally, the outcomes are inconsistent with previous studies demonstrating positive (Chijoke-Mgbame et al., 2020a; Liu et al., 2014; Conyon and He, 2017), and negative effects (Adams and Ferreira, 2009; Ahern and Dittmar, 2012; Dobbin and Jung, 2011). The lack of a significant impact of gender diversity on firm performance also contradicts H4.

Table 4.3 further shows effect of three variables of ownership structure including family, foreign, and institutional shareholdings on ROA. The results depict that family ownership has positive effect on firm performance. This relationship aligns with stakeholder theory, agency theory and resource dependency theory. These results follow the studies of (Koji et al., 2020; Hernández-Perlines et al., 2021; Srivastava and Bhatia, 2022), and confirms H6.

The table also outlines the impact of institutional shareholding on firm performance for BRICS countries. It is revealed from the table that relationship between said two variables is significant at 10 % level. The positive effect of institutional shareholding on firm performance is as per stakeholder theory, agency theory and resource dependency theory. Previous studies in the literature also show the same effect of institutional shareholding on firm performance (Mizuno and Shimizu,

2015; Arikawa et al., 2017, 2019; Koji et al., 2020). This study follows H7 which demonstrate positive relationship between institutional shareholding on firm performance for BRICS countries.

Moreover, the outcome of regression analysis indicates a positive effect of foreign shareholding on firm performance at 10 % level of significance. Foreign shareholders are often seen as catalysts for growth and transformation. If performance of a domestic firm falters, foreign investors may actively engage in various strategies to enhance the firm's value. This positive effect is in accordance with stakeholder theory, agency theory and resource dependency theory and as per previous studies (Moez et al., 2015; Koji et al., 2020; Kabir et al., 2020; Choi and Park, 2019), and also follows H8.

Among firm specific control variables, free cash flow, sales growth and leverage have positive impact on firm performance, whereas, firm size is negatively related with ROA which is a measure of firm performance. The positive effect of free cash flow, sales growth and leverage is in line with studies of Orlu and Rambe (2022); Das et al. (2022) and Ibhagui and Olokoyo (2018). However, the studies of (Sari, 2023) and Kartikasari and Merianti (2016) find significant negative effect of firm size on ROA.

4.3.1.2 Mediating Role of CSR in the Relationship Between Corporate Governance and ROA using Baron and Kenny (1986) Approach

This study employs the Structural Equation Model (SEM) to test the hypothesis that CSR mediates the relationship between CG and firm performance. To explain the mediation effect of CSR, the study follows three-path model presented in Figure 1, and reports the results in Table 4.4. The literature establishes following conditions for existence or non-existence of mediation in the regression analysis (Mehmetoglu, 2018):

1. If both or one of path-a and path-b is not significant, there is no mediation.

2. When both path-a, and path-b are significant, there is "some" mediation.

- 2(a) If the Sobel's z-test is significant and the path-c' is not significant, then there is complete mediation.
- 2(b) If both the Sobel's z-test and the path-c' are significant, then there is partial mediation.
- 2(c) If the Sobel's z-test is not significant but the path-c' is significant, then there is partial mediation.
- 2(d) If neither Sobel's z-test nor the path-c' are significant, then there is partial mediation.

TABLE 4.4: Mediating role of CSR in the relationship between corporate governance and ROA using Baron and Kenny (1986) approach

	SEM RESULTS			SOBEL TEST			
Variables	Path-a	Path-b	Path-c'	IE	SE	Z	P
csr		0.0002***					
Bs	12.3636**		0.0606**	0.002	0.001	1.588	0.112
Bi	4.9341***		0.0371**	0.001	0.000	2.142	0.032
Aci	0.2913		0.0001	0.000	0.000	0.476	0.634
Cod	-0.9455**		-0.0047**	0.000	0.000	-1.698	0.09
Gend	0.8123		0.0003	0.000	0.000	0.506	0.613
Famsh	6.7255***		0.0263***	0.001	0.000	2.313	0.021
Instsh	-5.1972*		0.0704***	-0.001	0.001	1.504	0.133
Forsh	-1.9849*		0.0482***	0.000	0.000	-1.486	0.137

Note: *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect Effect, SE= standard error for Sobel's z-test, P= probability of Sobel's z-test

This study uses attributes of board structure and ownership structure as proxies of corporate governance. For each variable, analysis is carried out for identifying role of CSR as mediator on the relationship between CG and firm performance. The results are reported under Table 4.4 which shows that board size has significant positive effect on CSR under path-a with coefficient of 12.364 and CSR has also positive effect on ROA with coefficient of 0.0002 under path-b It fulfills above condition (2). The results further depict that effect of board size on ROA is significant with coefficient of 0.0606 under path-c' with insignificant Sobel's z-test, which fulfills above condition (2c) meaning that there is partial mediation. The findings validate the mediating role of CSR in the relationship between board size and firm performance, measured by ROA and also confirm our hypothesis H9.

Progressing further through the analysis, Table 4.4 also indicates that board independence has coefficient of 4.934 at 1% level of significance and has positive effect on CSR under path-a and CSR has significant positive effect on ROA under path-b It fulfills above condition (2). Further, board independence exhibits a significant positive effect on ROA as demonstrated under path-c' with significant Sobel's z-test at 5 % level, which fulfills above condition (2b) showing that there is partial mediation. The outcome is in accordance with Hypothesis H10. The table also shows that audit committee independence has insignificant effect on CSR under path-a, whereas, CSR has significant positive effect on ROA under path-b It does not fulfill above condition (2). Thus, there is no mediating effect of CSR on the relationship between audit committee independence and firm performance for firms in BRICS countries. Therefore, the outcome does not substantiate H11, leading to the rejection of the hypothesis.

Further, CEO duality has coefficient of 0.945 at 5% level of significance and has negative effect on CSR under path-a and CSR has significant positive effect on ROA under path-b at 5 % level of significance. It fulfills above condition (2). Moreover, CEO duality demonstrates a negative significant effect on ROA as evidenced under path-c' accompanied by an insignificant Sobel's z-test, which fulfills above condition (2c) showing that there is partial mediation. Consequently, the results support Hypothesis H12. Moreover, during the analysis, it is noted that gender diversity does not exert a significant effect on CSR in path-a, while CSR significantly impacts ROA in path-b. However, this does not satisfy the previously mentioned condition (2). Therefore, no mediating effect is observed for CSR on the relationship between gender diversity and firm performance for firms in BRICS countries. Consequently, the result does not align with Hypothesis 13.

The results under Table 4.4 further analyze the mediating effect of CSR on the relationship between different variables of ownership structure and firm performance. Firstly, Table shows that family shareholding has coefficient of 6.726 and has significant positive effect on CSR under path-a and CSR has significant positive effect on ROA under path-b at 5 % level of significance. It fulfills above condition (2). Also, family shareholding has positive significant effect on ROA as indicated by the findings along the path-c' with significant Sobel's z-test, which fulfills above

condition (2b) showing that there is partial mediation. Hence, Hypothesis 14 is confirmed to be valid. Secondly, institutional shareholding has coefficient of -5.197 at 10% level of significance and has negative effect on CSR under path-a and CSR has significant positive effect on ROA under path-b. It fulfills above condition (2). Also, institutional shareholding has positive significant effect on ROA as is shown under path-c' with significant Sobel's z-test, which fulfills above condition (2b) showing that there is partial mediation. The result is aligned with hypothesis H15. The last component of ownership structure, foreign shareholding has coefficient of -1.985 at 10% level of significance and has significant positive effect on CSR under path-a and CSR has significant positive effect on ROA under path-b It fulfills above condition (2). Also, foreign shareholding has significant positive effect on ROA as is shown under path-c' with significant Sobel's z-test, which fulfills above condition (2b) showing that there is partial mediation. On the basis of results the study accepts hypothesis H16.

In summary, concerning various board structure variables, CSR serves as a mediator in the relationships involving board size, board independence, CEO duality, and ROA. Conversely, the results are statistically insignificant for audit committee independence and gender diversity. Likewise, in the context of various ownership structure variables, CSR functions as a mediator in the relationship between family shareholding, institutional shareholding and foreign shareholding and ROA.

4.3.1.3 Mediating Role of CSR in the Relationship Between Corporate Governance and ROA using Hayes and Preacher (2013) Approach

In addition to mediation process followed by Baron and Kenny (1986), this study also uses the method developed by Hayes and Preacher (2013) for analyzing mediating effect of CSR in the relationship between different components of corporate governance and firm performance for firms in BRICS countries. This study uses structural equation model (SEM) with the maximum likelihood estimator adjusted at the firm level for studying mediating role of CSR. SEM includes all the hypothesized paths, in addition to direct and indirect effects, to investigate the role of Corporate Social Responsibility as mediator.

Table 4.5 presents the results of the mediating model, indicating the direct, indirect and total effect of CSR as a mediating variable in the relationship between different components of CG and firms' financial performance (ROA). It is evident from the table that direct effect of board size on ROA is estimated to be 0.061 and indirect effect is 0.002. This means out of the total effect of 0.063, there is part of the effect of board size going through the mediating variable i.e. CSR. This effect is relatively small, albeit statistically significant, confirming the mediating role of CSR between board size and firm performance and endorsing hypothesis H9.

TABLE 4.5: Mediating role of CSR in the Relationship between Corporate Governance and ROA using Hayes and Preacher (2013) Approach

Variables	Path-c'/DE	Path-a	Path-b	IE	TE
Csr	0.0002***		0.0002***		
Bs	0.0606**	12.3636**		0.0020	0.0626
Bi	0.0371**	4.9341***		0.0008	0.0379
Aci	0.0001	0.2913		0.0001	0.0002
Cod	-0.0047**	-0.9455**		-0.0002	-0.0049
gend	0.0003	0.8123		0.0001	0.0004
famsh	0.0263***	6.7255***		0.0011	0.0274
instsh	0.0704***	-5.1972*		-0.0008	0.0696
forsh	0.0482***	-1.9849*		-0.0003	0.0479
Lev	-0.0810***	1.4389**		0.0002	-0.0808
Sg	0.0698***	0.3256		0.0001	0.0699
Fcf	0.0088***	0.6017***		0.0001	0.0088
fsize	-0.0092***	-1.5547***		-0.0003	-0.0094

Note: *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect Effect, TE = Total Effect

Further, direct effect of board independence on ROA is 0.037 and indirect effect is 0.001. This means out of the total effect of 0.038, some part of the effect i.e. 0.001 is going through the mediating variable i.e. CSR. Although, contribution of indirect effect towards total effect is nominal, it is still significant which confirm mediating role of board independence on the relationship between board independence and ROA. This also confirms H10 developed in this study. The direct effect of audit committee independence on ROA is 0.00008 and indirect effect is 0.00005, whereas, total effect is 0.00013. As indirect effect is 0.00005, it means out of total effect of audit committee independence on ROA, contribution of CSR is 38.46 %. Nevertheless, this effect is statistically insignificant as shown in Table 4.5. Thus,

it may be concluded that CSR does not mediate the relationship between audit committee independence and ROA. It also negates H11.

Table 4.5 also shows the results of the mediating role of CSR on the relationship between CEO duality and ROA. The result shows that direct effect of CEO duality on ROA is -0.0047 and indirect effect is -0.0002. This means out of the total effect of -0.0049, some part of the effect i.e. -0.0002 is going through the mediating variable i.e. CSR. Although, contribution of indirect effect towards total effect is nominal, it is still significant which confirms mediating role of CSR on the relationship between CEO duality and ROA. Moreover, direct effect of gender diversity on ROA is 0.0003 and indirect effect is 0.0001. This means out of the total effect of 0.0004, contribution of CSR is 0.0001 which means CSR has minor effect on the relationship between gender diversity and ROA. Nevertheless, this indirect effect is insignificant which means there is no mediation by CSR in the relationship between gender diversity and ROA.

Continuing, Table 4.5 further illustrates the direct, indirect, and total effects of the three components of ownership structure. Beginning with family shareholding, the direct impact on ROA is 0.0263 and indirect effect is 0.0011, whereas, total effect is 0.0274. The results show that out of total effect of 0.0274, indirect effect of CSR on ROA is 0.011 which is lesser than direct effect of 0.0263. It means although, mediating role of CSR on the relationship between family shareholding and ROA is minimal, still it is significant evidencing partial role of CSR as mediator.

Further, the direct effect of institutional shareholding on ROA is 0.0704 and indirect effect is -0.0008. Total effect of institutional shareholding on ROA is 0.0695. Although, indirect effect of institutional shareholding on ROA is minimal as compared to direct effect of institutional shareholding on ROA, still it is significant at 10 % level which implies mediating role of CSR on the relationship between institutional shareholding and ROA. Further, the direct effect of foreign shareholding on ROA is 0.0483 and indirect effect via CSR is -0.0003, thus totaling 0.0479. The negative value of -0.0003 indicates partial negative mediating effect of CSR on the relationship between foreign shareholding and ROA.

In summary, it is evident from the above that for different variables of board structure, CSR has significant mediating effect on the relationship between board

size, board independence, CEO duality, and ROA. However, the study does not find a significant mediating effect of CSR in the relationship between audit committee independence, gender diversity, and ROA. The results reveal significant positive role of CSR as mediator on the relationship between family shareholding and ROA and significant negative effect on the relationship between institutional shareholding, foreign shareholding, and ROA.

4.3.2 Impact of Board Structure and Ownership on Firm Performance (ROE) and Mediating Role of CSR, using SEM

In this section, analysis is carried out by using an alternate measure of firm performance i.e. return on Equity (ROE) (Shola et al., 2021; Ronoowah and Seetanah, 2023), which is an accounting based measure, and reflects the share of equity holders on net income of the firm. Return on Assets (ROE) is a key measure used by investors to assess the profitability and efficiency of a company. A consistently high ROE may be viewed positively by the investors, signaling a company's ability to generate strong returns for its shareholders. For company management, ROE serves as a performance benchmark and can influence strategic decisions related to capital allocation, investment opportunities, and operational efficiency. A consistently high return on assets may be viewed positively, signaling a company's ability to generate strong returns for its shareholders. For company management, ROE serves as a performance benchmark and can influence strategic decisions related to capital allocation, investment opportunities, and operational efficiency.

ROE enables investors and analysts to compare the performance of companies within the same industry or sector. It provides insights into which companies are more adept at generating returns on shareholders' equity. A higher return on assets suggests that a company is effectively generating profits from the equity provided by its shareholders, indicating strong financial performance and efficient utilization of equity capital. Conversely, a lower return on equity may raise concerns about the company's profitability and the effectiveness of its operations in generating returns for shareholders.

TABLE 4.6: Impact of Board Structure and Ownerhsip on ROE using SEM

Variables	ROE	CSR
csr	0.001***	
	(0.000)	
bs	0.023**	12.364**
	(0.012)	(5.943)
bi	0.063***	4.934***
	(0.010)	(1.131)
aci	-0.004	0.291
	(0.005)	(0.600)
cod	-0.006*	-0.945**
	(0.004)	(0.403)
gend	0.017	0.812
	(0.014)	(1.571)
famsh	0.019**	6.726***
	(0.009)	(0.984)
instsh	0.134***	-5.197*
	(0.024)	(2.733)
forsh	0.088***	-1.985*
	(0.009)	(1.064)
lev	-0.054***	1.439**
	(0.006)	(0.714)
sg	0.046***	0.326
	(0.007)	(0.769)
fcf	0.014***	0.602***
	(0.001)	(0.082)
fsize	-0.013***	-1.555***
	(0.001)	(0.122)
$\beta 0$	0.141***	27.161***
	(0.015)	(1.684)

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

4.3.2.1 Impact of Board Structure and Ownership on Firm Performance (ROE) Through SEM

The outcomes of SEM technique examining the effect of CG on ROE are presented in Table 4.6. The results show that out of five components of board structure, board size and board independence have significant positive effect on ROE, whereas, CEO duality has significant negative impact on ROE. However, audit committee independence and gender diversity have insignificant effect on ROE. The impact of various board structure variables on ROE in Table 4.6, mirrors the

findings for ROA in Table 4.3, which are measured using the SEM technique. This further substantiates the outcomes at this level and affirms their robustness. The studies of (Bunget et al., 2020; Putra et al., 2022; Kanakriyah, 2021; Bansal and Singh, 2022), also report the same results in the literature.

All three variables of ownership structure, family shareholding, institutional shareholding and foreign shareholding have positive effect on ROE as reported in Table 4.6. The same results are shown in Table 4.3 where ROA is used as measure of firm performance. These results follow studies of (Okewale et al., 2020; Santoso and Santasyacitta, 2020; Laporšek et al., 2021; Kirimi et al., 2022), where ROE is used as a dependent variable.

4.3.2.2 Mediating Role of CSR in the Relationship Between Corporate Governance and ROE using Baron and Kenny (1986) approach

To examine the mediating role of corporate social responsibility (CSR) in the relationship between corporate governance (CG) and ROE, this study utilizes the SEM technique. Both models proposed by Baron and Kenny (1986) and Hayes and Preacher (2013) are employed to analyze the mediating effect of CSR on the relationship between various components of CG and ROE. For the analysis based on the methodology suggested by Baron and Kenny (1986), this study adopts the three-path model illustrated in Figure 3.1 and presents the results in Table 4.7.

The results presented in Table 4.7 delineate the mediating effect of Corporate social responsibility on the relationship between two components of Corporate Governance, namely board structure and ownership structure. The impact of various variables from both board structure and ownership structure on CSR is presented under path-a. The findings closely resemble those observed in Table 4.4, where ROA is employed as a measure of firm performance. Further, it is observed that effect of CSR on ROE is significant under path-b which is as per the results reported in Table 4.4 where, ROA is used as a proxy of firm performance. The column labeled path-c' details the impact of board sturcture and ownership structure on firm performance, utilizing return on equity (ROE) as a metric for financial performance. The results are interpreted in the context of the methodology and conditions employed by Mehmetoglu (2018).

TABLE 4.7: Mediating role of CSR in the Relationship between Corporate Governance and ROE using Baron and Kenny (1986) approach

		SEM RESULTS			SOBEL TEST		
Variables	Path-a	Path-b	Path-c'	IE	SE	Z	P
csr		0.0006***					
bs	12.364**		0.023**	0.007	0.004	1.919	0.055
bi	4.934***		0.063***	0.003	0.001	3.278	0.001
aci	0.291		-0.004	0.000	0.000	0.483	0.629
cod	-0.946**		-0.006*	-0.001	0.000	-2.122	0.034
gend	0.812		0.017	0.000	0.001	0.514	0.607
famsh	6.726***		0.019**	0.004	0.001	4.018	0.000
isntsh	-5.197*		0.134***	-0.003	0.002	-1.776	0.076
forsh	-1.985*		0.088***	-0.001	0.001	-1.746	0.081

Note: *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect Effect, SE= standard error for Sobel's z-test, P= probability of Sobel's z-test

The results illustrate that the effect of board size on CSR is significant under path-a. In path-b, it is established that CSR significantly influences ROE. Additionally, the effect of board size on ROE is significant under path-c', with an insignificant Sobel's z-test, satisfying condition (2c) and indicating partial mediation. The similar result is shown for ROA in Table 4.4.

Additionally, board independence demonstrates a significant positive effect on both CSR and ROE, as evidenced simultaneously under path-a and path-c' with significant Sobel's z-test, which fulfills above condition (2b) showing that there is partial mediation. The same result is shown for ROA in Table 4.4. Table 4.7 shows that audit committee independence has insignificant effect on CSR under path-a, whereas, CSR has significant positive effect on ROE under path-b. It does not fulfill above condition (2). Thus, there is no mediating effect of CSR on the relationship between audit committee independence and ROE for firms in BRICS countries. This result is consistent with the results for ROA in Table 4.4.

Table 4.7 depicts that CEO duality has significant negative effect on CSR at 5% level under path-a and ROE at 10 % level as shown under path-c' with significant Sobel's z-test at 5 % level, which fulfills above condition (2b) showing that there is a partial mediation. This aligns with the findings presented in Table 4.4, where ROA is used as a proxy for firm performance. The result also shows that gender diversity has insignificant effect on CSR under path-a. It does not fulfill above

condition (2). Thus, there is no mediating effect of CSR on the relationship between gender diversity and ROE for firms in BRICS countries. The similar result is shown in Table 4.4 where ROA is used as a measure of firm performance.

Table 4.7 indicates that family shareholding has a positive and significant effect on both CSR under path-a, and ROE under path-c' with significant Sobel's z-test, which fulfills above condition (2b) showing that there is partial mediation. The results are in line with the results in Table 4.4 where ROA is used as a measure of firm performance. For institutional shareholding and foreign shareholding, path-a and Sobel's z-test are significant at 10 % level and path-c' is significant at 1 % level. It fulfills condition (2b) above, meaning that there is partial mediation by CSR on the relationship between institutional shareholding, foreign shareholding and ROE. The mediating effect of CSR on the relationship between institutional shareholding and ROE is negative which is similar as reported in Table 4.4, where ROA is used as a measure of firm performance.

In summary, the mediating role of CSR in the relationship between various components of CG and ROE is consistent with that observed for ROA. This shows that CSR mediates relationship between CG and ROE in the same way as it does on the relationship between CG and ROA. This confirms robustness of the ROE as a measure of firm performance.

4.3.2.3 Mediating Role of CSR in the Relationship Between Corporate Governance and ROE using Hayes and Preacher (2013) Approach Through SEM

This study also uses the method developed by Hayes and Preacher (2013) for analyzing mediating effect of CSR for firms in BRICS countries. Table 4.8 presents the result showing the direct, indirect and total effect of CSR as a mediating variable in the relationship between different components of CG and ROE.

Table 4.8 shows that direct effect of board size on ROE is 0.023, indirect effect is 0.0072 and total effect is 0.0307. The effect of indirect to direct effect is 0.313 and ratio of indirect to total effect is 0.235 which shows that CSR plays a mediating role in the relationship between board size and ROE. The similar result is found

TABLE 4.8: Mediating role of CSR in the Relationship between Corporate Governance and ROE using Hayes and Preacher (2013) approach

Variables	Path-c'/DE	Path-a	Path-b	IE	TE
csr	0.0006***		0.0006***	0.000	0.0006
bs	0.023**	12.3636**		0.0072	0.0307
bi	0.063***	4.9341***		0.0029	0.0655
aci	-0.004	0.2913		0.0002	-0.0038
cod	-0.006*	-0.9455**		-0.0006	-0.0066
gend	0.017	0.8123		0.0005	0.0171
famsh	0.019**	6.7255***		0.0039	0.023
instsh	0.134***	-5.1972*		-0.003	0.131
forsh	0.088***	-1.9849*		-0.0012	0.0868
lev	-0.054***	1.4389**		0.0008	-0.0527
sg	0.046***	0.3256		0.0002	0.046
fcf	0.014***	0.6017***		0.0004	0.0145
fsize	-0.013***	-1.5547***		-0.0009	-0.014

Note: *** p¡0.01, ** p¡0.05, * p¡0.1, IE = Indirect Effect, TE = Total Effect

for ROA in Table 4.5. Further, direct effect of board independence on ROE is 0.063 and indirect effect is 0.0029. This means out of the total effect of 0.0655, some part of the effect i.e. 0.0029 is going through the mediating variable i.e. CSR. Although, contribution of indirect effect towards total effect is nominal, it is still significant which confirms mediating role of CSR on the relationship between board independence and ROE. The mediating effect of CSR for ROE confirms robustness of the study as the similar result is generated when ROA is used as a measure of performance in Table 4.5.

Table 4.8 further depicts the result of the mediating role of CSR on the relationship between audit committee independence and ROE. The direct effect is -0.004 and indirect effect is 0.0002, whereas, total effect is -0.0038. Indirect effect is 0.0002 which means that although minimum, CSR positively mediates the negative relationship between audit committee independence and ROE. Nevertheless, indirect

effect is insignificant, implying that CSR does not mediate the relationship between audit committee independence and ROE. This result is consistent with the results presented in Table 4.5 where ROA is used as measure of firm performance.

Table 4.8 shows the mediating role of CSR in the relationship between CEO duality and ROE. The result shows that direct effect of CEO duality on ROE is -0.0060 and indirect effect is -0.0006. This means out of the total effect of -0.0066, some part of the effect i.e. -0.0006 is going through the mediator variable i.e. CSR. Although, contribution of indirect effect towards total effect is nominal, it is still significant which confirms mediating role of CSR on the relationship between CEO duality and ROE. The result is same as per above where ROA is used as a measure of firm performance in Table 4.5.

The result further shows that direct effect of gender diversity on ROE is 0.017, indirect effect is 0.0005 and total effect is 0.0171. Although, CSR has indirect effect on the relationship between gender diversity and ROE, it is insignificant. Thus, it may be concluded that CSR does not play mediating role on the relationship between gender diversity and ROE. The similar result is presented in Table 4.5 where ROA is used as a measure of firm performance. This also confirms robustness of the result. The direct, indirect and total effects of family shareholding on ROE are presented in Table 4.8. The direct effect of family shareholding on ROE is 0.019 and indirect effect is 0.0039, whereas, total effect is 0.0230. The results show that out of total effect of 0.0230, indirect effect of CSR on ROE is 0.0039 which is lesser than direct effect of 0.019. This shows partial mediating role of CSR on the relationship between family shareholding and ROE. The similar result is obtained when ROA is used as measure of firm performance in Table 4.5.

Moving forward in the table, the direct, indirect, and total effects of institutional shareholding on ROE are presented. The direct effect of institutional shareholding on ROE is 0.134 and indirect effect is -0.0030. Total effect of institutional shareholding on ROE is 0.0131. Although, indirect effect is minimal as compared to direct effect of institutional shareholding on ROE, still it is significant at 10 % and negative which confirms mediating role of CSR. The result is in line with the result reported in Table 4.5 where ROA is used as a measure of firm performance and CSR significantly and negatively mediates the relationship between institutional

shareholding and ROA. Finally, Table 4.8 depicts direct, indirect and total effect of foreign shareholding on ROE. It is evident that direct effect of foreign shareholding on ROE is 0.088 and indirect effect via CSR is -0.0012, thus totaling 0.0866. The negative indirect effect of -0.0012 demonstrate partial mediating effect of CSR. The same is true for the relationship between foreign shareholding and ROA as shown in Table 4.5. In summary, it is marked from the above discussion that mediating effect of CSR on the relationship between various components of CG and ROE is the same as derived for CG and ROA under methodology proposed by Hayes and Preacher (2013). The results presented above confirm robustness of the variables, model and methodology used in the study.

4.3.3 Impact of Board Structure and Ownership on Firm Performance (Tobin‘s Q) and Mediating Role of CSR, using SEM

This section examines the impact of CG on firm performance and the mediating role of CSR in the relationship between CG and Tobin‘s Q ratio using another measure of firm performance, namely Tobin‘s Q ratio (Bennouri et al., 2018; Singh et al., 2018). Tobin‘s Q ratio is a market-based indicator that is less susceptible to accounting manipulation and earnings management. It reflects the market's expectations of a firm's future income and is often used as an indicator of investment opportunities. A ratio greater than 1 suggests that the company's market value exceeds the cost of replacing its assets, indicating potential overvaluation. Conversely, a ratio less than 1 may indicate undervaluation relative to the replacement cost of assets. Tobin‘s Q plays a crucial role in investment decisions. High ratios incentivize firms to invest as the market value of their assets surpasses their replacement cost, while low ratios may reduce firms' inclination to invest.

The results testing effect of CG on Tobin‘s Q ratio are shown in Table 4.9. The mediating effect of CSR on the relationship between CG and Tobin‘s Q ratio following model proposed by Baron and Kenny (1986) is presented in Table 4.10 and results of mediation vide methodology presented by Hayes and Preacher (2013) are shown in Table 4.11.

4.3.3.1 Impact of Board Structure and Ownership on Firm Performance (Tobin's Q) using SEM

Table 4.9 depicts that among five components of board structure, board size and board independence have positive effect on Tobin's Q. These results are in line with the studies of El-Faitouri (2014); Tulung and Ramdani (2018) and Brahma et al. (2021), where Tobin's Q ratio is used as measure of firm performance. CEO duality has negative impact on Tobin's Q ratio. Audit committee independence and gender diversity have insignificant effect on Tobin's Q ratio. These results are in line with results obtained through ROA and ROE.

TABLE 4.9: Impact of Board Structure and Ownership on Tobin's Q using SEM

Variables	TOBQ	CSR
csr	0.004***	
	(0.001)	
Bs	1.386**	12.364**
	(0.635)	(5.943)
bi	1.042***	4.934***
	(0.121)	(1.131)
aci	-0.243***	0.291
	(0.064)	(0.600)
cod	-0.128***	-0.945**
	(0.043)	(0.403)
gend	-0.228	0.812
	(0.168)	(1.571)
famsh	0.546***	6.726***
	(0.106)	(0.984)
instsh	-4.262***	-5.197*
	(0.292)	(2.733)
forsh	1.581***	-1.985*
	(0.114)	(1.064)
lev	-1.394***	1.439**
	(0.076)	(0.714)
sg	1.164***	0.602
	(0.082)	(0.082)
fcf	0.074***	0.326***
	(0.009)	(0.769)
fsize	-0.395***	-1.555***
	(0.013)	(0.122)
$\beta 0$	8.355***	27.161***
	(0.184)	(1.684)

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

The studies of (Leung et al., 2014; Pucheta-Martínez and Gallego-Álvarez, 2019; Bansal and Sharma, 2016; Kao et al., 2019; Potharla and Amirishetty, 2021), also

find similar effect of said variables on Tobin‘s Q ratio. Further, out of three components of ownership structure, two components including family shareholding and foreign shareholding have positive effect on Tobin‘s Q as shown in Table 4.9, whereas, institutional shareholding exhibits negative relationship with Tobin‘s Q ratio. The positive effect of family shareholding and foreign shareholding on Tobin‘s Q ratio is in line with studies of Guo and Platikanov (2019); Koji et al. (2020) and Nofal (2020), who use Tobin‘s Q ratio as a market measure of firm performance. The negative effect of institutional shareholding on Tobin‘s Q ratio is also evidenced in the studies of Gurusamy (2017), and Tsouknidis (2019). The impact of family shareholding and foreign shareholding on Tobin‘s Q ratio is the same as Table 4.3 where ROA is used as a measure of firm performance. Nevertheless, negative effect of institutional shareholding on Tobin‘s Q ratio is different from positive effect of institutional shareholding on ROA as is shown in Table 4.3.

4.3.3.2 Mediating Role of CSR in the Relationship Between Corporate Governance and Tobin‘s Q Ratio using Baron and Kenny (1986) Approach Through SEM

To examine the robustness regarding mediating role of CSR on the relationship between CG and Tobin‘s Q ratio, this study employs SEM technique. Both models presented by Baron and Kenny (1986) and Hayes and Preacher (2013) are applied to analyze mediating effect of CR. For analysis under the methodology proposed by Baron and Kenny (1986), this study reports the results in Table 4.10.

Table 4.10 shows effect of different variables of board structure and ownership structure on CSR under path-a which are same as in Table 4.4 where ROA is used as a measure of firm performance. Further, effect of CSR on Tobin‘s Q ratio is significant under path-b. The significant effects under path-a and path-b fulfill condition-2 of the mediation process proposed by (Mehmetoglu, 2018). The results depict that effect of board size on Tobin‘s Q ratio is significant under path-c’ with insignificant Sobel’s z-test, which fulfills above condition (2c) meaning that there is a partial mediation. The same result is shown for ROA under Table 4.4. Also, board independence has positive significant effect on Tobin‘s Q ratio as is shown under path-c’ with significant Sobel’s z-test, which fulfills above condition

TABLE 4.10: Mediating role of CSR in the relationship between corporate governance and Tobin's Q using Baron and Kenny (1986) approach

	SEM RESULTS			SOBEL TEST			
Varibales	Path-a	Path-b	Path-c'	IE	SE	Z	P
csr		0.0043***					
bs	12.3636**		1.3861**	0.053	0.031	1.699	0.089
bi	4.9341***		1.0421***	0.021	0.009	2.439	0.015
aci	0.2913		-0.2432***	0.001	0.003	0.479	0.632
cod	-0.9455**		-0.1279***	-0.004	0.002	-1.835	0.067
gend	0.8123		-0.2282	0.003	0.007	0.509	0.611
famsh	6.7255***		0.5456***	0.029	0.011	2.702	0.007
isntsh	-5.1972*		-4.2622	-0.022	0.014	-1.597	0.11
forsh	-1.9849*		1.5805***	-0.008	0.005	-1.575	0.115

Note: *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect Effect, SE= standard error for Sobel's z-test, P= probability of Sobel's z-test

(2b) showing that there is a partial mediation which follows the result shown for ROA in Table 4.4. Table 4.10 further shows that audit committee independence has insignificant effect on CSR under path-a, whereas, CSR has significant positive effect on Tobin's Q ratio under path-b. It does not fulfill above condition (2). Thus, there is no mediating effect of CSR on the relationship between audit committee independence and Tobin's Q ratio for firms in BRICS countries. This result is same as for ROA in Table 4.4.

CEO duality has significant effect on Tobin's Q ratio as is shown under path-c' with significant Sobel's z-test at 10 % level, which fulfills above condition (2b) showing that there is a partial mediation. This result aligns with what is presented in Table 4.4, where ROA is used as a proxy for firm performance, indicating a partial mediation by CSR in the relationship between CEO duality and ROA. Table 4.10 further shows that gender diversity has insignificant effect on CSR under path-a. It does not fulfill above condition (2). Thus, there is no mediating effect of CSR on the relationship between gender diversity and Tobin's Q ratio. Nevertheless, same result is shown in Table 4.4, where ROA is used as a measure of firm performance.

Table 4.10 further shows that family shareholding has significant positive effect on Tobin's Q ratio as is shown under path-c' with significant Sobel's z-test, which fulfills above condition (2b) showing that there is partial mediation. The similar result is shown in Table 4.4, where ROA is used as a measure of firm performance.

For institutional shareholding and foreign shareholding, path-a and Sobel's z-test are significant at 10 % level and path-c' is significant at 1 % level. It fulfills condition (2b) above, meaning that there is a partial mediation by CSR on the relationship between institutional shareholding and foreign shareholding and Tobin‘s Q ratio. In summary, mediation role of CSR in the relationship between different components of CG and Tobin‘s Q ratio is the same as for ROA. This shows that CSR mediates relationship between CG and Tobin‘s Q ratio in the same way as it does on the relationship between CG and ROA. This confirms validity of the Tobin ‘s Q ratio as measure of firm performance.

4.3.3.3 Mediating Role of CSR in the Relationship Between Corporate Governanceand Tobin‘s Q Ratio using Hayes and Preacher (2013) Approach Through SEM

Table 4.11 presents the results of the mediating model proposed by Hayes and Preacher (2013), indicating the direct, indirect and total effect of CSR as a mediating variable in the relationship between different components of CG and Tobin‘s Q ratio. Table 4.11 shows that direct effect of board size on Tobin‘s Q ratio is 1.3862, indirect effect is 0.0526 and total effect is 1.4387. Although nominal, indirect effect of CSR on the relationship between board size and Tobin‘s Q ratio is significant which confirms the mediating role of CSR. The same result is found for ROA as is shown in Table 4.5.

Further, direct effect of board independence on Tobin‘s Q ratio is 1.0421 and indirect effect is 0.0210. This means out of the total effect of 1.0631, some part of the effect i.e. 0.0210 is going through the mediating variable i.e. CSR which confirms mediating role of CSR on the relationship between board independence and Tobin‘s Q ratio.

The mediating effect of CSR for relationship between board independence and Tobin‘s Q ratio confirms robustness of the study as the same result is generated when ROA is used as a measure of performance in Table 4.5.

Table 4.11 depicts the results of the mediating role of CSR on the relationship between audit committee independence and Tobin‘s Q ratio. The result shows

TABLE 4.11: Mediating role of CSR in the relationship between corporate governance and Tobin's Q using Hayes and Preacher (2013) approach

Variables	Path-c'/DE	Path-a	Path-b	IE	TE
csr	0.0043***		0.0043***	0.000	0.0043
bs	1.3861**	12.3636**		0.0526	1.3335
bi	1.0421***	4.9341***		0.021	1.0631
aci	-0.2432***	0.2913		0.0012	-0.242
cod	-0.1279***	-0.9455**		-0.004	-0.1319
gend	-0.2282	0.8123		0.0035	-0.2248
famsh	0.5456***	6.7255***		0.0286	0.5743
instsh	-4.2622***	-5.1972*		-0.0221	-4.2843
forsh	1.5805***	-1.9849*		-0.0085	1.5721
lev	-1.3945***	1.4389		0.0061	-1.3884
sg	1.1639***	0.3256***		0.0014	1.1653
fcf	0.0735***	0.6017***		0.0026	0.0761
fsize	-0.3946***	-1.5547***		-0.0066	-0.4012

Note: *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect Effect, TE = Total Effect

that direct effect of audit committee independence on Tobin's Q ratio is -0.2432 and indirect effect is 0.0012, whereas, total effect is -0.2420. The share of indirect effect in total effect is not only minimal; it is also insignificant which means that CSR does not mediate relationship between audit committee independence and Tobin's Q ratio. The same result is found for ROA in Table 4.5. The result further shows that direct effect of CEO duality on Tobin's Q ratio is -0.1279 and indirect effect is -0.0040. This means CSR partially mediates the relationship between CEO duality and Tobin's Q ratio. The result is same as above when ROA is used as a measure of firm performance in Table 4.5. Concerning gender diversity, Table 4.11 reveals a direct effect of -0.2282, an indirect effect of 0.8123, and a total effect of -0.2248 on Tobin's Q ratio. As path-a is insignificant, it means CSR does not mediate relationship between CEO duality and Tobin's Q ratio. The same result is shown for ROA as is shown in Table 4.5.

The direct, indirect and total effects of family shareholding on Tobin's Q ratio are presented in Table 4.11. The direct effect of family shareholding on Tobin's Q ratio is 0.5456 and indirect effect is 0.0286, whereas, total effect is 0.5743. The results show that out of total effect of 0.5743, indirect effect of CSR on Tobin's Q ratio is 0.0286 which is lesser than direct effect of 0.019. This shows partial mediating

role of CSR on the relationship between family shareholding and Tobin‘s Q ratio. The same result is obtained when ROA is used as measures of firm performance as shown in Table 4.5.

The direct effect of institutional shareholding on Tobin‘s Q ratio is – 4.2622, indirect effect is -0.0221 and the total effect of institutional shareholding on ROE is -4.2843. The indirect effect is minimal as compared to direct effect of institutional shareholding on Tobin‘s Q ratio; still it is significant which confirm mediating role of CSR on the relationship between institutional shareholding and Tobin‘s Q ratio. The same result is found for ROA in Table 4.5.

The third and final component of ownership structure, foreign shareholdings is detailed in Table 4.11, depicting the direct, indirect, and total effects on Tobin‘s Q ratio. It is evident that direct effect of foreign shareholding on Tobin‘s Q ratio is 1.5805 and indirect effect via CSR is -0.0085, thus totaling 1.5721. The negative indirect effect of -0.0085 suggests partial negative mediating effect of CSR on the relationship between foreign shareholding and Tobin‘s Q ratio. The same is true for the relationship between foreign shareholding and ROA as shown in Table 4.5.

It is evident from the above that mediating effect of CSR on the relationship between various components of board structure and ownership structure and Tobin‘s Q ratio is the same as is for the relationship between said variables and ROA.

4.4 Robustness of the Study

Earlier in this chapter, the results obtained using Structural Equation Modeling (SEM) technique are discussed. In the subsequent section, Generalized Method of Moments (GMM) technique is employed as an alternative to SEM to validate the results and ensure their robustness. All measures of firm performance including ROA, ROE and Tobin‘s Q used for SEM technique are also employed using GMM methodology.

Being widely used in research, initially OLS analysis is carried out to analyze effect of different variables of corporate governance on firm performance. Moving from Ordinary Least Squares (OLS) to GMM, through 2 SLS and Fixed effect model,

involves a progression in the way one approaches estimating parameters and testing hypotheses in econometric and statistical models. OLS assumes that the errors (residuals) are homoscedastic and serially uncorrelated. If these assumptions are violated, OLS estimates can be inefficient or biased. OLS might not be suitable for models with endogenous regressors or when instruments are required.

To address endogeneity, instrumental variables (IVs) are used. IVs are variables that are correlated with the endogenous regressors but uncorrelated with the error term. The first stage of 2SLS involves regressing the endogenous variables on the instruments to obtain predicted values or "first-stage" residuals. In the second stage, dependent variable is regressed on the predicted values from the first stage and the other exogenous variables. This gives 2SLS estimates of the coefficients.

While 2SLS is a valuable method for addressing endogeneity by using instrumental variables, it does not directly control for unobserved individual-specific heterogeneity. If there are time-invariant unobserved factors like individual abilities, innate characteristics, etc., affecting the dependent variable and correlated with the explanatory variables, 2SLS might not fully address this issue.

If unobserved individual-specific heterogeneity is influencing the dependent variable and is correlated with the explanatory variables, one might consider using fixed effects (FE). The fixed effects estimator controls for time-invariant unobserved individual-specific heterogeneity, thereby providing consistent estimates of the coefficients on the time-varying explanatory variables. FE estimation is particularly useful in panel data settings where individual-specific effects can play a significant role in determining the dependent variable.

While FE controls for time-invariant unobserved heterogeneity, it assumes that all unobserved factors are time-invariant. If there are time-varying unobserved factors correlated with the explanatory variables, FE might still suffer from endogeneity issues. FE does not allow for the inclusion of time-invariant variables because they are differenced out. GMM is a more general framework for estimating parameters in econometric models. It allows for the inclusion of both time-invariant and time-varying variables, and it can handle more complex models with multiple equations, non-linearity, and other complexities. In line with studies of Wintoki et al. (2012) and Ullah et al. (2021), tests for endogeneity are applied to find out

whether results under OLS model show consistency or otherwise. OLS results under columns 1 of Table 4.12 show that board size, board independence, audit committee independence, gender diversity, institutional shareholding and foreign shareholding do not play any significant role to improve the firm performance which is not in line with the prior research Conyon and He (2017) and Singh et al. (2018). It seems that the estimation technique i.e. OLS does not provide consistent results and some superior technique may be used for better results. Following model is used to test different techniques including OLS, 2 SLS, Fixed effect and GMM for verifying which econometric technique provides best consistent and unbiased estimators as compared to others:

$$FFP_{it} = \alpha_0 + \sum_{j=1}^{5} \alpha_1 BS_{it} + \sum_{j=1}^{3} \alpha_2 OS_{it} + \sum_{j=1}^{4} \alpha_3 Firm_{it} + \varepsilon_{it} \tag{4.1}$$

Where, FFP_{it} refers to one of the measures of firm financial performance (ROA, ROE or Tobin‘s Q) for the company i at time t; BC is board structure which is a vector of five variables including board size, board independence, audit committee independence, CEO duality and gender diversity; OS is ownership structure which is a vector of three attributes i.e. family shareholding, institutional shareholding, and foreign shareholding; Firm means control variables including free cash flows, sales growth, size of the firm and leverage.

4.4.1 Detecting Endogeneity Bias

Exogeneity is one of the basic conditions for analysis which holds that the explanatory variables on the right hand side of equation should not be correlated with the error term, and if correlated, it causes endogeneity. The Durbin–Wu–Hausman test establishes whether explanatory variables are endogenous and uncorrelated with the residuals or error term (Durbin, 1954; Hausman, 1978; Wu, 1973).

Literature revels that there is endogeneity problem between firm performance and different components of board structure including board size, board independence, audit committee independence, CEO duality and gender diversity, and ownership

TABLE 4.12: Endogeneity

Variable	OLS	2SLS	Fix Effect	GMM
roa(-1)				0.7524***
				(0.0148)
bs	0.000	-0.098**	0.000	0.2335***
	(0.000)	(0.040)	(0.000)	(0.0682)
bi	0.037***	-0.183**	0.004	0.0513***
	(0.006)	(0.093)	(0.006)	(0.0093)
aci	0.000	0.118**	0.010**	0.0042
	(0.003)	(0.050)	(0.004)	(0.0043)
cod	0.007***	0.042***	0.000	0.0039***
	(0.002)	(0.018)	(0.002)	(0.0015)
gend	-0.002	0.088**	-0.035***	0.0007
	(0.007)	(0.052)	(0.010)	(0.0082)
famsh	0.028***	-0.149**	0.016**	0.2084***
	(0.005)	(0.075)	(0.010)	(0.0201)
instsh	0.070***	0.258**	-0.050***	0.3629***
	(0.013)	(0.149)	(0.016)	(0.0361)
forsh	0.048***	-0.134**	-0.010	0.0185***
	(0.005)	(0.078)	(0.011)	(0.0057)
lev	-0.080***	0.018***	-0.046***	0.0137***
	(0.004)	(0.004)	(0.005)	(0.001)
sg	0.070***	-0.006	0.060***	0.0972***
	(0.004)	(0.036)	(0.003)	(0.0056)
fcf	0.009***	-0.116***	0.003***	0.0234***
	(0.000)	(0.023)	(0.000)	(0.0045)
fsize	-0.009***	0.027**	-0.011***	0.0113***
	(0.001)	(0.015)	(0.001)	(0.0015)
$\beta 0$	0.106***	0.380***	0.226***	0.0561***
	(0.008)	(0.118)	(0.018)	(0.0186)

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

structure including family, institutional and foreign shareholdings (Kao et al., 2019). As per Wintoki et al. (2012) and Ullah et al. (2021), if one variable in the model is endogenous, results of OLS method are biased and inconsistent. In order to test endogeneity between firm performance and corporate governance, this study uses STATA software in which it is assumed that board size is an endogenous variable and there exists reverse causality between firm performance and board size (Karim et al., 2020; Papangkorn et al., 2021).

As per STATA settings, Endogeneity test is applied using 2SLS where different variables of board Structure and ownership structure are taken as independent variables along with control variables (free cash flows, leverage, sales growth, firm

size), and firm performance as dependent variable. Board size is taken as endogenous variable. Next, Durbin-Wu- Hausman test is applied, with null hypothesis that board size is exogenous, to determine whether board size is endogenous variable as predicted or otherwise.

Test of Endogeneity H0: Variables are exogenous

Durbin (score) Chi2(1) = 167.696 (p = 0.000)

Wu-Hausman F(1,4531) = 172.58 (p = 0.000)

A significant statistic of Durbin–Wu–Hausman test for an explanatory variable indicates that the variable is endogenous – the explanatory variable is correlated with the residuals or error term. The values of Durbin-Wu- Hausman test are significant meaning that board size is endogenous variable. Prior research also reveals that a firm with poor performance in one year may change its board size or the percentage of non-executive directors in the following year (Wintoki et al., 2012). If a single variable in the econometric specification is endogenous, obviously, researchers need to implement a superior estimation technique that provides more consistent estimates than OLS.

Although results of Durbin-Wu- Hausman test for other independent variables are not reported, yet endogeneity issues are found in majority of the variables including audit committee independence, CEO duality, family shareholding and foreign shareholding. This necessitates use of another estimation technique like fixed effect method. From an econometrics perspective, and theoretically, it makes sense that some of the corporate governance mechanisms and firm performance could be endogenously determined (Shao, 2019; Mishra et al., 2021; Nashier and Gupta, 2023).

4.4.2 Applying Fixed-Effects Estimation

In the next step, fixed effect model is applied to control for endogeneity identified previously. The results are reported in column 3 of Table 4.12. It is obvious from the results that previously insignificant results for board size, board independence, CEO duality and foreign shareholding under OLS are turned into significant in line with previous studies (Kallamu and Saat, 2015; Conyon and He, 2017; Naimah,

2017). Fixed effect model works under assumption of strict exogeneity. Strict exogeneity means that a firm's current governance mechanisms are not affected by any change in a firm's past and present financial performance (Schultz et al., 2010; Wintoki et al., 2012). However, in reality, this assumption of strict exogeneity is violated because a firm's past/current performance may affect the current/future governance structure of a firm. In a fixed-effects model, firm-specific fixed effects are incorporated in the econometric model by either including a set of firm-specific indicator variables into the regression, or by internally transforming (differencing) to eliminate the time invariant components (Hamilton and Nickerson, 2003). This process eliminates the time-invariant industry and firm-level unmeasured variables from the right-hand side of the regression equation. In qualitative terms, fixed effects models help in controlling unobserved heterogeneity, which is 'constant' over time and is also correlated with the explanatory variables. Although FE model controls for time-invariant unobserved individual-specific effects by differencing out the individual-specific means, however, if there are time-varying omitted variables that are correlated with the explanatory variables, the FE estimator may still be biased. Time-varying omitted variables that are correlated with the explanatory variables can lead to bias in the FE estimator because the differencing process does not eliminate the effects of time-varying omitted variables. GMM provides a flexible framework that allows for the estimation of parameters without requiring strong distributional assumptions. It does so by choosing moments of the data and moments of the model, making it particularly useful when dealing with misspecification or violations of classical assumptions. GMM is also commonly used to address endogeneity issues in econometric models. GMM can help mitigate endogeneity by using instruments to account for the correlation.

4.4.3 Impact of Board Structure and Ownership on Firm Performance (ROA) and Mediating Role of CSR, Suing GMM

In this section, impact of CG on ROA along with mediating role of CSR in the relationship between CG and ROA, using GMM methodology, is analyzed (Kano and

Verbeke, 2018; Brahma et al., 2021). The relationship between corporate governance and ROA is a complex and important area of study in corporate finance and management (Said et al., 2009; Li et al., 2020). Analyzing the impact of corporate governance on ROA using the GMM methodology involves employing advanced econometric techniques to address potential endogeneity and measurement issues.

4.4.3.1 Impact of Board Structure and Ownership on ROA suing GMM

Table 4.13 exhibits the regression results obtained through GMM methodology analyzing the impact of Corporate Governance on ROA. The results reveal that among different components of board structure, board size and board independence have significant positive effect on ROA with coefficient of 0.2335 and 0.0513 respectively.

The positive effects of board size and board independence on ROA are consistent with those shown in Table 4.3, where SEM is used as an analysis technique. Audit committee independence and gender diversity have positive but insignificant effect on ROA. These results align with those presented in Table 4.3, where ROA is used as a measure of firm performance, and SEM is employed as the estimation technique.

Additionally, the significant negative impact of CEO duality on ROA remains consistent with the findings in Table 4.3, where SEM is employed for regression analysis and return on assets is used as a proxy for firm financial performance.

Table 4.13 also shows effect of three variables of ownership structure including family shareholdings, foreign shareholdings, and institutional shareholdings on return on assets (ROA) using generalized method of moments GMM methodology. The results depict that family shareholding, institutional shareholding and foreign shareholding have significant positive effect on ROA.

These results are also in accordance with those obtained using structural equation (SEM) analysis technique and are reported under Table 4.3. In summary, the results obtained through the GMM methodology, as shown in Table 4.13, align with those presented in Table 4.3, where the effect of different variables of board structure and ownership structure on ROA through SEM technique is demonstrated.

TABLE 4.13: Impact of Board Structure and Ownership on ROA using GMM

Variables DV	Path-c ROA	Path-a CSR	Path-b ROA	Path-c' ROA
roa(-1)	0.7524***		0.5227***	0.7485***
	(0.0148)		(0.0073)	(0.0148)
csr (-1)		0.3886***		
		(0.0034)		
csr			0.0001***	0.0005***
			(0.0000)	(0.0001)
bs	0.2335***	22.4723***		0.2320***
	(0.0682)	(2.1616)		(0.0683)
bi	0.0513***	3.6871***		0.0517***
	(0.0093)	(0.3560)		(0.0094)
aci	0.0042	-4.7041***		0.0022
	(0.0043)	(0.3399)		(0.0044)
cod	0.0039***	-0.2138***		-0.0039 ***
	(0.0015)	(0.1037)		(0.0015)
gend	0.0007	-1.0416***		0.0009
	(0.0082)	(0.4433)		(0.0082)
famsh	0.2084***	7.6278***		0.2060***
	(0.0201)	(0.4649)		(0.0200)
instsh	0.3629***	14.7611***		0.3621***
	(0.0361)	(0.7393)		(0.0368)
forsh	0.0185***	2.9180***		0.0196***
	(0.0057)	(0.5154)		(0.0057)
lev	0.0234***		-0.0431***	0.0227***
	(0.0045)		(0.0019)	(0.0045)
sg	0.0972***		0.0662***	0.0955***
	(0.0056)		(0.0020)	(0.0054)
fcf	0.0137***		0.0035***	0.0136***
	(0.0010)		(0.0002)	(0.0010)
fsize	-0.0113***		-0.0020***	-0.0107***
	(0.0015)		(0.0005)	(0.0015)
$\beta 0$	-0.0561***	10.3387***	0.0259	-0.0676***
	(0.0186)	(0.3299)	(0.0061)	(0.0191)
Observations	5445	5445	5445	5445
AR (1)	0.000	0.000	0.000	0.000
AR (2)	0.3221	0.9767	0.5044	0.5072
Sargan test	0.3731	0.015	0.1383	0.1519

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

4.4.3.2 Mediating Role of CSR in the Relationship Between Corporate Governancee and ROA using Baron and Kenny (1986) Approach Through GMM

In order to check robustness of the study for mediating role of CSR in the relationship between CG and firm performance, this study employs the GMM methodology. Like SEM technique, this study follows three-path model presented in Figure 3.1, and reports the results in Table 4.14. The model presented by Baron and Kenny (1986) is used for estimating different values under path-a, b, c, and c'. For each variable, estimation is made for identifying the role of CSR as a mediator on the relationship between CG and firm performance. All the results for GMM analysis are summarized in Table 4.14, which shows that board size has significant positive effect on ROA under path-c and on CSR under path-a with coefficients of 0.2335 and 22.4723 respectively and CSR has also positive effect on ROA with coefficient of 0.0001 under path-b. The results further depict that effect of board size on ROA is significant with coefficient of 0.2320 under path-c' which shows partial mediation by CSR in the relationship between board size and ROA. The significant positive effect of board size on ROA under GMM methodology is consistent with the findings in Table 4.4, where the SEM technique is employed to analyze the mediating role of CSR in the relationship between board size and ROA.

Table 4.14 also depicts that board independence has significant positive effect on corporate social responsibility (CSR) under path-a, with coefficients of 3.6871. The results further shows that board independence has significant positive effect on ROA under path-c' with a coefficient of 0.0517, which shows partial mediation by CSR in the relationship between board independence and ROA. Further, Table 4.14 shows that audit committee independence and gender diversity have insignificant effect on return on assets (ROA) under path-c. Although audit committee independence and gender diversity have significant effect on CSR under path-a and corporate social responsibility has significant positive effect on ROA under path-b, said variables do not have significant effect on ROA under path-c. Hence, CSR does not act as a mediator on the relationship between audit committee independence, gender diversity, and return on assets (ROA).

TABLE 4.14: Mediating role of CSR on the relationship between corporate governance and ROA using Baron and Kenny, and Hayes and Preacher approaches

Variables	Path-c	Path-a	Path-b	Path-c'	a*b	c'+(a*b)
DV	ROA	CSR	ROA	ROA	IE	TE
Csr			0.0001***	0.0005***		
Bs	0.2335***	22.4723***		0.2320***	0.0022	0.2342
Bi	0.0513***	3.6871***		0.0517***	0.0004	0.0521
aci	0.0042	-4.7041		0.0022	-0.0005	0.0017
cod	-0.0039***	-0.2138***		-0.0039***	-0.0005	-0.0039
gend	0.0007	-1.0416		0.0009	-0.0001	0.0008
famsh	0.2084***	7.6278***		0.2061***	0.0008	0.2069
instsh	0.3629***	-14.761***		0.3621***	-0.0015	0.3606
forsh	0.0185***	-2.9179***		0.0196***	-0.0003	0.0193

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect effect, TE = Total effect

CEO duality has significant negative effect on ROA under path-c with coefficient of -0.0039 and has significant negative effect on CSR under path-a, with coefficient of -0.2138. As effect of CEO duality on ROA under path-c' is also significant, it indicates that CSR partially mediates the relationship between CEO duality and ROA. These results for different variables of the board structure are aligned with those obtained through SEM technique reported in Table 4.4.

The results also reveal that family shareholding has significant positive effect on ROA with coefficient of 0.2084 under path-c and has significant positive effect on CSR with coefficient of 7.6278 under path-a.

As family shareholding has significant positive effect on ROA under path-c', with a coefficient of 0.2061, it shows partial mediation by CSR on the relationship between family shareholding and ROA. Table 4.14 further depicts that institutional shareholding has significant positive effect on ROA with coefficient of 0.3629 under path-c and significant negative effect on CSR with coefficient of -14.7611 under path-a. The impact of institutional shareholding on ROA is significantly positive with coefficient of 0.3621 under path-c', which shows mediating role of CSR on the relationship between institutional shareholding and ROA. Further, foreign shareholding has significant positive effect on ROA with coefficient of 0.0185 under path-c and negatively influences CSR with coefficient of -2.918 under path-a. As effect of foreign shareholding on ROA is significantly positive with coefficient of

0.0196 under path c', it indicates significant partial mediating effect of CSR on the relationship between foreign shareholding and ROA. These results for different variable of ownership structure are aligned with those obtained through SEM technique reported in Table 4.4.

In summary, against different variables of board structure, i.e. board size, board independence, audit committee independence, CEO Duality, and Gender diversity, CSR acts as a mediator on the relationship between board size, board independence, CEO duality, and ROA. Whereas, results are insignificant for audit committee independence and gender diversity. Similarly, against different variables of ownership structure, the study indicates that CSR acts as a mediator on the relationship between family shareholding, institutional shareholding, foreign shareholding, and ROA.

4.4.3.3 Mediating Role of CSR in the Relationship Between Corporate Governance and ROA using Hayes and Preacher (2013) Approach Through GMM

For robustness, this study also implies mediation process proposed by Hayes and Preacher (2013) through GMM methodology. In the Table 4.14, direct, indirect and total effect of CSR on the relationship between different components of CG and ROA are shown. Table 4.14 indicates that direct effect of board size on ROA is 0.2320, indirect effect is 0.0022 and total effect is 0.2342. It means out of total effect of 0.2342, some part of effect of board size on ROA is going through the mediating variable i.e. CSR.

It indicates that CSR has positive mediating effect on the relationship between board size and ROA. The similar result is reported in Table 4.5 through SEM technique. Further, board independence has direct, indirect and total effects are 0.0517, 0.0004 and 0.0521 respectively as shown in Table 4.14. Indirect effect of 0.0004 shows that relationship between board independence and ROA is partially mediated by CSR, although the effect is minimal. Table 4.14 also reports that effects of audit committee independence and gender diversity on ROA are insignificant under path-a which indicates no mediating effect of CSR on the relationship between audit committee independence, gender diversity, and ROA.

Further, the results exhibit the mediating role of CSR on the relationship between CEO duality and ROA. The result shows that direct effect of CEO duality on ROA is -0.0039 and indirect effect is -0.0005. This means out of the total effect of -0.0044, some part of the effect i.e. -0.0005 is going through the mediating variable i.e. CSR.

Although, contribution of indirect effect towards total effect is nominal, it is still significant which confirms mediating role of CSR on the relationship between CEO duality and ROA. Above results confirm robustness of GMM methodology for estimating mediation effect of CSR in the relationship between different components of board structure and ROA using approach developed by Hayes and Preacher (2013). Furthermore, consistent results are observed when applying the SEM technique, as illustrated in Table 4.5.

Next, the direct, indirect and total effect of different components of ownership structure is also presented in Table 4.14 under GMM methodology. The direct effect of family shareholding on ROA is 0.2061, indirect effect is 0.0008 and total effect is 0.2069. It means although mediating role of CSR on the relationship between family shareholding and ROA is minimal, still it is significant showing partial role of CSR as mediator.

Further, the direct effect of institutional shareholding on ROA is 0.3621 and indirect effect is -0.0015. Total effect of institutional shareholding on ROA is 0.3606. Although, indirect effect of institutional shareholding on ROA is minimal as compared to direct effect of institutional shareholding on ROA, still it is significant which indicates mediating role of CSR on the relationship between institutional shareholding and ROA.

Further, the direct effect of foreign shareholding on ROA is 0.0196 and indirect effect via CSR is -0.0003, thus totaling 0.0193. Indirect effect of -0.0003 indicates a partial mediating effect of CSR on the relationship between foreign shareholding and ROA. These results are same as presented in Table 4.5 using SEM technique where positive effect of foreign shareholding on ROA is negatively mediated by CSR. In summary, it is evident from the above that for different variables of board structure and ownership structure, CSR yields the same results under both SEM and GMM methodologies.

4.4.4 Impact of Board Structure and Ownership and Mediating Role of CSR on ROE using GMM

In this section, analysis is carried out by using another measure of firm performance i.e. ROE (Bhatt and Bhatt, 2017; Brahma et al., 2021), through GMM methodology. ROE measures a company's profitability by evaluating its ability to generate earnings from shareholders' equity. It is important to conduct empirical research using appropriate statistical methods to quantify the relationship between different components of corporate governance and ROE and analyze intervening role of CSR in the relationship between variables of board structure and ownership structure and ROE.

4.4.4.1 Impact of Board Structure and Ownership on ROE using GMM

Table 4.15 shows the regression results obtained through GMM methodology analyzing the effect of CG on ROE. The results disclose that among different components of board structure, board size and board independence have significant positive effect on ROE. The positive effects of board size and board independence on ROE are as per Table 4.13 where ROA is used as measure of firm performance using GMM methodology and in accordance with Table 4.6, where SEM is used as an analysis technique and ROE is used as proxy of firm performance. Audit committee independence and gender diversity have positive but insignificant impact on ROE. These results are in accordance with Table 4.13 where ROA is used with GMM methodology and as per Table 4.6, where SEM is used as an analysis technique and ROE is used as a measure of firm performance.

Additionally, the significant negative impact of CEO duality on ROE is also consistent with the findings in Table 4.13 where results with ROA using GMM are estimated and as per Table 4.6, where SEM is employed for regression analysis and ROE is used as measure of firm performance. Table 4.15 also depicts effect of family ownership, foreign ownership, and institutional ownership on ROE using GMM methodology. The results depict that all three variables of ownership structure have significant positive impact on ROE. These results are same as shown in

TABLE 4.15: Impact of Board Structure and Ownership on ROE using GMM

Variables DV	Path-c ROE	Path-a CSR	Path-b ROE	Path-c' ROE
roe(-1)	0.491*** (0.012)		0.571*** (0.008)	0.508*** (0.013)
csr(-1)		0.389*** (0.003)		
csr			0.000*** (0.000)	0.000*** (0.000)
bs	0.116** (0.057)	22.472*** (2.162)		0.166* (0.097)
bi	0.060*** (0.014)	3.687*** (0.356)		0.053*** (0.017)
aci	0.008 (0.011)	-4.704*** (0.340)		0.005 (0.014)
cod	0.027*** (0.006)	-0.214** (0.104)		-0.022*** (0.007)
gend	-0.006 (0.018)	-1.042** (0.443)		0.009 (0.025)
famsh	-0.059*** (0.023)	7.628*** (0.465)		-0.078*** (0.027)
instsh	-0.067*** (0.020)	14.761*** (0.739)		0.079*** (0.023)
forsh	0.069*** (0.010)	2.918*** (0.515)		0.073*** (0.013)
lev	-0.006* (0.010)		-0.023*** (0.003)	-0.005 (0.007)
sg	0.083*** (0.008)		0.124*** (0.004)	0.077*** (0.011)
fcf	0.007*** (0.001)		0.007*** (0.000)	0.005*** (0.001)
fsize	-0.017*** (0.002)		-0.002*** (0.001)	-0.014*** (0.002)
$\beta 0$	0.185*** (0.029)	10.339*** (0.330)	-0.013 (0.011)	0.160*** (0.038)
Observations	5445	5445	5445	5445
AR (1)	0.000	0.000	0.000	0.000
AR (2)	0.4518	0.3865	0.4114	0.3497
Sargan test	0.5498	0.1613	0.2009	0.4321

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p< 0.1

Table 4.13 where ROA and GMM methodology are used and also in accordance with those obtained using SEM analysis technique as reported under Table 4.6.

In summary, the results obtained through the GMM methodology using ROE as performance measure, as shown in Table 4.15 are aligned with those depicted in Table 4.13, where the effect of different variables of board structure and ownership structure on ROA through GMM methodology is demonstrated. These results also follow Table 4.6 where ROE is used as a proxy of firm performance using SEM technique. Family-owned firms often have a long-term perspective and a

strong commitment to the company's success, leading to careful management and potentially higher ROE. The ownership structure plays a crucial role in shaping a firm's performance, with each type of ownership bringing its own set of advantages and challenges that influence ROE.

4.4.4.2 Mediating Role of CSR in the Relationship Between Corporate Governance and ROE using Baron and Kenny (1986) Approach Through GMM

This section employs GMM methodology, using Baron and Kenny (1986) approach, for estimating the role of CSR as a mediator on the relationship between CG and ROE. The results for GMM analysis are presented in Table 4.16, which shows that board size and board independence have significant positive effect and CEO duality has significant negative effect on ROE under path-c and on CSR under path-a. Further, CSR has significant positive effect on ROE under path-b. The results further indicate that effect of board size, board independence and CEO duality on ROE is significant under path-c' which shows partial mediation by CSR in the relationship between board size, board independence, CEO duality, and ROE.

TABLE 4.16: Mediating role of CSR on the relatinship between corporate governance and ROE using Baron and Kenny (1986), and Hayes and Preacher (2013) approaches

Variables	path c	path a	path b	path c'	a*b	c'+(a*b)
	ROE	CSR	ROE	ROE	IE	TE
csr			0.0002***	0.0004***		
bs	0.116**	22.4723***		0.1663*	0.0045	0.1708
bi	0.061***	3.6871***		0.0534***	0.0007	0.0541
aci	0.008	-4.7041		0.0052	-0.0009	0.0043
cod	-0.027***	-0.2138***		0.0219***	0.0000	0.0219
gend	-0.007	-1.0416		0.0089	-0.0002	0.0087
famsh	-0.059***	7.6278***		0.0783***	0.0015	0.0798
instsh	0.067***	-14.761***		0.0788***	0.0030	0.0759
forsh	0.069***	-2.9179***		0.0728***	0.0006	0.0722

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect effect, TE = Total effect

Further, Table 4.16 indicates that audit committee independence and gender diversity have insignificant effect on ROE under path-c. Audit committee independence and gender diversity have insignificant effect on CSR under path-a, and CSR has

significant positive effect on ROE under path-b. As said variables do not have significant effect on ROE under path-c, hence, CSR does not act as a mediator on the relationship between audit committee independence, gender diversity, and ROE. These results are consistent with those presented in Table 4.14 where ROA is used as a measure of firm performance under GMM methodology and also as per findings in Table 4.7, where the SEM technique is employed to analyze the mediating role of CSR in the relationship between different components of board structure and ROE.

The results also reveal that family shareholding, institutional shareholding and foreign shareholding have significant positive effect on ROE under path-c and has significant positive effect on CSR under path-a. As all three variables of ownership structure have significant positive effect on ROE under path-c', it shows partial mediation by CSR on the relationship between ownership structure and ROE. The similar results are shown in Table 4.14 where ROA is used as a measure of firm performance under GMM methodology and in Table 4.7, where the SEM technique is employed to analyze the mediating role of CSR in the relationship between ownership structure and ROE.

4.4.4.3 Mediating Role of CSR in the Relationship Between Corporate Governance and ROE using Hayes and Preacher (2013) Approach Through GMM

In the Table 4.16, direct, indirect and total effect of CSR on the relationship between different components of CG and ROE are shown using mediation process proposed by Hayes and Preacher (2013) through GMM methodology. The results indicate that some part of effect of board size, board independence and CEO duality on ROE is going through the mediating variable i.e. CSR. It indicates that CSR has significant positive mediating effect on the relationship between board size, board independence and significant negative mediating impact of CEO duality on ROE. Further, Table 4.16 reports that effects of audit committee independence and gender diversity on ROE are insignificant under path-c. The indirect effects of the said variables on ROE through CSR are also insignificant indicating no

mediation by CSR on the relationship between audit committee independence, gender diversity, and ROE.

These results are in line with those shown in Table 4.14 where ROA is used as a measure of firm performance under GMM methodology and also as per Table 4.7, where the SEM technique is employed to estimate the mediating role of CSR in the relationship between said variables and ROE. Next, the direct, indirect and total effect of different variables of ownership structure are also presented in Table 4.16 under GMM methodology. Although, indirect effect of all three variables of ownership structure on ROE is minimal as compared to direct effect of said variables on ROE, still it is significant which indicates mediating role of CSR on the relationship between ownership structure and ROE. These results are in line with the results reported in Table 4.14 where GMM methodology is used with ROA as a measure of firm performance. Nevertheless, positive mediation by CSR between foreign shareholding and ROE is as per results presented in Table 4.14 where GMM methodology is used with ROA as a measure of firm performance and contradictory to the result reported in Table 4.7 where positive effect of institutional shareholding and foreign shareholding on ROE using SEM technique is negatively mediated by CSR.

4.4.5 Impact of Board Structure and Ownership on Firm Performance (Tobin‘s Q) and Mediating Role of CSR using GMM

This section presents effect of Corporate Governance on Tobin‘s Q ratio and mediating role of CSR in the relationship between different components of corporate governance and Tobin‘s Q ratio (Bennouri et al., 2018; Brahma et al., 2021) using Generalized Method of Moments methodology. Tobin’s Q compares the market value of a company’s assets to their replacement cost which is calculated as the market value of equity plus marke value of the debt divided by the book value of assets. Book value of debt is used when the correct data for market value of debt is not available. The impact of corporate governance on Tobin’s Q ratio (the market measure of firm performance) is a relevant topic for the researcher

to be evalueated, as it reflects the relationship between governance practices and the market's perception of a company's value. GMM allows researchers to specify a model that accounts for endogeneity by using instrumental variables, lagged values, or other advanced econometric techniques.

4.4.5.1 Impact of Board Structure and Ownership on Tobin‘s Q using GMM

TABLE 4.17: Impact of Board Structure and Ownership on Tobin's Q using GMM

Variables DV	Path-c TOBQ	Path-a CSR	Path-b TOBQ	Path-c' TOBQ
tobq(-1)	0.610***			0.596***
	(0.012)*		0.684***	(0.011)
csr (-1)		0.389***	(0.009)	
		(0.003)		
csr				-0.012***
			-0.012***	(0.001)
bs	1.878***	22.472***	(0.001)	2.227***
	(0.502)	(2.162)		(0.429)
bi	0.387***	3.687***		0.381***
w	(0.091)	(0.356)		(0.078)
aci	-0.042	-4.704***		0.042
	(0.069)	(0.340)		(0.061)
cod	-0.061***	-0.214**		-0.079***
	(0.022)	(0.104)		(0.019)
gend	0.104	-1.042**		-0.044
	(0.118)	(0.443)		(0.106)
famsh	-1.190***	7.628***		-1.036***
	(0.238)	(0.465)		(0.203)
instsh	1.999***	14.761***		2.159***
	(0.176)	(0.739)		(0.162)
forsh	0.644***	2.918***		0.577***
	(0.124)	(0.515)		(0.122)
lev	-0.655***		-0.438***	-0.692***
	(0.060)		(0.031)	(0.052)
sg	0.150**		-0.145***	0.221***
	(0.067)		(0.029)	(0.054)
fcf	0.017*		0.027***	0.027***
	(0.009)		(0.004)	(0.008)
fsize	-0.112***		-0.137***	-0.137***
	(0.015)		(0.008)	(0.014)
$\beta 0$	2.873***	10.339***	2.971***	3.349***
	(0.227)	(0.330)	(0.121)	(0.216)
Observations	5,445	5,445	5,445	5,445
AR (1)	0.000	0.001	0.002	0.003
AR (2)	0.2921	0.6067	0.1944	0.7172
Sargan test	0.1231	0.3015	0.6754	0.3121

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 4.17 depicts the regression results through GMM methodology analyzing the effect of CG on Tobin‘s Q . The results show that board size and board independence have significant positive effect and CEO duality has significant negative impact on Tobin‘s Q . The results are as per Table 4.13 and Table 4.15 where ROA and ROE are used as measures of firm performance respectively using GMM methodology and in accordance with Table 4.9 where SEM is used as an analysis technique and Tobin‘s Q is used as a proxy of firm performance. Audit committee independence and gender diversity have positive but insignificant impact on Tobin‘s Q . These results are in line with results shown in Table 4.13 and Table 4.15 and with Table 4.9.

Table 4.17 also depicts that all three variables of ownership have significant positive impact on Tobin‘s Q . These results are same as shown in Table 4.13 and Table 4.15 where ROA and ROE are used as measures of firm performance respectively, with GMM methodology and also in accordance with those obtained using SEM analysis technique as reported under Table 4.9.

In summary, the results obtained through the GMM methodology using Tobin‘s Q as performance measure, as shown in Table 4.17 are aligned with those depicted in Table 4.13 and Table 4.15, where the effect of different variables of board structure and ownership structure on ROA and ROE through GMM methodology is reported. These results also follow Table 4.9, where Tobin‘s Q is used as a proxy of firm performance using SEM technique.

4.4.5.2 Mediating Role of CSR in the Relationship Between Corporate Governance and Tobin‘s Q using Baron and Kenny (1986) Approach Through GMM

The results for GMM analysis, using Baron and Kenny (1986) approach, for estimating the role of CSR as a mediator on the relationship between CG and Tobin‘s Q are presented in Table 4.18, which shows that board size and board independence have significant positive effect and CEO duality has significant negative effect on Tobin‘s Q under path-c and on CSR under path-a and CSR has significant positive effect on Tobin‘s Q under path-b. The results further indicate that effect of

board size, board independence and CEO duality on Tobin‘s Q is significant under path-c’ which shows partial mediation by CSR in the relationship between board size, board independence, CEO duality, and Tobin‘s Q .

Further, Table 4.18 indicates that audit committee independence and gender diversity have insignificant effect on Tobin‘s Q under path-c. Hence, CSR does not act as a mediator on the relationship between audit committee independence, gender diversity, and Tobin‘s Q . These results are consistent with those presented in Table 4.14 and Table 4.16 where ROA and ROE are used as measures of firm performance respectively under GMM methodology and also as per findings in Table 4.10, where the SEM technique is employed to analyze the mediating role of CSR in the relationship between board structure and Tobin‘s Q .

TABLE 4.18: Mediating role of CSR on the relatinship between Corporate Governance and Tobin’s Q using Baron and Kenny, and Hayes and Preacher approaches

Variables	path c	path a	path b	path c’	a*b	c’+(a*b)
	TOBQ	CSR	TOBQ	TOBQ	IE	TE
csr			-0.012***	-0.012***		
bs	1.878***	22.4723***		2.227***	0.2697	2.4967
bi	0.387***	3.6871***		0.381***	0.0442	0.4252
aci	-0.042	-4.7041		0.042	-0.0564	-0.0144
cod	-0.061***	-0.2138***		-0.079***	-0.0026	-0.0816
gend	0.104	-1.0416		-0.044	-0.0125	-0.0565
famsh	1.190***	7.6278***		1.036***	0.0915	1.1275
instsh	1.999***	-14.761***		2.159***	-0.1771	1.9819
forsh	0.644***	-2.9179***		0.577***	-0.0350	0.5420

Note: standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1, IE = Indirect effect, TE = Total effect

The results also show that family , institutional and foreign shareholding have significant positive impact on Tobin’s Q under path-c and has significant positive effect on CSR under path-a. As all three variables of ownership structure have significant positive effect on Tobin’s Q under path-c’, it indicates partial mediation by CSR on the relationship between ownership structure and Tobin’s Q. The same results are reported in Table 4.14 and Table 4.16 where ROA and ROE are used as measures of firm performance respectively under GMM methodology and in Table 4.10, where the SEM technique is employed to analyze the mediating role of CSR in the relationship between ownership structure and Tobin’s Q.

4.4.5.3 Mediating Role of CSR in the Relationship Between Corporate Governancee and Tobin‘s Q using Hayes and Preacher (2013) Approach Through GMM

Table 4.18 shows direct, indirect and total effect of CSR on the relationship between different components of CG and Tobin‘s Q using mediation process developed by Hayes and Preacher (2013), through GMM methodology. The results indicate that some part of effect of board size, board independence and CEO duality on Tobin‘s Q is going through the mediating variable i.e. CSR. This shows CSR has significant positive mediating effect on the relationship between board size, board independence and significant negative mediating impact on Tobin‘s Q . Further, Table 4.18 also reports that effects of audit committee independence and gender diversity on Tobin‘s Q are insignificant under path-c. The indirect effects of the said variables on Tobin‘s Q through CSR are also insignificant indicating no mediation by CSR on the relationship between audit committee independence, gender diversity, and Tobin‘s Q .

These results are as per those shown in Table 4.14 and Table 4.16 where ROA and ROE are used as measures of firm performance under GMM methodology and also in line with Table 4.10, where the SEM technique is used to estimate the mediating role of CSR in the relationship between said variables and ROE.

Next, the direct, indirect and total effects of different variables of ownership structure are also reported in Table 4.16 under GMM methodology. Although, indirect effect of all three variables of ownership structure on Tobin's Q is minimal as compared to direct effect of said variables on ROE, still it is significant which shows mediating role of CSR on the relationship between ownership structure and ROE.

These results are as per results reported in Table 4.14 and Table 4.16 where GMM methodology is used with ROA and ROE as measures of firm performance. Nevertheless, positive mediation by CSR between family shareholding, institutional shareholding and Tobin's Q is as per results presented in Table 4.10, where SEM technique is used with Tobin's Q as a measure of firm performance and contradictory to the result where positive effect of foreign shareholding on Tobin's Q is negatively mediated by CSR.

In summary, this chapter shows results of the study including descriptive, correlation and regression analysis for firms in BRICS countries. Structural Modeling Technique (SEM) is primarily used for analyzing effect of different components of board structure and ownership structure on firm performance. The robustness check is conducted through two distinct approaches: initially, by altering the measure of firm performance, and subsequently, by employing an alternative modeling technique known as Generalized Method of Moments (GMM). Primarily, ROA is used as a proxy of firm performance. ROE and Tobin's Q ratio are used as performance measures for robustness of the study. In order to analyze mediating effect of CSR on the relationship between corporate governance and firm performance, both SEM and GMM are used employing the models proposed by Baron and Kenny (1986) and Hayes and Preacher (2013).

The regression results indicate that, among the various components of board structure, both board size and board independence have a significant positive effect on ROA, confirming the hypotheses developed in Chapter 2. These findings are consistent with previous literature and theories, including agency theory, stakeholder theory, and resource dependency theory, which underpin this study. The observed negative effect of CEO duality on ROA aligns with the principles of agency theory. However, audit committee independence and gender diversity show insignificant effects on ROA. The results are not consistent with stakeholder theory, agency theory and resource dependency theory, although some previous studies also find the same results. The results also demonstrate the positive impact of different variables of ownership structure, including family , institutional , and foreign shareholdings on firm performance. The results for ownership structure also follow hypotheses developed in this study. The same results are generated when ROE and Tobin's Q ratio are used as alternate proxies of firm performance for robustness of the study.

For mediation analysis, the results obtained under SEM technique through model proposed by Baron and Kenny (1986) and Hayes and Preacher (2013), show partial mediation by CSR on the relationship between different variables of board structure including board size, board independence, CEO duality, and ROA. However, no mediating effect of CSR is found on the relationship between audit committee

independence, gender diversity, and ROA. Further, CSR plays a mediating role on the relationship between different variables of ownership structure including family shareholding, institutional shareholding and foreign shareholding. The same results are shown under GMM methodology. Only difference is with mediating role of CSR in the relationship between foreign shareholding and all measures of firm performance where CSR has positive mediating effect under GMM methodology and negatively mediates the relationship under SEM technique.

Chapter 5

Conclusion and Recommendations

In this study effect of different variables of board structure and ownership structure on firm performance in BRICS nations for the period from 2011 to 2021 is analyzed. The mediating role of CSR in the relationship between CG and firm performance is also investigated. This study follows stakeholder theory, agency theory and resource dependency theory. Two important methodologies namely SEM and GMM are used for regression analysis. For firm performance, three measures including ROA, ROE and Tobin's Q ratio are used. The mediation effect is analyzed through models developed by Baron and Kenny (1986) and Hayes and Preacher (2013).

5.1 Conclusion

The results identify that out of five components of board structure, board size and board independence have significant positive effect on all measures of firm performance including ROA, ROE and Tobin's Q ratio, whereas, CEO duality has significant negative impact on firm performance. However, audit committee independence and gender diversity have insignificant effect on firm performance. The possible reasons for insignificant effect of audit committee independence on firm performance are as under:

Over time, audit committee members may develop close ties with management, potentially compromising their independence and objectivity. Regular rotation helps maintain critical oversight. However, independence alone does not guarantee effectiveness; members must also have the expertise and motivation to impact firm performance. Simply meeting independence criteria without active engagement in oversight may not improve performance.

Additionally, strong governance mechanisms, like an effective board or internal controls, can diminish the impact of an independent audit committee.

The possible reasons for insignificant effect of gender diversity on firm performance are as follows: Gender diversity can introduce varied perspectives and enhance problem-solving, but if not present, it may lead to homogeneous thinking, limiting creativity and innovation, and thus having little impact on firm performance.

Cultural and societal norms also play a role; in regions with less gender equality, the benefits of diversity may not be fully realized. The impact of gender diversity varies by industry—some benefit more from it, while others see less effect. Simply having gender diversity isn't enough; it must be genuinely integrated into the organizational culture to unlock its potential benefits.

The study explores CSR's mediating role between board structure components and firm performance. Findings show that CSR mediates the relationship between board size, board independence, CEO duality, and firm performance (ROA, ROE, Tobin's Q). However, CSR does not mediate the impact of audit committee independence or gender diversity on performance. These results are consistent across both the Baron and Kenny (1986) and Hayes and Preacher (2013) models, using SEM and GMM methodologies.

All three ownership structure components—family, institutional, and foreign shareholding—positively impact ROA and ROE across both methodologies. However, institutional shareholding negatively affects Tobin's Q in SEM but positively in GMM. Additionally, CSR significantly mediates the relationship between these ownership structures and firm performance in both the Baron and Kenny (1986) and Hayes and Preacher (2013) models, using SEM and GMM methodologies. Effective CSR practices can improve a firm's reputation, making it more attractive.

5.2 Policy Implications

Corporate governance is a fundamental aspect of ensuring the effective and ethical management of a company. It plays a critical role in shaping the culture, decision-making processes, and overall performance of a firm, contributing to its long-term success and sustainability. The findings of this study are helpful for managers, investors, regulators and policymakers. The conclusion drawn in this study is helpful for different stakeholders as follows:

5.2.1 Policy Implications for Managers

For the managers, understating the importance of effective CG mechanisms in the firms is vital for better performance which also brings into line the interest of the managers with the objectives of the firms. It also helps in improving transparency and thus the confidence of the investors is increased. Thus, by focusing on developing and implementing governance strategies, managers can achieve results of better financial performance. Further, a better governance system not only improves the financial performance of the firms but also helps in formulating policies that are beneficial for all stakeholders including the general public.

The significant positive effect of board size and board independence and negative impact of CEO duality on firm performance for BRICS countries persuade the managers of firms in said countries to pay more attention towards said board structure variables. Further, positive effect of family shareholding, institutional shareholding and foreign shareholding on firm performance signifies importance of said ownership components which the managers operating in BRICS countries need to consider while formulating governance practices. For managers, understanding and actively integrating CSR practices within the broader framework of corporate governance can contribute to enhanced firm performance, stakeholder relations, and long-term sustainability. Recognizing CSR as a mediator in the relationship between governance and performance is essential for creating value and maintaining a positive organizational reputation. Linking CSR initiatives to governance practices allows managers to communicate the company's commitment to social responsibility, fostering trust and positive perceptions among stakeholders.

CSR practices that prioritize employee well-being and engagement can positively influence productivity. This, in turn, contributes to improved firm performance.

Managers play a crucial role in fostering a corporate culture that values CSR and aligns it with governance objectives. This study asserts corporate managers to incorporate CSR practices into corporate governance framework. CSR practices encompass a company's efforts to contribute positively to society and the environment. This can include philanthropy, environmental sustainability, ethical labor practices, and more. CSR can act as a mediator by channeling the positive governance practices into tangible actions that benefit both society and the firm.

5.2.2 Policy Implications for Investors

The results of this study are important for investors too. Investors benefit significantly from strong corporate governance practices as they provide a framework for transparency, accountability, and responsible management. A dedication to sound governance boosts investor confidence, reduces risks, and plays a role in the sustained prosperity of the companies they invest in. Investors depend on precise and timely information to make well-informed decisions. Robust corporate governance fosters transparency by mandating companies to divulge pertinent details regarding their financial well-being, performance, and decision-making procedures. Investors, especially institutional investors, often prefer companies with robust governance practices. The result of this study showing positive effect of institutional shareholding on firm performance for BRICS countries validates this assertion. Good governance can enhance a company's reputation, making it more attractive to a wider pool of investors and facilitating easier access to capital markets. Corporate governance contributes to a company's overall reputation in the market. Investors are more inclined to invest in companies with a positive reputation for governance, as this is often indicative of a well-managed and trustworthy organization.

The mediating role of CSR in the relationship between CG and firm performance adds a layer of assurance. It suggests that companies with strong governance practices, when complemented by meaningful CSR initiatives, are not only managing

their operations effectively but also contributing positively to society and, consequently, are likely to be more attractive and sustainable investments. For investors focused on long-term returns, the integration of CSR within corporate governance can be seen as a strategy for sustainable value creation. CSR initiatives that align with governance principles contribute to the long-term success and resilience of the company, aligning with the interests of long-term investors. Investors are concerned about risks that can impact the performance of their investments. CSR practices, when integrated with corporate governance, can contribute to effective risk management. Socially responsible practices may mitigate certain risks, such as reputational and regulatory risks, positively influencing overall firm performance.

5.2.3 Policy Implications for Policymakers

This study holds implications for policymakers, particularly in the context of their long-term objectives aimed at enhancing governance and fostering social development. The policymakers in BRICS countries should consider significant effect of board size, broad Independence, CEO duality, family shareholding, institutional shareholding and foreign shareholding on firm performance, while formulating corporate policies. Corporate governance emerges as a crucial factor for policymakers as they endeavor to establish an environment conducive to economic growth, stability, and ethical business practices. By promoting effective governance, policymakers can contribute to a thriving business sector that benefits both the economy and society. Policymakers are concerned with maintaining public trust in the business sector. Robust corporate governance practices play a pivotal role in building and sustaining public confidence, a cornerstone for a healthy business environment. Nations equipped with strong corporate governance frameworks are better positioned to attract foreign investment and enhance competitiveness in the global market. Policymakers aim to create an environment that positions their country as an attractive destination for businesses and investors. Policymakers often encourage or mandate corporate social responsibility initiatives. Effective governance structures enable companies to integrate CSR practices into their operations, contributing to social and environmental objectives. The mediation role of CSR helps policymakers to understand that CSR may be considered as an additive tool in

improving firm performance instead of merely an additional expenditure as was previously thought. Understanding the mediating role of CSR is crucial in shaping regulatory frameworks and fostering sustainable business practices. Policymakers can use the understanding of the mediating role of CSR to develop policies that encourage strong corporate governance practices. By emphasizing the importance of CSR within governance structures, policymakers can incentivize companies to adopt responsible and sustainable business practices. Policymakers can design regulations that explicitly encourage the integration of CSR into corporate governance frameworks. This integration can be highlighted as a factor in assessing the effectiveness of governance structures, promoting responsible business conduct. Policymakers striving for economic stability and enduring value creation can underscore the significance of CSR as a mediator in the connection between governance and firm performance. This approach aligns with sustainable development goals and can contribute to overall economic resilience. Policymakers can establish clear guidelines and standards for CSR practices, ensuring that they are in alignment with corporate governance requirements. This can help companies navigate regulatory compliance and demonstrate a commitment to ethical and responsible conduct.

5.3 Limitations of the Study

Finally, this study has certain limitations. First, financial firms are not included in the study. So, governance mechanisms and CSR policies in respect of such firms could not be accounted for in the analyzing impact of corporate governance and CSR on firm performance. Second, due to the unavailability of data on CSR measures, only two variables donation and Environmental R & D are taken for the analysis. Further, data on different components of corporate governance is not available on the Thomson Reuters Eikon database for many of the firms although financial data is available for the same firms. Third, the study is conducted on BRICS countries that are emerging. The institutional settings of these countries are different from other developed and developing countries of the world. Hence, these results may not be generalized. Fourth, this study finds insignificant impact

of audit committee independence and gender diversity on firm performance. The results are not only contradictory to most of previous studies; these are also not in line with the theories followed by this study. The reason might be incomplete or inaccurate data on said variables available in database used in the study.

5.4 Direction for Future Research

To provide guidance for future research, it is suggested that other measures of CSR be examined to serve as potential mediators when analyzing the link between CG and firm performance. Furthermore, extending the scope of the study to other country groups, such as G-8, G-20, NAFTA, and NATO, would be beneficial. Conducting comprehensive cross-country studies to compare the impact of different CG structures on firm performance is the potential future direction for the finance scholars. This could involve examining how governance practices vary globally and the resulting implications for companies operating in different regulatory environments.

Further, exploring the behavioral aspects of corporate governance, including the role of cognitive biases and decision-making processes among board members and executives can be also a valuable contribution for the future research. Understanding how psychological factors influence governance dynamics can provide a more nuanced view of its impact on firm performance. The future studies may also involve assessing the impact of recent governance reforms or regulatory changes on firm performance. This could involve evaluating the effectiveness of new regulations in improving governance practices and their subsequent influence on financial and non-financial performance. Finally, future studies may encompass researching governance practices specifically during crisis situations, such as pandemics, natural disasters, or financial downturns. This could involve understanding how boards and executives adapt their governance strategies to navigate crises and maintain firm performance.

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