CORPORATE GOVERNANCE AND ESG PRACTICES IN EMERGING ECONOMIES: EVIDENCE FROM ENERGY INDUSTRY

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Dedication

I would like to dedicate this thesis to my late father Malam Nuhu Saleh (May almighty Allah forgive his shortcomings and grant him Aljanna Firdaus) and my dear sister Khadija Nuhu (May almighty Allah forgive her shortcomings and grant her Aljanna Firdaus) who so sadly passed away during my Ph.D. studies while I was far away from her. I also would like to dedicate this thesis to my dear mother Hajiya Aishatu Nuhu, my loving wife Muhibbat Abdullahi, my children (Abdulrahman Yusuf Nuhu, Nuhu Yusuf Nuhu, and Abdullahi Yusuf Nuhu) brothers, sisters, friends and colleagues for their untiring confidence, love, support, and prayers. Your love, believe in my ability, supports and prayers truly keeps me going in this challenging yet interesting journey.

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ABSTRACT

This study examines the impact of corporate governance variables on the ESG practices of energy firms from emerging economies. The study employs a sample of energy listed companies from Brasil, Russia, India, China and South Africa (BRICS) to examine the relationship between corporate governance and the extent of ESG disclosure, ESG assurance and ESG assurance quality. All data for the study relating to corporate board characteristics, audit committee charachteristics, ownership structure, ESG disclosure, ESG assurance and ESG assurance quality were extracted from the Bloomberg database, annual reports and companies website over a period of fourteen years from (2010 to 2023).

The first chapter investigate the impact of a set of CG variables that comprises board attirbutes, ownership structure and audit committee characteristics on the level of ESG disclosure while controlling for firm level charachteristics. The study utilised a sample of 1750 firm-year observations across five emerging BRICS economies over a period of fourteen years. The study finds positive and statistically significant relationship between board size, board independence, board gender diversity, foreign ownership, audit committee accounting and finance expertise, managerial ownership, audit committee meetings and frequency of board meetings with the level of ESG disclosure. Similarly, the finding indicates negative but insignificant relationship between audit committee size, institutional ownership, block holder ownership and the extent of ESG disclosure.

The second empirical study examines the impact of corporate governance variables on ESG assurance, a topic that has attract attention in both literature and practice in recent years due to unregulated and voluntary nature of sustainability practice. The empirical findings from understudied and overlooked context characterised by paucity of empirical studies document that board independence, board gender diversity, foreign ownership, managerial ownership, block holder ownership, audit committee independence, audit committee accounting and finance expertise and frequency of board meetings have positive and significant relationship with the decision to obtain third-party ESG assurance. However, the study finds insignificant relationship between institutional ownership, audit committee size and audit committee meetings with the decision to obtain third-party ESG assurance.

Due to the symbolic use of assurance practices, the final chapter empirically examine the impact of corporate governance variables on the ESG assurance quality. The quality of sustainability assurance reports has been a nascent but topical area in accounting and sustainability literature. The results show there is room for improvement regarding ESG assurance quality and provide empirical evidence of positive and statistically significant effect of board independence, board gender diversity, audit committee size, board meetings, managerial ownership, and audit committee accounting and finance expertise on the ESG assurance quality. However, the results indicate board size, foreign ownership and block holder ownership significantly impact ESGAQ negatively. The results of the study are robust to alternative measures, estimation methods, potential endogeneity problems such as sample selection bias, reverse causality/simultaneity, and unobserved heterogeneity. The findings of the thesis have important implications for the management, board of directors, investors and other stakeholders, standard setters, regulators, analysts, assurance providers and policy makers.

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ABBREVIATIONS

AC Audit Committee

ACC Audit Committee Characteristics

ACCA Association of Chartered Certified Accountants

BRICS Brazil, Russia, India, China, and South Africa

BP British Petroleum

Big 4 Four major global audit firms

CDP Carbon Disclosure Project

CG Corporate Governance

CEO Chief Executive Officer

CFO Chief Financial Officer

CSO Chief Sustainability Officer

CS Corporate sustainability

CSR Corporate Social Responsibility

CSRD Corporate Social Responsibility Disclosure

CSRP Corporate Social Responsibility Performance

EC Executive Compensation

ED Environmental Disclosure

ESG Environmental, Social and Governance

ESGD Environmental, Social and Governance Disclosure

ESGA Environmental, Social and Governance Assurance

ESGAQ Environmental, Social and Governance Assurance Quality

FP Financial Performance

FRC Financial Reporting Council

FTSE Financial Times Stock Exchange

FV Firm Value

GDP Gross Domestic Product

GHG Greenhouse Gas

GMM Generalised Method of Moments

GRI Global Reporting Initiative

IFRS International Financial Reporting Standards

IMF International Monetary Fund

INEDs Independent Non-Executive Directors

ISSB International Sustainability Standards Board

MENA Middle East and North Africa region

MFIs Microfinance Institutions

NASDAQ National Association of Securities Dealers Automated Quotations Stock Market

NYSE New York Stock Exchange

OLS Ordinary Least Square

PSM Propensity Score Matching

ROA Return on Assets

ROE Return on Equity

SASB Sustainability Accounting Standard Board

SR Social Responsibility

SRI Socially Responsible Investment

TBL Tripple Bottom Line

TMT Top Management Team

UN United Nations

UNICEF United Nations International Children's Emergency Fund

UK United Kingdom

USA United States of America

VIF Variance Inflation Factor

VW Volkswagen

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This study empirically examines the relationship between corporate governance variables on three different but related ESG concepts, an important and emerging area in the corporate governance and sustainability literature. The first chapter empirically examines the relationship between corporate governance variables and the level of ESG disclosure. The second empirical chapter examines the relationship between CG variables and the decision to obtain third-party ESG assurance. Finally, the last empirical chapter examines the nexus between CG variables and ESG assurance quality. This study builds on the existing literature and provides a novel and significant contribution in an understudied and overlooked context of emerging economies.

Previous studies have overlooked and under investigated the impact of corporate governance on corporate ESGD, ESGA and ESGAQ practices. As the ESG practices literature is still an emerging area in sustainability accounting literature, prior empirical studies have mainly examined the influence of firm level variables on the relationship (Casey and Grenier, 2015; Fernandez-Feijoo et al., 2015; Hummel et al., 2019; Kend 2015; Simoni et al., 2020; Cho et al., 2014; Castelo Branco et al., 2014; Datt et al., 2019; Sierra et al., 2013) and the economic and financial consequences of ESG practices (Elbardan et al., 2023; Clarkson et al., 2019; Steinmeier and Stich, 2019; García-Sánchez et al., 2019; Martínez-Ferrero and García-Sánchez, 2017; Casey and Grenier 2015; Radhouane et al., 2020). However, the literature has shown that corporate governance plays an important role which can either stimulate or inhibit various corporate sustainability strategies and outcomes (Aluchna et al., 2024; Pandey et al., 2022; Zaman et al., 2022; Gull et al., 2023). For example, corporate governance has been associated with monitoring of corporate activities (Liao et al., 2015; Treepongkaruna et al., 2024; Kuzey et al., 2024); act as strategic decision-making body of the firm (Nadeem et al., 2017); protection of the right of various stakeholders (Aguilera et al., 2015); performing advisory role (Pandey et al., 2022; Treepongkaruna et al., 2024; Kuzey et al., 2024) and oftentimes the board of directors are blamed in case of corporate irresponsibility e.g 2007/2008 global financial crises have been partly associated with poor corporate governance practices due to lack of diversity and independence in the board and there are strong indications that the Volkswagen emission scandal started from the boardroom despite having two-tier board structure (Elmagrhi et al., 2020; Armour 2016; Nguyen et al., 2020; Jain and Zaman 2020; Post & Byron, 2015). However, for a corporate governance mechanism to be effective in monitoring and oversight functions, certain attributes and structures of the board, the board committees and the shareholding plays a key role. Therefore, this study examines the relationship between set of corporate governance variables (board characteristics, ownership structure and audit committee characteristics) with the ESGD, ESGA and ESGAQ. Section 1.2 gives a background and an overview of the topic; Section 1.3 provides motivation and rationale for the study while Sections 1.4 and 1.5 discuss the objectives and the research questions respectively. Finally, Section 1.6 provides significance of the study.

1.2 Background of the Study

The concepts of corporate governance, ESG disclosure, ESG assurance, sustainability and accountability have received considerable attention in recent years (Wang and Hussainey, 2013; Aljifri et al., 2014; Alnabsha, et al., 2017; Flammer et al., 2021; Christensen et al., 2021; Tsang et al., 2023; Liljeblom et al., 2024; Kuzey et al., 2024; Gillan et al., 2021). This is partly because of lack of transparency and accountability and the many corporate scandals across the globe such as Enron, Wells Fargo, VW emission scandal, WorldCom, BP deepwater horizon oil spill, Tyco, Toyota, Global crossing, Lehman Brothers, Parmalat, and Barings bank among others. Lagasio and Cucari (2019) and Enciso-Alfaro and García-Sánchez (2023) noted that there is observable growing attention by academics on the nexus between corporate governance and ESG disclosure and assurance literature in recent years. Consistent with this view, Christensen et al., (2021) and Tsang et al., (2023) noted the significant increase in shareholders activism relating to social and environmental concerns and the increasing attention ESG disclosure is receiving from academics, policy makers and capital market participants. Specifically, KPMG (2022) reported that 96 percent of the global largest 250 firms issued a standalone ESG or sustainability report while more than 50 percent obtained third-party assurance, with Chinese G250 firms leading. Moreover, Chen and Xie (2022) noted that Environmental, Social and Governance (ESG) literature is an extension of CSR and SRI literature that has been debated in the literature for more than five decades. Consistent with this, Jain and Jamali (2016) and Pandey et al., (2022) opines that the global attention on corporate governance and ESG practices nexus may not be unconnected with the corporate fraud and scandals, systematic governance failure, environmental scandals, and societal vices by corporate organisations across the globe. Therefore, the recent exponential rise of attention to the ESG disclosure and assurance by academics, practitioners and policy makers may not be unconnected with the important role non-financial reporting is playing in corporate world across the globe.

Similarly, the increasing global attention and interest on corporate governance reforms is aimed towards enhancing transparency, accountability, sustainability, improve financial reporting quality, and greater disclosure behaviour. Herath and Altamimi (2017) posit that the level of disclosure can significantly contribute to monitoring and controlling managers, protecting shareholders and other critical stakeholders, and help in reducing agency costs caused by information asymmetry between the management and other stakeholders. Consistent with this, assurance of ESG reports has been associated with greater investor and stakeholders' confidence (Cho et al., 2014; García-Sánchez et al., 2019), more transparency (Peters and Romi, 2015), greater legitimacy (Emma et al., 2024), greater reliability and credibility of the ESG report (Erin and Ackers 2024; Simnett et al., 2009; Liao et al., 2018) and reduction in the cost of capital (García-Sánchez et al., 2022).

Likewise, there is observable increasing demand across the globe for the disclosure of non-financial information in annual reports and accounts, standalone ESG reports and sustainability reports of companies in order to enhance transparency and accountability. However, the disclosure and assurance of most of non-financial information such as Environmental, Social and Governance (ESG) information is mostly voluntary and at the discretion of the board of directors and Top Management Team (TMT), therefore, this leads to the considerable attention given to CG and ESG disclosure and assurance link by academics, practitioners, analysts, environmentalists, researchers, and policy makers. The disclosure and assurance of more information voluntarily helps in reducing information asymmetry between the managers and other stakeholders such as shareholders, government, individual and institutional investors, suppliers, regulatory bodies, stock exchange, bankers, creditors and other interested parties (Barako *et al.*, 2006; Reverte, 2009; Hahn and Lülfs 2014; Sarhan and Ntim 2019 and

Khaireddine, et al., 2020); increase access to finance (Flammer et al., 2021; Cheng et al., 2014; Jizi et al., 2014; 2017; Tsang et al., 2023) and lower cost of capital (Gipper et al., 2024; Liao et al., 2015; Jizi et al., 2017; Tsang et al., 2023; Gillan et al., 2021; Flammer et al., 2021); improve financial performance (Gillan et al., 2021; Flammer et al., 2021; Chen and Xie 2022) thus leading to better firm value (Flammer et al., 2021; Gillan et al., 2021; Chen and Xie 2022).

Recent developments regarding corporate scandals have heightened the need for corporate governance reforms and in line with the global best practices and with the aim to improve CG best practices, many developing and emerging countries across the globe issued code of corporate governance (such as Brazilian Institute of Corporate Governance CG code issued in 2009; Federal Service for Financial Markets of the Russian Federation CG code 2014; Institute of Directors Southern Africa (King III and IV code 2009 and 2016 respectively); China Securities Regulatory Commission 2001; Indian Ministry of Corporate Affairs CG code 2009) aim at enhancing disclosure behaviour and reforming corporate governance practices with the view at enhancing transparency, accountability and greater market and investor confidence. However, these codes are mostly principles-based that adopt 'comply or explain' approach to non-financial reporting and disclosure that makes most of their provisions voluntary and at the discretion of the board and top management team (Elghuweel et al, 2017; Al-Bassam et al., 2018; Pillai and Al-Malkawi, 2018; Sarhan and Ntim 2019; Christensen et al., 2021). This highlight the need to examine the nexus between corporate governance and ESG disclosure and assurance in emerging economies where there is paucity of studies as this may be essential in providing a broader picture for understanding the relationship between corporate governance and ESG disclosure and assurance and will be of significance to corporate organisations, investors, regulators, policy makers, institutions and countries wanting to reform their corporate governance mechanisms and improve good corporate governance practices. In recent years, prior studies call for more studies on the CG-ESG link. For example, Cohent and Simnett

(2015) considers CG and ESGA nexus as emerging research area that deserves further inquiry calling for more rigorous empirical studies. In a similar vein, García-Sánchez et al., (2022) call for more studies regarding the relationship between ownership structure and ESG assurance quality. Similarly, Zaman et al., (2021) call for more empirical studies on the ownership structure and sustainability assurance quality in the context of developing economies.

Similarly, although the study of corporate governance and ESG disclosure has received attention in the literature and there is exponential increase in the number of empirical studies that examined the nexus between corporate governance and ESG practices. However, most of the prior studies that empirically examine the relationship between corporate governance and ESG practices were mostly conducted in western developed countries that have a long culture of corporate governance reforms, high level of disclosure behaviour, stronger institutions, strong investor protection and strong institutional investors that can pressurize management regarding sustainability issues and practices (Aburaya, 2012; Ntim, et al., 2017; Louie et al., 2017; Flammer et al., 2021; Sarhan and Al-Najjar, 2022; Khaireddine et al., 2020; Enciso-Alfaro and García-Sánchez, 2023). For example, prior studies such as (Flammer et al., 2021; Tsang et al., 2022; Ali et al., 2022; Tuo et al., 2023; Manita et al., 2018) examines the relationship between corporate governance variables and ESG practices in the context of USA while the studies of (Sarhan and Al-Najjar, 2022; Al-Shaer and Hussainey 2022; Albitar et al., 2021) are in the context of United Kingdom. Similarly, some studies comparatively examined both the UK and USA (Benlemlih et al., 2022). However, Alnabsha et al., (2017) and Jain and Jamali (2016) noted that the level of information disclosure in companies' annual reports and accounts (both quantity and quality) depend on the country's rules and regulations, national culture, country-level governance, level of economic development and the existence of a sophisticated financial market among other factors. Moreover, studies in the context of emerging and developing economies have remain scant, overlooked, understudied, and unexplored (Zaman et al., 2022; Gillan et al., 2021; Velte 2023). Gillan et al., (2021) noted about the disparities in the empirical evidence on ownership characteristics and ESG disclosure link and call for more empirical work on the OS-ESG disclosure nexus in the context of emerging economies to add to our understanding of the issue and extend existing literature. More recently, Enciso-Alfaro and García-Sánchez (2023) in a bibliometric analysis and systematic review of literature on the corporate governance and environmental sustainability disclosure in the last three decades from 1991-2022 noted that 67.8 percent of prior studies on CG and ES nexus were from ten developed countries context such as UK, US, Spain, Canada, Italy, Germany, Netherlands, and New Zealand. In another systematic review of CG-CSR literature, Zaman et al., (2022) also documented the need for studies in emerging economies such as BRICS as this NBS have remained understudied and unexplored despite having different governance and ownership structure. Similar studies such as Jain and Jamali (2016) and Aguilera et al., (2021) also call for more studies outside the western developed economies. Specifically, Aguilera et al., (2021) described our understanding of the existing CG-sustainability studies as geographically bounded due to high concentration of US and developed countries empirical evidence with other contexts remain unexplored and calls for more studies from developing and emerging countries. Consistent with this, Singhania et al., (2024) described the existing empirical evidence as geographically bias toward western developed economies. Furthermore, Pandey et al., (2022) and Han et al., (2018) call for more CG and non-financial disclosure studies in emerging economies settings.

Consequently, it is on this background that this study aims to empirically examine the nexus between corporate governance and the extent of ESG disclosure, the decision to obtain third-party ESG assurance and the quality of ESG assurance in emerging economies.

1.3 Motivation and Research problem

The last decades witnessed a shift of attention from shareholder-centric to stakeholder-centric (Eccles et al., 2017; Mayer 2021; Edmans 2020; Jia et al., 2023; Free et al., 2024). While a stream of literature argues that firms engage in ESG activities to satisfy the needs of various stakeholders not for profit or competitive advantage (Wickert 2021). On the other hand, another stream of literature argues that the aim of ESG activities is to gain legitimacy and competitive advantage, improve financial performance and achieve better firm value (Tsang et al., 2023; Brooks and Oikonomou 2018; Li et al., 2018). However, the relationship between CG and ESG practices is complex and multi-dimensional with different motivations for ESG disclosure and assurance (Tsang et al., 2023). Various factors such as Internal and external CG, size, industry, institutional and regulatory environments are found to influence and varies ESG practices (Free et al., 2024; Chu et al., 2023; Jia et al., 2023; Wang et al., 2024). Various regulations and policies relating to ESG, and sustainability issues have been initiated and implemented by countries across the globe including BRICS member countries (Wang et al., 2024). These includes India's "The company Act 2013" and Business Responsibility and Sustainability Reporting 2021; Chinas' "The Environmental Protection Law 2014"; Brazil National policy of climate change 2009 and Brazil CG Code 2016; South Africa's King IV code 2017 and Russian Code of Corporate Governance 2014 among others. As Zhang et al., (2023) posit, regulatory environment and institutional forces affect the level of ESG disclosure, assurance and performance, these new policies and regulations in BRICS member countries are likely to influence the extent of ESG disclosure, assurance and performance. However, despite various regulations and legislations, theoretical and empirical literature have shown that regulatory pressure influence on ESG is likely to be limited by corporate governance variables (Pandey et al., 2022; Jackson et al., 2020; Wang et al., 2024). These can be attributed to the complex and costly nature of ESG activities and the need for the corporate organizations to align ESG activities with their business strategies. Therefore, studying the impact of CG variables on the ESG practices such as ESG disclosure, ESG assurance and the quality of the ESG assurance will likely shed light and provide insight on the nexus between CG and ESG practices.

Similarly, the recent corporate scandals such as BP petroleum, Enron and Volkswagen scandals have leads to various studies on the effectiveness of corporate governance on corporate outcomes. Extant literature shows that corporate organizations engage in ESG practices for either symbolic or substantive reasons (Rodrigue et al., 2013; Velte 2023; Orazalin et al., 2024). While substantive practices lead to a better ESG practices and performance, symbolic practices could potentially lead to ESG greenwashing and decoupling (Free et al., 2024; Rodrigue et al., 2013; Gull et al., 2023). Although, prior studies examined the impact of CG variables on ESG practices (Liao et al., 2018; Liu et al., 2023) but as Velte (2023) argues, examining the ESG disclosure and assurance alone will not differentiate between symbolic or substantive reasons for reporting and assurance. Free et al., (2024) noted that quality assurance is critical in reducing the incidence of greenwashing and engender confidence and credibility in ESG reporting. Notwithstanding the contribution of the prior studies, the existing account failed in differentiating between symbolic and substantive motivation of the ESG reporting and assurance by not examining the quality of the ESG assurance. Specifically, Velte (2023) questioned the validity of the findings of prior studies that failed to differentiate between symbolic and substantive use of ESGA. This is because a mere look at the disclosure and/or assurance of ESG information or otherwise without looking at the quality of the independent assurance will not clearly differentiate between symbolic or substantive motives. Consequently, this study takes a step further to investigate not only ESG reporting and assurance but also the quality of the ESG assurance.

Similarly, ESG and sustainability reporting encompasses environmental, social and governance factors. While a number of empirical studies have examined disclosure and assurance of sustainability information (Fan et al., 2021; Zhou et al., 2016; Datt et al., 2018; Datt et al., 2022). Most of the studies focused on the subset of ESG. For example, Fam et al., (2021) examined the impact of greenhouse gas emissions on carbon assurance while Zhou et al., (2016) examined the impact of firm and country level variables on carbon assurance. Similarly, Gerged (2021) examines the CG and environmental disclosure nexus likewise Zhang et al., (2022) examine the relationship between gender diversity and environmental assurance. On their part, Kuhle and Quick (2024) in an experimental study examined corporate governance reporting assurance. However, despite the contribution of these studies, they are associated with certain limitations. First, some of these studies are restricted to only large firms that participate in CDP, ignoring sustainability, CSR and ESG reports, hence affecting generalisability. Secondly, by ignoring other components of ESG such as environmental dimension (such as waste management and recycle, eco innovation, resources utilization); Social dimension (such as health and safety, diversity, human right and equality, community outreach) or governance dimension (such as executive compensation, shareholders right, board independence and diversity) these studies findings cannot be generalised, and this provide fertile ground for further research which this study intend to explore.

Additionally, the issue of brown-washing, whitewashing, box-ticking, greenwashing and ESG decoupling have become a serious issue in ESG and sustainability practices among corporate organizations. Due to the increasing pressure from both regulators, investors and other stakeholders, many organizations hardly "walk the talk" thus widening the ESG performance/ESG disclosure dichotomy. As a result, stakeholders are becoming increasingly sceptical about ESG disclosure alone and consider it as a means of gaining legitimacy and impression management. This leads to the call for external assurance to ensure alignment of ESG reporting with performance (Du and Wu 2019; Free et al., 2024). However, extant literature has shown corporate governance is associated with corporate outcomes including

ESG practices (Crifo et al., 2019; Du and Yu 2021) and there is interconnection between CG mechanisms and ESG assurance (García-Sánchez et al., 2022). Consequently, this study examined the link between CG variables and ESGD, ESGA and ESGA quality in the context of emerging economies that has hitherto remain unexplored.

Moreover, most of the prior studies focused on the consequences of ESGD and ESGA while neglecting the CG determinants of ESGD and ESGA (Qureshi et al., 2020; Atif and Ali 2021; Bofinger et al., 2022; Chen and Xie 2022; Xu and Kim 2022). For example, various studies examine the economic consequences of ESGD and ESGA on earnings management (Meqbel et al., 2023); financial irregularities (Yuan et al., 2022); stock liquidity and returns (Krueger et al., 2021; Luo 2022; Ruan et al., 2024) financial performance and firm value (Elbardan et al., 2023; Lu et al., 2017; Chen and Xie 2022; Maji and Lohia 2023); analyst recommendation and earnings forecast (Chen et al., 2024) and cash holdings (Atif et al., 2022). However, studies on the link between CG variables-ESGD, ESGA and ESGA quality have remain scant and unexplored with (Velte 2022) calling for more studies on the nexus. Moreover, the literature show that corporate governance monitoring role determines key corporate strategies and outcomes. Specifically, the board of directors monitor and control the management (Alsahali et al., 2023; Alhossini *et al.,* 2020; jain and Zaman; 2019; jain and Jamali 2016); approve or disapprove board decisions (Alhossini *et al.,* 2020; Velte 2021) while specific board committees like audit committee have oversight function over internal control, risk management, financial and non-financial reporting (Delloite, 2018; Al-Shaer et al., 2021 Garcia-Sanchez et al., 2023). Consistent with this, the external corporate governance such as shareholding structure and the growing shareholder activism has gain prominence in exerting influence on social and environmental issues (Aguilera et al., 2016; Free et al., 2024; Flammer et al., 2021; Singhania and Bhan 2024). Aguilera et al., (2016) argues that external corporate governance not only work as an independent force but also complement internal corporate governance to influence ESG activities. Therefore, this study utilizes multiple theoretical perspectives to empirically examined the impact of both external and internal CG variables on ESG disclosure, ESG assurance and ESG assurance quality.

Similarly, while auditing and assurance of financial statements by third parties have been long established and received significant attention in the literature and practice with harmonised standard, the quality of ESG assurance have become a source of increasing concern to various stakeholders (Garcia-Sanchez et al., 2020; Velte 2022; Free et al., 2024; KPMG 2022). Many factors account for the increasing stakeholders concerns and scepticism regarding ESG assurance. Firstly, the rapid increase in sustainability reporting and assurance globally due to the importance of non-financial information in decision making. Secondly, while financial statements are regulated and required by the law, the non-financial disclosure are mostly voluntary (Velte 2021). Thirdly, although there are standard frameworks for financial audit such as ISAs and ISQC that regulate financial statements assurance, there is no specific standard framework for ESG assurance engagement. Fourthly, the lack of comparability, consistency and completeness of the ESG reports that leads to what is described as credibility gap in the literature thus the need for assurance (Garcia-Sanchez et al., 2022; Odriozola and Baraibar-Diez 2017). Finally, while only accounting and audit firms with expertise, experience and knowhow provides financial statements assurance, the process is different with ESG assurance engagement. Apart from accounting firms, non-accountants' firms such as management consultants, engineering consultants, sustainability experts and industry experts also provide ESG assurance. These factors account for the heterogeneous outcomes in ESG assurance and affect the quality of ESG assurance thus the needs to empirically examine the impact of corporate governance variables on the level of ESG disclosure, assurance and assurance quality as little is known about the association between CG and ESGAQ.

Similarly, prior studies have examined the relationship between internal CG variables (E.g Liao et al., 2015: Alsahali et al., 2023; Liao et al., 2018) or external CG variables (E.g Flammer et al., 2021; García-Sánchez, et al., 2022; Gipper et al., 2024) separately with the ESG practices. However, researchers argue that examinations of CG determinants separately hinder the understanding of the clear role of CG variables as determinants of ESG strategic outcomes (Hussian et al., 2021; Aluchna et al., 2024). This study examines the relationship between a set of both internal and external CG explanatory variables and the ESG reporting and assurance practices. This will provide the joint effect of board characteristics, ownership structure and audit committee characteristics on ESG disclosure and assurance practices and reduce the incidence of variable selection bias and omitted variable bias.

Likewise, the BRICS member countries achieved rapid economic growth and development through production of goods and services that has been associated with high carbon emission, associated health challenges and environmental degradation (Nguyen et al., 2021; Shahab et al., 2019). The BRICS member countries accounted for 40 percent of global energy consumption with China leading in global energy consumption with 24 percent (EIA, 2021). However, despite regulatory efforts to convert environmental challenges, it has been suggested that corporate organisations have an important role to play and there is the need to strengthen their internal governance mechanism to help in achieving net zero and carbon neutrality (Nguyen et al., 2021; Free et al., 2024; García-Martín and Herrero, 2020). Therefore, the study examines the CG and ESG practices nexus in the context of BRICS to make important and original contributions to the literature in an environmentally sensitive industry.

Moreover, BRICS emerging setting provide a fertile ground for empirical examination of the relationship between CG variables and ESG practices. For example, BRICS member countries are associated with consistent CG reforms such King CG code and Chinese Code of Corporate Governance for Listed Companies that makes ESG disclosure mandatory. Secondly, some of the BRICS member countries such as China and India are historically stakeholder-oriented countries that are associated with better ESG practices (Jain et al., 2017; Maffett et al., 2022). These factors make BRICS ideal context to examines the relationship between corporate governance and ESG practices.

Similarly, despite many empirical studies on the nexus between CG and ESG disclosure, majority of these studies have been conducted in developed economies with strong capital market, institutions and regulations, (Aburaya, 2012; Baydoun et al., 2013; Bozec and Bozec, 2012; Ntim and Soobaroyen, 2013 Ntim et al., 2017; Louie et al., 2017; Khaireddine et al., 2020; Flammer et al., 2021; Sarhan and Al-Najjar, 2022; Tsang et al., 2021; Ali et al., 2022; Benlemlih, et al., 2022). Despite the growing interest by academics in examining the nexus between CG-ESG disclosure and assurance practices in developed economies context, the paucity of empirical studies in emerging economies hampers our understanding of the nexus between CG and the extent of ESG practices (Aguilera et al., 2021; Zaman et al., 2022). Emerging economies have remained unexplored and less researched thus little is known in the context of emerging economies. Zaman et al., (2022) in a systematic review of CG-CSR literature over the last 3 decades, noted that more than 90 percent of CG-CSR studies are in the context of developed economies while emerging and developing economies have remained unexplored in the literature. Moreover, extant literature has shown that national culture, legal system, level of political and economic development and level of investor protection affect the level of ESG disclosure. Furthermore, as noted by He et al., (2022) corporate scandals happen in both emerging and developed economies. He et al., (2022) further argued that the corporate scandals and fraud are even more rampant in emerging economies than developed countries due to weak capital market citing China as an example. But the global attention and empirical literature were mostly on the ‘celebrated’ corporate scandals from the developed countries context such as US, UK, and Europe (e.g Enron, Wells Fargo, VW emission scandal, WorldCom, BP deepwater horizon oil spill, Tyco, Toyota, Global crossing among others) while emerging economies context have remains gravely underreported thus unexplored and understudied. This study is motivated by the need to explore the understudied context of emerging economies that have different level of political and economic development, different national culture, and different sophistication of capital market with the western developed economies. In view of this, it has become pertinent to explore the literature in the context of emerging economies thus this study fills the gap in the literature and respond to a call by Gillan et al., (2021); Zaman et al., (2023); Jain and Jamali (2016) and Aguilera et al., (2021) for more empirical studies on the relationship between corporate governance variables and ESG disclosure especially in emerging economy context.

It is on this note, overview and motivation that this study aims to examine the relationship between corporate governance and ESG disclosure in emerging economies for the following reasons:

Firstly, despite many empirical literature on the relationship between CG and ESG disclosure/assurance and the determinants of these practices that focused on developed countries (such as Schleicher & Walker 2010, Schleicher 2012; Aburaya, 2012; Ntim et al., 2017; Louie et al., 2017; Khaireddine et al., 2020) the literature on the relationship between corporate governance and ESG disclosure/assurance shows that there is a clear paucity of studies conducted in emerging economies context. Salem et al., (2019) pointed out that research on voluntary information disclosure and its determinants in developing countries is limited. Prior research such as (Hussainey and Al-Najjar, 2012; Belal et al., 2013, Elmagrhi et al., 2016; Khalil and Maghraby, 2017; Zaini et al., 2018, Patten and Shin, 2019; Gillan et al., 2021; Zaman et al., 2023; Jain and Jamali 2016 and Aguilera et al., 2021) noted that studies conducted in developing and emerging economies are still limited; and studies conducted in developed economies are not considered suitable for generalisability in emerging economies due to differences in social factors, level of economic development, legislation in force, political environment, sophistication of the financial market and regulatory environment (Chen and Roberts, 2010). Therefore, the attempt by this study to examine the impact of CG on ESG disclosure and assurance in non-western emerging economies context will shed more light on the topic, extend existing literature and provide a deeper understanding of the relationship between CG and ESG disclosure in emerging economies that will add to existing literature.

Secondly, most of the existing studies focused more on the nexus between CG and one of the disclosure components such as environmental disclosure (Akbas, 2016; Helfaya and Moussa, 2017; Baboukardos, 2017; Shaukat et al., 2016; Odoemelam and Okafor, 2018; Giannarakis et al., 2019; Khaireddine et al., 2020; Kilincarslan et al., 2020); ethics disclosure (Sullivan and Shkolnikov, 2006; Mallin et al., 2013; Othman et al., 2014; Chan et al., 2014;), social disclosure (Michelon et al., 2015; Helfaya and Moussa, 2017; Ullah et al., 2019), risk disclosure (Elzahar and Hussainey, 2012; Ntim et al., 2013; Mokhtar and Mellett, 2013; Khlif and Hussainey, 2016; Salem et al., 2019; Mcchlery and Hussiney, 2021), Sustainability disclosure (Helfaya and Moussa, 2017) voluntary Hedging disclosure (Hoelscher, 2019), voluntary governance disclosure (Bhasin and Shaikh, 2013; Melis et al., 2015; Ntim et al., 2017; Al-Bassam et al., 2018; Sarhan and Ntim, 2019), forward looking disclosure (Hassanein and Hussainey 2015; Al-Shaer et al., 2022) or human resources/intellectual capital disclosure (Caputo et al., 2016; Ghasempour and Yusof, 2014). There is need for more disclosure studies that covers overall and aggregate environmental, social and governance disclosure categories in a single study.

Thirdly, this study looks at CG-ESG disclosure and assurance relationship in the energy industry due to social and environmental costs of energy activities. According to Sankara *et al.* (2016) and Chatzivgeri *et al.* (2019) more studies of the financial accounting and reporting practices of energy industries are needed including disclosure of oil and gas reserves and voluntary disclosures of reserves or risk among others (Baudot et al., 2020). Similarly, Wang *et al.*, (2022) noted that energy industry received increased attention and criticism from members of the public because their operations are classified and considered as one of the most socially and environmentally harmful to the society leading to excavation, damage and significant destructions to communities, society, and environment. The energy industry has been severally termed as carbon intensive industry, sin industry, harmful industry, heavy-polluting industry among other terms in the literature due to the impact of their operations (see Nguyen et al., 2021; Kaplan and Ramanna 2022; Gu et al., 2023). Investigating the impact of corporate governance on the level of ESG disclosure and assurance practices within the context of energy industry in emerging economies will enrich the literature, shed more light, provide more insights, extend the literature, and possibly provide outcome that differs from the mainstream literature. The study focuses on the energy industry because of the environmental and social impacts associated with energy industry and the evidence in the literature that show energy industry is associated with high assurance practices (Free et al., 2024; Bakarich et al., 2023).

Fourthly, despite regulatory effort regarding ESG practices, BRICS member countries are lagging in comparison with other countries (Buchetti et al., 2024; Christensen et al., 2021). For example, while EU member countries have made significant progress and are at the forefront in terms of regulations mandating non-financial reporting (E.g NFRD 2014/95/EU, CSRD 2022/2464/EU and EU Taxonomy), the lack of mandatory regulation in BRICS provides a crucial gap in the literature and highlight the need to examines how various governance structures influence ESG practices as this is now at the discretion of the board of directors.

Similarly, Alhossini *et al.,* (2020) postulate that most of prior empirical studies on corporate governance, performance, financial and non-financial reporting, corporate board committees and corporate outcomes utilised a single theory within the context of a single country. Alhossini *et al.*, (2020) therefore call for more studies that are based on multiple countries in line with multiple theoretical perspectives to provide new insights and important institutional issues regarding the advisory and monitoring roles of board and board committees. This study addresses the theoretical limitation of adopting a single theory by employing multiple theoretical perspectives in a multi-country set up.

Finally, Sarhan and Ntim (2019) noted that most of the existing studies on the relationship between corporate governance and ESG disclosure have mainly employed a one year cross-sectional research design (Haider and Nishitani, 2022; Allegrini and Greco, 2011; Samaha et al., 2012; Adelopo, 2011; Aljifri et al., 2014; Albitar, 2015; Al-Janadi et al., 2016; Ahmed et al., 2017; Kamel and Awadallah, 2017; Khalil and Maghraby, 2017; Tran et al., 2020; Aguilera et al., 2021) and thus restricting our understanding of ESG disclosure behaviour and it relationship with corporate governance over a significant period of time. However, the significance of longitudinal studies over cross-sectional studies has been highlighted in the literature. For example, Buchetti et al., (2024) argued that longitudinal studies provide in-depth insights into the dynamic relationship between CG and ESG that could be lost in a cross-sectional study. Chau and Gray (2010); Eccles et al., (2014); Sarhan and Ntim (2019) and Aguilera et al., (2021) suggested that future research on the corporate governance and sustainability/ESG disclosure relationship should consider studying changes in disclosure over a long period of time with a large sample, arguing that disclosure and assurance practices change over time and longitudinal studies could help in addressing issues such as the relationship between information disclosure and time dimension. Aguilera et al., (2021) argued that limited time frame may make it difficult to establish causality on the relationship between CG-ESG nexus. Furthermore, Eccles et al., (2014) and Aguilera et al., (2021) noted that sustainability is a long-term investment that takes years to manifest, as such studies on sustainability practices be based on panel data to avoid spurious findings and the results reacting to new regulations or macroeconomic policy. This study adopts longitudinal research design to study the relationship between corporate governance and ESG disclosure over a period of ten years (2010-2023). This is because a longitudinal method is likely to suggest cause-and-effect relationships than a cross-sectional method by virtue of its scope.

In summary, despite the important contribution of the previous studies on the CG and sustainability practices nexus, they are associated with certain limitations that motivate and necessitate this study. These limitations include being descriptive, lack of theoretical frameworks to underpin the study or using a single theory (Chen and Roberts 2010); study a single country (Sarhan and Al-najjar 2022); employing few/limited corporate governance variables (Liu et al., 2024); study a sub-set of ESG (Green and Zhou 2013; Zhou 2016; Datt et al., 2023); using short period or cross-sectional study rather than longitudinal or panel data (Haider and Nishitani, 2022; Hummel et al., 2019; Helfaya & Moussa, 2017; Hong et al., 2016; Martínez-Ferrero et al., 2018) ignore endogeneity concerns in their analysis (Branco et al., 2014; Aladwey et al., 2021 and García-Sánchez et al., 2022) or have mainly focused on Europe and other developed countries (Sarhan and Alnajjar 2022; Chen et al., 2019; Tsang et al., 2021; Flammer et al., 2019; Manita et al., 2018). This study departs from previous studies by employing a complete set of corporate governance variables, employing a relatively longer period of time, using longitudinal panel data, conducting robustness test to account for endogeneity, utilising multiple theoretical frameworks, utilising a large dataset and focusing on understudied context of developing economies. Thus, this study seeks to contribute to the extant literature by addressing most of the limitations of prior studies.

1.4 Objectives of the study

Based on the review of the extant literature and the gap in the literature, this study aims to empirically examine the impact of Corporate Governance variables on the ESG practices in the context of emerging economies: Specifically, the objectives of the study are to examine the impact of:

Corporate governance variables on the level of ESG disclosure of listed energy firms in BRICS.

Corporate governance variables on firm decision to obtain third party ESG assurance of listed energy firms in BRICS.

Corporate governance variables on the quality of ESG assurance of listed energy firms in BRICS.

1.5 Research questions

The study intends to achieve the overall and specific objectives by answering the following research questions:

1. What are the impacts of corporate governance variables on the level of ESG disclosure?

2. What are the impacts of corporate governance variables on firms' decisions to obtain third party ESG assurance?

3. What are the impacts corporate governance variables on the quality of ESG assurance?

1.6 Significance of the Study

Corporate governance practises and the extant literature have indicated a shift of attention from shareholder primacy to a wider stakeholder concern (Eccles et al., 2017; Mayer 2021; Edmans 2020; WEF 2020; Kavadis and Thomsen 2022; Mayer 2023) with corporate organisations asked and expected to re-examine their corporate purpose (Kavadis and Thomsen 2022; Segrestin and Levillain 2023; Mayer 2023). Even though the relationship between corporate governance and financial performance that has to do with shareholders and shareholder value have been thoroughly investigated, less is known about how CG affect other stakeholders through ESG related disclosures (Colak et al., 2023). This dearth of rigorous empirical studies on the impact of corporate governance on other important stakeholders such as the environment, customers, society, and employees provide an important avenue for further research. Similarly, global business practices have acknowledged the need for the shift in attention from the traditional shareholder value to a wider stakeholder concerns and social purpose (EC 2022; WEF 2020, 2023) with a study by UNGC (2023) showing 92 percent of global CEOs willing to adopt new sustainable business model and broader social purpose. However, various studies have shown that corporate governance and the board of directors have a critical role to play in achieving critical corporate decisions such as social purpose and modern sustainable business model thus the importance this study (Edmans 2020; Nadeem 2020; UNGC 2023; Mayer 2023; Gull et al., 2023). Moreover, Maneenop et al., (2023) noted that ESG disclosure and assurance practices are the tools used by corporate organisations to measure their impact on various stakeholders and achieve long-term sustainability. Therefore, this study fills the void in the literature by examining the relationship between CG variables and ESG disclosure and assurance that is critical to the broader stakeholder value and social purpose.

Another reason that makes this study interesting and timely is the increasing raise of shareholder activism in relation to ESG issues in the literature and practice (Edmans 2023; Maneenop et al., 2023; Wu et al., 2024; Free et al., 2024). ESG disclosure, transparency, assurance and performance have become an important consideration for investors especially institutional investors with over $35 trillion in ESG funds (PWC 2022; Green 2023; Edmans 2023; Ruan et al., 2024). Various terms have been used in the literature to describe ESG related investing such as sustainable investing, green investing, impact investing, Socially Responsible Investment, ethical investment, activist investing, and ESG investing (Kolbel et al., 2020; Marti et al., 2023; Ruan et al., 2024; Wen et al., 2022) and extant literature has shown that firms with better ESG practices and environmental accountability achieve long term sustainability (Ruan et al., 2024) better firm performance and firm value (Chen and Xie 2022; Wang et al., 2023) reduced litigation risk (Chakraborty et al., 2023) reduced incidence of greenwashing (Free et al., 2024) affect cost of debt and equity (Serafeim and Yoon 2023; Wong and Zhang 2023; Becchetti et al., 2023; Ruan et al., 2024) and reduce reputational risk (Mure et al., 2021; Chasiotis et al., 2024).

Moreover, this study answers the call of Velte (2023) for more empirical studies that not only look at the ESG reporting and assurance but also ESG assurance quality in order to shed more light on symbolic and substantive ESG practices. In addition to examining the complementary empirical studies on the impact of both internal and external corporate governance on ESG reporting and assurance, the third empirical study went a step further to examine the nexus between CG variables and the quality of ESG assurance.

Likewise, this study makes a significant empirical and theoretical contribution by integrating and providing evidence supporting the stakeholder, legitimacy, neo-institutional, and agency theories application in CG and ESG disclosure and assurance practices in an understudied context. The findings of the study highlight that these theories are interconnected, complimentary and collectively influence corporate governance effectiveness and corporate outcomes. This complementary and multi theoretical perspective contributes to the literature, which has been traditionally dominated by the agency theory in corporate governance literature.

Furthermore, the BRICS countries offer an interesting context to study for many reasons. First, the dearth of empirical evidence on the nexus between corporate governance and ESG practices in the context of BRICS. Secondly, despite the differences and diversity in BRICS in terms of economic structures, differences in energy industry, degree of vulnerability to climate related risk and development trajectories; the BRICS nations have many things in common when it comes to ESG and sustainability practices. For example, BRICS member countries are all determined to achieve carbon neutrality and are determined to improve ESG reporting and practices through various regulatory policies. Similarly, despite their high carbon emissions and poor environmental performance, there is shift of attention from mere economic growth to a green and more sustainable economic growth and practices. As Zhou et al., (2024) noted, China has achieved remarkable progress in the area of ESG investing and practices despite starting late. Additionally, BRICS member countries provide an interesting context to study due to having one of the highest annual increases in ESG reporting and assurance. For example, according to KPMG (2022) report China has the highest annual increase in sustainability assurance and is the most GRI complaint globally. The report further noted that Brazil, India, China and South Africa are among the top 10 countries in terms of sustainability and ESG reporting. Economically, BRICS member countries have one the highest GDP growth rate with China and India having world leading GDP growth rate forecast of 4.8 and 7 percent respectively. The above points make BRICS a unique context to examine the CG-ESG disclosure, assurance and assurance quality nexus.

Additionally, the study contributes to the literature by examining the joint effect of different elements of corporate governance on ESG practices. Specifically, the study examines the joint influence of board attributes, ownership structure and audit committee characteristics variables on the level of ESG disclosure, ESG assurance and ESG assurance quality. Maroun (2022) posit that although the various elements of corporate governance mechanism are interconnected and complementary, prior studies examined them separately. While the board of directors exercised power through monitoring and control of management to influence corporate outcomes, the audit committee have duty towards both financial and non-financial disclosure and reporting. Similarly, ownership structure as an external corporate governance mechanism that influences corporate strategy and outcomes through different shareholding structures and shareholder activism.

Consistent with the above, this study contributes to the corporate governance and sustainability accounting literature by extending our understanding of corporate governance mechanisms as determinants of ESG assurance and assurance quality. Despite the growing attention in the literature on the sustainability assurance practices, prior studies mainly examined the influence of industry affiliation (Casey and Grenier 2015; Simneet et al., 2009; Cho et al., 2014) size (Simneet et al., 2009) or institutional factors on the relationship (García-Sánchez et al., 2019). This study extends prior literature and provide empirical evidence of the impact of corporate governance variables on the propensity to obtain third-party ESG assurance and the quality of ESG assurance.

Moreover, while extant literature has shown that the probability of achieving convergence in ESG reporting is low due to the heterogeneity across various standards and its implementation by companies (Stolowy and Paugam 2023; Hummel and Jobst 2024). However, Maroun (2019) and Hummel and Jobst (2024) argue that provision of quality ESGA by companies will help in reducing heterogeneity in ESG reporting and increasing the possibility of convergence through confidence building in the accuracy of the ESG information. Therefore, this study seeks to examine the extent to which CG variables influence the quality of ESG assurance.

Furthermore, by studying the relationship between corporate governance and ESG disclosure as well as ESG assurance and quality of ESG assurance, this study provides empirical evidence to support previous literatures that empirically link corporate governance with various corporate outcomes (Liao et al., 2018; Pandey et al., 2022; Nguyen et al., 2022; Lu et al., 2022; Ali et al., 2024; Aibar-Guzman et al., 2024).

Finally, while ESG reporting, and assurance have received attention in the literature (Liao et al., 2018; Shen and Xie 2022; Hussain et al., 2018). However, far too little attention has been paid to the burgeoning literature on ESGAQ. By extending our study to incorporate ESGD, ESGA and ESGAQ, we present a more detailed and holistic examination of the relationship between a set of CG variables and ESG reporting and assurance practices. Moreover, a complete set of CG mechanisms that encompasses board attributes, ownership structure and audit committee characteristics were examined to provide insight into the relationship. Velte (2023) specifically calls for more studies on audit committee characteristics and ESG practices as audit committee have responsibility over both financial and non-financial reporting practices while Zaman et al., (2021) call for more studies on the link between ownership structure and ESGA quality.

Overall, the institutional and regulatory reforms, diverse economic structure and energy industry, raising economic significance, environmental concerns, degree of vulnerability to climate related risks and efforts to achieve carbon neutrality makes BRICS an interesting context to investigate the relationship between CG variables and ESG practices.

The thesis further contributes to the existing literature by examining the relationship between corporate governance and ESG practices in an overlooked and under investigated context characterized by paucity of empirical studies by applying various regression techniques including probit regression. Alhossini *et al.,* (2020) noted about the limited studies assessing the relationship between corporate governance, ESG performance, and non-financial disclosure in a non-western setting of developing countries. Therefore, the current study fills a gap in the literature and seeks to extend existing literature on the relationship between corporate governance variables and the extent of ESG disclosure, propensity to obtain ESG assurance and ESG assurance quality in developing countries by offering several new contributions to the literature.

Additionally, this study examines the relationship between corporate governance variables and ESG disclosure, ESG assurance and quality of ESG assurance. Chau and Gray, (2010) posit that there are generally two main areas of disclosure studies in the literature, one stream focusing on the effect of firm level characteristics on ESG disclosure and assurance (e.g Cordeiro and Tewari 2015; Hussainey and Al-Najjar, 2012; Samaha et al., 2012; Kamel and Awadallah, 2017; Al-Bassam et al., 2018; Guidara et al., 2021) and the other stream focusing on the impact of corporate governance variables on the level of ESG disclosure and third party ESG assurance practices. However, while the effect of firm level characteristics has been thoroughly investigated (See Baldini et al., 2018; Khalid et al., 2022; Yu and Luu 2021), there are scant studies on the nexus between CG variables and the ESG practices especially in emerging economies context despite the role of corporate governance in determining corporate decisions and outcomes (García-Sánchez et al., 2022; Guidara et al., 2021).

Similarly, Herath and Altamimi (2017) noted that while few studies addressed factors affecting ESG practices like ownership structure, board attributes, firm characteristics and board committee characteristics in a single study, majority of the previous studies focused on one aspect to conduct their studies. Herath and Altamimi (2017) further call for more studies that integrate all the governance factors in a single study. Specifically, this study integrates the three main areas of CG (board attributes, shareholding structure and audit committee characteristics) into a single study while controlling firm level characteristics. Therefore, the current study seeks to extend prior empirical literature by integrating a complete set of board characteristics (board size, board composition, board gender diversity and board diligence), ownership structures (institutional share ownership, foreign ownership, block holder shares ownership and managerial share ownership) and audit committee characteristics (composition, size, accounting and financial expert and meetings) and their relationship with the extent of ESG disclosure, propensity to obtain third-party ESG assurance and ESG assurance quality in a single study.

Likewise, as noted earlier, there is a dearth of studies on corporate governance mechanism and ESG practices in emerging markets especially in the context of cross-country or multi country research settings (Elmagrhi et al., 2016; Md Zaini et al., 2018; Sarhan and Al-Najjar 2022). This multi-country study of BRICS (Brasil, Russia, India, China and South Africa) will shed more light and provide new insights on the relationship between corporate governance variables and ESG disclosure and assurance practices. Similarly, the study focus on BRICS as representation of emerging countries is apt and timely considering the importance of emerging countries to global economy and the role, they are expected to play in achieving net zero economy. World Bank (2023) shows that BRICS member countries account for 41% of global population with 3.2 billion people (China and India leading the globe in terms of population with 1.42B and 1.41B people respectively), 25% of global GDP and 16% of world trade. Furthermore, BRICS countries have an average GDP growth rate of 4.4 percent with India and China leading the globe with 8.2 and 5.2 GDP growth rate respectively. Therefore, a study in the context of BRICS is timely and will provide more insights giving the economic importance of the BRICS countries and the important role they can play in achieving net zero.

Methodologically, most of the previous studies on the relationship between corporate governance mechanisms and ESG disclosure make use of content analysis and self-constructed index approach to measure the extent of ESG disclosure (Chau and Gray, 2010; Ntim et al., 2013; Ntim and Soobaroyen 2013; Nguyen et al., 2021). Even though this help in providing insights about the level of disclosure, but it has suffered from many shortcomings such as arbitrary use of total number of disclosure index and categorisation, arbitrary weighting in a weighted index and a subjective selection of total number of disclosure instruments thus affecting the validity and reliability of the coding and measurement. Many researchers have criticised and questioned the use of content analysis in measuring the extent of CSR/ESG disclosure (Marston and Shrives, 1991; Healy and Palepu, 2001 and Neuendorf, 2002). However, the current study provides rich insights by utilising Bloomberg ESG disclosure index to measure the extent of ESG disclosure. Nollet et al. (2016) noted that ESG disclosure ratios provided by Bloomberg database is one of the most widely used disclosure score in accounting, finance and sustainability literature in recent years, and Bloomberg ESG ratings attract the most attention from investors (Eccles et al., 2011; Eccles et al., 2014). Moreover, the study makes methodological contributions by utilizing multidimensional and comprehensive construct as proxies to measure ESG assurance quality in the last empirical chapter. While previous studies attempted to examined ESG and sustainability assurance quality, most of these studies utilized dummy variable as measure of ESG assurance quality (Simnett et al., 2009; Peters and Romi 2014; Martínez-Ferrero and and García-Sánchez 2017). However, the major problem with the dummy variable method are as follows: firstly, the method only signifies adoption of assurance without regard to the quality of the assurance provided. Secondly, it ignores important assurance constructs such as scope of assurance, independence of the assurance provider, level of assurance and GRI framework compliance among others. Thirdly, as noted by Garcia-Meca et al., (2024), ESG assurance quality is not directly observable. Therefore, using dummy variable to measure assurance quality without looking at the content of the assurance is a major drawback of the binary method of measuring assurance quality.

The study compliments, extends and contributes to the literature by empirically examining the impact of both internal and external corporate governance variables on ESG practices. Specifically, by analysing the effects of board characteristics, ownership structure and audit committee characteristics on the comprehensive set ESG assurance quality index, this study provides a novel and important contribution that provides insight into the symbolic and substantive used of ESG assurance.

The study also extends and complements existing literature by providing empirical evidence on the monitoring role of CG mechanism on the set of ESG practices. Moreover, the study used longer time period (2010-2023); studied understudied context using multi country (BRICS) and more explanatory variables across different governance structures and different but complementary ESG practices. These factors provide important insights and implications and improved the generalizability of the findings.

The study contributes to the gender diversity literature by providing empirical evidence of positive and significant relationship between board gender diversity with the three ESG practices (ESG disclosure, ESG assurance and ESG assurance quality) in an environmentally sensitive industry and understudied context. Similarly, by focusing and utilising less studied ESG dimensions such as ESG disclosure, ESG assurance and ESG assurance quality in a single study, this study extends the findings of prior studies that focus mainly on the corporate governance variables and one of the ESG practices thus contributes to the literature.

Similarly, the study contributes to two strands of the literature on corporate governance and sustainability issues in energy industry and is the first study, as per as we could ascertain that examines the relationship between corporate governance and ESG disclosure and assurance practices in BRICS' energy industry. Shahbaz *et al.*, (2020) noted that concerns about the energy industry environmental and social impacts have substantially increased in recent years and firms operating in the energy industry are expected to contribute to social and environmental sustainability, thus the rising interest on the industry. Examining the CG-ESG disclosure and assurance nexus in energy industry provide more empirical evidence, insights and shed more light different from what is documented in the main literature.

Finally, conducting the study in the context of energy industry is timely and a respond to a call by Gray et al., (2019) on the need for more empirical research on financial reporting and ESG information disclosure that would serve the primary users in energy industry. According to the World bank (2018) report, energy industry plays a "dominant social, economic, and political role in 81 countries, accounting for a quarter of global GDP and half the world's population". However, the report noted that most of the ESG concerns such as poverty, child labour, corruption, worker exploitation, and environmental degradation is caused by weak corporate governance. In the same vein, Wang *et al.*, (2022) noted that energy industry received increased attention and criticism from members of the public because their operations are classified and considered as one of the most socially and environmentally harmful to the society leading to excavation, damage and significant destructions to communities, society and environment. Therefore, conducting this study in the context of energy industry especially in a non-western developing economy setting like BRICS will shed more light, provide new insights and enrich the literature on the CG-ESG disclosure and assurance practices nexus.

The study findings will help regulators formulate future corporate governance codes that encourage corporate organisations to disclose more useful ESG and sustainability information in order to enhance investor and market confidence, improve the quality of financial reporting and deepens voluntary disclosure behaviour. Finally, this study is important in enhancing the knowledge and understanding of the nexus between corporate governance and ESG disclosure in emerging economies. It explores the relationship between corporate governance variables with ESG disclosure within the context of emerging economies in a sector that is characterised by social and environmental cost.

1.7 Structure of the Thesis

The structure and organisation of this current research is as follows. The thesis is organised into seven chapters. Chapter one is an introductory chapter that consists of the background for the study along with the main motivation behind undertaking the current research. The chapter then addresses the core research questions followed by objectives of the study. A justification for the pursuit of the study is provided under the significance and contribution of the study.

Chapter two presents a critical review of the pertinent literature. It commences with the concept of corporate governance along with the evolution and historical development of corporate governance codes in BRICS. The chapter discussed the concept of ESG, ESGD, ESGA and ESGAQ and provides justification for examining the energy industry. The chapter then explores prior literature on the relationship between CG mechanisms and corporate ESG disclosure, ESG assurance and ESG assurance quality. The chapter concludes by identifying gaps in the existing literature and how the literature was reviewed systematically.

Chapter three outlines the theoretical framework adopted by the current study. It reviews the different related theories that help explain the ESG disclosure and assurance practices and corporate governance mechanism, followed by an analysis and critique of the different theoretical perspectives employed. The chapter presents a detailed discussion of the proposed theoretical framework for the current study, justifying the choice of such framework in explaining the relationship between corporate governance and ESG disclosure and assurance. It provides the foundation on which the study is constructed on and will guide the interpretation of the findings of this study. Prior empirical studies and relevant theories will then be use for hypothesis development and the theoretical contribution of the current study will be discussed. Finally, the will discussed Carroll’s CSR Pyramid model and explain why this was not considered.

Chapter four details the research methodology employed by the current study. It commences with explaining the research philosophy then followed by the research approach and research strategy methods used in carrying out the study. Quantitative analysis using summary and descriptive statistics, correlation matrix, ordinary least square regression, fixed effect model

FEM, random effect model and two stage least square 2SLS were undertaken to examine the ESG disclosure practices and their association with corporate governance mechanisms while controlling firm level characteristics. Method of data and sample collection as well as measurement of the explanatory and dependent variables were also part of this chapter. Finally, the chapter discussed the ethical considerations and limitations of the Bloomberg database.

Chapter five constitutes the empirical work of the first empirical work aimed at investigating the relationship between corporate governance variables and the extent of ESG disclosure practices of listed energy firms from BRICS. The chapter discussed hypothesis development and reports the empirical results of the first chapter of the study in terms of the theoretical framework adopted and conclusions are drawn from statistical findings.

Chapter six constitutes the findings of the second empirical work investigating the relationship between corporate governance variables and the decision to obtain third-party ESG assurance of listed energy firms from BRICS. The chapter discussed hypothesis development and reports the results of the second empirical work of the study in terms of the theoretical framework adopted and conclusions are drawn from statistical findings.

Chapter seven constitutes the empirical work aimed at investigating the relationship between corporate governance variables and ESG assurance quality of listed energy firms from BRICS. The chapter discussed hypothesis development and reports the results of the third empirical chapter of the study in terms of the theoretical framework adopted and conclusions are drawn from statistical findings.

Chapter eight presents summary of the findings and highlight some potential key and practical implications of the findings. It also sheds light on the contributions made by the current study to corporate governance and sustainability reporting and assurance literature and identifies the limitations of the study. The chapter also highlight the contributions of the study, policy implication, recommendations, and direction for future research.

1.7 Chapter summary

This chapter start by giving an overview and background of the topic, discusses the research problem, the motivation and rationale for the study, the research objectives and the corresponding research questions, the significance of the study and the structure of the remaining research chapters.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews previous literature on corporate governance and ESG disclosure, ESG assurance and ESG assurance quality. Specifically, the chapter aims to accomplish two main objectives. Firstly, this chapter aims to review previous empirical studies on the relationship between corporate governance and ESG disclosure, ESG assurance and ESG assurance quality. Secondly, it highlights gaps in the literature based on the review of prior studies on the relationship between corporate governance and the level of ESG disclosure; CG and ESG assurance; and finally, the relationship between CG and ESG assurance quality.

This chapter is organized as follows: Section 2.2 gives a brief conceptualization of corporate governance while section 2.3 explains the concept of ESG disclosure, ESG assurance and ESG assurance quality. Section 2.4 gives a brief overview of the development of codes of corporate governance in BRICS. Section 2.5 provides justification for energy industry context and an overview of the BRICS and section 2.6 provides an overview of ESG, ESG disclosure, ESG assurance and ESG assurance quality in BRICS. Section 2.7 explain how literature was reviewed systematically while section 2.8 reviews the literature on the previous empirical studies on the relationship between CG and ESG disclosure. Section 2.9 reviews previous studies on the impact of CG variables on ESG assurance. Section 2.10 reviews previous empirical studies on the impact CG variables on ESG assurance quality while section 2.11 provides a summary of the chapter.

2.2 Concept of Corporate Governance

There is no widely accepted definition of the concept of corporate governance. In fact, Elgar (2013) sees the concept of corporate governance as one that does not lend to a single, specific, or narrow definition. The consensus in the literature regarding the concept of corporate governance is that it has been around since ancient times, and it evolved over time. Mallin (2007) noted that the scope of corporate governance has witnessed significant expansion to the extent that it is now an amalgam of different field of studies such as accounting, economics, ethics, strategy, finance, law, management, among others.

Many definitions have been put forward about the concept of CG. For example, The Oxford University Press Business English Dictionary defines corporate governance as: "The way in which directors and managers control a company and make decisions, especially decisions that have an important effect on the shareholders." While Mallin (2002) defined corporate governance as "the exercise of power over and responsibility for corporate entities." However, Sharman and Copnell, (2002) sees corporate governance as "the system and process by which entities are directed and controlled to enhance performance and sustainable shareholder value, and it is concerned with the effectiveness of management structure, the sufficiency and reliability of corporate reporting and the effectiveness of risk management systems". To CGI (2022) "CG is the way in which companies are governed and to what purpose. It identifies who has power and accountability, and who makes decisions." CGI (2022) further described CG as an area of study "as a field of study that examines the structures, processes, policies, and principles that guide the behaviour of companies, their management, and stakeholders."

According to Solomon (2020) corporate governance is "the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all stakeholders and act in a socially responsible way in all areas of their business activities". While World Bank (2013) defined corporate governance as "the structures and processes for the direction and control of companies." Nathny et al., (2015) sees corporate governance as good administration and prudence regulation. For Casten and Agyemany (2012) it involves the use of a group of dynamic micro-policy instruments to help firms achieve the main goals of its capital providers through the effective and efficient use of its resources.

Moreover, Larcker et al., (2022) defined corporate governance “as a system of checks and balances to ensure that corporate managers make decisions in the interest of the corporation”.

Mahanati (2021) sees corporate governance as “the system of policies, rules, mechanisms, practices, authorities, and processes used to direct, manage, and control a corporation.” While Deakin and Morris, (2012) looks at CG as an integral in fostering corporate success and sustainable economic growth. To Baker and Anderson (2010) CG is a measure by which an organization is administered, controlled, and directed especially with the company’s internal and external stakeholders in mind. Aguilera et al., (2021) on their part defined CG “as the distribution of rights and responsibilities within the firm, which entails allocating power and resources to different corporate actors and managing the inevitable tensions among these actors.”

Similarly, Ntim (2017) noted that despite many and varied definitions of the concept of corporate governance, these definitions are broadly categorised into either ‘narrow or broad’. Ntim (2017) narrowly defined corporate governance as “referring to internal governance structures, such as the executive management, the board of directors and the general assembly of shareholders, by which companies are directed and controlled.” While arguing that the concept can also be viewed from broader perspective as “going beyond immediate internal governance mechanisms to include external structures and stakeholders, such as the legal system, the efficient factor markets, local communities, the regulatory system, as well as the political, cultural and economic institutions within which companies operate”. Another area of the narrow definition of the concept of CG is shareholder-centric definition by La Porta et al., (1998) that focused on the ability of country level governance country level factors to protect minority shareholders and their interests. On the other hand, the broader definition emphasized the other stakeholders in addition to shareholders and the definition provided by Solomon (2020) consider CG “as the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all stakeholders and act in a socially responsible way in all areas of their business activities".

Consistent with the view of Ntim (2017), Jain and Jamali (2016) contends that the traditional economic definition considers CG from the narrow perspective of shareholder primacy while modern conceptualization in the literature considers the wider stakeholder engagement that consider non-financial reporting crucial. The shareholder centric corporate governance has been recently challenged in the literature; thus, this study will empirically be examined CG-ESG disclosure link in line with the wider conceptualization that align with the multiple stakeholder interest.

2.3 Concept and evolution of ESG, ESGD, ESGA and ESGAQ

2.3.1 Evolution of ESG and ESG disclosure

The debate in the literature regarding ESG disclosure and performance, CSR disclosure and sustainability reporting dated back to many decades (Singhania and Saini, 2023; Chen and Xie, 2022). The modern era academic debate in literature regarding CSR started with the work of eminent scholars such as Brown (1953), Selekman (1959), Davis (1960), Heald (1957) and Friedman (1970). Carroll (1999) noted that even though CSR/ESG concepts have long and varied historical evolution in the literature, 1950s marks the beginning of modern era of CSR. Chen and Xie (2022) noted that the evolution of ESG started with CSR and later Socially Responsible Investment SRI while Carroll (1999) posit that the CSR started with the concept of Social Responsibility.

Earlier researchers such as Friedman (1970) argue that the only social responsibility of a business is to increase its profits. His argument is in line with shareholder supremacy theoretical perspective which emphasizes profit maximization for shareholders. Moreover, Stolowy and Paugam (2023) noted that ESG is a living and dynamic concept that evolves over time. From the arguments in the academic literature, it’s obvious that the concept of CSR is the foundation of many related, interconnected and sometimes overlapping concepts such sustainability, ESG, non-financial reporting, integrated reporting among others. However, despite the historical evolution of ESG concept from related concepts such as SRI to CSR, the current ESG concept emanate from the UN “Who Care Wins” report that highlights the importance of sustainable factors in long-term and sustainable business growth. The initiative led by the then UN Secretary General Kofi Anan in 2004 saw the emergence of ESG and the need for corporate organisations to integrate ESG factors in business strategies.

2.3.2 Concept of ESG, ESG Disclosure, ESG assurance and ESG assurance quality

The concept of ESG disclosure is one of the burning issues in the corporate world in recent years. The concept has received tremendous attention from investors, regulators, researchers, and practitioners in the last two decades. Despite the global attention on the concept by academics and practitioners, defining the concept has remained a subject of debate in the literature. Stolowy and Paugam (2023) postulate that this leads to the present confusion regarding the concept and argues that it will continue to affect convergence despite various efforts. Stolowy and Paugam (2023) further argues that the difficulty in defining the concept can be attributed to three major factors among other factors. Stolowy and Paugam (2023) noted that the first factor is the existence of slightly different, interrelated, and interconnected concepts such as non-financial reporting, ESG, sustainability reporting, CSR, and integrated reporting in the literature. Stolowy and Paugam (2023) further noted that other factors contributing to the vague definition of the concept are the measurement and operationalisation, mandatory and voluntary nature of ESG in different jurisdictions or in different industries within the same jurisdiction, existence of different bodies and organisation dealing with ESG issues such as SASB, GRI, CDP and ISSB and the choice of different varieties of reporting frameworks by the firms. However, despite the difficulty in defining the concepts of ESG, the concept has continued to attract attention from various researchers, practitioners, and standard setters. According to Amel-Zadeh and Serafeim (2018) there is an exponential increase in the number of companies that measure and disclose Environmental, Social and Governance data from less than 20 firms in the 1990s to over 9000 firms in 2016. In a similar report, KPMG (2022) noted that 96 percent of largest global companies provide standalone ESG and sustainability report mostly in line with GRI standard.

Among the first attempt at defining ESG is the definition by Bowen (1953) where he considers CSR/ESG as duties and obligations of corporate organizations to pursue actions, make decisions and policies that benefit society beyond the scope of generating profit to shareholders. The study tries to answer questions of whether business and societal interest align in the long run. Consistent with this, Davis (1960) defined CSR as "businessmen's decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest" (P. 70). Davis (1960) argued that social responsibility leads to social power that are economically beneficial to the businesses in the long run. McGuire (1963) defined CSR as "The idea of social responsibilities supposes that the corporation has not only economic and legal obligations but also certain responsibilities to society which extend beyond these obligations" (p. 144). On his part, Barnett (2007) argues that responding to societal and stakeholders demand is not actually CSR activity but reciprocal activity he termed as direct influence tactics. Furthermore, Barnett (2007) describe CSR as improvement of societal welfare rather than satisfying stakeholder needs and demand. Similarly, Barnett (2019) consider CSR as firm activity aimed at improving relationship with primary stakeholder.

Li et al., (2018) consider ESG reporting as provision of additional important aspects of business practices over and above financial information to create a positive feedback loop. While Berger-Walliser and Scott (2018) consider CSR as an activity directed by state or carried out by corporate organisations themselves as a reward for their operations in order to carry all stakeholders along. Flammer et al., (2021) on his part consider Environmental, Social and Governance (ESG) disclosure is a non-financial reporting that is mostly voluntary while Suttipun, (2021) defined ESG disclosure as “a voluntary reporting process by which information relating corporate operation on environmental, social, and governance perspectives are made available to stakeholders”. on their part, Lin-Hi and Muller, (2013) simply describe CSR as “doing good and avoiding bad” and CSR disclosure as reporting on such.

According to Allegrini and Greco, (2013) voluntary disclosure (ESG/CSR disclosures are mostly voluntary) can be described as “information released to the outside, deriving from the management’s insider knowledge of the company, which are not required to be published in regulated reports” while Deegan (2002) describe ESG disclosure as corporate reporting that focuses on environmental, social, and governance performance. Loure, Ahmed and Ji (2017) see voluntary disclosures as a mechanism that serves as an external governing mechanism to monitor managers to reduce agency costs.

Recently, the operationalization and definition of the concept has become complex and multidimensional. Serafeim (2023) argues that the concept of ESG has moved from process to product in recent years. Serafeim (2023) further posit that the concept of ESG will continue to evolve over time and defined process ESG as “a process that involves measuring relevant resources and outcomes, analysing resource allocation to achieve optimal outcomes, managing resources to improve outcomes, and communicating resource management and outcomes to stakeholders”. However, according to PWC (2021) ESG is a framework for firms that relates to their impact and dependencies on the environment and society and the quality of their corporate governance. Its disclosure encompasses all non-financial aspect of the business that are not usually captured and measured by traditional financial reporting system with the ultimate goal of creating sustained value for the business and society at large.

Similarly, the ESG assurance is a new concept in accounting and sustainability literature. Various definitions of the concept have been provided by the practitioners and in the literature. For example, the International Auditing and Assurance Standards Board (IAASB, 2015, p.7) consider the concept of assurance as "an engagement in which a practitioner aims to obtain sufficient appropriate evidence in order to express a conclusion designed to enhance the degree of confidence of the intended users other than the responsible party about the outcome of the measurement or evaluation of an underlying subject matter against some criteria." On the other hand, Farooq & De Villiers, (2017) consider ESG assurance "as an engagement in which external assurance provider is hired to assure the sustainability report". Assurance engagement is an auditing concept that was previously related to financial audit but has now been fully applied to other non-financial audits such as ESG assurance. According to ICAEW (2022), an assurance engagement is made of up five elements that includes the three-party relationship (the practitioner, responsible party and the intended user); appropriate subject matter; suitable criteria; sufficient and appropriate evidence; and a conclusion in a form of report. According to IAASB (2015) Para A3 of ISAE 3000 assurance engagement can be divided into two dimensions of either (limited assurance or reasonable assurance) or (attestation or direct engagement). Finally, Maroun (2022) consider ESG assurance as assurance service provided by an independent external expert over the information found in environmental and social report, CSR report, sustainability reporting, and integrated reporting, other than the statutory financial statements.

Similarly, unlike the quality of financial audit that is determined by the opinion of the auditors, ESG assurance quality is determined by the indicators of the quality of the content of assurance report. Martínez-Ferrero et al., (2018) noted that although quality of the assurance depends on the effort and rigor with which the assurance providers perform the assurance engagement. However, these aspects are difficult and complex to observe empirically thus prior studies have utilised the analysis of the information conveyed in the assurance statement to infer the quality of the ESG assurance engagement. These characteristics include the assuror's responsibilities, assurance engagement scope, assuror's independence, assurance standard followed, criteria used opinion and materiality among others.

2.4 The Evolution and Development of Corporate Governance Codes In BRICS

2.4.1 Brazil

The Brazilian code of corporate governance for listed companies was issued by the Brazilian Securities Commission in 2018 after its preparation by integrant working group coordinated by the Brazil Institute of Corporate Governance. The first draft version of code of best practices was released in 1999 by BICG with expanded second and third versions issued in 2001 and 2004 respectively. The emphasis of the code is transparency, accountability and fairness.

2.4.2 Russia

The Code of Corporate Conduct issued in 2002 is the Russia's corporate governance code. The code adopts 'comply or explain' approach to corporate governance. The code draws heavily from the OECD's international guidelines for effective corporate governance with the main purpose of enhancing good governance, effective protection of shareholders' rights and interests and transparency of decision-making.

2.4.3 India

The major attempt at institutionalising good corporate governance in India was the recommendation of the report of Kumar Birla committee in 1999 even though there was company Act 1956. The major recommendation of the committee relates to the issues of board size, board composition, audit committee size and composition, remuneration among others. In 2009 ministry of corporate affairs published guidelines for voluntary CSR activities which were later modified in 2011. Similarly, a major improvement was made regarding CG by the Companies Act 2013 which made CSR disclosure mandatory.

2.4.4 China

The first code of corporate governance titled the *code of corporate governance for listed companies 2002* in China was released by the China Regulatory Commission in 2002. The code main principles include transparency and voluntary disclosure, shareholders right and meetings, non-executive directors, board role and supervision. Before the issuance of the 2002 CG code, the State-Owned Enterprises governance model was the major source of good corporate governance. Other subsequent legislations regarding CG in China includes guidance on listed companies Article of association (2006), rules on listed companies' shareholders meetings (2006) and regulations on listed companies' information disclosure (2007).

2.4.5 South Africa

South Africa recent development in CG can be dated back to 1992 when the King Committee was set up under the chairmanship of retired Supreme Court of South Africa judge Mervyn E. King with the responsibility of researching and making recommendations into corporate governance in South Africa. The King Committee issued its first report in 1994 named as King I report, and the report serves as the first corporate governance code for South Africa. Modelled on the Cadbury Report and based on the principles of "apply or explain" approach, the report makes a far-reaching and important recommendations. In 2002, due to various changes in global landscape that necessitated the review of the 1994 king I report, the king committee issued a new report titled King Report on Corporate Governance for South Africa, king II report 2002. Subsequently, king III and king IV reports were issued in 2008 and 2016 respectively.

2.5 Justification for the energy industry context and overview of BRICS energy industry.

2.5.1 Why the energy sector?

Extant literature has shown that social and environmental impact varies across industries or sectors (Yoo and Managi 2022; Shahbas et al., 2020), with many industries such as oil and gas, metals and steel, mining, and chemicals termed as sensitive industries (Garcia et al., 2017; Montes-Sancho *et al.,* 2022); Controversial industries (Baudot *et al.,* 2021); carbon-intensive industries (Liao *et al.*, 2015) highly polluting industry (Li et al., 2024; He et al., 2020) or environmentally sensitive industries (Martínez-Ferrero *et al.,* 2023).

Garcia et al., (2017) noted that due to the social and environmental costs associated with activities of the energy industry, there is high demand for ESG disclosure in the energy industry especially in emerging economies; and strict scrutiny by the regulatory authorities (Liao *et al.,* 2015; Peng and Kong 2024). Baudot *et al.,* (2021) posit that energy and exploration activities in emerging economies are associated with unethical practices, social unrest, unfavourable environmental impact, human rights abuses, bribery, and corruption thus the high demand for ESG disclosure from firms operating in energy industry. Similarly, Liu *et al.,* (2022) argue that as emerging and developed economies are at different developmental stages, consequently, stakeholders' demand, transparency, accountability, regulatory pressure and support for ESG disclosure varies between developed and developing economies that makes ESG disclosure and assurance practices differs between developed and developing economies (Zhang et al., 2024). Consistent with this view, Haji et al., (2023) noted that ESG regulations and outcomes in developing economies focused more on welfare such as poverty alleviation and human rights abuses. Due to the above variations in ESG disclosure between the energy industry and other non-environmentally sensitive industries and between developed and emerging economies.

This study examines the nexus between corporate governance and ESG practices in the energy sector for various reasons. Firstly, the energy industry is associated with social and environmental costs. According to UN and Climate watch reports (2023) energy industry accounts for 19 per cent of the total GHG emissions and BRICS member countries accounting for over 41 percent of global GHG emission. UN (2023) data show that BRICS member countries China, India and Russia account for 25.88%, 6.67%, and 3.79% of the global CO2e respectively. Secondly, given the social and environmental cost associated with energy industry activities, the demand for ESG information and assurance by various stakeholders such as regulators, policy makers and investors are high in the energy sector (Peng et al., 2024; Yang et al., 2020). Thirdly, as energy industry is among the major contributors of GHG emissions, extant literature has shown that GHG emissions affect various corporate behaviour and outcomes. For example, extant literature shows that GHG emissions affect market value (Lewandowski 2017; Choi and Luo 2021); firm value (Benkraiem et al., 2022); financial performance (Yang et al., 2020; Palea and Santhia 2022) and finally, the production and operating activities of the energy firms are associated with consumption of huge amount of fossil fuels that generate carbon emission (Peng et al., 2024). Furthermore, Luo and Tang (2023) explore and provide empirical evidence of interrelationship among carbon emissions, ESG reporting and stakeholder engagement especially in countries with weak institutions like BRICS. Fourthly, various studies in the literature have called for industry-specific studies in order to increase our understanding of the nexus between CG and ESG practices. Specifically, Palea and Santhia (2022) and Yang et al., (2020) call for more industry-specific studies especially in heavy polluting industry like energy industry. Similarly, various studies in the literature have shown that ESG issues varies from one industry to another (Caroll 2016; Capelle-Blancard and Petit, 2019; Yoo and Managi 2022; Shahbaz et al., 2020) with some industries having more environmental impact than the others (Caroll 2016; Capelle-Blancard and Petit, 2019). Consistent with this, the energy industry has consistently been described as sensitive industries (Garcia et al., 2017; Montes-Sancho *et al.,* 2022); Controversial industries (Baudot *et al.,* 2021); high energy consuming and polluting heavy industry (Ren et al., 2022; Li et al., 2024); carbon-intensive industries (Liao *et al.,* 2015) or environmentally sensitive industries (Martínez-Ferrero *et al.*, 2023) in the literature due to its environmental impact.

Similarly, the global increase in energy demand and consumption has been noted in the literature. This has been attributed to the global population growth, innovation and technological advancement. Consequent upon the global increase in energy demand, the detrimental social and environmental effect of energy firms is expected to grow, thus the high demand for transparency and accountability in ESG information disclosure (Talbot and Boiral 2018; Shahbaz et al., 2020). Consistent with this, emerging economies growth has been linked with highly polluting industry. For instance, Li et al., (2024) noted that economic growth in China is mainly fuelled by heavy polluting industries like energy industry. Similarly, He et al., (2020) noted about the differences between emerging economies and developed countries in terms of economic costs of environmental policies, industrial structure and how companies across different industries differs in terms of ESG information disclosure.

Moreover, Garcia et al., (2017) noted that due to the social and environmental costs associated with activities of the energy industry, there is high demand for transparency in ESG practices in the energy industry especially in emerging economies; and strict scrutiny by the regulatory authorities (Liao *et al.,* 2015). Baudot *et al.,* (2021) posit that energy and exploration activities in emerging economies are associated with unethical practices, social unrest, unfavourable environmental impact, human rights abuses, bribery, and corruption thus the high demand for ESG disclosure and assurance from firms operating in energy industry. Similarly, Liu *et al.,* (2022) argue that as emerging and developed economies are at different developmental stages, stakeholders' demand, and support for ESG practices varies between developed and developing economies. Consistent with this view, Haji et al., (2023) noted that ESG regulations and outcomes in developing economies focused more on welfare such as poverty alleviation and human rights abuses. Moreover, the social, economic, and environmental impact of energy industry makes it an interesting context to study. Energy industry makes use of natural resources and contribute to the GHG emissions thus contributing to climate change. Walton (2020) noted that energy sector contributes two-thirds of the global GHG emission thus are expected to comply with the national and international legislations, comply with the global best practices in terms of social and environmental issues such as Sustainable Development Goals (Karaman et al., 2021). Due to the above variations in ESG disclosure and assurance between the energy industry and other non-environmentally sensitive industries and between developed and emerging economies, this study explores the nexus between corporate governance variables and ESGD, ESGA and ESGA quality in the energy industry of emerging economies.

Likewise, environmental, ESG reporting, and assurance legislations are evolving in BRICS due to various policy and regulatory pronouncements that have made laws aims at environmental protection and greater disclosure targeting heavy polluting sectors like energy industry. These regulatory pronouncements include the Environmental Protection Law 2014 in China; Indias' "The company Act 2013" and Business Responsibility and Sustainability Reporting 2021; Brazil's Securities and Exchange Commission mandatory ESG reporting requirements in line with ISSB's Standards for publicly traded firms. Russian federation also encourage ESG reporting by giving awards to firms for good sustainability reporting and performance.

However, despite the efforts of BRICS member countries, these countries continue to perform low in environmental rating due to the activities of the heavy polluting firms like the energy firms (Lyu et al., 2024). Recent Environmental Performance Index report by Yale university show BRICS countries are among the worst performing countries with Russia, South Africa, China and India ranking 112, 160 and 180 respectively (out of 180 countries).

Finally, apart from significantly contributing to the GHG emission, energy industry is associated with other social and environmental concerns such as depletion of ozone layer, significant use of natural resources, acid rain, solid waste, air pollution, displacement of local residents and thermal pollution (EEA, 2024; Minett 2024; Pan et al., 2023). Giving the significant social and environmental impact of energy industry operations, it is important to examine the social and environmental reporting and assurance practices of the energy industry.

2.5.2 BRICS energy sector

The energy sector of BRICS member countries is varied and different. Nasir et al., (2018) noted that some BRICS member countries are oil exporting countries while others are oil importing countries. For example, according to OPEC (2023) reports, Russia exports over 4 MBPD despite economic sanction while Brazil export 1.7 MBPD. However, BRICs member countries China and India are among the major 3 importers of energy globally. Moreover, despite the differences among the BRICS member countries in terms of export and import, the BRICS member countries share many things in common. BRICS countries are among the major carbon emitters in the world with China being the largest emitter in the world. Similarly, BRICS member countries are among the largest energy consumers in the world. According to UN and Climate watch reports (2023) BRICS member countries accounts for 36 percent of global energy consumption and BRICS member countries accounting for over 41 percent of global GHG emission. Yuan et al., (2022) noted that except for US, China and India are the two largest importers of oil globally while Russia and Brazil remain major exporters of the product. Therefore, BRICS member countries have played a major role and will continue to play important role in the global energy market. Another similarity regarding BRICs energy sector is the massive investment in renewable energy by BRICs member countries

Consistent with this, International Energy Agency (IEA, 2023) reports show that global energy demand is expected to continue to grow with over 70 percent of the demand coming from emerging economies led by India and China. These have been attributed to the massive population growth in the two countries and other developing countries. Specifically, China accounts for two-thirds of the rise in global energy usage. As noted by Newell, (2011) that energy is a key driver in economic development. These factors coupled with the fundamental importance of energy as driver in global economic growth and development makes BRICS an interesting context to study.

As Naeem et al., (2022) posit, BRICS clout in the global energy market make it an interesting context to study, therefore this study examines the corporate governance and ESG reporting practices nexus in the energy sector of BRICS to provide more insight into the relationship between CG and ESGD, ESGA and ESGAQ.

Additionally, notwithstanding their differences in terms of energy sectors, energy cooperation is among the important areas of cooperation among BRICS member countries. The member countries cooperate in terms of energy efficiency, energy risk and opportunities, energy supply chain efficiency to achieve clean, green and low-carbon energy transition. The need for deeper collaboration and cooperation regarding energy industry of the member countries was highlighted by Mr. Zhang Jianhua, Administrator of the National Energy Administration of China at the 7th BRICS Energy Ministers' Meeting held in Beijing on the 22nd September 2022. Communique issued at the end of the meeting further highlighted the need for the members to reduce carbon footprint of the energy industry and improve institutional mechanism and policies regarding energy firms’ sustainability.

2.6 Overview of ESG, ESGD, ESGA and ESGAQ in BRICS and the energy sector.

2.6.1 Overview of ESG, ESGD, ESGA and ESGAQ in BRICS.

Measurement, disclosure and assurance of ESG related information have gained significant prominence in recent years. Shen et al., (2023) noted that there is significant increase in the disclosure of ESG information in China, with the number of firms engaging in ESG disclosure in China increasing from 371 in 2009 to 1092 in 2020 (He et al., 2023). This is as a result of various institutional, legal and regulatory framework put in place to guide ESG practices in China such as Environmental Protection Law 2014; China Securities Regulatory Commission guidelines; Environmental Impact Assessment Law 2018; Stock Exchange listing requirements among others. Shen et al., (2023) noted that the development of ESG practices in China can be divided into 3 stages dating back to the beginning of the concept of ESG. Shen et al., (2023) further noted that the first stage was when China joins WTO in 2001 which makes corporate organisation to embrace the concept of CSR, the second stage begins CPC national congress while the third stage begins with dual ambitious carbon target. However, a closer look at the literature shows that CSR and ESG practices in China dated back to the pre-WTO era. For example, cultural factors, and historical Chinese philosophies have long been associated with care for nature and the environment. These traditional philosophies that include Confucianism, Daoism and Taoism emphasize and focused on care for the nature, society and community based on ethical values that are related with ESG practices. Other authors (see Chen and Xie 2022) also questioned the claimed by Shen et al., (2023) regarding ESG in China. Consistent with this, Lei and Yu (2024) and Fang et al., (2023) noted about the significant increase in ESG disclosure and utilisation of ESG metric in investment decisions.

South Africa has long history with ESG related practices. Kaempfer et al., (2009) argues that the beginning of ESG practices can be traced to the divestment of 1985 as a protest against apartheid regime. However, Maroun (2022) noted that ESG practices in South Africa became popular with the adoption of King CG code of 1994 followed by the second King code of 2002 that emphasized stakeholder-centric approach to CG. South Africas' King code has made ESG reporting mandatory listing requirement on the JSE, which has been attributed to the increasing practice of ESG reporting and assurance among the listed firms (Buertey 2021; Thompson et al., 2022).

Moreover, BRICS member countries share similarities regarding ESG and sustainability practices. For example, BRICS members are committed to achieving net zero with both Russia and China targeting to achieve carbon neutrality by 2060 while Brazil and South Africa committed to achieving carbon neutrality in 2050 while India target to achieve net zero in 2070.

Additionally, BRICS member countries are among the major players in ESG market and investing. For example, China and India are among the top ten players in green bond market while Brazil is among the major players in the social and sustainable bond market. BRICS countries have a combined climate bond market of over 200 billion USD that represents 25 percent of the global green bond market with China having the largest green bonds market amounting to USD85 billion (Climate Bonds Initiative, 2023). Cao et al., (2022) noted that ESG performance have now become an important consideration in investment decision in China, while Lei and Yu (2024) and Fang et al., (2023) noted about the scale of sustainable investment in China that exceeded RMB 24.6 trillion.

Moreover, lack of uniform and defined ESG disclosure framework, voluntary nature of ESG disclosure and assurance, different frameworks for ESG assurance services have leads to symbolic use of ESG disclosure in China and other emerging countries (Long et al., 2024; Cao et al., 2022). As a result of this, ESG practices in emerging countries are associated with corporate hypocrisy and ESG greenwashing due to lack awareness among the small investors (Cho et al., 2015; Long et al., 2024). Therefore, as firm governance defines values, corporate purpose and orientation of the organization, the emerging economies provides a crucial context to study the CG-ESG practices nexus.

However, despite the progress regarding ESG practices in BRICS nations, the ESG practices in these countries are associated with certain challenges. Firstly, there are no clear set of standard and well-defined framework regarding ESG practices in the BRICS member countries (Lei and Yu 2024; Fang et al., 2023). Although, this can be argued to be a global concern as there is generally a lack of standardization regarding sustainability practices globally, however this will likely lead to decoupling and greenwashing by corporate organizations and secondly, the lack of consistent assessment criteria for ESG reporting and disclosure may increase divergence, affect comparability and reduce the information usefulness of ESG information to decision-makers.

Moreover, not only that BRICS countries are among the highest emitters and energy consumers globally, but extant literature has also shown that there are associations between high carbon emissions and ESG disclosure and assurance (Datt et al., 2019; Jiang et al., 2021). For example, Datt et al. (2019) found that firms with higher levels of carbon emissions are more likely to purchase third-party ESG assurance. Jiang et al., (2021) provide empirical evidence of positive association between ESG reporting and assurance with firm value and the relationship is more pronounce in emerging economies than developed economies. The above findings indicate that there is greater demand for ESG information in developing countries such as BRICS than in the developed economies and capital market participants rewards higher level of ESG disclosure.

Finally, due to the high population in emerging market, rapid economic growth, growth of capital market and conducive investment climate, the BRICS emerging economies have now become the investment destination of foreign and institutional investors that pressurizes management regarding ESG practices through shift in stakeholder logic and shareholders activism. This has led to the transfer of social norms and values regarding ESG practices from the host country of institutional and foreign investors to the BRICS emerging nations (Cheng et al., 2022; Li et al., 2021; Cheng et al., 2024).

2.6.2 Overview of ESG, ESGD, ESGA and ESGAQ in the energy sector.

While firms across various industries engage in ESGD and ESGA, the practice varies across industries due to different environmental and social impact. Yuan et al., (2022) argues that a transparent and prudent regulatory framework for ESG practices should be differentiated across industries. Energy industry mostly described as sensitive industry in the literature have been associated with sustainability reporting and assurance (Simnett et al., 2009; Sierra et al., 2012; Zaman et al., 2021; Zorio et al., 2013). ESG practices in the energy industry differs from other industries for many reasons. For instance, energy firms are expected to comply with global best practices (Simnett et al., 2009; Velte 2020) responds to the needs and expectations of the community (Karaman et al., 2021) improve their sustainability and environmental performance (Orazalin and Mahmood 2018) and achieve competitiveness.

Similarly, energy industry has been associated with media scrutiny and suffer from the lack of trust. While energy firms' activities involved activities such as oil spillage, drilling, pollution and hydraulic fracturing, these activities often received negative media attention and societal disapproval (Bundy and Pfarrer 2015; Titus et al., 2018; Deloitte 2022). Because of the social contract and the need for societal approval, energy firms engage in ESG activities such as reporting and assurance in order to gain legitimacy. This view is supported by prior studies that suggest negative media attention and societal disapproval is associated with change in problem solving strategies (Bundy and Pfarrer 2015) divestment of shareholding stake (Titus et al., 2018) and provision of quality ESGA (García-Meca et al., 2024).

Additionally, the global energy market is facing difficult time in recent years. The Russian-Ukraine, global climate change, climate risk, Geo-political risk, the Covid 19 pandemic, carbon neutrality transition and economic sanctions have negatively impacted energy sector leading to energy crisis and price instability (Wang et al., 2023; Wang et al., 2018; Nasir et al., 2018). However, growing body of literature suggests that ESG disclosure, ESG assurance and the quality of ESG assurance serve as mitigating factor to sustainability risk especially in times of crisis in line with legitimacy theory (Zhang et al., 2021; Garcia-Meca et al., 2024; Simnett et al., 2009).

Similarly, energy firms are associated with stakeholder scepticism regarding ESG practices. While there is a consensus in the literature regrading value relevance of ESG disclosure and assurance for other sectors. In contrast, the literature suggests that ESG reporting could also expose adverse sustainability impacts and risks that providers of capital could perceive negatively. Martínez-Ferrero et al., (2022) argued and provide empirical evidence that sustainability restatements increase risk for firms operating in the energy industry while serve as risk-reducing signal for other sectors. This finding and other evidence in the literature suggest that ESG disclosure and assurance in the energy industry differs with the practice in other sectors and further suggest industry factor can change perceptions of the same ESG reporting practices.

Likewise, disclosing and providing quality sustainability assurance by energy firms help in redeeming their image and reputation, improving legitimacy, lower stakeholder scepticism, reduce information asymmetry and agency costs (Orazalin and Mahmood 2018; Velte 2021; Karaman et al., 2021)

Moreover, extant literature has shown that there are associations between high carbon emissions and ESG disclosure and assurance (Datt et al., 2019; Jiang et al., 2021). For example, Datt et al. (2019) found that firms with higher levels of carbon emissions are more likely to purchase third-party ESG assurance. Jiang et al., (2021) provide empirical evidence of positive association between ESG reporting and assurance with firm value and the relationship is more pronounce in emerging economies than developed economies. Consistent with this, by Fan et al., (2021) also provide evidence that companies with higher carbon information asymmetry and carbon emissions are more likely to obtain third party ESG assurance. Considering the link between energy firms and the level of carbon emission and the consequent of carbon footprint on ESG disclosure and assurance, this study examines the relationship between corporate governance variables and the ESG practices of a sample energy sector.

Regarding ESG and sustainability assurance, extant literature has shown that energy sector is associated with greater assurance. For example, Hay et al., (2023) in a meta-analysis of sustainability assurance literature noted that the decision to obtain third-party ESG assurance is significantly higher in the energy industry. The study further provides evidence of quality sustainability assurance in the environmentally sensitive industry such as the energy sector.

2.7 How literature was reviewed systematically

According to Dewey and Drahota (2016) Systematic Literature Review (SLR) is a process of identifying, selecting and critically appraising research in order to answer a clearly formulated question while Saunders et al., (2023) describe SLR as the process of obtaining and synthesising previous research, making reasoned judgements and thought into a written review. Tranfield et al., (2003) noted that the aim of literature review is to map and assess existing evidence and to specify a research question for further inquiry. Tranfield et al., (2003) further posit that reviews in management research have often been criticised for giving descriptive account, lack of rigour, bias in selection and not critical enough. While narrative review is characterised by bias and lack of rigour, SLR is mostly replicable, transparent, exhaustive and scientific. To position your studies, there is a need for critical assessment of the existing literature to demonstrate awareness of the current stage of knowledge, the gap and limitation of the existing literature and you position your study into a wider context. Denyer and Tranfield (2009) noted that SLR needs to be arranged and written in a way that show understanding of the research area and related theories, ideas, issues, debates, and concepts.

To examine the relationship between corporate governance variables and the extent of ESG disclosure, ESG assurance and ESG assurance quality, a systematic review of the literature was conducted. To synthesize and systematically review the literature, this study follows Saunders et al., (2019; 2023) review process that involve defining the research questions and objectives, defining the search parameters and protocols, generate search terms, identify databases, conduct search, obtaining and evaluating the literature, continuingly revised the search until the final review to ensure a balance between extensiveness and the quality of the literature. Firstly, various databases were identified. These databases are Web of Science (WoS), Scopus database, Social Science Research Network (SSRN), Google Scholar, Ethos, Emerald insight, and EBSCO. These databases provide the largest and most comprehensive sources of literature as they covered most of the needed articles.

Secondly, key words were used as they relate with dependent and independent variables. Corporate Governance key words used are “Corporate governance” “board” “board size” “board independence” “board composition” “board meeting” “board diligence” “ownership” “ownership structure” “shareholding structure” “board characteristics” “foreign ownership” “managerial ownership” “institutional ownership” “block holder ownership” “audit committee characteristics” “audit committee meetings” “audit committee independence”. The second search relating to the dependent variables include “ESG disclosure” “environmental disclosure” “social disclosure” “CSR disclosure” “ESG performance” “sustainability reporting” “ESG assurance” “ESG assurance quality” “Sustainability assurance” "sustainability assurance quality". Furthermore, the search involves use of connector words and Boolean operators such as "or" and "and" to combined key words in order to ensure extensiveness and thorough search.

To ensure quality of the articles, the initial screening involve ensuring that the journal is ranked in the 2021 academic journal guide of Association of Business School except for seminal work or classical works. Exclusion criteria include articles published in other languages other than English language, book chapters, book reviews and non-peer reviewed conference proceedings. Moreover, articles published by suspected predatory journals were also excluded. After the initial search across a range of disciplines and fields such as accounting, finance, ethics, management and strategy, a total of 1475 studies were used for initial screening. After scanning through the abstract, keywords, tittles, screening and application of inclusion and exclusion criteria that allows only papers in English, peer-reviewed and published papers, duplications, ABS journal guide, a total of 358 articles were found to be related to this study and utilised as the final sample. Following the studies of Del Gesso and Lodhi (2024) there is no time limit in our search to allow for extensive coverage. Moreover, as suggested by Saunders et al., (2023), the SLR process involved continues update of the search until the finalization of the work to avoid leaving out important and relevant literature that were published after the initial search.

2.8 Empirical literature on corporate governance and ESG disclosure

This section provides an overview of empirical literature on the relationship between corporate governance and the extent of ESG disclosure and the decision to obtain ESG assurance. These previous empirical studies are presented below on the relationship between corporate governance and ESG disclosure and assurance practices. For coherence and synthesis, the literature review is divided into three parts with this section examining the CG-ESGD nexus while subsequent sections look at the CG-ESGA nexus and CG-ESGAQ link.

Various theoretical lenses have been used in the literature to empirically examine the relationship between CG variables and the level of ESG disclosure. These theoretical frameworks include agency theory, legitimacy theory, stakeholder theory, new institutional theory, signaling theory and stewardship theory among others. This explains the complexity of the relationship between CG and the extent of ESG disclosure and the various motivations behind corporate ESG disclosure. Consistent with this, Aluchna et al., (2024) noted that ESG disclosure is driven by various motivations such as greater monitoring and oversight in line with agency theory, responding to stakeholders' pressure in line with stakeholders' theoretical perspective and gaining legitimacy of various stakeholders or signaling superior ESG performance in line with legitimacy and signaling theories respectively.

The empirical literature shows that CG mechanism can either stimulate or inhibit ESG disclosure depending on the effectiveness of CG mechanism or otherwise (Aluchna et al., 2024). This may partly explain the mixed empirical evidence in the literature. For instance, Allegrini and Greco (2013) examine the effect of corporate governance variables (board size, board composition, CEO duality, lead independent director, presence of board committees, board meetings and audit committee meetings) on voluntary disclosure while controlling firm level characteristics (firm size, listing status, ownership diffusion, profitability and leverage) using agency theory as the underpinning theory. Using a sample of 177 non-financial firms listed on the Italian Stock Exchange in 2007, the study finds board size, board diligence, audit committee meetings to be positively and significantly associated with the level of voluntary disclosure while the study finds no relationship between voluntary disclosure and the number of board committees, presence of LID and board composition. Similarly, Aburaya (2012) examined the relationship between corporate governance variables and the quantity and quality of corporate environmental disclosures practices using a sample of UK FTSE-All share index companies over a period of four years from 2004-2007. Using content analysis of the sample UK companies, a checklist of environmental disclosure items and categories was developed, and an index of environmental disclosure was used to measure disclosure. The study finds a significant relationship between most of the corporate governance variables and environmental disclosure quantity and, to a lesser extent, environmental disclosure quality. Likewise, Barros et al., (2013) investigates the impact of corporate governance mechanism on the extent of voluntary disclosure of France listed companies. Using a sample of all SBF 250 listed companies in France excluding financial and utilities companies from 2006 to 2009, the study examines the impact of managerial ownership, intensity of board activity, board diligence, board independence, audit committee independence, audit committee activity and audit quality on voluntary disclosure while profitability, leverage and firm size were use as control variables. A checklist of 112 voluntary disclosure index was used for the study divided into 4 categories (strategic information, non-financial information, financial information and governance information). The study finds a positive and significant relationship between managerial ownership, external audit quality, intensity of board activity, board independence, audit committee independence and voluntary disclosure while audit committee meetings (board diligence) and diligence of the audit committee were found to be negatively and significantly associated with voluntary disclosure. The study also finds firm size, profitability and leverage have a positive and significant impact on the level of voluntary disclosure. Louie et al., (2019) examined the impact of good corporate governance, firm size, profitability, leverage, audit quality, industry, investment growth opportunities, independent board member, litigation risk on corporate governance voluntary disclosure, strategic voluntary disclosure and future voluntary disclosure behaviours among family and non-family firms in Australia. Using a self-constructed index to measure voluntary disclosure behaviour of randomly chosen 60 family firms and 60 non-family firms in Australia for a period from 2001 to 2006. The results show that family-owned firms disclose more strategic and forward-looking information and less corporate governance information compared with their non-family counterparts. Also, family-owned firms responded positively to Australian Principles of Good Corporate Governance and Best Practice Recommendations 2003 by disclosing more corporate governance information. Similarly, the results of univariate regression analysis show that non-family firms have better total and corporate governance disclosures while family-owned firms engage in more future-oriented disclosure. Further, Ntim et al., (2017) investigates the impact of corporate governance structure on the level of voluntary disclosure in line with multi-theoretical framework with legitimacy theory, stakeholder theory, resource dependence theory and public accountability theory as the underpinning theories. Using annual reports and accounts of the sampled UK Higher Education Institutions HEIs, the study measured voluntary disclosure using Public Accountability and Transparency Index (PATI), a modified version of Coy and Dixon's (2004) public accountability index. The findings of the study indicate that existence of governance committee, board independence, board diversity and audit committee quality have positive and statistically significant relationship with the level of voluntary disclosure (the PATI) while negative, but statistically insignificant relationship between have been documented between governing board size and governing board meetings frequency with the extent of voluntary disclosure. On their part, Sarhan and Al-Najjar (2022) investigates the impact of corporate governance and ownership structure on the CSR performance of FTSE 350 non-financial firms over a period of 15 years from 2002 to 2016. Using agency, resource dependence and stakeholder theories based on multi theoretical perspectives, the study provides empirical evidence of negative relationship between institutional and managerial ownership structure on CSR performance while the findings provide evidence of positive association between corporate governance and CSRP. However, the results show pension funds shareholding structure has no relationship with CSRP.

Notwithstanding the contribution of the above studies, they are associated with certain observable limitations. Some studies adopt one year cross-sectional or few years to examine the relationship between CG variables and the level of ESG disclosure. For example, Allegrini and Greco (2013) and Haider and Nishitani, (2022) conducted a cross-sectional studies using 2007 and 2018 respectively while Aburaya (2012) covers four-years period from 2004-2007. Similarly, Barros et al., (2013) covers a four-years period from 2006-2009 while Louie et al., (2019) covers a period of 5 years from 2001 to 2006. Similarly, most of the studies lack integration of theoretical framework to underpin their empirical findings (Barros et al., 2013; Allegrini and Greco 2013). Our study differs with the prior studies as we adopt large-scale 14-year longitudinal data drawn from 5 countries to examines the relationship between CG variables and ESG disclosure underpinned by multiple theoretical frameworks.

In the same vein, Hussain et al., (2018) in a study of global fortune 100 US firms over a period of 5 years from 2007-2011 examine the impact of corporate governance variables on sustainability reporting in line with the Tripple Bottom Line (RBL) and GRI G3 guidelines. The study found that corporate governance variables (Board gender diversity, board diligence, board independence, CSR committee) have positive and statistically significant relationship with social and environmental sustainability performance. Similarly, Khaireddine et al., (2020) investigate the impact of board characteristics on the voluntary governance, environmental and ethics disclosure using a sample of 82 French stock exchange (SBF120) listed companies from 2012 and 2017. Board size, board independence, gender diversity, COE duality and number of meetings were used to measure board characteristics while firm profitability, firm age and firm size were used as control variables. Thomson Reuters-ASSET4 was used to collect data on corporate governance disclosure index, environment disclosure index and ethics disclosure index using unweighted index method. The study document that board independence, board gender diversity and number of meetings have a positive and significant effect on governance, environmental and ethics disclosure of the sampled French listed companies while board size is found to be positively and significantly associated with only voluntary environmental disclosure. On their part, Lu and Wang (2021) examines the effect of corporate governance and national culture on corporate social responsibility performance and disclosure using 12,280 international samples from 25 countries over a period of 8 years from 2010 to 2017. Based on multiple theoretical perspectives such as agency theory, voluntary disclosure theory, resource dependence theory and legitimacy theory. The findings show positive and significant association between board ESG committee, board gender diversity, CEO non-duality and capital structure with the level of CSR performance and disclosure. Moreover, Khemakhem et al., (2022) examine the impact of board gender diversity of the board and board committees on the level of ESG disclosure of sampled Canadian firms. Utilising a total of 642 firm-year observations from S&P/TSX Canadian financial markets firms over a period of 3 years between 2014 and 2016, the study finds positive and statically significant relationship between BGD and board committee gender diversity and the level of ESG disclosure of Canadian sampled firms. In Europe, Pozzoli et al., (2022) examine the impact of ACC on ESG performance using a sample from 13 European union member states over a period of 3 years from 2018 to 2020. The study provides empirical evidence of positive association between AC independence, AC financial expert membership and ESG performance of the sampled European firms. However, the study found negative association between AC tenure and ESG performance. However, the study has been associated with several limitations impaired their findings. First, the study's time horizon of 3 years from 2018 to 2020 was relatively short. Secondly, the study excluded important explanatory variables that may arguably leads to omitted variables bias thus provide spurious finding.

In a comparative study of both developed and developing countries, Wasiuzzaman and Subramaniam (2023) examine the impact of board gender diversity on the level of ESG disclosure of 48 countries from both developed and developing countries from 2004 to 2016 over the period of 13 years. The study found positive and statistically significant relationship between BGD and the extent of ESG disclosure in developed countries, but the finding further shows non-significant relationship for sub-sample from developing economies. Further analysis also shows positive relationship between BGD and environmental and social dimensions of the ESG while the governance dimension show non-significant relation. In a study underpinned by the upper echelon and gender socialisation theories, Carvajal et al., (2022) examine the impact of BGD on corporate biodiversity and environmental disclosure of US sampled firms. Using a total of 15,337 firm-year observations over a period of 17 years, the study provides empirical evidence of positive association between BGD and biodiversity and environmental initiative and disclosure. The findings suggest the importance of gender diversity in the protection and restoration of ecosystem. Using a global sample from 48 countries across the globe, Alkhawaja et al., (2023) examine the impact of board gender diversity and gender quota regulation on the extent of ESG disclosure. The study utilised unbalanced panel data of 49,745 firm-year observations for a period of 15 years from 2005-2019 in line with gender socialisation, ethicality, and stakeholders' theories. The study document positive and statistically significant relationship between board gender diversity and gender quota regulations on the extent of ESG disclosure. The study further shows that the BGD and ESG disclosure relationship is stronger in environment with weak investor protection, less developed capital market and opaque information environments, weak credit market and a less developed stakeholder regime. Naciti (2019) examines the effect of corporate governance and board structures on corporate sustainability performance of fortune global 500 firms from 48 countries. The governance variables examined are board size, board gender and nationality diversity, separation of CEO and chair duty and board independence in line with agency and stakeholder theoretical perspective. The study provides empirical evidence of positive and significant association between board gender diversity and separation of CEO and chair duty with board sustainability performance. However, the study documents negative association between board independence and sustainability performance.

Beji et al., (2021) examines the effect of corporate structure and composition variables on corporate social responsibility of SBF 120 index sampled firms from France. Using corporate governance variables such as board size, foreign directors, board gender diversity, CEO duality, multiple directorships, directors' educational level, and board independence underpinned by agency theoretical perspective, the study document positive and significant association between board size, foreign directors, board gender diversity, CEO duality, multiple directorships, directors' educational level, and board independence with the level of CSR disclosure. Likewise, Haque (2017) empirically examines the effect of corporate board characteristics and sustainable ESG-based compensation policy on corporate carbon reduction initiative and voluntary disclosure of greenhouse gas (GHG) emissions of non-financial UK sampled firms. Based on agency and RBV theoretical perspectives, the study empirically examines the impact of board gender diversity, ESG-based compensation policy, multiple directorships, and board independence on corporate carbon reduction initiative and voluntary disclosure of greenhouse gas (GHG) emissions. The study documents positive and significant association between board gender diversity, ESG-based compensation policy and board independence with carbon reduction initiative while no relationship was found between the variables and the level of corporate voluntary disclosure of greenhouse gas (GHG) emissions. In a similar study, Liao et al., (2015) examines the effect of corporate board structures and compositions on corporate voluntary disclosure of greenhouse gas (GHG) emissions of UK sampled firms. Using a sample of 329 UK large firms, the study provides evidence of positive and significant relationship between board gender diversity, environmental committee, and board independence with the level of corporate voluntary disclosure of greenhouse gas (GHG) emissions. However, the findings of the study of Liao et al., (2016) were criticized on many grounds. First, the study covers a one-year period of 2010. Secondly, the use of dummy variable of participating in carbon disclosure project as a measure of voluntary disclosure of greenhouse gas (GHG) emissions has been criticized in the literature. Thirdly, the study concentrates on only UK largest firms that limit the generalizability of the findings. Similarly, Nadeem et al., (2017) examines the effect of female representation on the board on the level of corporate sustainability performance of Australian sampled firms. Using stakeholder and resource dependence theoretical perspective, the findings show board gender diversity positive and significant association with the level of sustainability performance.

Despite the paucity of studies on the relationship between corporate governance and ESG disclosure in emerging and developing economies, there are strands of literature that focused on emerging countries. However, the empirical findings on the nexus between corporate governance and ESG disclosure show mixed and conflicting evidence. For instance, Ntim et al., (2013) examine the effect of firm level corporate governance variables on the quantity and quality of corporate risk disclosure in South Africa. Using a sample of 50 largest non-financial firms (top ten according to capitalization from each of the 5 industries) listed on the Johannesburg Stock Exchange across five industries. The study finds board size, board diversity, and independent non-executive director to be positively associated with corporate risk disclosure while block ownership and institutional ownership were found to have negative and significant association with corporate risk disclosure. The study also finds no association between two tier board structure and the extant corporate risk disclosure. Similarly, in Egypt, El-diftar et al., (2017) examine the impact of ownership structure on the level of voluntary disclosure and transparency of 50 Egyptian listed companies using banks ownership, insurance companies' ownership, block holder ownership, Government ownership, investment companies' ownership, foreign ownership as dependent variables while firm size, firm leverage, profitability and firm age were use as control variables. A total of 56 unweighted voluntary disclosure index were used to measure the level of voluntary disclosure. The study documents a positive and significant relationship between bank ownership and foreign ownership on the level of voluntary disclosure and transparency. Moreover, Alshbili et al., (2018) examine empirically the association between the extent of corporate social responsibility disclosure and ownership type and corporate governance structures using a sample of all oil and gas companies operating in Libya from 2009 to 2013. Multiple regression techniques were used to estimate the effect of corporate governance structures and type of ownership on the level of voluntary CSR disclosure. The study finds that ownership structure has a significant positive effect on the level of voluntary CSR disclosure and that the level of voluntary CSR disclosure in Libya is generally low. The study also finds no association between presence of corporate social responsibility committees and board size on the level of corporate social responsibility disclosure. In a later year, Kilincarslan et al., (2020) investigates the impact of corporate governance variables on voluntary environmental disclosure using a sample of 121 publicly listed firms selected from 11 Middle East and African countries over the period 2010-2017. Consistent with the evidence of Haque and Ntim, (2018) and Alnabsha et al., (2017), the study reports that corporate governance variables such as board size, board diversity, CEO duality and audit committee size positively affect the extent of voluntary environmental disclosure Middle East and African countries while board composition indicate negative association with level of environmental disclosure of MEA companies. Likewise, Alnabsha et al., (2017) examined the effect of various corporate board characteristics, ownership structure variables and firm level attributes on the extent of both mandatory and voluntary disclosure behaviour (Total Voluntary Disclosure) using a sample of 22 and 23 listed and non-listed companies in Libya respectively over a period of 5 years (2006 to 2010). Using an index of 141 disclosure items comprising of 33 mandatory index and 108 voluntary disclosure index, multivariate regression analysis was conducted to examine the relationship. The study finds that firm age, listing status, profitability, auditor type and industry type are positively and significantly associated with the extent of overall disclosure level. Similarly, the study document negative but insignificant relationship between the extent of overall disclosure level and CEO role duality, board size and board diligence.

In Nigeria, Odoemelam and Okafor (2018) provide evidence that the average level of voluntary environmental disclosure of non-financial listed companies in Nigeria is 10.5%. The study makes use of 86 firm-year observation to examine the impact of corporate governance variables on the extent of voluntary environmental disclosure underpinned by the 'trinity theory' of agency theory, stakeholder theory and legitimacy theory. Using content analysis, cross sectional data of the sampled companies were collected, and the study findings indicate that board independence, environmental committee and the number of board meetings significantly and statistically affect the level of voluntary disclosure while board size and audit committee composition were found to be positive but insignificant. Similarly, Md Zaini et al., (2020) study the impact of ownership structure on the level of voluntary disclosure in Malaysia. Using a mixed method of qualitative and quantitative research with 67 disclosure items under five subheadings of general corporate and strategic information, management and shareholders information, financial information, corporate social responsibility (CSR) and forward-looking and risk information, the study document positive relationship between ownership structure and the extent of voluntary disclosure. The study findings indicate that family-controlled firms tend to provide less information compared to non-family-controlled firms. Moreover, Tran et al., (2020) examines the impact of corporate governance mechanisms on corporate sustainability disclosure of Asian countries. Using a sample of 173 firms from across southeast

Asian countries, the study finds that board size has statistically positive impact on the extent CSR disclosure while CEO duality and board independence were found to have insignificant relationship with CSRD. The study also indicate that board gender diversity and block ownership have negative impact on the CSRD in SEA countries.

In Bangladesh, Hossain et al., (2023) examine the impact of founder director and family ties with the founder on the social performance of the sampled firms. Using a total of 735 firm-year observations of Bangladesh MFIs from 2007 to 2017, the study shows founder director and board member with family ties to the founder have negative and significant impact on the social performance of the sampled MFIs. The study further recommend that regulators monitor and control the appointments of directors with family ties to the founder director as this will adversely affect the social performance of the firms. Moreover, using gender socialisation and resource dependence theories, Gerged et al., (2023) investigate the impact of board gender diversity and presence of environmental committee on corporate environmental disclosure in Sub Saharan Africa. Utilising a total of 1130 firm-year observations from five SSA countries over a period of ten years from 2010 to 2019, the study provides empirical evidence of positive association between presence of women on the board and the extent of corporate environmental disclosure. the findings further show the relationship is strengthens by the presence of environmental committee. However, in a study of Indian listed firms, Yadav and Jain (2023) examines the impact of board structures and attributes on the sustainability reporting of the sampled firms. Using Generalized Method of Moment (GMM) based on stakeholder theoretical perspective, the study findings show board size, board independence, CEO duality and board gender diversity have insignificant impact on the extent of ESG disclosure. Using Theory triangulation based on agency, stakeholder, and resource dependence theoretical perspectives, Alodat et al., (2023) investigate the impact corporate governance variables on the level of sustainability reporting of the using a total of 425 firm-year observations over a period of 5 years from 2014-2018. Using publicly listed non-financial firms from Jordanian capital market, the study document positive association between board of director effectiveness (board size, board independence, board meetings and CEO duality) audit committee characteristics (Chair independence, AC size, AC meetings, chair financial expertise, AC independence, industry expertise and financial expertise) with the level of sustainability disclosure. However, the study findings show no association between institutional ownership and foreign ownership with the extent of sustainability disclosure. From the empirical evidence above, it is evident that even in an emerging economies context there are mixed and contrasting empirical evidence.

2.9 Summary of existing literature

Table 2.1 below summarises prior empirical literature on corporate governance structure and ESG disclosure. The table provides summary of the author (s) name and publication year, the objective of the study, the context of the study, key variables studied, underpinning theories and the key findings of the study.

Table 2.1: Summary of systematic literature review of prior studies on CG and ESG disclosures.

Authors	Objectives	Variables	Theoretical approach	Context	Summary of the findings
Alshbili et al., (2018)	Examine the association between corporate governance variables and	CSR committee, board size, board meetings, CSR	Neo-institutional theory	Libya	**Positive Association** government ownership, joint venture ownership,

	ownership structure with the level of corporate social responsibility disclosures.	disclosure, government ownership, joint venture ownership, foreign ownership			foreign ownership **No Association** Board size and CSR committee.
Salem et al., (2019)	Examine the impact of corporate governance variables on risk disclosure of Tunisian firms.	institutional ownership, board gender diversity, the presence of family members on the board, audit committee independence Managerial ownership, concentration ownership, board independence,	Agency e entrenchment theory, signalling theory, resource dependence theory, stakeholder theory, institutional theory, stewardship theory,	Tunisia	**Positive Association** institutional ownership, board gender diversity, the presence of family members on the board, audit committee independence. **Negative Association**

		government ownership, family ownership and audit committee size			Managerial ownership
Aksoy et al., (2020)	Examines the impact of corporate governance variables on corporate sustainability performance of non-financial listed firms in Turkey.	Board size, female member on the board, CEO duality, family ownership, foreign ownership, public ownership, and board independence	Agency and stakeholder theories	Turkey	Positive association between board size, board independence foreign and institutional ownerships with the level of sustainability performance disclosure. however, the study document no

					association between family ownership, public ownership, CEO duality and female board membership with CSP.
Sarhan and Al-Najjar (2022)	The study investigates the impact of corporate governance and ownership structure on the CSR performance of FTSE 350 non-financial firms.	Corporate governance, managerial ownership, institutional ownership, and pension funds ownership.	Agency, resource dependence and stakeholder theories	United Kingdom	Institutional and managerial ownership structure have negative impact on CSR performance while corporate governance has positive

					impact on CSRP. However, Pension funds shareholding structure has no relationship with CSRP.
Tran et al., (2021)	Examines the impact of corporate governance variables on corporate sustainability reporting of nonfinancial listed firms from southeast Asian firms.	Board size, board gender diversity, presence of board sustainability committee, block holder ownership, CEO duality and board independence	Institutional theory	Southeast Asian countries	Positive association between board size and block ownership with the level of sustainability performance disclosure while female board membership and presence

					of sustainability committee were found to be negative and significant. However, the study document no association between CEO duality and board independence with corporate sustainability reporting.
Alnabsha et al., (2018)	Examines the impact of corporate governance and ownership structure	Board size, board gender diversity, presence of audit committee,	Institutional theory	Libya	Negative and significant association between board size, board

	variables on corporate sustainability reporting of nonfinancial listed firms from southeast Asian firms.	frequency of board meetings, foreign ownership, government ownership, CEO duality and board independence			composition, and frequency of board meetings with the level of sustainability performance disclosure while the findings document no relationship between board audit committee, director ownership, government ownership, institutional ownership and foreign ownership were found to be negative

					and significant. However, the study document no association between CEO duality and board audit committee with corporate sustainability reporting.
Dwekat et al., (2020)	Examine the impact of board and audit committee characteristics on the level of corporate social disclosure of	Audit committee independence, financial expert on the AC, frequency of AC meeting, AC chair independence, and audit	Complexity theory	Europe	**Positive Association** audit committee frequency of meetings, audit committee size and audit committee independence,

	European firms.	committee size, board size, board gender diversity, board independence, board level of activity, CEO duality.			AC chair independence, audit committee financial expertise, board size, board gender diversity, board independence, board level of activity, CEO duality.
Hussain et al., (2018)	Examines the impact of corporate governance variables on corporate sustainability performance of	Board size, board gender diversity, presence of sustainability committee, frequency of board meetings,	Agency and stakeholders' theories.	United State of America	Positive and significant association between board gender diversity, board composition, and frequency

	sampled US firms.	CEO duality and board independence			of board meetings and board sustainability committee with the level of sustainability performance disclosure. However, the study document negative association between CEO duality with corporate sustainability performance.
Nguyen et al., (2021)	Examines the impact of corporate governance	Board size, board gender diversity, presence of	Agency, resources dependence, legitimacy,	Peoples Republic of China	Positive and significant association between

	variables on corporate environmental performance of heavily polluting firms from China.	sustainability committee, frequency of board meetings, CEO duality and board independence	and stakeholders' theories.		board size and board meetings with the level of environmental performance. However, the study document no association between CEO duality with corporate environmental performance.
Jizi et al., (2014)	Examines the impact of corporate governance variables on corporate social responsibility	Board size, frequency of board meetings, CEO duality and board independence	Agency and stakeholders' theories.	United State of America	Positive and significant association between board size, CEO duality, and board independence with the level

	of US banking sector.				of CSR disclosure.
Jizi (2017)	Examines the effect of corporate structure and composition variables on corporate social responsibility of UK sampled firms.	Board size, board gender diversity, CEO duality and board independence	Agency theory.	United Kingdom	Positive and significant association between board size, board gender diversity, and board independence with the level of CSR disclosure. No association between CEO duality and CSR disclosure.
Naciti (2019)	Examines the effect of corporate governance and board	Board size, board gender and nationality diversity,	Agency theory and stakeholder theory.	International evidence	Positive and significant association between board gender

	structures on corporate sustainability performance of fortune global 500 firms.	separation of CEO and chair duty and board independence			diversity and separation of CEO and chair duty with board sustainability performance. Negative association between board independence and sustainability performance.
Beji et al., (2021)	Examines the effect of corporate structure and composition variables on corporate social responsibility	Board size, foreign directors, board gender diversity, CEO duality, multiple directorships, directors’	Agency theory.	France	Positive and significant association between board size, foreign directors, board gender diversity,

	of SBF 120 index sampled firms.	educational level, and board independence			CEO duality, multiple directorships, directors' educational level, and board independence with the level of CSR disclosure.
Liao et al., (2016)	Examines the effect of corporate board structures and compositions on corporate voluntary disclosure of greenhouse gas (GHG) emissions of	Board gender diversity, environmental committee, and board independence	Agency, legitimacy and stakeholders' theories.	United Kingdom	Positive and significant association between board gender diversity, environmental committee and board independence with the level of corporate voluntary

	UK sampled firms.				disclosure of greenhouse gas (GHG) emissions.
Nadeem et al., (2017)	Examines the effect of female representation on the board on the level of corporate sustainability performance of Australian sampled firms.	Board gender diversity	Stakeholder theory and resource dependence theory.	Australia	Positive and significant association between board gender diversity with the level of sustainability performance.
Lu and Wang (2021)	Examines the effect of corporate governance and cultural variables on corporate social responsibility	Board ESG committee, board gender diversity, CEO non-duality, executive compensation, capital	Agency theory voluntary disclosure theory, resource dependence theory,	International evidence	Positive and significant association between board ESG committee, board gender diversity, CEO non-

	performance and disclosure of international samples.	structure, and board independence	legitimacy theory.		duality and capital structure with the level of CSR performance and disclosure.
Haque (2017)	Examines the effect of corporate board characteristics and sustainable compensation on corporate voluntary disclosure of greenhouse gas (GHG) emissions of non-financial UK sampled firms.	Board gender diversity, ESG-based compensation policy, multiple directorships, and board independence	Agency and resource dependence theories.	United Kingdom	The study documents positive and significant association between board gender diversity, ESG-based compensation policy and board independence with carbon reduction initiative

					while no relationship was found between the variables and the level of corporate voluntary disclosure of greenhouse gas (GHG) emissions.
Haque and Ntim (2017)	Examines the effect of corporate environmental policy, sustainable frameworks corporate governance variables on environmental performance of	Board gender diversity, ESG-based compensation policy, multiple directorships, and board independence	Institutional and neo-institutional theories.	United Kingdom	The study documents positive and significant association between corporate environmental policy, sustainable frameworks, and corporate

	UK sampled firms.				governance variables with carbon reduction initiative while no relationship was found between the variables and the level of corporate voluntary disclosure of greenhouse gas (GHG) emissions.

Sources: Author’s creation

2.10 Empirical literature on corporate governance and ESG assurance

There has been upsurge in reporting and assurance of ESG information among firms across the globe that leads to increasing attention on the topic in the literature and practice (KPMG 2023; Stuart et al., 2023). This level of interest has been attributed to the role of ESG assurance that increase the level of reliability, credibility and comparability of the ESG information thus enhancing ESG quality (Ackers and Eccles 2015; Stuart et al., 2023). Maroun (2022) posit that the link between CG and ESGA can be seen from the perspective of value relevance of the ESG assurance as the disclosure and assurance of ESG information are mostly voluntary in many jurisdictions. As a result, the CG mechanism plays an important role in the decision to obtain ESG assurance due to costs and benefits associated with the practice. While a stream of literature argues that firms engage in ESG disclosure and assurance because of the evidence that suggests positive association between ESGA and firm value (Clarkson et al., 2019; García-Sánchez et al., 2022; Li et al., 2021). However, another strand of literature argues that firm decision to obtain ESGA is associated with the need for improved transparency and comparability and lower information asymmetry (Zhou et al., 2019; Wang et al., 2019). Moreover, although the literature suggests ESG assurance is beneficial to all stakeholders, shareholders bear the cost of assurance thus their support may be dependent on the costs and benefits associated with obtaining assurance (Chung and Cho, 2018). In this regard, Radhouane et al., (2020) noted that some stakeholders undervalue ESG assurance because additional costs associated with assurance outweigh the benefits. However, the support or otherwise of shareholders to ESG transparency could be viewed from different empirical and theoretical perspectives. The literature suggests various factors influence shareholders support for ESGA and transparency such as profit maximisation and ESG risk reduction (Li et al., 2021); social transmission ESG norms and values (Cheng et al., 2022; Cheng et al., 2024) and stakeholders' pressure and shareholder activism (Michelon et al., 2020). Moreover, the literature has shown corporate governance defines corporate purpose, values and orientation (Mayer 2021), influence corporate behaviour (Nguyen et al., 2022; Collevecchio et al., 2024) and determines corporate outcomes (Zhou et al., 2019; Li et al, 2022; Naciti 2019).

While a limited number of studies have examined the association between CG variables and ESG assurance, the studies reported mixed evidence. While some studies found positive association between corporate governance variables and ESG assurance (Zhou et al., 2016;

Liao et al., 2018; Uyar et al., 2022; Maroun 2022), other studies find negative relationship or no relationship between CG variables and ESGA (Mardawi et al., 2022; Aladwey et al., 2021; García-Sánchez et al., 2022: Branco et al., 2014). For instance, Aladwey et al., (2021) examined the influence of board characteristics on firm decision to obtain assurance. The study provides empirical evidence that board size, board tenure, female directors and CEOs foreign experience positively contribute to ESG assurance decisions. However, the study finds no relationship between board independence, board meetings and board financial expertise and the ESGA decision. One of the key limitations of this study, however, is it failure to account for endogeneity concern that may affect the final results and analysis. Secondly, while the study contributes to our understanding of CG and ESGA nexus, its short study period of 4 years from 2016-2019 raises a serious questions and concerns regarding the completeness of the data and the generalizability of its findings. On their part, Al-Shaer and Zaman (2018) examined the influence of audit committees in corporate decisions to obtained third-party ESG assurance and document empirical evidence of positive and significant relationship between audit committee independence, audit committee meetings and audit committee expertise with SRA. However, notwithstanding the contribution of the study, the study also suffers certain limitations. The cross-sectional study focuses on the year 2012 as the study period which is likely to impact the findings of the study due to the dynamic relationship between CG-ESGA nexus and importance of longitudinal studies in establishing causality. Maroun (2022) examined the relationship between board of directors and audit committee and the firm use of external ESG assurance. The study finds positive association between board attributes and ESG assurance while audit committee characteristics show negative association with third-party ESG assurance. Additionally, Liao et al., (2018) in a study of Chinese sample firms provide evidence of mostly insignificant relationship between board characteristics and ESGA. Although the study provides crucial evidence, the study was based on sample period from 2008-2012 and ignore endogeneity concerns in its analysis. García-Sánchez et al., (2022) examined the relationship between internal and external governance with decision to purchase ESG assurance. The findings show board gender diversity and sustainability committee have positive relationship ESGA. However, the study finds no relationship and negative relationship with board independence and institutional ownership respectively. In a study of 17 European firms, the study of Mardawi et al., (2022) provides evidence of no relationship between board meetings, board independence, board experience, board gender diversity and CEO experience with ESG assurance. In a related study, Zhou et al. (2016) provides empirical evidence of the moderating role of corporate governance variables on the relationship between country-level characteristics and the decision to purchase third-party ESGA and the choice of assurance providers. Similarly, Branco et al., (2014) examines the influence of firm-level characteristics and corporate governance variables on sustainability reporting assurance of Portuguese sample firms using size, firm industry, ownership structure, profitability and leverage as independent variables. The study covers the period of 4 years from 2008-2011 and provide empirical evidence of no relationship between ownership and third-party SRA while size, listing status, industrial affiliation, profitability and leverage are found to have positive relationship with the decision to engage in SRA. Although the study makes a valuable contribution to the sustainability assurance literature, the study was built on weak theoretical foundation over a short period based on small sample size. Contrarily, Erin and Ackers (2024) examines the influence of sustainability assurance and board characteristics on sustainability reporting practice of African sample firms. The study provides empirical evidence of positive effect of board characteristics and sustainability reporting assurance on sustainability reporting practices.

Notwithstanding the importance of prior studies and the crucial insights they provide, they suffer from certain limitations. For example, most the studies conducted cross-sectional studies

(Kend 2015; Haider and Nishitani, 2022; Al-Shaer and Zaman, 2018) or cover short period (Branco et al., 2014; Mardawi et al., 2022). Specifically, the study of Mardawi et al., (2022) covered a period of 3 years from 2016-2018 while Aladwey et al., (2021) covered a period of 4 years from 2016-2019. On their part, Al-Shaer and Zaman (2018) and Haider and Nishitani (2022) conducted a cross-sectional study focusing on year 2012 and 2018 respectively. Likewise, Kend (2015) examines UK and Australian firms covering only 2010 while Zhou et al., (2019) examines carbon assurance which is a subset of ESG. On their part, Branco et al., (2014) explore the relationship of firm-level characteristics and corporate governance variables on sustainability reporting assurance using 4 years period from 2008-2011.

The differences between prior studies and this study are that, while the studies of Al-Shaer and Zaman (2018) and Dwekat et al., (2022) examined the influence of ACC on ESGA, the studies of Aladwey et al., (2021), Maroun (2022), Mardawi et al., (2022) and Liao et al., (2018) investigate the relationship between board characteristics and ESGA. This study focuses on the of ACC, BC and OS using multiple variables across different governance mechanisms. With reference to context, most of the previous studies focused on developed economies that have been heavily studied, and it will not be thoughtful to generalise existing empirical evidence to BRICS emerging economies. For example, the study of Al-Shaer and Zaman (2018) and Al-Shaer and Zaman (2019) focused on the UK while the studies of Mardawi et al., (2022), Branco et al., (2014) and Dwekat et al., (2022) focused on the European firms while Kend (2015) focus on UK and Australian largest firms. This thesis investigates understudied and overlooked context of BRICS emerging economies where there is paucity of empirical studies. Additionally, most of the studies focused on the largest firms. For example, García-Sánchez et al., (2022) investigated the largest firms globally while Mardawi et al., (2022) examined largest firms from 17 European countries. However, there is anecdotal and empirical evidence that suggests large firms are associated with greater ESG practices, thus hinders the generalizability of the findings due to increased bias and ability of the study to draw meaningful conclusions.

Noticeably, prior studies have ignored the issue of endogeneity in their analysis that may spurious relations and conclusions. For example, the studies of Branco et al., (2014); Aladwey et al., (2021) and García-Sánchez et al., (2022) both ignored endogeneity concerns in their analysis. Unlike past studies, this study utilised 2SLS regression and lagged explanatory variables to account for endogeneity concerns.

With reference to the energy sector, there are paucity of empirical studies examining CG and ESGA in the energy sector. Therefore, this study serves as an important contribution and provides crucial insights in corporate governance and sustainability literature. For example, most of the prior studies examined firms across multiple industries. Specifically, García-Sánchez et al., (2022) examined CG and ESGA using sample from 10 industrial sectors while Mardawi et al., (2022) focused on all listed firms except financial sector. However, Dwekat et al., (2022) provide empirical evidence that suggest ESG sensitive sectors such as energy firms are more likely to obtain ESGA than non-ESG sensitive sectors due to their social and environmental impact.

Table 2.2: Summary of systematic literature review of prior studies on CG and ESG assurance.

Author and Year	Objective(s)	Variables	Theoretical approach	Context and period	Findings
García-Sánchez et al., (2022)	examined the relationship between CG variables with decision to purchase ESG assurance.	Board independence, board gender diversity, board sustainability committee, institutional ownership, analyst coverage and sustainability assurance.	Agency theory	International sample 2009-2017	Positive and significant: CSR committee, analysts' coverage, and institutional investors negative and significant: board independence
Liao et al., (2018)	Examine the relationship between board characteristics and the decision to	Board size, board independence, CEO duality, CEO foreign experience,	Agency theory, legitimacy theory and resource	China 2008-2012	Positive and Significant: Board size, CEO duality, board

	obtain corporate social responsibility (CSR) assurance	board meetings, foreign directors, board gender diversity, CSR assurance,	dependence theory		meetings, board gender diversity, No relationship: board independence, CEO foreign experience
Dwekat et al., (2022)	Examines the influence of ACC on CSRA	ACS, ACI, ACAFE, ACM	Legitimacy theory	Europe 2012-2018	Positive: ACI, ACM, ACAFE Non-significant: ACS
Mardawi et al., (2022)	Examines the influence of BCs and ACCs on ESGA	BS, BI, BM, BGD, CEO Duality and CSR committee	Agency and complexity theories.	Europe 2016-2018	Positive: BS, CSR committee Non-significant:

					BI, BM, BGD, CEO duality, BE
Martínez-Ferrero and García-Sánchez (2017)	Examines the influence of board size, board independence, board meetings on sustainability assurance practices	Board size, board independence, board meetings, sustainability assurance, type of assurance provider	Agency theory and stakeholder theory	International sample 2007-2014	Positive and significant: board independence, board meetings on sustainability assurance practices Negative association: Board size and sustainability assurance
García-Sánchez et al., (2023)	Examines the impact of board committees on	Audit committee independence, board CSR committee,	Resource dependence and agency theory	International sample 2011-2017	Positive and significant: CSR committee,

	CSR assurance.	Big4 auditors, audit committee financial expertise and CSR assurance.			negative and significant: audit committee independence Insignificant: audit committee expertise and Big4
Kend (2015)	Examines the relationship between corporate governance, firm-level characteristics and voluntary assurance	Audit committee meeting, board size, audit committee size, board meeting, sustainability committee, governance committee,	Stakeholder theory	UK and Australia 2010	Positive and significant: Sustainability committee, audit committee meetings Insignificant: audit committee size,

		governance committee size			sustainability committee
Branco et al., (2014)	Examines the influence of firm-level characteristics and corporate governance variables on sustainability reporting assurance	Size, firm industry, ownership structure, profitability, leverage, sustainability reporting assurance		Portugal 2008-2011	No relationship between ownership and third-party SRA. Positive relationship between size, listing status, industrial affiliation, profitability and leverage with the decision to engage in SRA
Cicchiello et al., (2021)	Examines the influence of board gender	Board gender diversity, board size,	Stakeholder theory	Asia and Africa	Positive and Significant relationship

	diversity on sustainability assurance practices	board age, sustainability assurance, SDG, sustainability reporting		2007	between board size and sustainability assurance.
Al-Shaer and Zaman (2018)	Examines the impact of audit committee characteristics on sustainability reporting assurance.	Audit committee size, audit committee meetings, audit committee independence, board size, board sustainability committee, sustainability assurance, SDG, sustainability reporting	Resource dependence theory	United Kingdom 2012	Positive and Significant relationship between audit committee independence, audit committee meetings, audit committee independence and sustainability assurance.

Aladwey et al., (2021)	Examines the impact of board characteristics on CSR assurance.	Audit committee size, audit committee meetings, audit committee independence, board size, board sustainability committee, sustainability assurance, SDG, sustainability reporting	Resource dependence theory	United Kingdom 2012	Positive and Significant relationship between audit committee independence, audit committee meetings, audit committee independence and sustainability assurance.
Erin and Ackers (2024)	Examines the relationship between board characteristics, audit committee characteristic,	Board independence, board gender diversity, Audit committee size, audit	stakeholder theory	Africa 2013-2022	Positive and Significant relationship between board sustainability committee,

	CSR assurance and sustainability reporting practices.	committee meetings, audit committee independence, board size, board sustainability committee, sustainability assurance, SDG, sustainability reporting			audit committee meetings, audit committee independence, sustainability assurance and sustainability practices.

Sources: Author's creation

2.11 Empirical literature on corporate governance and ESG assurance quality

The assurance of ESG information has been seen as a good development in accounting and sustainability literature due to the heterogeneity in ESG reporting, lack of convergence and harmonisation, stakeholder scepticism, incidences of ESG decoupling and greenwashing (Ballou et al., 2018; Cho et al., 2022; Velte 2021; Long et al., 2024; Hummel and Jobst 2024). The literature suggest assurance of ESG information improve transparency and comparability (Maroun 2021; Christensen, 2016); improve the quality and reliability of the information disclosed (Boiral et al., 2019; Ballou et al., 2018); reduce incidence of ESG greenwashing and decoupling (Sauerwald & Su, 2019) and suggest ways of improving sustainability practices through recommendations (Cho et al., 2021). However, a critical look at the literature suggests that prior literature ignore the quality of the assurance provided, the symbolic use of the third-party assurance and how the independence or otherwise of the assurance provider may hampers the reliability of the assurance provided. For example, Talbot & Boiral, (2018) noted about the symbolic use of assurance for impression management, Long et al., (2024) suggest that ESG practices in China are associated with corporate hypocrisy such as ESG greenwashing while Michelon et al., (2015) argued that disclosed ESG information remain opaque, inconsistent and ambiguous despite third party assurance. Consistent with this, Zaman et al., (2021) provide empirical evidence of the low quality of ESG assurance in the context of Australia and New Zealand likewise Farooq et al., (2024) raised concerns about the quality of ESG assurance and suggest that low ESG assurance quality may be the reason for decrease in ESG assurance despite exponential increase in ESG reporting.

The literature regarding the effect of ESG assurance on ESG disclosure quality and transparency offers two conflicting and divergent views. Firstly, the symbolic view argues that corporate organizations use third-party ESG assurance for impression management reasons to gain legitimacy (Boiral et al., 2019; Atkins 2015; Cho et al., 2015; Doan and Sassen 2020; Michelon et al., 2015; Gillet 2012; Zhang et al., 2022). The perspective argues that the decision to obtain ESG assurance services is borne out by the need to gain legitimacy, reduced stakeholders' scepticism or satisfy regulatory requirements (Birkey et al., 2016; Brown-Liburd et al., 2018). ESG assurance can thus be used symbolically to convey a misleading image of reporting transparency and reliability (Boiral et al., 2019; Talbot & Boiral, 2015) while maintaining opacity about a company's actual ESG performance (García-Sánchez et al., 2022).

However, the substantive view argued that third party assurance of ESG information reduced information asymmetry and agency problem (Cheng et al., 2014; Zaman et al., 2021; Fan et al., 2022); provide access to finance (Zhang et al., 2024) reduce cost of capital (Kheireddine et al., 2023), improve firm value (Kheireddine et al., 2024), serve as reputational insurance (Christensen et al., 2021), help in managing social and environmental risk (Tsang et al., 2023; Bailey and Filzen, 2024), reduce litigation risk (Li et al., 2022) and help in repairing reputational damage (Garcia-Meca et al., 2024).

Regardless of the stream of literature you follow on the substantive and symbolic use of ESG assurance, a critical look at the assurance practice raised concerns and questions. A number of studies have raised concern and critique the current assurance practice especially in satisfying the stakeholders need (Maroun 2020; Velte 2021; Maroun and Atkins 2015; Turzo et al., 2022). These can be attributed to the lack of regulations, varied methods of assurance, different type and scope of assurance among other factors (Maroun 2020; Cohen and Simnett 2015; Maroun and Atkins 2015). Farooq et al., (2024) argue that not only that there are concerns about the quality of ESG assurance, but there is also decrease in the number of assurances obtained due to lack of regulatory frameworks in many jurisdictions. Consistent with this, Tsang et al., (2023) noted about the difficulty in assurance of ESG information due to the diversity and differences in the ESG disclosure practices. Turzo et al., (2022) noted that assurance providers used optimistic rhetoric that hampers the credibility of the ESG information.

Irrespective of the substantive or symbolic use of ESG assurance, the corporate governance mechanism has important role to play. Extant literature has shown that corporate governance mechanisms such as board of directors, board committees and shareholding structures are associated with either responsible or irresponsible actions of the companies. For instance, literature shows that board of directors are associated with responsible and irresponsible corporate behaviour actions (Connelly et al., 2016); reducing the gap between corporate and stakeholders' expectation (Hillman 2000), developing sustainability strategies (Gull et al., 2023) and repairing reputational damage (Garcia-Meca et al., 2024). However, the efficiency and effectiveness of the corporate governance mechanisms varies depending on many factors such as the composition and diversity of the board, the level of board or board committee activity, the size and composition of the board committees, and the shareholding and ownership structure of the firm among others (Zaman et al., 2021; Jain and Jamali 2016; Jain and Zaman 2020; Turzo et al., 2022). For example, heterogeneous and diverse boards have been associated with better decision-making and outcomes (Fan et al., 2019); are more independent (Jain and Jamali 2016; Guest 2019) and provides better oversight and monitoring (Velte 2024; Zaman et al., 2021). On the other hand, a larger board sometimes have been associated with slow decision making (Fan et al., 2019) while appointment of independent and/or female directors associated tokenism and nepotism rather than skills and expertise (Nguyen et al., 2022). It is for this reason that this study examines the relationship between corporate governance variables and ESG assurance quality.

The studies examining the relationship between CG and ESGAQ in the literature are limited. This is because the ESGA quality is an emerging area in ESG and sustainability literature. Prior pioneering works have examined key determinants and economic consequences of ESGAQ (Simnett et al., 2009; Perego and Kolk 2012; Zorio et al., 2013; Gurturk and Hahn 2016; Maroun 2022). However, due to the limited studies on ESGA quality and different methodological approaches, the findings remain inconclusive. While earlier studies examined ESGAQ from the perspective of assurance providers (Zorio et al., 2013; Martínez-Ferrero et al., 2018; Hummel et al., 2019). Notwithstanding the contributions of these studies, recent studies criticised the methodological approach and argue that the ESGAQ should be examined holistically using level of assurance, the assurance provider, engagement objectives, materiality, GRI framework and other standards and independence of the assuror among others to measure ESGAQ (Zaman et al., 2021). For example, a number of studies have examined determinants and consequences of ESG assurance quality using various proxies of assurance quality (Zorio et al., 2013; Martínez-Ferrero et al., 2018; Hummel et al., 2019). Zorio et al.

(2013) examined the influence of firm-level variables on sustainability assurance provider (SAP) type of Spanish listed firms. In a study of European sample firms, Hummel et al. (2019) examined the effect of sustainability performance on the assurance process depth and the assurance statement breadth as measures of assurance quality.

Notwithstanding the contribution of these prior studies, several limitations need to be considered. Firstly, most of the studies were either cross-sectional or cover a shorter period. For example, Hummel et al., (2019) and Haider and Nishitani (2022) conducted cross sectional study while Martínez-Ferrero et al. (2018) investigate the influence of industry expertise and experience of the SAP on the assurance quality over a short period. However, a critical analysis of these studies reveals a methodological flaw as it’s based on simplistic assumption of static relationships between corporate governance and ESG practices. However, extant literature has shown that the CG-ESG practices nexus is dynamic that should be examined over a long period of time (Zaman et al., 2020; Wintoki et al., 2012).

Secondly, the literature on ESG assurance quality is plagued by inconsistent proxies and measurement making comparability difficult. For instance, Zorio et al., 2013 measure ESG assurance quality using sustainability assurance provider (SAP) type while Hummel et al., (2019) measured ESGAQ using assurance process depth and the assurance statement breadth. This study adopts a more holistic approach of measuring ESGA quality using multidimensional construct that captured the most important aspects of sustainability assurance.

Thirdly, most studies on the ESGA quality have only focussed on the largest companies (Zorio et al., 2013; Hummel et al., 2019). While this offer an insight, the generalisability of these studies on this issue is problematic. This is because extant literature has shown that firm size and availability of resources are among the major determinants of sustainability reporting, assurance and assurance quality. Therefore, unlike previous studies that focus mainly on the FTSE 100, this study examines the relationship using listed firms from BRICS.

Moreover, the economic consequences of ESG assurance quality have been widely discussed in the literature. For example, Martínez-Ferrero et al. (2019) examined the effects of assurance quality on access to finance and found quality ESG assurance strengthen the relationship between ESG disclosure and access to finance. Simnett et al., (2009) argues that it helps reduce scepticisms. Dhaliwal et al., (2014) concluded that it lowers the cost of capital. Luo et al., (2015) provide evidence of positive association with stock performance. Thompson et al., (2022) provide empirical evidence of a positive relationship between sustainability reporting and firm value. However, contrary evidence also exists in the literature that leads to lack of consensus. For instance, Pandey et al., (2024) provide evidence of negative stock market return. Therefore, in summary, there is a support of value relevance of quality assurance in the literature. However, Martínez-Ferrero et al. (2019) noted that lack of generally accepted standards of assurance hinders the value relevance of sustainability assurance.

On the relationship between CG variables and ESGAQ, only a few studies have examined the direct link between corporate governance variables and the ESG assurance quality with Martínez-Ferrero et al. (2018) calling for more studies on the link between CG variables and sustainability assurance quality. For example, a more recent study by García-Meca et al., (2024) examined the influence of board effectiveness in providing high quality ESG assurance. Ruiz-Barbadillo and Martínez-Ferrero (2020) examined the effect of joint provision of financial and non-financial audit on sustainability assurance quality using international sample from 2007-2016. The findings show evidence of knowledge spillover in providing join financial and non-financial audit thus the high-quality assurance services. Martínez-Ferrero et al., (2018) investigate the influence of industry expertise and experience of the SAP on the assurance quality. Moreover, Velte (2024) examined the relationship between critical mass of female directors, carbon committee and carbon related executive compensation on the quality of carbon assurance using 978 observations of European sample firms from 2017-2021. The findings show positive association between climate governance and the quality of carbon assurance. Zaman et al., (2021) on their part examined the impact of audit committee characteristics on ESG assurance quality using a sample of firms from Australia and New Zealand. Although the study of Zaman et al., (2021) found ACC have statistically significant impact on the quality of ESG assurance, a critical analysis of the study shows methodological flaws that might affect the generalisability of the study. For example, the study period covered 3 years which is considerably short. Additionally, the studies of García-Meca et al., (2024) and Zaman et al., (2024) only considered the largest firms in their respective contexts that may likely affect the generalisability of their findings. Similarly, although audit committee is board sub-committee responsible for both financial and non-financial reporting, the study of zaman et (2021) ignored other important governance variables such as effectiveness of the board and shareholding structure in their study thus leaving out important explanatory variables.

Despite the paucity of empirical evidence in the literature, the literature regarding ownership structure also provides mixed findings. While some studies provide evidence of positive association (Kend 2015; Cheng et al., 2024) other studies show no relationship (Branco et al., 2014). However, to the best of my knowledge, no study examined the combined effect of complete set of CG mechanism on ESGAQ like the current study. While the studies Zaman et al., (2021) and examined the impact of audit committee characteristics on ESG assurance quality. Branco et al., (2014) and Kend (2015) examined the relationship between ownership structure and ESGAQ. While the studies offered important insights, the study of Zaman et al., (2021) failed to consider board attributes and shareholding structure and the studies of Branco et al., (2014) and Kend (2015) ignored important explanatory variables related to board and audit committee characteristics

Moreover, recent regulatory and institutional changes make this study apt and timely. For example, the studies of Branco et al., (2014) and Kend (2015) were conducted before the release of the revised (IAASB ISAE) 3000 issued in 2015, and the new GRI framework issued in 2016. These changes highlighted the importance role of corporate governance mechanisms in ESG practices.

Finally, although the literature identified many factors as determinants of ESG assurance quality (Zaman et al., 2021; Ruiz-Barbadillo and Martínez-Ferrero 2020; Green et al., 2017). For instance, prior studies in the literature provide empirical evidence that shows technical competence of the assurance provider (Huggins et al., 2011; Ruiz-Barbadillo and Martínez-Ferrero 2020), independence of the assurance provider (Boiral et al., 2019; Green et al., 2019), experience of the assurance provider (Martínez-Ferrero et al., 2018) among others are among the major determinants of ESG assurance quality. However, the literature suggests that all the above-mentioned determinants are influenced by the effectiveness or otherwise of corporate governance mechanism (Emma et al., 2024). For example, the board of directors play a key role in selecting assurance provider and determining the level of independent of the assurance provider.

Table 2.3: Summary of the empirical literature on CG and ESGAQ

Author and Year	**Objective(s)**	**Variables**	**Theoretical approach**	**Context and period**	**Findings**
García-Meca et al., (2024)	Examined the effect of board effectiveness and negative	Board independence, board	media agenda-setting and	Europe 2015-2020	Positive association between BI,

	media on quality ESGA	meetings, negative ESG	legitimacy theories		BM on ESGAQ
Sierra García et al. (2022)	Examines the impact of SDGs on sustainability assurance quality	Sustainable Development Goals, SDG performance, sustainability assurance quality,	Legitimacy theory, stakeholder theory and signalling theory	Spain 2017-2018	Positive and significant relationship between SDG performance and sustainability assurance quality
Dwekat et al., (2022)	Examines the influence of ACC on CSRA	ACS, ACI, ACAFE, ACM	Legitimacy theory	Europe 2012-2018	Positive: ACI, ACM, ACAFE Non-significant: ACS
Mardawi et al., (2022)	Examines the influence of BCs and ACCs on ESGA	BS, BI, BM, BGD, CEO Duality and CSR committee	Agency and complexity theories	Europe 2016-2018	Positive: BS, CSR committee Non-significant:

					BI, BM, BGD, CEO duality, BE
Cheng et al., 2024	Investigate the impact of ownership structure on CSR transparency	Foreign institutional investors, CEO over-confidence, political connection, CSR transparency, CSR ratings	Social transmission theory, self-categorization theory, resource dependence theory	China 2009-2016	Positive and significant effect of FII on CSR transparency
Correa-García et al., 2020	Examines the influence of corporate governance variables on sustainability reporting quality.	Ownership structure, board of directors, business group, sustainability reporting quality	Legitimacy and stakeholder theories	Latin America 2011-2015	Positive and significant effect of foreign ownership and board size on sustainability reporting quality.

Calza et al., (2016)	Examines the relationship between ownership structure and environmental strategy	Ownership structure, institutional ownership, state ownership, environmental strategy	Agency theory	European firms 2012	No relationship between institutional ownership and PES. negative and significant relationship between block holder ownership and PES
Zorio et al., (2013)	Examines the impact of sustainable development on sustainability assurance quality	Leverage, ROA, industry, sustainability assurance quality,	Legitimacy theory, stakeholder theory and signalling theory	Spain 2005-2010	Positive and significant relationship between industry, financial performance, audit provider and sustainability

					assurance quality
Martínez-Ferrero and García-Sánchez (2017)	Examines the influence of board size, board independence, board meetings on sustainability assurance practices	Board size, board independence, board meetings, sustainability assurance, type of assurance provider	Agency theory and stakeholder theory	International sample 2007-2014	Positive and significant: board independence, board meetings on sustainability assurance practices Negative association: Board size and sustainability assurance
Cicchiello et al., (2021)	Examines the influence of board gender diversity on sustainability	Board gender diversity, board size, board age, sustainability assurance,	Stakeholder theory	Asia and Africa 2007	Positive and Significant relationship between board size and

	assurance practices	SDG, sustainability reporting			sustainability assurance.
Donkor et al., (2021)	Examines the impacts of combined assurance quality on external reporting qualities	Sustainability assurance quality, sustainability reporting quality, financial reporting quality, integrated reporting quality,	Agency theory	South Africa 2011-2017	Positive and significant relationship between: Combined assurance quality, sustainability reporting quality and integrated reporting quality,
Liao et al., (2018)	Examine the relationship between board characteristics and the decision to obtain	Board size, board independence, CEO duality, CEO foreign experience, board meetings,	Agency theory, legitimacy theory and resource dependence theory	China 2008-2012	Positive and Significant: Board size, CEO duality, board meetings,

	corporate social responsibility (CSR) assurance	foreign directors, board gender diversity, CSR assurance,			board gender diversity, No relationship: board independence, CEO foreign experience
García-Sánchez et al., (2022)	Examines the relationship between ownership structure and sustainability assurance quality.	Long term institutional ownership, Short term institutional ownership, sustainability assurance, sustainability assurance quality.	Agency theory	International sample 2009-2017	Positive and significant: CSR committee, analysts' coverage, and institutional investors negative and significant: board independence

Sources: Author's creation

2.12 Gap in prior studies on the relationship between CG and ESGD, ESGA and ESGAQ.

Extant literature has shown corporate governance mechanism have influence on corporate policies, strategies, and outcomes such as ESG disclosure and assurance (Velte 2021; Alhossini *et al.*, 2020; Jain and Zaman; 2019; Jain and Jamali 2016; Lu et al., 2022; Velte 2024). The board of directors monitor and control the management (Alhossini *et al.*, 2020; jain and Zaman; 2019; jain and Jamali 2016); approve or disapprove board decision (Alhossini *et al.*, 2020; Velte 2021) provide critical resources (Mehedi et al., 2024) play a key role in selecting assurance provider and determining the level of independent of the assurance provider (Emma et al., 2024) while specific board committees like audit and sustainability committees have oversight function over internal control, risk management, financial and non-financial reporting (Velte 2024; Delloite, 2018; Liao et al., 2018; Al-Shaer et al., 2021). Based on the review of the empirical and theoretical literature, the following gap have been identified in the existing literature which this study attempts to filled.

Many theories have been employed in previous studies to explain the motivation for ESG disclosure and assurance especially the "trinity theories" of agency, stakeholder and legitimacy theories. However, it is obvious that most of the prior studies employed just one theory to explain the motivation for disclosing information more than required by the law and obtaining third party assurance. Chen and Roberts (2010) suggested that existing studies are usually underpinned by a single theoretical framework. Moreover, Alhossini *et al* (2020) argue that inconsistent findings in the literature on the CG-ESG disclosure nexus might not be unconnected with the use of single theory. Consistent with this, Frynas and Yamahaki (2016) argues that a single theoretical perspective is inadequate in explaining ESG practices due to the broad nature of ESG and call for integrated approach that incorporate multi-theoretical perspectives. Similarly, Alnabsha et al., (2017) implied that there is growing consensus that corporate organisations engage in increased disclosures for multiple theoretical bases, thus implying that single theory will provide limited explanation of the varied motivations for greater corporate disclosures. In view of the evidence in the literature with regards to the importance of using multi theoretical perspectives in explaining the relationship between corporate governance and ESG disclosure and assurance (see Sarhan and Al-Najjar 2022; Zattoni et al., 2013; Zaman et al., 2023; Gillan et al., 2021). This study employs theory triangulation using agency, stakeholders, neo-institutional, legitimacy and resource dependence theories in order to explain ESG disclosure and assurance practices in emerging economies context, thus making a theoretical contribution.

Furthermore, most existing studies on the relationship between corporate governance and ESG disclosure and assurance have mainly employed a one year cross-sectional research design or a limited number of years (Haider and Nishitani 2022; Allegrini and Greco, 2011; Samaha et al., 2012; Aljifri et al., 2014; Albitar, 2015; Al-Janadi et al., 2016; Ahmed et al., 2017; Kamel and Awadallah, 2017; Khalil and Maghraby, 2017; Tran, Beddewela and Ntim, 2020), and thus restricting our understanding of voluntary ESG disclosure behaviour and it relationship with corporate governance over a significant period of time. This study will adopt longitudinal research design to study the relationship between corporate governance and voluntary ESG disclosure over a period of ten years (2010-2023). This is because a longitudinal method is likely to suggest cause-and-effect relationships than a cross-sectional method by virtue of its scope. In the same vein, to the best of this researcher's knowledge, the few longitudinal studies do not cover up to fourteen-year period in emerging economies context. Therefore, this study will help in providing more understanding of the motivations and determinants of ESG disclosure and assurance. Therefore, this study make use of a longer and more contemporaneous period than the previous studies of Branco et al., (2014) that utilised four years from 2008 to 2012; Pozzoli et al., (2022) that examine the impact of ACC on ESG performance using a period of 3 years from 2018 to 2020; Liao et al., (2015) that examine CSR assurance over five years from 2008 to 2012 and Velte (2024) that examines carbon assurance over five years period from 2017 to 2021.

Similarly, methodologically, most of the previous studies on the relationship between corporate governance mechanisms and ESG disclosure and assurance make use of content analysis approach or self-constructed disclosure index to measure the extent of ESG disclosure (Chau and Gray, 2010; Barros et al., 2013; Loure et al., 2019; Alnabsha et al., 2017; Alodat et al., 2023; Ntim, Lindop, and Thomas 2013; Ntim and Soobaroyen 2013; Nguyen Elmagrhi, Ntim and Wu, 2021). Even though this help in providing insights about the level of disclosure, but it has suffered from many shortcomings such as arbitrary use of total number of disclosure index and categorisation, arbitrary weighting in a weighted index and a subjective selection of total number of disclosure instruments thus affecting the validity and reliability of the coding and measurement. Many researchers have criticised and questioned the use of content analysis in measuring the extent of voluntary overall/ESG disclosure (Marston and Shrives, 1991; Healy and Palepu, 2001 and Neuendorf, 2002). Beck et al., (2018) argued that using self-constructed ESG/CSR disclosure index to measures the extent of CSR/ESG disclosure may not represent a firm's actual CSR/ESG disclosure or performance. However, the current study provides rich insights by utilising Bloomberg ESG disclosure index to measure the extent of ESG voluntary disclosure. Nollet et al. (2016) noted that ESG disclosure ratios provided by Bloomberg database is one of the most widely used disclosure score in accounting, finance and sustainability literature in recent years, and Bloomberg ESG ratings attract the most attention from investors (Eccles et al., 2011). Consistent with this, the study employed and examined the combined effect of a set of corporate governance structures as complimentary variables that has hitherto been utilised individually thus enhancing the synergy in CG variables. For example, some studies only examined board characteristics variables (Liao et al., 2018; Sarhan and Al-Najjar 2020; Liao et al., 2015); others examined audit committee variables (Zaman et al., 2021; Dwekat et al., 2022; Uyar et al., 2023; Mardawi et al., 2024; Pozzoli et al., 2022) while others examined ownership structure variables (Ali et al., 2022; Ali et al., 2023).

However, this study combined board attributes, shareholding structure and audit committee characteristics variables in a single study. Additionally, the study methodologically addressed the endogeneity issues that have been associated with prior studies on CG and sustainability literature using various methods such as IV 2SLS and lagged variables regressions. Finally, the study goes beyond the dichotomous measurements of non-financial assurance by further examining the quality of ESG assurance thus increasing the validity of the study. Prior studies on sustainability assurance utilised dummy variables as measures of assurance (Liao et al., 2018).

Furthermore, existing evidence in the literature are mainly in the context of developed economies such as UK, USA, and Europe. From the literature review above, it is obvious that emerging economies have remain unexplored and understudied. Dwekat et al., (2022) in a systematic review of Corporate Governance and Corporate Social Responsibility literature found that 68 percent of CG-CSR empirical studies from 1999-2019 were in the context of developed economies such as UK, USA, Australia among others. More systematic review of the literature further confirms the skewed nature of the empirical evidence in the literature see (Gillan et al 2021; Velte et al., 2023 and Zaman et al., 2023).

Moreover, this study extends and provide new insights into the corporate governance and sustainability literature. The study not only examines the relationship between corporate governance variables and ESG disclosure and assurance but also examines the nexus between CG variables and ESG assurance quality. ESG assurance quality is an emerging area in sustainability accounting literature and by examining the relationship between a set of CG variables that encompasses ownership structure, board characteristics and audit committee on the ESG reporting, assurance and assurance quality, this study extend and contributes to the extant literature.

Similarly, one of the limitations of prior studies is the individual use of ESG components to examine the nexus between CG variables and ESG practices. For example, Mehedi et al., (2024) explore the relationship between board diversity with carbon disclosure; Gerged (2021) examined the influence of board characteristics on corporate environmental disclosure; Bui et al., (2021) examined carbon assurance and reporting quality while Orazalin et al., (2024) examine biodiversity disclosure practices. However, extant literature noted on the need to examine ESG holistically (Siew et al., 2016; Yu and Luu, 2021). As noted by Yu and Luu (2021), most of the prior studies regarding determinants of ESG disclosure and assurance examine the component or subset environmental, social or governance individually. Only few studies examine the ESG disclosure holistically (Siew et al., 2016; Yu and Luu, 2021). This study not only examines the complete ESG disclosure practices in an overlooked and understudied context characterised by paucity of empirical studies but extend and provides new insights by examining the ESG assurance and ESG assurance quality of the sample BRICS firms.

Moreover, BRICS energy industry is an interesting context to study due to continuous energy market reforms in the last decade. These reforms include regulatory, market, carbon neutrality transition and institutional reforms aimed at addressing energy industry and sustainability challenges (Wang et al., 2023; Zhang et al., 2021; Wang et al., 2022). BRICS member countries have shown commitment to net zero and are among the top 10% globally in terms of ESG reporting and assurance (KPMG, 2020). For example, Brazil, India South Africa and China are among the top ten countries in terms of global sustainability reporting. Similarly, many BRICS member countries such as China play important role in global energy market (Wang et al., 2023) and the level of economic growth and significance of BRICS member countries has been noted to pose global environmental challenge (Nasir et al., 2018). Although some BRICS member countries are oil importers (India, South Africa and China) while others are exporters

(Russia and Brazil), however they are all major players in the global energy market. Moreover, extant literature has shown that ESG practices such as disclosure and assurance are sensitive to the industry (Liao et al., 2018; Branco et al., 2014; Simment et al., 2009) depending on whether the industry is environmentally sensitive or otherwise (Orazalin et al., 2024; Zaman et al., 2022).

Likewise, while there is growing research on the link between corporate governance and ESG disclosure, there is limited empirical evidence on whether corporate governance mechanism affect the level of ESG assurance quality. To the best of my knowledge, this is among the first attempt at examining the impact of complete set of CG mechanisms on the ESG assurance quality. Zaman et al., (2021) examined the influence of audit committee characteristics on ESGAQ While the study of Mardawi et al., (2024) examined the impact of board characteristics and sustainability committee on the ESGAQ. Moreover, Velte (2024) examined the relationship between critical mass of female directors and carbon related executive compensation on the quality of carbon assurance. However, to date, no study combined board characteristics, ownership structure variables and audit committee characteristics and their relationship with ESGAQ in a single study.

Finally, most of the prior empirical studies in emerging economies use a particular country as representation of emerging economies thus affecting the generalisability of the findings and representation of emerging economies. Basing this study on five BRICS emerging countries as representative of emerging economies with different reporting jurisdictions and representation from four continents of south America, Europe, Asia and Africa improves the generalisability of this empirical findings.

Therefore, it's expected that this study will provide more insight and contribute to the limited empirical literature on the nexus between corporate governance variables and the propensity to disclose ESG information and obtain independent ESGA in emerging economies.

2.12 Chapter Summary

Chapter two critically reviews existing literature on the relationship between corporate governance variables and ESG disclosure, ESG assurance and ESG assurance quality. The chapter starts with conceptualization of corporate governance, ESG disclosure, ESG assurance and ESG assurance quality concepts. The chapter goes on to discuss evolution of corporate governance codes in BRICS, the justification of selecting energy industry context, BRICS energy industry, an overview of ESG, ESG disclosure, ESG assurance and ESG assurance quality in BRICS and how the literature was systematically reviewed. The major objective of the chapter has been to review the extant empirical literature on the link between corporate governance variables and ESG practises. The review of the existing literature shows that empirical literature on the relationship is generally mixed. Furthermore, whilst the literature is quite advanced in Europe, US and other advanced countries, the emerging economies evidence is limited and under-studied.

The chapter was concluded with the summary of empirical literature and gap in the literature. In the next chapter, discussion will focus on theoretical literature relating to corporate governance and sustainability literature.

CHAPTER THREE: THEORETICAL LITERATURE ON CORPORATE GOVERNANCE, ESGD, ESGA AND ESGAQ

3.1 Introduction

This chapter reviews and develops a theoretical framework that are used in explaining the relationship between corporate governance and ESG disclosure, ESG assurance and ESG assurance quality based on prior literature, whilst identifying the existing gaps in the empirical and theoretical literature and showing how this study fills the existing gaps. In this chapter, eight theories are explained and critically discussed as they relate to corporate governance and ESG disclosure, ESG assurance and ESG assurance quality. The theories reviewed are Agency theory, stewardship theory, Resource dependence theory, legitimacy theory, signalling theory, institutional theory, resources-based view and stakeholder's theory. The chapter discusses the theoretical contribution of the thesis, the Carroll CSR model and the limitations of the Carroll Pyramid model.

3.2 Theories on Corporate Governance and ESG practices

Corporate governance and ESG disclosure and assurance practices have been examined from different theoretical perspectives and lenses (Del Gesso and Lodhi 2024; Arif et al., 2022; Hazaea et al., 2022). For example, studies have utilized stakeholder theory (Li et al., 2018; Manita et al., 2018; Chan et al., 2014) agency theory (Jizi et al., 2014; García-Sánchez et al., 2019; García-Sánchez 2020) legitimacy theory (Emma et al., 2024; Michelon et al., 2015; Cho et al., 2015; Peters and Romi 2014) signaling theory (Melloni et al., 2017; Meng-Tao et al., 2023) resource dependence theory (Hussain et al., 2018; Katmon et al., 2019; Liao et al., 2018) stewardship (Kavadis and Thomsen 2023) institutional theory (Ntim and Soobaroyen 2013; Weber 2014; García-Sánchez et al., 2020) or multiple theoretical lenses (Liao et al., 2015; Zhang et al., 2023; Cucari et al., 2018; Gull et al., 2022; Orazalin et al., 2023) to examined the link between CG variables and ESGD/ESGA. However, the need for integrating multiple theoretical perspectives has been highlighted and emphasize in literature to offer comprehensive understanding of the relationship (Del Gesso and Lodhi 2024; Orazalin et al., 2023; Gray et al., 1995; Hazaea et al., 2022; Nguyen et al., 2021).

Similarly, the importance of integrating theoretical and empirical literature has been highlighted in accounting and finance literature (Hazaea et al., 2022). In fact, Callen (2015) highlighted the lack of rigor in accounting literature as it relates to integration of theoretical perspective and empirics. Consistent with this, Hazaea et al., (2022) in a systematic review of sustainability assurance literature noted that the lack of theoretical integration in the literature is a major limitation and call on future studies to be underpin by various theoretical lenses. Mukherjee et al., (2022) noted that theory is considered as the currency of a scholarly realm and theoretical contributions is expected from any serious academic work. Extant literature suggest that the lack of theoretical integration leads to the poor methodological rigor (Callen 2015; Hazaea et al., 2022), make empirical findings difficult to understand and interpret (Nerantzidis et al., 2020) and provides little insights into the topic (Beck and Stolterman 2016). Although the theoretical frameworks provide important theoretical explanations, they are not without certain limitations. For example, agency theory has been criticized in the literature for failure to capture the mitigating role of board monitoring on information asymmetry (Brahma and Economou 2024) while stakeholders' theory has been associated with greenwashing in an attempt to satisfy various stakeholders' interest as a fiduciary duty to the stakeholders.

This study adds to the literature by examining how corporate governance variables impacts ESG disclosure, ESG assurance and ESG assurance quality in line multi-theoretical perspectives. Consistent with agency, stakeholder, legitimacy, institutional and neo-institutional theories, this study investigate the impact board size, board composition, board meetings, board gender diversity, ownership structures and audit committee characteristics on the extent of ESG disclosure, ESG assurance and ESG assurance quality. The study therefore makes an important theoretical contribution by applying and integrating stakeholder, legitimacy, institutional and neo-institutional theoretical perspectives to underpin the empirical analysis of the nexus. By doing this, the study expands prior studies that exclusively utilised a single theory to examine the link between corporate governance and ESG practices.

Furthermore, the study makes theoretical contributions by employing both economic and social-political theories as complementary theories to underpin the study. While socio-political theories emphasized societal contract and gaining legitimacy, the economic theories highlight the need for the reduction of information asymmetry between managers and other stakeholders. However, both theoretical perspectives complementarily explain the motivations for engaging in ESG disclosure and assurance. Moreover, the study contributes to the theoretical literature by utilizing neo institutional theory to explain how coercive isomorphism, mimetic isomorphism, and normative isomorphism influences firms' decision to provides high quality ESG assurance.

Additionally, the study also makes significant theoretical contribution in corporate governance literature by examining the joint and complementary role of corporate governance variables and ESG practices relationship in an overlooked and understudied context of BRICS emerging economies. Likewise, in line with owner identity perspective, the study shows differences among different shareholding structures regarding ESG disclosure, ESG assurance and ESGA quality.

Overall, the study makes important theoretical contribution by integrating different theoretical strands to understand and underpin the complex and multi-dimensional relationships between corporate governance variables and ESG practices.

According to Solomon (2010) Corporate Governance is related to different fields, as such different theoretical frameworks have been used to explain and analyze corporate governance mechanisms and the level of ESG disclosure practices. It has been argued that corporate governance does not have an acceptable theoretical base or commonly accepted paradigm (Parum, 2005; Haque et al., 2016; Dunbar et al., 2021). Beattie (2014) argued that studies within accounting literature would benefit from theoretical pluralism. As such, it is difficult to rely on one theory in explaining and analyzing Corporate Governance and ESG disclosure behavior (Chen and Roberts, 2010; Sharma, 2013). Frynas and Yamahaki (2016) posit that theories help in effectively organising knowledge, adding greater rigour, provide framework for simplifying complex issues and help in communicating empirical findings. Sarhan and Al-Najjar (2022) noted that multiple theoretical perspectives could be used as complementary but not competing theories in the study of complex relationship between corporate governance variables and CSR performance. Sarhan and Al-Najjar (2022) further posit that examining corporate governance and CSR nexus grounded on theory triangulation will provide more insight and enhance our understanding of the relationship.

According to Zaini et al., (2018) voluntary disclosure which ESG disclosure is a subset is commonly categorised under two main groups of theories: economics-based theories (agency theory, signalling theory, and capital need theory) and socio-political theories (such as political economy theory, legitimacy theory, stakeholder theory, and institutional theory). From the review of corporate governance literature, it could be deducted that agency theory is the most widely used in corporate governance studies. However, many authors have criticised the use of agency theory alone in corporate governance studies. Zattoni et al., (2013) highlights the need for corporate governance studies to employ multiple-theoretical framework. Using several theories also allows overcoming the shortcomings of a single theory. Alshbili et al., (2018) argues that previous researchers' use of single theoretical framework is one of the major limitations of previous studies on corporate governance and voluntary disclosure and therefore suggest the integration of multi-theoretical approach to offer a richer basis for understanding and explaining the disclosure behaviour of corporate organisations. Thus, similar to previous studies and in line with theory triangulation (Conyon and He, 2011; Hannifa and Hudaib, 2006; Haque et al., 2016; Ntim and Soobaroyen, 2013; Helfaya & Moussa, 2017; Dunbar et al., 2021; Sarhan and Al-Najjar, 2022; Orazalin et al., 2023) multiple theoretical frameworks were used to examine the relationship between corporate governance and voluntary ESG disclosure.

The following theories are related to the current study and are briefly reviewed and certain limitations associated with them highlighted.

3.2.1 Agency Theory

Agency theory is one of the theories that have been widely used in CG and disclosure literature. It is an economic theory that is related to corporate organizations. The agency contract has been described by Jensen and Meckling (1976) as a contractual agreement between owners of resources (principals) and managers of resources (agents) to operate the firm in the interests of shareholders. According to Crutchley and Hansen (1989) agency theory relationship is about a contractual relationship between the principal (shareholders) and the agent (management), a person who controls the resources on behalf of the shareholders. Essentially, an agency relationship occurs where there is a separation of ownership from control (Jensen and Meckling, 1979). Although agency theory has been widely applied in CG and CSR literature and provides foundation in examining agency relationships, the theory has been vigorously challenged in recent years by a number of researchers. For instance, Bendickson et al. (2016) posits that agency theory is old for modern and complex concepts such as sustainability and ESG, Hazaea et al., (2022) argues that the theory is inadequate in explaining multidisciplinary and multidimensional CG-Sustainability assurance relationships and Elamer et al., (2021) noted that agency theoretical perspective ignored many human motives and focused of human behavior and self-interest.

Agency theory seeks to reduce agency problems between shareholders and managers by aligning the interests of managers (agents) with those of shareholders (principals). For shareholders to reduce agency problems and conflict, they must incur costs in order to monitor the activities of the agents, these costs are called agency costs. The monitoring activities may include the establishment of an audit committee, the existence of financial expert on the board of directors, quality external audit and the number of non-executive directors and independent directors on the board in order to reduce the agency problem. Information asymmetry is another important aspect of the agency theory, which is a situation where one party has access to more information than the other, usually with managers having access to more information than the shareholders. Agency costs increase with information asymmetry which may lead to agency problems. In sum, agency theory suggests that good governance through the establishment of effective corporate governance mechanisms can lead to a net decrease in agency costs. In addition, it should mitigate monitoring and bonding costs, thereby leading to overall improvement in governance practices and voluntary disclosure (Fama and Jensen, 1983; Siddiqui et al., 2013). However, the ability of the principals to monitor the activities of the agents depends on the information available to the principals and absence of the information asymmetry.

Panda and Leepsa (2017) categorized the agency problem into three types. The first type is the agency problem between principal and the agent called the principal – agent conflict, which arises due to the information asymmetry and variances in risk sharing attitudes (Jensen & Meckling, 1976; Ross, 1973). The second type of conflict occurs between the major and minor shareholders (Gilson & Gordon, 2003; Shleifer & Vishny, 1997) and it arises because major owners take decisions for their benefit at the expense of the minor shareholders. The third type of agency problem happens as a result of leverage which leads to conflict between the owners and creditors; this type of conflict arises when the owners take more risky investment decision against the will and interest of the creditors.

According to Panda and Leepsa (2017) the major issue is whether these managers (agents) are performing for the owners (principals) or themselves. As a result of the separation between ownership and management or control, agency theory has been used to explain the relationships within organizations. The principal is the person who owns the firm, while agents manage the business of the firm on behalf of the principal. These two parties reside under one firm but have different and opposite goals and interest, so there exists a conflict and this conflict is regarded as the agency problem (Alchian and Demsetz, 1972). Panda and Leepa (2017) consider the misalignment of interest between shareholders and management and the lack of proper monitoring due to diffused ownership structure leads to the conflict, which is known as principal– agent conflict. Similarly, agency problem grows as the company grows in size and leverage, which leads to another form of agency problem between majority shareholders and minority shareholders since the former has controlling interest. In the same vein, agency problem also increases with an increase in firm leverage which might lead to increasing conflict of interests between creditors and management. Chowdhury (2004) argued that agency problem is basically caused by factors such as separation of the ownership from control, differences in risk attitudes and appetite between the principal and agents, short period involvement of the agents in the firm, unsatisfactory incentive plans for the agents and the prevalence of information asymmetry within the organization. Therefore, agency theory can explain why organizations may voluntarily disclose information in its annual reports over and above what is required by the law and how board composition, structure and attributes influenced the level of ESG disclosure. For instance, agency theory can be used to explain the appointment of female or independent directors and how this can influence ESG disclosure through enhance monitoring to reduce agency costs.

Many scholars have argued that agency theory is the most widely applied theoretical foundation in CG literature (Nguyen et al., 2020; Del Gesso and Lodhi 2024; Wiseman et al., 2012; Pandey et al., 2022). For example, Wiseman et al., (2012) noted about the wide and variety of application of agency theory in different institutional settings. Consistent with this, Del Gesso and Lodhi (2024) noted that agency theory is one of the most widely used theories in ESG disclosure literature. However, notwithstanding the importance of agency theory in explaining the principal-agent relationship and its application in corporate governance and sustainability studies, the theory suffers certain limitations that hamper it ability to explain this complex relationship. Firstly, agency theory was built on the assumption of two-way principal-agent relationships between managers and shareholders while neglecting other stakeholders. Bosse & Phillips (2016) argues that agency theoretical lens focused more on addressing shareholders' interest. This is against the stakeholder-centric approach of CSR and ESG that emphasized the importance of all stakeholders. Secondly, agency theory looks at the principal-agent relationship from financial and monetary perspective while neglecting ethical values on this association. Pandey et al., (2022) argues that the major limitation of agency theory is the focus on purely economic perspective of managerial behaviour and the individualistic view of the theory. Thirdly, agency theory neglects the role and influence of institutional factors such as legal system, national culture, rules and regulations among others on the principal-agent relationship and how these factors could shape the relationship. Additionally, agency theory usually looks at the explicit contract between managers and shareholders in considering principal-agent relationship, there is a need to consider both implicit and explicit contract that exists among various stakeholders. Various empirical and theoretical evidence in the literature suggest the existence of implicit contract that usually manifest during take over and mergers in the form of employee retention, pensions and other benefits, agreement with supplies, and assurances to the customers (Asher et al., 2005; Segrestin and Hatchuel 2011). Moreover, new theoretical perspectives have countered the agency theory. For example, Team production theory argued that organizations should be viewed as a team of individuals working together to create value for all stakeholders in the entire organization. Similarly, in contrast to agency theory, Hills and Jones (1992) propose stakeholder-agency theory that looks at the management as agents while all other stakeholders as principal signifying multiple principals. Finally, the disclosure and reporting emphasis of agency theory is for the providers of financial capital mostly the shareholders (Harrison and Smith 2015). This has been partially the reason why shareholders are considered as the principals in an agency relationship and financial objective the ultimate goal. Harrison and Smith (2015) posit that any objective in an agency relationship by the management other than financial are associated with agency costs. Segrestin and Hatchuel (2011) argue that despite the popularity of agency theory, viewing managers as agent of shareholders have leads to inefficient strategic outcomes that are not socially and environmentally responsible but based on short term financial gain.

Despite the criticisms, agency theory has been used by extant literature to examine the relationship between CG mechanisms and various corporate outcomes. For instance, Pucheta-Martínez et al., (2018) examines the impact of gender diversity on CSR and highlighted the role of gender diversity in reducing agency costs and CSR performance. Raimo et al., (2021) utilised agency theory to examine the impact of audit committee variables on integrated reporting. Similarly, Vitolla et al., (2020) utilises agency theory to investigate the impact of board characteristics on intellectual capital disclosure. Since the current study seeks to examine the impact of certain board attributes on ESG practices, agency theory was utilised as one of the complementary theories to explain this relationship within the context of principal-agent relationship.

3.2.2 Stakeholder theory

While agency theory concentrates only on the relationship between managers (agent) and shareholders (the principal), stakeholder theory considers the relation between managers and all stakeholders such as shareholders, regulators, investors and potential investors, stock market regulators, employees, customers, local community, suppliers, creditors, wider community, environment and Government. Stakeholder theory represents a broader perspective of corporate governance, it is a theory that is more concerned with the relationship between a corporate organization and all its stakeholders.

Stakeholder theory was mainly introduced by Freeman (1984), according to Freeman (1984) a stakeholder "is any group or individual who can affect or is affected by the achievement of the firm's objectives". Even though this definition is among the most cited definitions of the concept of stakeholder, there are many complementary and conflicting definitions of the concept. Various scholars have viewed, categorized and defined the concept in different ways, for example Wide and Narrow (Freeman & Reed, 1983), Primary and Secondary (Savage et al., 1991), Moral and Strategic (Goodpaster, 1991), Active and Passive (Mahoney, 1994), Voluntary and Involuntary (Clarkson, 1995) are some of the categorizations used in explaining the concept. Based on stakeholder theory, a variety of stakeholders are involved in the organization and each of them deserves some return for their involvement (Crowther and Jatana 2005). On their part, Mahajan et al., (2023) see stakeholder theory as a theory that encourages corporate organizations to acknowledge the existence of both internal and external stakeholders and manage the various stakeholder needs in a holistic and responsible manner in order to achieve long-term value.

According to Deegan (2002) stakeholder theory consists of the ethical and managerial branches of the theory. The managerial branch of the theory highlights the need for corporate organizations to manage certain stakeholder groups, usually those that are deemed powerful while the ethical branch of the theory highlights ways corporate organizations should treat their stakeholders. However, scholars have criticized the theory and noted that the application of the theory tilts towards managerial branch of the theory that does not incorporate the concepts of ethics essential for managers to deal with issues in an ethical manner such as those relating to the natural environment that do not clearly and directly involve individuals within commercial institutions (Orts and Strudler 2002).

According to Chen and Roberts (2010) Stakeholder theory postulates that managers of corporate organizations are accountable to all stakeholders and that they may discharge accountability to many more groups of stakeholders than solely their owners and providers of capital considering the fact that not only are stakeholders affected by the activities of the organization, but they also in turn affect the corporate organization in some way. Stakeholder theory postulates that engaging in voluntary disclosure can be an effective strategy to gain the support of key stakeholders such as employees, investors, stock market regulators, Government and local community who are instrumental to achieving organizational objectives (Elzahar and Hussainey, 2012). Alshbili, et al., (2018) posit that the pressures exerted by the government and other external stakeholders have a significant influence in promoting the extent of voluntary disclosure of firms. The theory contends that corporate organizations should consider the expectations and interest of various stakeholders from both within and outside the organization.

Notwithstanding the relative advantages of stakeholders' theory over agency theory, the critics of stakeholder theory argue that the theory suffers certain limitations. Firstly, Friedman et al., (2020) argued that the application of stakeholder theory depends on the perspectives you look at it between value chain and value network. While the value network stressed the importance of shared purpose and values, value chain emphasized financial benefits for shareholders. Friedman et al., (2020) admitted that value chain has one end point and motive for one stakeholder (shareholder) to maximize his/her firm value. Friedman et al., (2020) further emphasized the need for value network approach to stakeholder theory that considers all stakeholders as a means to an end and an end in an interconnected manner. The value chain approach is a major weakness to stakeholder theory as it looks at other stakeholders as a means to an end for the shareholders' value rather than value for all. Harrison and Smith (2015) argued that other stakeholders such as employees, customers and the community are also important and provide essential resources to the organizations. Secondly, despite carrying all stakeholders alone, the critics of the theory question the failure of the theory to recognize power dynamics in relationships among various stakeholders. For instance, Donaldson and Preston (1995) questioned the channel through which legitimate stakeholders can be identified and selected. In reality, different stakeholders have varying degrees of influence, and their level of risk varies by their level of interest and influence. Thirdly, defining the concept of stakeholder has been problematic and vague in literature. While the well-known definition of stakeholder is someone that affects or is affected by the organization. However, taking this definition and considering both external and internal stakeholders from employee to customer to terrorist to community will make list infinite and difficult to cater for (Jensen 2001; Freeman 1984). Moreover, critics such as Jain and Jamali (2016) argue that stakeholder theoretical lens failed to integrate specific governance approach that will assist managers in managing conflicting stakeholders' needs. This has been partially attributed to the development of stakeholder-agency theory as a means of managing stakeholders' conflict (Gerged 2021; Hills and Jones 1992). Fourthly, another major criticism of the stakeholder theory is incompatibility with the business model. Letza et al., (2004) argues that distributing values across all stakeholders is inconsistent with the business concept of capital investment for value maximization. Jensen (2002) noted that a business that focused on all stakeholders without trying to maximize shareholders wealth will cease to operate in the long run. Finally, the weakness of the stakeholder theory has leads to new variants of the theory such as convergent ST (Jones and Wicks 1999) stakeholder-agency theory (Hill and Jones 1992) and divergent stakeholder theory (Freeman 1999) to address the weakness and criticism of the theory.

Notwithstanding the criticisms of stakeholder theory, the theory has been extensively used in accounting and sustainability literature. For example, Banerjee et al., (2003) provide empirical evidence of the influence of stakeholder pressure on corporate environmental performance using ST. Liao et al., (2015) utilized stakeholder theory to examine the relationship between board gender diversity, board independence, environmental committees, and greenhouse gas disclosures and provide evidence of positive association between BGD and GHG disclosure. Artiach et al., (2010) provides evidence of the crucial role of stakeholders on sustainability performance of the US sampled firms in line with stakeholder theory. Since the current study seeks to examine the impact of corporate governance variables on ESG practices and based on the argument that corporate organisations engage in ESG disclosure and assurance to satisfy the interest of multiple stakeholders, stakeholder theory was utilised as one of the complementary theories to explain the connection between CG variables and ESG practises.

3.2.3 Legitimacy theory

Legitimacy theoretical perspective viewed corporate organizations as part of the broader social system that must earn legitimacy to access critical resources for their operation and survival (Deegan 2014; Deegan 2019; Mathews 1997). This is based on the concept of social contract between society and corporate organizations. Organizations are expected to operate in conformity to societal expectations. Thus, if a corporate organization perceives its operations are not in line with the expected standard of the society, then remedial actions must be taken by the management. Due to the voluntary nature of ESG disclosure and assurance in many jurisdictions, social and environmental disclosures and assurance have been used by many organizations to obtain and maintain legitimacy and repair legitimacy in times of crisis and legitimacy threat (Deegan 2002; Garcia-Meca et al., 2024; Deegan 2019). A serious weakness with this argument, however, is the existence of many stakeholder groups representing the society in the social contract and their level of influence varies. These stakeholder groups usually termed relevant publics in legitimacy literature determined societal expectations.

ESG disclosure and assurance have become a strategic tool used by corporate organizations to gain legitimacy from society especially in an environmentally sensitive industry like energy industry. The stakeholders and societal expectations are particularly high for firms operating in the energy sector due to the impact of their operations on the society (Velte 2023; Qian and Schaltegger, 2017). This makes legitimacy theory an important theoretical lens in examining the CG and ESGD and ESGA practices in the energy industry.

Organizations operate in society and their actions affect and are affected by a number of environmental factors. Legitimacy theory is based on the notion that organization has a social contract, with its society, where it agrees to act according to socially desired actions (Guthrie and Parker 1989; Ntim 2016; Deegan 2019). That means organization's actions are monitored by the public. Legitimacy theory argues that organizations can only continue to exist if society recognizes it as acting within acceptable value system (Rizk 2006). Based on this theory, organizations aim to get social approval, in other words to legitimize their actions (Patten 1991, Mathews 1993, Reich 1998, and Deegan 2002). According to Suchman (1995) legitimacy theory is a ‘generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions’ Suchman (1995) noted that legitimacy theory is made of up three types of legitimacy; pragmatic, moral and cognitive legitimacies.

Deegan (2002) argues that corporate organizations engage in voluntary disclosure over and above what is required by the law in order to improve their public perception and get acceptability and legitimacy from the society where it operates. Consistent with this, Elmagrhi et al., (2016) posits that engaging in greater disclosure behavior and practices can improve the congruence of organizational objectives and values with those of society where it operates. Voluntary disclosure, especially non-financial information like sustainability and environmental reporting, improves corporate reputation and goodwill thereby deriving legitimacy (Ntim and Soobaroyen, 2013; Zaini et al., 2018). However, the strategies adopted by corporate organizations to gain legitimacy could either be substantive or symbolic (Ashforth and Gibss 1990).

In defining what legitimacy is, Suddaby et al., (2017) noted that legitimacy theory can categorize into three different groups based on the ontological position and perspective of the researchers. These perspectives are legitimacy-as-property that considers legitimacy as an asset, resources or a property. Legitimacy as a process that considers legitimacy as an interactive and integrative process and finally, legitimacy as perception that look at legitimacy from the socio-cognitive perspective.

However, despite the importance of legitimacy theory in explaining the relationship between CG and corporate outcomes such as ESG disclosure and assurance, the theory has been vigorously criticized in recent years. Many researchers argue that legitimacy theory is too broad and simplistic to provide important theoretical insights (Tsang et al., 2023; Deegan 2014; Deegan 2019). For example, Deegan (2019) argues that the dichotomous use of legitimacy theory is the major weakness of the theory. The theory generally uses legitimacy as a binary that an organization either has or not and this is only determined by society. Deegan (2019) further noted that the simplistic assumption that managers are only motivated by the need for survival and profitability in gaining legitimacy is another weakness of the theory that restricts understanding of ESG disclosure motivations.

Moreover, another shortcoming of the theory is the concept of social contract that combined and addressed all the stakeholders as ‘society’ without recourse to power imbalances and class struggle, and assuming pluralist society. This means that, while the social contract is between organizations and society, there are many stakeholders that made up of society with varying power, voices and influence.

Similarly, Hazaae et al., (2022) argues that the theory may be limited in its ability to provide insight into how assurance-related service providers can confer and explain legality. A serious weakness with legitimacy theory, however, is the simplistic assumption that ESG disclosure and assurance processes are mainly for social legitimacy not transparency or accountability. Finally, the theory has no mechanism to distinguish between genuine sustainability activities or corporate hypocrisy in the pursuit of legitimacy by corporations. This has been partially associated with greenwashing practices by corporate organisations in order to gain legitimacy.

Notwithstanding these limitations, legitimacy theory has applied in many empirical studies explain the relationship between corporate governance variables and ESG practices especially ESG assurance. For example, Ntim (2016) examines the impact of corporate governance variables on social disclosure in sub-Sahara Africa using legitimacy theory. Utilising legitimacy theory, Eliwa et al., (2021) investigated the impact of ESG disclosure on cost of capital of the EU sample companies. Similarly, Garcia-Meca et al., (2024) utilised legitimacy theory to examines the impact of board characteristics on ESG assurance quality. Therefore, this study utilised legitimacy theory to explain the link between CG variables and ESG assurance practices.

3.2.4 Resource Dependence Theory

Resource Dependence Theory is one of the theories that explains the links between organisations and it resources. It is one of the theories that is used to explain how organisations access critical resources needed to achieve it organisational objectives. According to RDT, certain board attributes help corporate organisations to access critical resources. For example, board diversity has been associated with access to different skills, experience, knowledge and perspectives (Chen and Hao, 2022; Islam et al., 2023) and board composition has been associated with provision of human and relational capital to enhance sustainability performance (Mallin and Michelon, 2011; Orazalin and Mohmood, 2021)

Resource Dependence Theory is a theory that explains how organisations are related in connection to resources (Hillman et al., 2009). For an organisation to survive and achieve its objectives, it needs essential resources from the environment where it operates and external organisations. According to Johnson (1995), an organisation must collaborate with other organisations within its environment in order to obtain its needed resources. For this reason, no single organisation can provide for itself all the resources it needed, so inter-organisational exchange of resources is important to supply the organisation with its vital resources (Pfeffer and Salancik, 1978). Therefore, dependence has become a means of getting critical resources to ensure survival of organisations and their success (Hofer et al., 2012). Where one organisation has access and control to more resources, then the power equation becomes unequal. Harris and Holden (2001) defined Power as the capacity of an actor to acquire control over the resources needed by others, within the framework of resource dependence theory.

According to Pfeffer and Salancik (1978) the board of directors has a responsibility to ensure that the organisation has access to vital and critical resources needed to achieve growth and other organisational objectives. Sarhan and Ntim (2019) opined that increased engagement in voluntary disclosure practices may help in facilitating access to critical resources, such as subsidies, tax exemptions, contracts and finance. For instance, a bank or financial institution that will provide funding for critical capital expenditure may demand for greater disclosure to enables it to make informed decision. Thus, the management under the supervision of the board of directors engage in ESG disclosure in order to access critical resources. ESG disclosure could help in minimising capital and political costs and result in improved corporate image and reputation (Haniffa and Hudaib, 2006; Ntim and Soobaroyen, 2013). A broader perspective has been adopted by Pfeffer (1972) that the board of directors have responsibility to ensure access to critical resources, minimise dependence and to ensure a balanced power dynamic.

Resource dependence theoretical lens has been used in accounting and finance literature to explain the motivation for ESG disclosure behaviour and the role of board of directors in ensuring access to critical resources. The theoretical lens emphasizes the role of the board of directors in resources provision (Hillman et al., 2000; Islam et al., 2022) and the role of board diversity in ESG disclosure (Islam et al., 2023). Many empirical studies have utilised RDT to examine the link between CG and ESG disclosure. For example, drawing from RDT, Islam et al., (2023) examined the impact of board diversity on CSR disclosure. Similarly, Chen and Hao (2022) utilised RDT to examine the relationship between board characteristics, digital transformation and environmental performance of Chinese listed firms. Consistent with this and drawing upon RDT, Orazalin and Mohmood (2021) examined the impact of corporate and country governance on environmental performance and provides evidence of positive and significant relationship between board diversity and presence of sustainability committee with environmental performance.

However, the theoretical lens has been associated with certain limitations. For example, RDT emphasize the role of the board of directors in accessing critical resources external to the organisation. However, empirical and theoretical literature suggest that the board role goes beyond external resources provision such as finance alone but also internal critical resources such counsel, knowledge, organizational culture and advice (Hillman and Dalziel, 2003). Secondly, the complexity of resources sources has not been considered in theory. The global business environment is dynamic, uncertain and complex that makes resources flows complex and unpredictable.

Despite these limitations, RDT have been utilized in accounting and sustainability literature to explain corporate governance variables affects organizational behaviour and outcomes. The following studies have been underpinned by RDT (Orazalin and Mohmood 2021; Chen and Hao 2022; Islam et al., 2023).

3.2.5 Stewardship Theory

According to Stewardship Theory, managers are stewards of the organization whose actions and behaviors are linked to the interest, vision, mission and objective of the shareholders. Managers are assumed to be trustworthy and loyal to the organization and the shareholders. Stewardship theory is a theory that is in contrast to agency theory, it assumes that there is no conflict between the managers and the shareholders and managers act in the best interest of the principals. In contrast to agents in agency theory, the stewards in stewardship theory act in the best interest of the organization and identify themselves with their organizations' mission, vision and objectives.

Domínguez-Escrig et al., (2018) argued that stewardship theory being a theory that has it root from the psychological and sociological perspective as against the agency theory rejects the economic assumption that managers are always "individualistic, selfish, opportunistic, and only look after their own interests". Stewardship theory acknowledges that managers are motivated by collectivistic, pro-organizational and trustworthy purposes (Domínguez-Escrig et al., 2018).

According to Hernandez (2012) stewardship is the "extent to which an individual willingly subjugates his or her personal interests to act in protection of others' long-term welfare." This theory holds that there is no conflict of interest between managers and owners (Donaldson, 1990), no inherent problem of executive control (Donaldson, 2008) and there is effective coordination between the two parties and the focus is on achieving organisation's goals rather than self-interests (Van Slyke, 2007). Chen and Robert (2010) opined that managers engage in ESG disclosure in order to justify their stewardship. Notwithstanding the importance of stewardship theory in providing alternative perspectives to agency theory, the theory has its own limitations. The major weakness of the theory is the assumption that managers always act in the best interests of the organization and its shareholders. Menyah, (2013) noted that managers as stewards sometimes take advantage of their positions and act in their own best interest by exploiting their positions. Similarly, stewardship theoretical perspectives suggest that there is no need of board monitoring mechanisms in organizations because of the alignment of interest between management and the shareholders. Many critics considers this as relegation of the important role of independent directors in board monitoring and oversight. Finally, scholars argued that due to its inherent limitations, the theory does not offer comprehensive framework to guide board of directors to achieve strategic corporate outcomes (Nicholson and Kiel 2007; Menyah, 2013).

3.2.6 Signaling theory.

Signaling theory is one of the theories that is used in explaining disclosure behavior in corporate organizations. The concept of signaling was first developed in 1973 by Spence; based on the seminal work of Akerlof (1970). Just like agency theory, signaling theory recognizes the existence of information asymmetry between managers (agents) and the shareholders (principals) as a result of separation of ownership from control. Signaling theory shows how asymmetry can be reduced when the party with more information signals it to others (Morris 1987). According to Signaling theory, corporate organizations are motivated to voluntarily disclose more information through signaling in order to gain more competitive advantage in the marketplace. Since managers have more information about the company than other stakeholders like shareholders, creditors, Government and investors, managers engage in voluntary disclosure in order to show they are better than others and distinguish themselves from their competitors, by sending signals to interested parties and other stakeholders. However, one of the major limitations of signaling theory is the fact that the theoretical lens encourages corporate organizations to only signal good news while holding bad news. These practices have been associated with corporate social irresponsibility among organizations (Rezaee, 2016).

Notwithstanding the limitations of signalling theory, the theoretical lens has utilised to explain the relationship between corporate governance and various corporate outcomes. For example, Sun et al., (2010) utilised signalling theory to examine the relationship between corporate governance, corporate environmental disclosure and earnings management. Similarly, Harun et al., (2020) utilised signalling theory to examine the relationship between corporate governance, corporate social responsibility disclosure and firm value of Gulf countries.

3.2.7 Institutional theory

Institutional theory is one of the theoretical perspectives that have underpinned corporate governance and ESG disclosure literature in recent years. There has been significant increase in the use of institutional theory to examine CG and ESG disclosure link in prior accounting and sustainability literature. Risi et al., (2023) postulate that empirical CSR, ESG and sustainability studies that were theoretically underpinned by institutional theory have gained significant momentum. Risi et al., (2023) noted that the last decade (2012-2022) witnessed exponential increase in institutional theory based ESG disclosure studies. Institutional theoretical perspective help in examining the relationship between society and the business.

Institutional theory is made of up many perspectives, constructs, classifications, and categorisation. Greenwood et al. (2017) posits that institutional theory is made of up the following categories: institutional logics, isomorphism, legitimacy, decoupling, and institutional enterprises. While Risi et al., (2023) consider legitimacy, institutional context, decoupling, institutional logic, institutional work and entrepreneurship, Isomorphism and diffusion, and responding to institutional pressure. Frynas and Yamahaki (2016) postulate that institutional theory consists of three major approaches of: Economic approach which has to do with institutional pressure, the sociological approach that deals with institutional societal legitimacy and lastly a comparative institutional approach that deals with both institutional factors and firm competitiveness. On their part, Chebbi and Ammer (2022) noted that firms meet legislative and stakeholders demand in order to expand and protect their legality. Rezaee, (2016) noted that institutional theory focused on the normative influence on corporate decision-making processes that relate to societal well-being.

Neo institutional theoretical perspective consider the ESG practises from both formal and informal country-specific institutional lenses (Jain and Jamali, 2016). The informal institutional factors include national culture, norms, tradition, and values while the formal institutional factors include political, legal, economic, and financial systems. This theoretical paradigm has gained significant acceptance because of its ability to explain the complex nexus between CG and ESG practises and disclosure. The theoretical lens emphasized the importance of internal corporate governance mechanisms, institutional environment and corporate culture in corporate ESG performance (Rezaee, 2016).

Although, institutional theory failed to consider the potential tension in achieving the conflicting ESG dimensions in line with coercive, mimetic, or normative isomorphism and balancing between internal dynamics and external forces has become problematic. The theory has received widespread applications in accounting and sustainability literature in recent years (Del Gesso and Lodhi 2024; Nguyen et al., (2020). Frynas and Yamahaki (2016) argues that institutional theory has advantage over other theoretical lenses in the study of sustainability, CSR and ESG issues because it encompasses both societal institutional legitimacy and wider economic governance system of different institutional settings. Similarly, Nguyen et al., (2020) noted about the limited application of institutional theory in the review of gender diversity and CSR disclosure literature and call for more utilization of the theoretical lens.

3.2.8 Resource-based view

The resource-based view (RBV) theoretical perspective suggests firms engage in social and environmental issues for strategic reasons to gain resources to obtain economic benefits. Frynas and Yamahaki (2016) noted that CSR and sustainability investment can be justified from the from the perspective of social investment that give firms competitive advantage. Barney (2018) argues that RBV is inconsistent with shareholders supremacy as non-shareholders stakeholders are also important resources in gaining competitive advantage. RBV theory relates with the effective management of key organisational resources to achieve competitive advantage for the firm. Battisti et al., (2022) noted that knowledge-based view (KBV); knowledge from other stakeholders and Natural Resources Based View (NRBV) CSR related social and environmental initiatives have recently become an important resource that gives competitive advantage to the firm. Furthermore, Battisti et al., (2022) argues that utilisation of non-shareholder knowledge and proper management of social and environmental issues are among the most important factors in achieving competitive advantage.

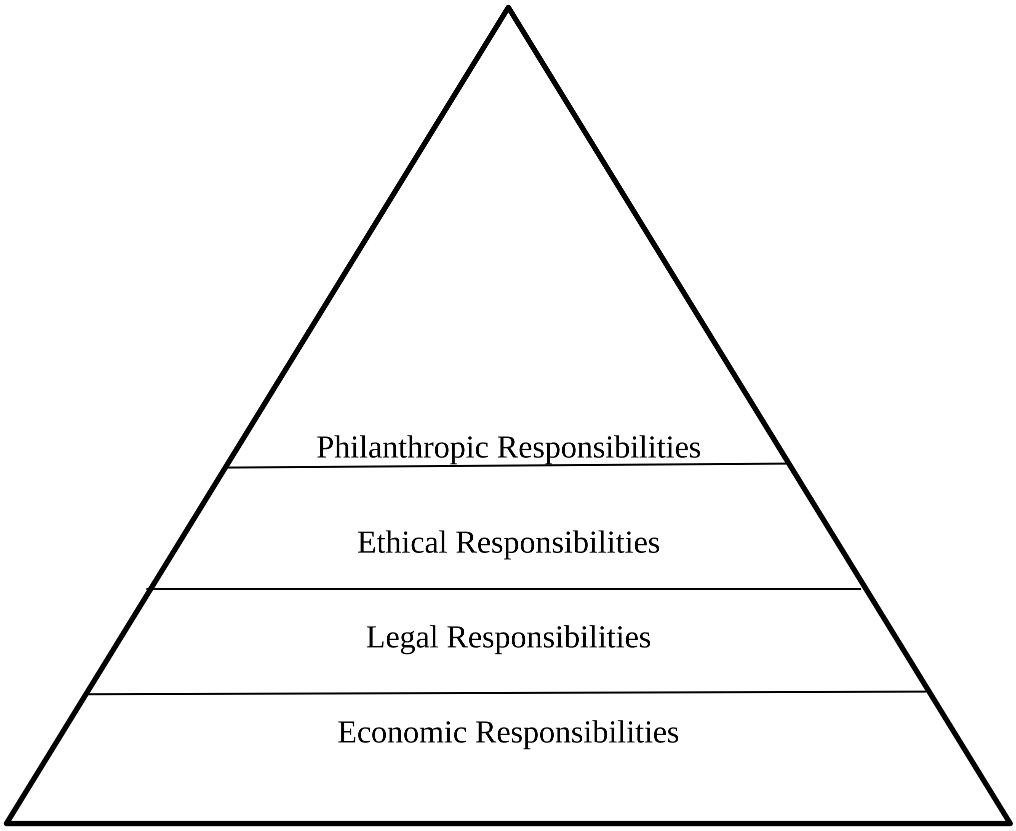
Due to inherent limitations of the various theoretical frameworks, the complex and multidimensional nature of CG and ESG practices nexus, this study adopts multiple theoretical perspectives to investigate the impact of corporate governance variables on ESG disclosure and assurance practices. By doing so, this study overcome the limitations of prior studies that failed to incorporate theories in their studies (Thomas et al., 2024) or adopt a single theoretical perspective (Shaukat et al., 2016). Scholars noted that it’s difficult to find a single theory that can provide comprehensive explanation of the motivation and determinant of ESG practices, consequently, there is the need to use multiple theories to complement one another (Hoque et al., 2013; Seow 2024, Baldini et al., 2018; Thomas et al., 2024; Nguyen et al., 2020).

Based on the above review of various theoretical frameworks and in line with the objectives of this study and argument in favor of theory triangulation, agency theory, stakeholders' theory legitimacy theory, institutional theory and resource dependence theory were adopted as the underpinning theories for this study. Studies such as Al Hadi *et al.*, (2016) encourage the adoption and integration of more than one theory in line with theory triangulation due to the limitations of the single theory in governance, performance and disclosure studies. Albitar et al., (2020) posit that combining both stakeholder and resource-dependence theories help in gaining better possible understanding of the nature of the ESG disclosure behaviour.

3.3 Carroll's CSR model and why this was not considered.

3.3.1 Carroll's CSR Pyramid model

CSR topic cannot be discussed without a critical evaluation of Caroll pyramid of CSR. It can be argued that Caroll pyramid is one of the most important CSR constructs in recent years. Visser (2006) argues that Caroll CSR model is the most well-known model of CSR. The model has received attention in CSR literature since it first publication in 1991 with studies such as Schwartz and Carroll (2003) describing it as the leading paradigm of CSR studies. According to Caroll (1991) CSR encompasses four layers depict in a pyramid, these layers include economic, legal, ethical, and philanthropic responsibilities.



Sources: Carroll (1991)

The economic responsibilities involve corporate organisations making profit and creating value for its shareholders. The legal responsibilities involve obeying the law, rules and regulation of the authorities. The ethical responsibilities dimension of the pyramid expects corporate organizations to be just, fair and avoid harm to individuals and society. Finally, the philanthropic responsibility involves discretionary activities undertake by corporate organisations to "give back to the society" and "be a good corporate citizen". Caroll (2016) further elucidate that the philanthropic dimension of the model is more discretionary than the other dimensions.

3.3.2 *Major criticism of the Carroll's Pyramid and why it does not underpin this study.*

Despite its popularity and importance in explaining the concept and dimensions of the CSR, the Carroll CSR model suffer from many shortcomings and weaknesses (Baden 2016; Carroll 1999; Carroll 2021; Schwartz and Carroll 2003). Firstly, the Carroll model suggest that economic responsibility is the primary construct while other dimensions are the secondary constructs in terms of importance in the CSR pyramid. The emphasis of Caroll pyramid on economic responsibility have been severally criticised in the literature including by the Caroll himself in his subsequent review of the model. The emphasis on economic responsibility is akin to the shareholder primacy as against the stakeholder primacy corporate purpose stand of the CSR. Baden (2016) posit that the major concern of the Carroll model is the emphasis on profit over and above ethical and legal responsibilities. Similarly, Chen et al., (2024) noted that stakeholder's approach is critical to CSR studies as against the shareholder approach which is the foundation of Caroll model. As argued by a stream of literature, stakeholder concept and theory are now becoming synonyms with the concept of CSR (Freeman 1984; Carroll 2021).

Secondly, another weakness of the Caroll model is the fact that it placed ethical responsibility as a secondary dimension in an organisation. This is a major concern as ethical responsibility should be embedded in corporate culture, norms, and value at all stratums of an organisation. This is important in achieving long term corporate sustainability and value.

Thirdly, the model is unable to adequately give a clear definition and explain what constitutes each level of the pyramid. For example, certain terms such as philanthropic and discretionary were used interchangeably without a clear meaning of the concepts. Moreover, as argued by Hockerts et al., (2008), the hierarchical nature of Caroll model signifies weak or no relationship between various domains of the model. In the same way, various studies have noted that the pyramid failed to recognise the overlapping nature of the various domains of the pyramid (Clackson 1991; Carroll 1993; Schwartz and Carroll 2003).

Similarly, another major criticism of the Carroll model is it overlooking of organizations footprints on natural environments. Environment is one of the pillars of ESG and encompasses information relating to energy usage, environmental innovation, GHG emissions, waste management and environmental risk among others. As argued by Dinh et al., (2023), the traditional emphasis of CSR is social issues while ESG/sustainability comprises more of environmental issues. A critical evaluation of CSR pyramid and its dimensions suggests less emphasis on environmental issues. Consistent with this, Gillan et al., (2021) and Zhao et al., (2024) noted that even though ESG directly and explicitly encompass governance, CSR only encompass some governance issues implicitly. However, Carroll pyramid is directly applicable to CSR practices which is narrow in scope compared to ESG practices.

Finally, although ESG and CSR have been used interchangeably in the literature, a stream of literature has highlighted the need for differentiation between the two concepts (Den Gesso and Lodhi 2024; Buchetti et al., 2024). For example, Gillan et al., (2021) noted that ESG is an extension of CSR while Tsang et al., (2023) argues that unlike ESG, the CSR concept does not encompass corporate governance dimension. On their part, Buchetti et al., (2024) argued that ESG is more defined, quantifiable and comprehensive metrics than CSR. Moreover, this stream of literature further suggests that ESG is a better and more comprehensive framework that encompass governance and environmental performance than CSR (Liu et al., 2023; Huang et al., 2021; Buchetti et al., 2024). Therefore, it can be argued that since Carroll model is on CSR, it has ignored important ESG component that make it not important for this study as this study relates to ESGD, ESGA and ESGA quality.

3.4 Chapter summary

This chapter discusses various theories related to the corporate governance and ESG practices nexus. The chapter examines different theoretical perspectives related to the corporate governance and sustainability practices, their strengths and weaknesses and how various theoretical perspectives complement one another in understanding the complex corporate governance literature. The theories examined include agency theory, legitimacy theory, stakeholder theory, resource dependency theory, institutional theory, signalling theory, resource-based view theory, new institutional theory and stewardship theory. The chapter also discusses the Carroll CSR model and why it does not underpin this study.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

Chapter four discusses the research philosophy, research approach, research strategy, method of data collection, sources of data, sampling technique and the research instrument to be used for measuring of corporate ESG disclosure, ESG assurance and ESG assurance quality. It also operationalizes the corporate governance variables and firm level characteristics to provide how independent variables will be measured and the technique of data analysis.

The remainder of the chapter is divided into seven (7) sections. Section 4.2 addresses the general philosophical stand of the research employed in this study while section 4.3 deals with the choice between inductive and deductive reasoning research approaches. Section 4.4 deals with the research strategy while Section 4.5 source of data, shows how the data will be collected and the selection of companies and sampling process. Section 4.6 deals with the definitions, measurements and operationalization of both the dependent and independent variables. Section 4.7 explains the statistical analysis that will be conducted to achieve the research objective specified in chapter 1 and to test the hypotheses.

4.2 Research Philosophy

Research philosophy is an important component of research methodology, it is a process that deals with philosophical assumptions of a particular research or study, research philosophy affects how a particular study will be conducted and undertaken. Saunders et al., (2015) refer the term research philosophy as a certain set of assumptions and beliefs regarding knowledge, its production and development. It has been describe using different terms and concepts such philosophical worldview by (Creswell, 2014); philosophical paradigms by (Lincoln et al., 2011; Mertens, 2010); research methodologies by (Neuman, 2009) or by epistemologies and ontologies by (Crotty, 1998). Research philosophy has three major areas of Ontology, epistemology and axiology. This section involves selecting between research philosophies of positivism and interpretivism. According to Saunders and Lewis (2018) positivism focus on studying observable social realities such as organisations and managers to produce law-like generalisations. They argued that positivism promises unambiguous and accurate knowledge using methods designed to yield pure data and facts not influenced by human bias or interpretation. Consequently, the positivist approach is normally used when testing statistical relationships amongst variables (Singmann and Klauer, 2011). Positivism emphasis is usually on quantitative and quantifiable data. Interpretivism on the other hand relates to the study of social phenomena in their natural environment (Saunders and Lewis, 2018). According to Ragab and Arisha (2018) the researcher in interpretivism is part of and interacts with phenomena being researched upon and therefore has no different identity with the phenomenon being studied. On the other hand, positivism depends on quantifiable observations leading to the statistical analyses with the researcher being independent of the research.

To achieve the objective of this study in examining the impact of corporate governance variables on the extent of ESG disclosure, ESG assurance and ESG assurance quality and in line with previous literature, this study adopt positivism as a research philosophy to examine the nexus between CG variables and ESG disclosure and assurance practices.

4.3 Research Approach

Two major approaches to research are inductive and deductive reasoning. They are approaches to data analysis that offer a theoretical orientation to practice. Inductive reasoning is a process that starts from the individual instances or observations in order to draw a general conclusion. Deductive reasoning on the other hand involves moving from the general to the particular (Woiceshyn and Daellenbach, 2018). It usually starts with a theory, then hypotheses development from the theory, moving to hypotheses testing, and thereafter revising the theory again.

Maylor et al., (2017) indicate that qualitative approach usually is associated with inductive reasoning that generate data for theory building while deductive reasoning is in line with quantitative approach that generate data with the aim of testing theory through hypotheses. This study is based on quantitative research approach in line with deductive reasoning in order to test the hypotheses already developed to examine the relationship between CG variables and ESGD, ESGA and ESGAQ in emerging economies.

4.4 Research Strategy

Rahi (2017) defined research strategy as the process of collecting and interpreting of data with a clear objective. Saunders et al., (2015) opined that there are basically eight research strategies that includes survey, experiment, archival research, case study, ethnography, action research, grounded theory and finally narrative inquiry. In the same vein, Maylor et al., (2017) suggested that surveys, experiment and secondary data are related to quantitative research while remote data collection, observation and interviews are associated to qualitative research. Easterby-Smith et al., (2012) opined that research strategy is a general plan on how to answer the research question that has been set earlier by the researcher. This study is based on experimental research strategy as is the strategy that involve cause-effect relationship and therefore more suitable strategy to examine the relationship between CG and voluntary ESG disclosure and assurance practices. Maylor et al., (2017) defined experiment as "a structured process for testing how varying one or more inputs affects one or more outcomes". He argued that experiment is the best option for testing cause-and-effect relationship thus its considered suitable for the current study.

4.5 Data and sample collection

To investigate the relationship between corporate governance variables and ESGD, ESGA and ESGAQ. Bloomberg database, annual reports and ESG assurance reports were used to collect data for listed energy industry firms. Bloomberg was used because it provides one of the most widely used ESG disclosure rating and ESG disclosure coverage in accounting literature (Ioannou and Serafeim, 2018). For a company to be considered in the sample, it must have a complete data set for the entire period of the study. The final sample comprises (125) companies from five BRICS member countries with a total of 1750 firm-years observations. The final sample and country distribution is reported in Table 1. In line with the study of Durnev and Kim (2005), a minimum of 11 firms per country was required, no country has less than 20 firms. Both the corporate governance variables, control variables and ESG disclosure data were collected from Bloomberg while ownership structure, ESGA and ESGAQ data were collected from the annual report of the companies and the company websites. Hypotheses were tested using a fourteen-year panel data from 2010 to 2023, the period of 2010 to 2023 was selected because that period witness substantial growth in ESG disclosure and assurance practices and cover the most recent period for data availability. The justification for selecting the study period of 2010–2023 is as follows: Firstly, the study period begins in 2010 because of the significant rise of sustainability issues during the period. This is because of institutional and regulatory reforms in BRICS member countries during the period, such as Shanghai Stock Exchange social and environmental disclosure guidelines 2007 and State Council CSR Guidelines 2008 in China, India's Ministry of Corporate Affairs CSR Guidelines 2009, Brazilian Corporate Sustainability and the Kings III Code 2009. These policy pronouncements and changes herald substantial growth in ESG practices in these countries. Secondly, even though some firms had data on the Bloomberg database before 2010, most of the governance and firm-level characteristics data were not available before 2010. Thirdly, the period 2023 provide the most recent dataset available for the study.

Bloomberg ESG data was used to measure ESG disclosure because researchers such as Grewal et al. (2018) posit that "Bloomberg calculates an ESG Disclosure Score to quantify a company's transparency in reporting ESG information" and Bloomberg ESG attract the most attention from investors (Eccles et al., 2011). Moreover, Wang *et al.*, (2022) noted that researchers and investors relies on Bloomberg database because it provides accurate, reliable and verified data on firms and market.

Table 4.1: Sample of the study

	Number of sample companies
Brasil	26
Russia	21
India	33
China	25
South Africa	20
Total	**125**

4.6 Measurement of the Variables

ESG disclosure, ESG assurance and ESG assurance quality are the dependent variables for this study. The ESG disclosure data were extracted from Bloomberg database while ESGA and ESGAQ data were extracted from the sustainability assurance reports. For independent variables data relating to diversity of the board, board size, board composition, board diligence, audit committee composition, audit committee meetings, firm size, firm age, liquidity, gearing and profitability were also extracted from the Bloomberg database. While data relating to ownership structure such as institutional share ownership, managerial share ownership, block holder ownership were extracted from the annual reports and accounts of the sampled energy firms.

4.6.1 Measurement of the dependent variable

The dependent variables are ESGD, ESGA and ESGAQ. ESG disclosure was measured using Bloomberg database ESG scores (Gavana et al., 2024; Alkhawaja et al., 2023). ESG assurance is dummy variable measured 1 if the company obtained third-party assurance engagement and 0 otherwise (Martínez-Ferrero and García-Sánchez, 2017). ESGAQ is measured using the content of the assurance report and in line with the evaluation framework developed by O'Dwyer and Owen (2005) and improved on by Martínez-Ferrero et al**,** (2018). This study measured ESG assurance quality in line with the assurance quality index utilised by Martínez-Ferrero et al**,** (2018). The 12 data point items have been used extensively in the empirical literature and have a maximum score 23 which are in line with GRI and AccountAbility assurance engagement guidelines.

4.6.2 Measurement of independent variables

Corporate governance variables as key determinants of corporate policy and outcomes are the independent variables of this study. A total of 12 independent variables across board, board committee and shareholding structure were utilised. These CG variables are board size measured as the total number of directors on the board, board composition measured as the proportion of independent directors on the board, board gender diversity measured as the proportion of female directors on the board, board meetings measured as the number of board meetings in a given financial year. Other independent variables include audit committee characteristics and ownership structure variables such as institutional ownership measured as a proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year, foreign ownership measured as percentage of shares held by foreigners, block holder ownership measured as a proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year, managerial ownership measured as a proportion of ordinary shares held by members of the board and the management team (Managers, Executive Directors and other board members) in relation to total ordinary share equity at the end of the financial year, audit committee meetings measured as the total number of meetings held by a company's audit committee over a full financial year, audit committee independence measured as proportion of the total number of Independent Non-Executive Directors to the total number of audit committee members at the end of a financial year, audit committee size measured as the total number of members in the audit committee and lastly audit committee accounting and financial expertise measured as the total number of audit committee members with accounting and financial expertise over the year.

4.6.3 Measurement of control variables.

This study control for firm-level and board-level characteristics that may affect the extent of ESG disclosure and assurance in line with previous studies (Gull et al., 2022; Benlemlih et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). These variables include firm size, profitability, liquidity, gearing, audit quality, Tobin's Q, ESG committee, audit quality and ESG based compensation. As Iliev and Roth (2023) noted, firm size affects the extent of ESG reporting as larger firms are associated with more stakeholder pressure to improve ESG performance while Xue et al., (2023) argues that larger firms have greater incentive to disclose ESG information to gain legitimacy from various stakeholders. Consistent with this, extant literature and empirical studies have shown that larger firms are associated with agency problem (Jensen and Mi 1976); greater visibility and operational impact (Hummel et al., 2019; Iliev and Roth 2023; Sarhan and Al-najjar 2022); more analyst following (García-Meca et al., 2024); more media coverage and scrutiny (García-Meca et al., 2024); more public scrutiny and pressure (Hummel et al., 2019; Issa and Zaid 2024) and better resources to engage in ESG activities and disclosure (Drempetic et al., 2020; Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024;

Wang et al., 2024). Likewise, Issa and Zaid (2024) noted that larger firms face more societal pressure regarding environmental concerns and disclosure.

Prior studies in the literature have shown firm size has been measured in a variety of ways in accounting, finance, and management literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024). For example, Gull et al., (2022), Emma et al., (2024) and Duggal et al., (2024) measured FS using natural log of total sales, Boukattaya et al., 2024 and Xue et al., (2023) utilised natural log of market capitalization as a measure of firm size, while Benlemlih et al., (2022); Iliev and Roth (2023) and Wang et al., (2024) measured FS using log of total assets. Other measures of firm size in accounting and finance literature include number of employees (Krasodomska et al., 2023; Khalil et al., 2024; Morán-Muñoz et al., 2024; Chen and Xie 2022); enterprise value (Dang et al., 2019); total sales (Gull et al., 2023b; Liao et al., 2018; Emma et al., 2024 and Duggal et al., 2024); total profit (Mubeen et al., 2021) and net assets (Morán-Muñoz et al., 2024). In line with prior studies, this study measure firm size using log of total assets. This is consistent with the studies of (Benlemlih et al., 2022; Iliev and Roth 2023; Wang et al., 2024; Lyu et al., 2024) that measure firm size using log of total assets. Measurement of firm size has been a subject of debate in accounting and finance literature. Dang et al., (2018) noted that different proxies provide different implications, and some measures are more relevant than others. Dang et al., (2018) further contend that empirical results are sensitive to different measures of firm size. Moreover, Vijh and Yang (2013) provides evidence of sensitivity of different firm size measures to empirical results in accounting and finance literature.

Theoretical and empirical justification for using total asset as measure of firm size.

As theorical and empirical evidence in the literature suggest that availability of resources affect the extent of ESG/CSR disclosure and assurance practices (Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024), this study utilised log of total asset as a measure of firm size for the following reasons:

Unlike market capitalisation and total sales that measure capital market condition and product market penetration respectively, total assets measure firm resources that have a direct link with ESG practices, disclosure and assurance as different measures capture different aspect of FS. Similarly, a critical evaluation of other measures shows the measures are flawed and insufficient. For example, number of employees as a measure of firm size have been criticised for not capturing part time employees despite being part of the critical human resources (Dang et al., 2018). Consistent with this, the study of Dang et al., (2018) suggest that the use of market capitalization as a measure of FS may be mechanically correlated with the performance measure.

Secondly, log of total assets is the most employed measure of firm size in accounting and finance literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Wang et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Dang et al., (2018) in a study of empirical papers in accounting and finance literature over a period of 20 years found over 50 percent of the studies utilised log of total assets as a measure of FS because of its ability to measure resources base of the entity including both tangible and intangible resources. Therefore, the use of log of total assets will enhance comparability and generalisability because of the widespread use of total asset as a measure of FS.

Thirdly, total assets being the most utilised measure of firm size allow for consistency and comparison with prior empirical studies. This is consistent with the argument of (Gull et al., 2022; Nadeem et al., 2017; Haider and Kokubu 2015; and Martínez-Ferrero and García-Sánchez 2017).

Other control variables used in this study include profitability measured as return on asset as firms with higher profitability tend to have higher level of ESG practices and disclosure (Chen et al., 2020; Benlemlih et al., 2022; García-Meca et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Similarly, higher levels of debt are associated with higher oversight and monitoring by the lenders thus firms with higher leverage are likely to have greater level of ESG initiatives and disclosure (Dyck et al., 2019; Benlemlih et al., 2022; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Thus, this study measure gearing as the ratio of total debt to total asset. This study control for audit quality using dummy variable 1 if the sampled firms are audited by the Big4 firms and 0 otherwise (Wang et al., 2024; Liao et al., 2018). This study includes profitability, gearing, and liquidity as control variables to capture the financial health and resources availability of the sampled firms to engage in ESG disclosure and assurance. Other control variables include board ESG committee which indicate commitment to ESG transparency (García-Meca et al., 2024); Tobins Q to capture firm market value (Cheng et al., 2024) and ESG linked compensation (Adu et al., 2023).

The table below show each of the variables to be used in this study and their respective measurements.

Table 4.2: Variables and their measurements

Variable Name	**Variable Acronym/Code**	**Variable Measurement/Definition**
Board Size	*BoardS*	Total number of the members of the Board of Directors.
Board gender diversity	*BoDv*	Ratio of female members to the total number of the board members at the end of the financial year.
Board Composition	*BoCo*	Ratio of the total number of Independent Non-Executive Directors to the total number of directors on the board at the end of a financial year.
Board Meetings	*BM*	The total number of meetings held by a company’s board of directors over a full financial year.

Institutional Share Ownership	*InstOwn*	A proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year.
Foreign Ownership	*FO*	Percentage of shares held by foreigners
Block holder Share Ownership	*BloOwn*	A proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year.
Managerial Share Ownership	*ManOwn*	A proportion of ordinary shares held by members of the board and the management team (Managers, Executive Directors and other board members) in relation to total ordinary share equity at the end of the financial year.
Audit Committee Meetings	*ACM*	The total number of meetings held by a company's audit committee over a full financial year.
Audit Committee Composition	*ACCom*	proportion of the total number of Independent Non-Executive Directors to the total number of audit committee members at the end of a financial year.
Audit committee size	*ACS*	Total number of members in the committee.
Accounting and financial expert on AC	*ACAF*	The total number of audit committee members with accounting and financial expertise over the year.
Firm Size	*FS*	Natural logarithm of total assets of the company at the end of a financial year.
Liquidity	*Liq*	A ratio of company's current assets in relation to its to current liabilities at the end of the financial year.
Board meetings	*BM*	Total number of meetings by the board in the financial year.
Profitability	*Prof*	A proportion of net profit after tax to total shareholders' equity at the end of the financial year.
Gearing	*Gearing*	Proportion of total debt to total assets at the end of the financial year.
Audit Quality	*AQ*	A dummy variable equals to 1 if the firm is audited by a Big 4 audit firm and 0 otherwise
ESG/CSR/Sustainability committee	*ESGC*	A dummy variable equals to 1 for the presence of ESG/CSR/sustainability

		committee of the board and 0 otherwise.
ESG Linked Compensation for the board	*ESGLC*	A dummy variable 1 if there is ESG linked compensation for the board and 0 otherwise

4.7 Method of Data Analysis

This study applied different statistical techniques and tools in order to answer the research questions and reach the overall objectives of the study. Descriptive analysis was used to investigate the behavior of voluntary ESG disclosure and assurance and explore the extent of the changes of voluntary ESG disclosure of the sampled listed companies over a period of 14 years from 2010 to 2023. OLS and probit regression methods were used to test the relationship between dependent variables and the explanatory variables including industry, country, and year fixed effects. Different regression analysis techniques were used in line with the measurement and operationalization of the dependent variable. Furthermore, correlation matrix was used to test the association among the variables and to check for multicollinearity, this was further confirmed using Variance Inflation Factor. Lastly, various methods were used to test for possible endogeneity and validate our findings such as 2SLS regression, one-year and two-year lagged values of the variables. These methods have been used by prior accounting, corporate governance and sustainability literature (Gull et al., 2024; Gull et al., 2022; Shahab et al., 2022)

4.8 Limitations of Bloomberg database.

Bloomberg database is the most widely used source of ESG and firm-level data in corporate governance and sustainability accounting literature (Culot et al., 2023; Gull et al., 2023). The database has been utilized for data collection by prior studies especially firm-level characteristics, corporate governance and ESG data. However, Bloomberg database has been associated with certain limitations. For instance, Bloomberg database has been associated with bias and errors (Culot et al., 2023), inclusion of only publicly disclosed data (Li et al., 2024;

Ali et al., 2008; Culot et al., 2023) and researchers have argued that the database may affect the conclusion (Ali et al., 2008; Culot et al., 2023).

Although Bloomberg database ESG disclosure scores have been widely used in accounting and finance literature. The database is without limitations that researchers, investors and analysts should consider. Firstly, the methodology used in aggregating ESG has been questioned and criticised in the literature. For example, Yu and Luu (2021) noted that Bloomberg higher ESG disclosure score means more ESG data points being published irrespective of whether the disclosure is in relation to positive or negative ESG item. Similarly, the aggregation of data from different countries with different regulation regarding ESG disclosure has been criticised in the literature (Kimbrough et al., 2022). For instance, in some jurisdictions ESG reporting and disclosure is mandatory while in other jurisdictions the reporting practice is voluntary, thus affecting the ESG disclosure level across different countries.

Secondly, the extant literature suggests that ESG reporting and disclosure being more qualitative than quantitative vary across different firms, countries and industries (Kimbrough et al., 2022). However, Bloomberg ESG ratings are standardised such that they are failed to reflect different institutional, cultural, and contextual differences across different firms, countries and industries. Kimbrough et al., (2022) argues that Bloomberg being a third party and a secondary source of ESG disclosure is less reliable compared to the firms actual ESG disclosure report.

Thirdly, the reliance on self-reported financial and ESG data by the Bloomberg database can lead to inconsistencies and inaccuracies in ESG metrics. This methodological approach has been criticised in the literature. Moreover, the database usually provides services to largest firms with concerns about small and medium enterprises related to the cost of accessing the database.

Moreover, Bloomberg database has been associated with ESG ratings disagreement (Kimbrough et al., 2022: Christensen et al., 2022). Christensen et al., (2022) show that rater's disagreement is a source of concern in ESG disclosure literature while Kimbrough et al., (2022) call for management-provided ESG disclosure to reduce disagreement. Zhou et al., (2023) noted that this ESG rating divergence is as a result of different measurements, indicator scope and weight allocation by various rating agencies for the same firm.

Additionally, like other financial accounting data, Bloomberg database also suffers from the limitations of historical data. Consistent with this, Li et al., (2024) noted that one of the major limitations of Bloomberg ESG score is the reliance on the disclosed ESG data by the firm, which is historical.

Finally, there are controversies and complaints about the database by academics and researchers. The Bloomberg database has been accused of lack of transparency in enforcing access limit with no clear or explicit conceptualization of what constitutes download limit. However, despite the above criticism and limitations, Bloomberg database has remained the major source of ESG, corporate governance and firm-level data in accounting and finance literature. Chen and Xie (2022) noted that Bloomberg database has been consistent in providing ESG data globally for a long time that enhance comparability. Prior studies have continued to utilise the database for recent and up-to-date ESG data (He et al., 2022; Gull et al., 2022; Chen and Xie 2022; Gull et al., 2024).

4.9 Ethical considerations

Conducting research that involves data collection and analysis have been associated with ethical concerns (Saunders et al., 2023; Walliman 2021). Keys and Hendricks (1984) describe ethical consideration in accounting research as a set of moral principles that guide and govern the conduct of accounting research. Keys and Hendricks (1984) further argued that although all accounting research needs to be guided by certain moral and ethical standards, there is the need for high ethical standards in attitudinal and behavioural accounting research.

Consistent with this argument, the level of ethical concerns varies across different methodological paradigms and approaches. While attitudinal and behavioural accounting research requires high ethical standards, the level of ethical requirements varies with the methodological approach of the study in focus.

As this is quantitative study that has been classified as low risk, the study does not require ethical approval. Despite the low ethical concern in quantitative research, Zyphur and Pierides (2017) noted about the need for methodological consistency, objectivity, and rigour in quantitative studies. Notwithstanding, this study applied and received ethical clearance from the university ethics committee for the purpose of conducting this research.

CHAPTER FIVE: CORPORATE GOVERNANCE AND ESG DISCLOSURE

5.1 Introduction

The concepts of corporate governance, accountability, sustainability, transparency, and disclosure have become a topical issue in accounting and finance literature in recent years, corporate organisations are now expected to play leading roles in achieving a net zero economy. The increasing demand for more ESG/sustainability disclosure can be attributed to the growing interest from both local and international investors and the financial risks and opportunities it has provided (Wasiuzzaman and Mohammed, 2021). Guo *et al.,* (2022) noted that the growing stakeholder interest regarding corporate transparency and disclosure stems from the level of societal awareness and pressure. Deloitte (2019) posits that for stakeholders to make informed decisions and evaluate how companies respond to risks and opportunities, there is increasing demand for more "transparent, comparable and reliable information on companies' environmental, social, and governance (ESG) risks and performance and this demand have never been greater—and the corporate community is taking notice."

Tao *et al.,* (2022) noted that the board of directors is important in corporate strategies and outcomes and as the boards of directors are primarily responsible for both financial and non-financial disclosure policies and strategies, ESG disclosure is a function of the characteristics of the board (Michelon and Parbonetti, 2012). Previous studies have examined the impact of firm-level characteristics such as size, liquidity, age, industry, leverage, and financial performance on ESG disclosure (e.g Ananzeh *et al.,* 2022; Wang *et al.,* 2013; Alshbili and Elamer 2020; Oliveira *et al.*, 2019) while neglecting the composition, structure or diversity of the board. Eccles *et al.,* (2020) posit that lack of diversity of the board hinders sustainability reporting and performance. Zamil *et al.,* (2021) noted that company-level characteristics and ESG disclosure nexus have been well investigated in the literature while corporate governance and board attributes received little or no attention and therefore call for more studies on board-ESG disclosure nexus.

The scanty empirical studies in the literature that have explored the relationship between corporate governance mechanisms and the extent of ESG/sustainability disclosure are mostly in developed countries such as (Liao *et al.,* 2015; Louie *et al.,* 2019; Manita *et al.,* 2017; Aburaya, 2012; Ntim, *et al.,* 2017; Khaireddine *et al.*, 2020) with only few studies that examine the relationship between corporate board and ESG disclosure level in the context of emerging economies (Husted and Sousa-Filho 2019; Arayssi *et al.*, 2020; Alshbili, and Elamer, 2020). Similarly, only limited studies explored the impact of corporate board characteristics and structure on ESG disclosure in the energy industry despite the social and environmental costs associated with energy and exploration activities and its impact on the environment. According to Sankara *et al.,* (2016) and Chatzivgeri *et al.*, (2019) more studies of the financial accounting and reporting practices of energy and energy industries are needed; including disclosure of oil and gas reserves and voluntary disclosures of reserves or risk among others (Baudot *et al.,* 2020). Investigating the impact of corporate board characteristics on the ESG disclosure in the energy industry within the context of emerging economies will enrich the literature, shed more light, provide more insight, and possibly provide an outcome that differs from the mainstream literature.

A review of the extant literature shows that many factors contribute to the quantity and quality of ESG disclosure. As noted earlier, there is significant empirical evidence in the literature that document the role of firm-level characteristics on the extent of sustainability disclosure, however, studies on the CG-ESG disclosure link in the energy sector have not been properly harnessed especially in emerging economies context. Therefore, this study attempts to fill the gap in the literature by examining the impact of corporate governance on the level of ESG disclosure in the energy industry. The series of studies on the CG-ESG nexus document mixed findings. Specifically, the study of Arayssi *et al.,* (2019) examine the impact of board composition on ESG disclosure of six (6) GCC countries. The study found that board independence and board gender diversity have a statistically positive impact on ESG disclosure quality. Also, the work of Husted and Sousa-Filho (2019) examines the impact of board structure on ESG disclosure of four Latin American countries using four-year panel data. The study found a positive relationship between board size and board independence with the extent ESG disclosure while board gender diversity and CEO duality are found to have a negative relationship with ESG disclosure. however, In America, Manita *et al.,* (2018) examine the impact of board gender diversity on ESG disclosure using a sample of 379 firms from the Standard & Poor's 500 Index. The study reported no significant relationship between board gender diversity and ESG disclosure in line with the critical mass theory. It is clear from the empirical evidence that the findings are mixed, and the current study seeks to extend on the recent and previous literature because of the inconsistent findings. Similarly, it is also obvious from the studies above that even though a strand of studies examines the board characteristics-sustainability disclosure nexus (e.g Arayssi, *et al*., 2019; Manita *et al*., 2018; Disli *et al*., 2022), there is a need for studies that seek to examine the relationship between corporate governance mechanism and ESG disclosure in the energy sector.

Empirically, the study examines a panel of 1750 firm-year observations from 5 BRICS member countries over a period of 14 years from 2010 and 2023. Specifically, the study examines the impact of board size, board composition, board diligence, and board gender diversity, foreign ownership, institutional ownership, managerial ownership, block holder ownership, audit committee meetings, audit committee size on the extent of ESG disclosure. Following previous studies on ESG/sustainability disclosure such as Yu *et al.,* (2018), the ESG disclosure score provided by Bloomberg was employed to measure the extent of ESG disclosure because of the quality and consistency of Bloomberg ESG score. The study finds a positive and statistically significant relationship between board gender diversity, board composition, board diligence, foreign ownership, audit committee accounting and finance expertise, managerial ownership, audit committee meetings and the extent of ESG disclosure.

Consequently, this study extends and contributes to the existing literature in a number of ways. Firstly, the study contributes to the literature by adopting a multi-theoretical framework approach to analyse the empirical findings of the relationship between corporate governance variables and ESG disclosure in the energy industry using multiple theories. It has been noted that existing studies on corporate governance usually adopt agency theory despite the importance of using theory triangulation (Filatotchev and Boyd, 2009; Chalevas, 2011; Zattoni *et al.,* 2013). Zattoni *et al.,* (2013) opined that the mixed findings obtained by corporate governance and disclosure studies are a result of adopting only agency theory or one of the "trinity theories"[1]. Nguyen *et al.,* (2020) noted that a multi-theoretical perspective is necessary in understanding corporate governance and corporate outcomes. Therefore, this study contributes to the literature by employing a multi-theoretical perspective in examining and interpreting the empirical findings of the relationship between corporate governance and the level of ESG disclosure.

Secondly, as noted earlier, there is a dearth of studies on corporate governance and ESG disclosure in emerging markets especially in the context of multi-country research settings (Elmagrhi *et al.,* 2016; Md Zaini *et al.,* 2018). Tsang *et al.,* (2023) noted that more than 80% of the empirical studies conducted on CSR are in developed countries context and therefore calls for more empirical studies in emerging economies. This multi-country study of Brazil, Russia, India, China, and South Africa within the context of the energy industry will shed more

[1] The corporate governance literature considers and refers agency, stakeholder and legitimacy theories as trinity theories. Lu et al., (2022) noted that agency, stakeholder and legitimacy theories are the most frequently used theories in board structures, characteristics and diversity literature.

light and provide new insights into the relationship between corporate governance and ESG disclosure. Thirdly, the study focused on BRICS as a representation of emerging countries is apt and timely considering the importance of emerging countries to the global economy and the role, they are expected to play in achieving net zero economy. According to Lessambo (2013) BRICS has become an important force in the conduct of world business and international trade. According to World Bank data of 2019, BRICS account for 41% of the global population with 3.14 billion people, 24% of global GDP, and 16% of world trade. Therefore, this study heed to a call for more empirical studies on corporate governance and corporate outcomes such as ESG disclosure in emerging economies that are based on multi-country setting (Lu *et al.*, 2022).

Finally, the study contributes to the extant literature by examining the impact of corporate governance on the extent of ESG disclosure in an emerging market setting characterised by low investor protection, weak regulation, and low investor confidence. The empirical findings enhance our understanding of the role of corporate governance and the propensity to disclose ESG information. Therefore, the findings should be useful for policy makers in emerging economies as they have distinct regulations, corporate, and national characteristics with developed countries.

The remainder of the chapter is organized as follows. Section 5.2 reviews relevant literature of prior studies and hypotheses development on the relationship between corporate governance and ESG disclosure. Section 5.3 discusses the sample, methodology, and variables of the study. The empirical results of the study and robustness tests are presented in Section 5.4. Finally, summary, conclusion, policy implications and frontiers for future studies are in Section 5.5.

5.2 Related Literature, Theoretical framework, and Hypothesis Development

5.*2.1 Board Size and ESG Disclosure*

From the stakeholder theoretical perspective, larger governing boards may have the advantage of representing the various interest of a wider group of key players and actors interested in the activities of the company (Freeman and Reed, 1983; Freeman, 1984). In the same vein, resource dependence theory suggests that larger corporate boards are associated with members with diverse backgrounds, knowledge, skills, and expertise, as well as greater political and economic connections needed to access critical resources from the external environment, such as assets, capital, markets, materials, contacts, and contracts (Pfeffer and Salancik, 1978; Reverte, 2009). However, empirical evidence in the literature has shown that larger boards are also associated with slow decision-making, lack of coordination, and poor communication (Jizi et al., 2014; Nicolo et al., 2023; Nguyen et al., 2021). Similarly, a strand of literature has shown that energy industries are associated with GHG emissions, carbon dioxide emissions, pollution, depletion of natural resources, and climate change (Shahbaz et al., 2020; Nicolo et al., 2023; Nguyen et al., 2021) thus the need to balance their financial and non-financial goals to serve the interest of various stakeholders such as employees, regulators, policymakers, society, and the environment.

Wang & Hussainey (2013) defined board size as the total number of executive and non-executive members on the board. Prior empirical studies show mixed findings regarding the relationship between board size and the extent of ESG disclosure. Some studies in corporate governance and accounting literature find a positive relationship between the size of the board and voluntary ESG disclosure (Allegrini and Greco, 2013; Samaha *et al.*, 2012; Ntim *et al.*, 2012; Michelon & Parbonetti, 2012; Ntim & Soobaroyen, 2013; Khaireddine *et al.*, 2020; Nguyen et al., 2021;) while some prior studies indicate a negative relationship between board size and the extent of voluntary ESG disclosure (Alzead, 2017; Ntim, *et al.*, 2017).

Empirically, Nguyen et al., (2021) in a study of heavily polluting firms in China document a positive association between board size and environmental performance. The findings of Nicolo et al., (2023) also show a positive and statistically significant relationship between BS and ESG disclosure. Samaha *et al.,* (2015) conducted a meta-analysis of a sample of 64 empirical studies in order to understand possible determinants of the relationship between corporate board characteristics, audit committee characteristics and the extent of sustainability disclosure. The findings of the study recognised the existence of a positive and significant relationship between board size and the extent of voluntary ESG disclosure. On the other hand, Alnabsha, *et al.,* (2017) find a negative and statistically significant relationship between board size and the extent of voluntary disclosure. Based on the stakeholders and resource dependence theoretical perspective and the vague findings from previous empirical studies that show a positive and negative relationship between board size and the ESG disclosure as discussed above and in line with theoretical evidence that small boards are more effective in controlling and monitoring the activities of the board: The first hypothesis to be tested is formulated as follows:

H_1: There is a negative relationship between board size and ESG disclosure.

5.2.2 Board gender diversity and ESG Disclosure

Prior studies on the impact of corporate governance variables on ESG disclosure indicate that corporate board diversity considerably enhances leadership efficiency and effectiveness (Ntim and Soobaroyen, 2013; Nicolo et al., 2023; Nguyen et al., 2021). Ntim *et al.,* (2017) Posit that board diversity is an emerging and relatively less studied area in corporate governance and accounting literature that relates to the impact of diversity or lack of it on the board. Diversity involves both observable and non-visible attributes such as gender, ethnicity, age, religion, experience, professional qualification, and educational background. Extant literature shows that women are culturally and socially different from men (Hofstede *et al.,* 2010), improve governance quality and reduce misconduct and malpractice (Gull *et al.,* 2023) and that BGD can significantly enhance board monitoring role (Liao *et al.*, 2016).

Ntim, *et al.,* (2013) suggest that a board of directors populated with members with diverse skills, experience, backgrounds, and knowledge are more capable of enhancing the level of ESG disclosure. From the resource dependence theory perspective, a diverse board may be useful in linking corporate organisations to their external environment, including key stakeholders that may be useful in obtaining critical resources. Similarly, the appointment of female directors has been considered as a tool by corporate organizations to improve their ESG disclosure and subsequently gain legitimacy in line with legitimacy theoretical perspective (Nguyen et al., 2020). Moreover, various corporate governance codes recommended that to ensure the effective discharge of its responsibilities, the board and its committees should have an 'appropriate balance of skills and diversity (including experience and gender) without compromising competence, independence and integrity'.

Even though prior studies in the literature looks at the impact of board gender diversity on ESG disclosure, the energy industry was overlooked in the literature despite the social and environmental impact of the industry. Ntim *et al.,* (2017) examine corporate governance and disclosure in Higher Education Institutions (HEIs) context; Jizi et al., (2014) investigate the impact of governance variables on CSR in the context of the US banking industry while Boulouta (2013) using a sample of *S&P500* firms mostly from IT, tech, industrial and health sectors document a positive association between BGD and corporate social performance.

Empirically, Eng and Mak (2003); Ntim and Soobaroyen (2013); Ntim *et al.*, 2017; Elmagrhi *et al.,* (2016) and Wang and Hussainey (2013) found a positive association between board diversity and the extent of voluntary ESG disclosure while Boulouta (2013) and Husted and

Sousa-Filho (2019) document negative relationship between BGD and ESG disclosure, thus this study hypothesises the 2nd hypothesis as follows:

H_2: There is a positive relationship between board gender diversity and the level of ESG disclosure.

5.*2.3 Board Composition and ESG Disclosure*

Liao et al., (2015) argue that the existence of Independent Non-Executive Directors (INEDs) on the board is associated with better monitoring and control of the activities of the board and management. The independence of the board is considered a key attribute of good corporate governance behaviour as INEDs are found to enhance board efficiency (Ahmed and Atif, 2021) and are critical to board independence (Gull *et al.*, 2023). Similarly, Croci et al., (2023) contend that by having no family or financial ties with the management, INEDs are in a better position to challenge, advise and monitor management decisions.

Ntim and Soobaroyen (2013) postulate that independent non-executive directors tend to bring greater diversity to the boards, including knowledge, expertise, skills, and business networks and opportunities. Stakeholder theory highlights the importance of having independent non-executive directors in the composition of the board in order to protect the interest of the diverse stakeholder groups. In line with stakeholder theory, Liao et al., (2018) also posit that firms with higher percentages of INEDs are more sensitive to stakeholders' and societal demands and concerns. Similarly, Ntim *et al.*, (2017) argue that Independent Non-Executive Directors are mindful of the public interest and expectations of the society, therefore appear to support initiatives that will enhance the level of financial and non-financial voluntary reporting and disclosure. It has been suggested that decreasing the proportion of executive directors can enhance non-financial disclosure to various stakeholder groups (Fama & Jensen, 1983) thus improving the board's effectiveness and efficiency. Theoretically, stakeholder theory suggests that as corporate organisations have various stakeholders, ESG disclosure becomes necessary. Tsang et al., (2023) noted that ESG disclosure is in response to the demands of various stakeholders other than shareholders. Due to the social and environmental impact of energy industry activities, the industry is under tremendous pressure from various stakeholders such as environmental activists, policymakers, and society to report their non-financial performance.

Some prior studies find a positive and significant association between the composition of the board and the level of ESG disclosure (Samaha, 2012; Elmagrhi *et al.,* 2016; Eng and Mak, 2003; Ntim *et al.,* 2012; Ntim *et al.,* 2017; Samaha *et al.,* 2015; Wang and Hussainey, 2013; Wang, 2017). Similarly, some studies find a negative or no relationship between board composition and the extent of ESG disclosure (Allegrini & Greco 2013; Alnabsha *et al.,* (2017). Jizi *et al.,* (2014) document the existence of a positive relationship between a higher level of Independent Non-Executive Directors and the level of ESG disclosure. Based on the above discussion, the third hypothesis is formulated as follows:

H_3: There is a positive relationship between the percentage of INEDs and the level of ESG disclosure.

5.2.4 Board Meeting frequency and ESG disclosure

To promote sustainability and greater ESG disclosure, it has been suggested that corporate organisations need to strengthen their internal governance structures such as board frequent board meetings, board diversity, and independence (García-Martín and Herrero, 2020). The number of board meetings has severally been considered as a measure of corporate board quality and efforts (Shahbaz *et al.,* 2020). In line with stakeholder theory, the complex nature and uncertainty in today's business environment have increased the need to have frequent meetings by the corporate boards in order to address multiple stakeholders' concerns and better evaluate firms' various risks (Hussain *et al.,* 2018) and strengthen stakeholder relationship through ESG initiatives (Orazalin et al., 2023). Similarly, Liao *et al.*, (2015) argue that regulators and policymakers are strict in terms of carbon regulation for carbon-intensive industries like energy industries thus necessitating frequent meetings in order to meet the demands of various stakeholders, regulatory and societal pressures.

Empirically, Jizi *et al.,* (2014) conducted a study of 107 US commercial banks and found a statistically positive association between corporate social responsibility disclosures and the frequency of board meetings. Similarly, Nguyen *et al.,* (2021) in a study of heavily polluted firms in China, found a positive association between the frequency of board meetings and environmental performance. Given the above findings, we expect a positive association between board diligence and the extent of ESG disclosure. Hence, our fourth hypothesis is as follows:

H_4: There is a positive relationship between the number of board meetings and the level of ESG disclosure.

*5.2.*5 *Foreign ownership and ESG disclosure*

Foreign shareholders usually have multiple investments across different regulatory, cultural and institutional context, therefore have different preference for ESG performance and disclosure (Ellimäki, et al., 2023). Neo-institutional theory suggests that foreign shareholders are associated with following rules and regulations in the host country of their investment in order to protect their investment, drive legitimacy and maximize their firm performance and value. Moreover, neo-institutional theory especially coercive and normative pressures suggest that, due to investments in different institutional context with diverse culture, norms and values, foreign shareholders have different perception and preference for ESG reporting. Moufty et al., (2022) and Albitar et al., (2020) noted that different coercive and normative forces make sustainability practices varies across different countries. Moreover, extant literature suggests that as foreign ownership invest in multiple jurisdictions, they are sometimes faced with different, conflicting and competing coercive isomorphism pressure that make them voluntarily disclose ESG information (Frynas and Yamahaki, 2016).

Neo-institutional perspective further argues that corporations engage in ESG reporting due to formal, institutional, formal, and informal pressures. Shahab et al., (2023) argues that cognitive and mimetic pressures to disclose sustainability information could stem from foreign shareholders and internationalization pressures. As BRICS emerging countries becomes more attractive to international investors, foreign investors continue to encourage corporate firms in BRICS to incorporate sustainability issues in line with global best practices from developed economies (McGuinness et al., 2017). Similarly, extant literature has associated foreign ownership with improved sustainability performance through shareholder activism rather than exit by the foreign equity holders (Hu et al., 2018); influence of foreign practices (McGuinness et al., 2017); in order to attract and retain foreign ethical investors (Muttakin and Subramaniam, 2015).

Building on the above theoretical perspectives and literature, this study argue that foreign ownership is positively associated with the level of ESG disclosure as having foreign equity holders may spur corporate firms to engage in sustainable practices.

In line with this argument, prior studies suggest that foreign ownership is positively associated with the extent of ESG disclosure. However, previous empirical evidence provides mixed results regarding the relationship between foreign ownership and the level of ESG disclosure. Bae et al., (2018) examines the impact of FO on the level of sustainability disclosure and document positive association. Similarly, using UEA listed firms, Al-Gamrh et al., (2019) document positive association between foreign ownership and firm social performance. Moreover, Gerged (2020) in a study of Jordanian listed firms in the context of emerging economies provide empirical evidence of positive association between foreign ownership and corporate environmental disclosure. Similarly, Zaid et al., (2020) also examine the impact of foreign ownership on the level of CSR disclosure and provide empirical evidence of positive association, the study further evidence that board independence moderate and strengthen the relationship. However, Alodat et al., (2023) in a study of Jordanian listed firms over a period of 5 years from 2014-2018 find insignificant relationship between foreign shareholding ownership and ESG disclosure. Based on the above empirical and theoretical evidence, we posit and hypothesize as follows:

H_5 Foreign ownership has positive impact on ESG disclosure.

*5.2.*6 *Institutional Ownership and ESG disclosure.*

From the neo-institutional theoretical perspective, corporate organisations engage in sustainability issues to satisfy institutional pressure thereby driving legitimacy. Neo institutional theory suggests that institutional shareholders adopt ESG and other sustainability issues due to mutual awareness and pressure (Benlemlih, et al., 2022). Institutional investors are associated with compliance with rules and regulations regarding sustainability issues to maintain their interest and gain legitimacy in line with Coercive and normative isomorphism. Consistent with this view, Chai et al., (2020) postulate that institutional shareholders are considered as sophisticated investors that have necessary resources, expertise, knowledge, and skills to evaluate complex corporate decisions like sustainability and ESG practices.

As institutional owners are among the major shareholders across the globe (Ellimäki, et al., 2023), their impact about sustainability issues and practises vary with other equity holders. Equity holders generally influence board decisions based on their preferences. While other shareholders are associated with preference for short term financial gains, empirical literature have provided evidence of positive association of institutional ownership with non-financial reporting such as climate change risk disclosure (Flammer et al., 2021); political spending disclosure (Ali et al., 2023); corporate sustainability disclosure (Tran et al., 2021).

Empirically, the evidence in the literature document mixed findings. Some studies evidenced positive association between Institutional ownership and ESG disclosure. For instance, (McGuinness et al., 2017; Sarhan and Al-Najjar, 2022; Bae et al., 2018; Zaid et al., 2020) provide empirical evidence of positive association. While other studies such as Alodat et al., (2023) provide empirical evidence of insignificant association between institutional ownership and ESG disclosure.

Similarly, Dakhli (2021) in a study of French non-financial firms provide empirical evidence of positive and significant relationship between institutional ownership and the level of CSR disclosure. Consistent with this, Zaid et al., (2020) also examine the impact of institutional ownership on the level of CSR disclosure and provide empirical evidence of positive association, the study further evidence that board independence moderate and strengthen the relationship. However, Sarhan and Al-Najjar (2022) in a study of UK FTSE350 non-financial firms over a period of 15 years from 2002 to 2016 provide empirical evidence of negative association between institutional ownership and CSR performance of the sampled firms. Moreover, Alodat et al., (2023) in a study of Jordanian listed firms over a period of 5 years from 2014-2018 find insignificant relationship between institutional shareholder ownership and sustainability disclosure. Drawing on new institutional theory and empirical evidence in the literature, we hypostasize as follows:

H_6 Institutional ownership has positive impact on ESG disclosure.

5.2.7 Managerial ownership and ESG disclosure

Managerial shareholders are considered as internal to the organisation and usually aligned with the policies and interest of the management. Extant literature has shown that both micro and macro institutional theory strands affect corporate outcome. Even though managerial owners are internal to the organisation, neo-institutional theory suggests that they aligned with not only economic performance but also social and environmental norms due to social pressure. Coercive isomorphism suggests that pressure relating to ESG disclosure may arise from professional colleagues apart from regulatory authorities and policy makers. Dubey et al., (2019) noted that institutional pressure may arise from both formal and informal pressure. However, Gerged (2020) argued that managerial owners may be hesitant and less motivated in non-financial and environmental issues with long term horizon.

Empirically, the extant literature document mixed findings. Sarhan and Al-Najjar (2022) examines the impact of ownership structure on CSR performance of FTSE 350 non-financial UK firms. The study document negative and statistically significant relationship between managerial ownership and CSR performance. Similarly, Dakhli (2021) provide empirical evidence of negative relationship between managerial ownership and the level of CSR disclosure of French sampled firms. In the same vein, Gerged (2020) study the impact of managerial ownership on the extent of environmental disclosure and document negative findings. Based on the above empirical and theoretical evidence, we propose the following hypothesis:

H_7 Managerial ownership has positive impact on ESG disclosure.

5.2.8 Block holder Ownership and ESG disclosure

In line with legitimacy theoretical perspective, shareholders with concentrated ownership aligned their interest with wider sustainability practices and reporting in order to gain legitimacy thus increase profit and shareholders value. Moreover, neo-institutional theorical perspectives argues that as block holder shareholders exert influence on corporate outcomes, their decision regarding corporate outcomes such as ESG disclosure are mostly influence by norms, values formal, and informal institutions. In contrast, in the context of legitimacy theory, Ntim and Soobaroyen (2013) contends that block holder choice to support sustainability information disclosure or not depends on the effect of such disclosure on profitability and firm value. The ESG disclosure literature has shown that some sustainability information affects firms' reputation thus reduce profitability and firm value (Ntim and Soobaroyen, 2013). However, as concentrated ownership is associated with higher monitoring and less agency problem, block holder ownership leads to lower sustainability information disclosure due to costs associated with sustainability disclosure.

Empirical evidence has associated emerging countries with concentrated ownership (Tran et al., 2021). The extant literature suggest that block holder shareholders have disproportionate voting powers that make them have negative impact on the level of ESG disclosure (Karn et al., 2022). Empirically, the evidence in the literature suggests mixed and vague finding on the relationship between concentrated ownership and the level of ESG disclosure. Some studies suggest positive association while others indicate negative association between block holder ownership and the extent of ESG disclosure. However, some studies provide no evidence on the nexus between block holder ownership and ESG disclosure level. For instance, Gerged (2020) examine the impact of block holder ownership on the level of corporate environmental disclosure of Jordanian firms, the study findings provide negative empirical evidence. Similarly, Chen *et al.,* (2021) in a study of Chinese firms over a period of 9 years from 2008-2016 document negative association with the level of environmental disclosure. Hasan et al., (2022) and Correa-Garcia et al., (2020) also provide evidence of negative association between concentrated ownership and the level of ESG disclosure.

On the other hand, empirical evidence in the literature also show that concentrated ownership has positive impact on the extent ESG disclosure. Al-Shaer *et al.,* (2022) in a study of UK sampled firms over a period of 5 years from 2014-2018 provides empirical evidence of positive association between concentrated ownership and the level of ESG disclosure.

In line with the theoretical and empirical evidence above, this study hypothesizes that:

H_8 Block holder ownership has positive impact on ESG disclosure.

5.2.*9 *Audit committee size and ESG disclosure

There is empirical evidence in the literature that the size of the audit committee generally affects the performance of the committee in discharging its responsibility (Elmghaamez et al., 2023; Pozzoli et al., 2022; Yorke et al., 2023). Most of the codes of corporate governance requires that firms have a minimum of 3 members (mostly independent directors) of the AC. From the stakeholder's theoretical perspective, a large AC may help in its oversight function and representing the views of various stakeholders. Similarly, from the resource dependence theoretical perspective, a large audit committee provides AC with diverse pool of members that help in accessing critical resources. Buallay and Alajimi (2020) argue that a large AC size help in providing firms with the needed critical resources and reduce information asymmetry in line with resources dependency and agency theories. However, a large AC sometimes leads to free riders and slow down the decision-making process (Elmghaamez et al., 2023). Empirical evidence in the literature on the relationship between AC size and ESG disclosure document mixed findings (Elmghaamez et al., 2023). Some of the previous empirical studies (Barako *et al.,* 2006; Li *et al*. 2012; Haji, 2015; Buallay and Alajimi, 2020; Dwekat et al., 2020) find significant and positive relationship between audit committee size and ESG disclosure while other studies such as (Albitar et al., 2022) provides empirical evidence of negative association. Raimo et al., (2021) in a study of 125 international firms find positive and significant relationship between AC size and IR quality. Consistent with this finding, Al Lawati *et al.,* (2021) in a study of Omani firms from the financial sector find a positive association between

AC size and voluntary forward-looking disclosure. Similarly, Buallay and Al-Ajmi, (2020) study the impact of ACC variables on the level of ESG disclosure of sampled banks and provide evidence of positive and significant relationship between ACS and ESGD. However, in a related study, Zaman et al., (2021) in a study of New Zealand and Australian firms over a period of 3 years from 2017 to 2019 also find no relationship between AC size and the quality of ESG disclosure assurance. Therefore, based on available empirical evidence, the ninth hypothesis is as follows.

H_9: There is a positive relationship between audit committee size and the level of ESG disclosure.

5.2.10 Audit committee meetings and ESG disclosure

Theoretically, the frequency of audit committee meetings may serve as a signal on the intensity of the activities of the committee that help in improving the quality or effectiveness of the company in terms of monitoring and control thereby reducing agency conflict and costs (Jizi et al. 2014). Similarly, in line with stakeholders' theory, the frequency of board committee meeting is considered as a sign (signal) of an active and dedicated board committee that aim to attract legitimacy by disclosing more information to various stakeholders. This goes a long way in reducing agency costs and information asymmetry through timely release of relevant and reliable financial and non-financial information from management to shareholders and other stakeholders. Empirically, the studies of (Ntim, *et al.*, 2017; Alnabsha, et al., 2017; Samaha et al. 2015; Al Lawati *et al.*, 2021) find statistically significant positive relationship between audit committee diligence and the extent of voluntary disclosure. Similarly, in a related study recently, Zaman et al., (2021) in a study of New Zealand and Australian firms over a period of 3 years from 2017 to 2019 also find significant positive association between AC meetings and sustainability assurance quality. Likewise, Buallay and Al-Ajmi, (2020) study the impact of

ACC variables on the level of ESG disclosure of sampled banks and provide evidence of positive and significant relationship between ACM and ESGD.

Therefore, our tenth hypothesis is as follows:

H_{10}: There is a positive relationship between audit committee meetings and the extent of corporate ESG disclosure.

5.2.11 Audit committee composition and ESG disclosure

Composition and independence of the audit committee has been an important issue in both academic literature and practice. Agency theory suggests that the existence of audit committee that is dominated by independent non-executive directors (INEDs) help in reducing agency conflict thereby reducing agency costs. In the same vein, from the stakeholder's theory perspective, the composition of audit committee is associated with better control and monitoring and may therefore influence the level of voluntary ESG disclosure (Ntim and Soobaroyen, 2013). Pozzoli et al., (2022) posit that AC independence reduce information asymmetry and enhance the reliability of the information disclosed. Due to the importance of independence of the AC members, various capital markets, regulators, and policy makers mandated that the membership of the AC of listed firms should be made of independent directors only e.g NYSE, FRC, and NASDAQ.

Empirically, despite limited empirical evidence on the relationship between audit committee composition and the level of voluntary ESG/CSR disclosure, the limited studies show mixed and conflicting findings that makes the area a ripe area for further studies. Buallay and Al-Ajmi, (2020) provide empirical evidence of positive association between independence of the AC and the level of sustainability disclosure. Consistent with this, Hussain et al., (2018) in a study of a US sampled firms find positive and statistically significant relationship between AC independence and sustainability performance. Similarly, Pozzoli et al., (2022) in a study of 13 member European firms before and during covid 19 document positive and statistically significant relationship between AC independence and ESG performance. In a related study recently, Zaman et al., (2021) in a study of New Zealand and Australian firms over a period of 3 years from 2017 to 2019 also find significant positive association between ACI and sustainability assurance quality. In the same vein, prior studies such as Samaha et al. (2015); Allegrini and Greco, (2013); Haji 2015; Ntim *et al.,* (2017) and Alnabsha, Abdou et al., (2017) report a statistically significant positive association between audit committee composition and voluntary ESG disclosure while Li *et al., (*2012) document insignificant relationship between ACC and ESG disclosure.

Therefore, from stakeholder and resource dependence theories perspectives and the empirical evidence in the literature, this study hypothesise that the audit committee composition will influence the extent of corporate voluntary ESG disclosures:

H_{11}: There is a positive relationship between audit committee composition and the extent of corporate ESG disclosure.

5.2.12 Audit Committee financial expertise and ESG disclosure

Extant literature suggests that AC members with financial and accounting background and expertise perform better monitoring and advisory oversight effectively over and above members without financial expertise (Hsu et al., 2018; FRC 2016; Pozzoli et al., 2022; Yorke et al., 2023). Various corporate governance codes across the globe requires at least a member with financial expertise on the board. Specifically, the UK CG code 2018 requires that at least one member of the AC should have "recent and relevant financial experience" while the Chinese CG code 2011 requires at least an independent member with accounting background. In the same vein, Sarbanes–Oxley Act of 2002 and SEC Act 2003 in the US emphasize the importance of AC members with financial expertise to improve reporting quality. Similarly, extant literature has shown that the effectiveness or otherwise of the AC in discharging it monitoring and oversight depends on certain attributes of the committee such as presence of the financial expert on the committee (Samaha et al., 2015; Pozzoli et al., 2022; Yorke et al., 2023).

Empirically, Pozzoli et al., (2022) examine the impact of ACC on ESG performance using a sample from 13 European union member states over a period of 3 years from 2018 to 2020. The study provides empirical evidence of positive association between AC financial expert membership and ESG performance of the sampled European firms. In a more recent study and consistent with this evidence, Yorke et al., (2023) in a study of US sampled firms provide empirical evidence of positive association between AC financial expert membership and Sustainability performance. The study further provides evidence that female financial have greater influence on the relationship between AC financial expert and ESG performance. Moreover, in a related study, Zaman et al., (2021) in a study of New Zealand and Australian firms over a period of 3 years from 2017 to 2019 also find significant positive association between AC members expertise and sustainability assurance quality. From the empirical evidence above, prior literature suggest presence of financial expert in AC is positively related to the level of ESG disclosure. Conversely, Buallay & Al-Ajmi, (2020) provide empirical evidence of negative association between AC independence and the level of sustainability disclosure.

Other studies such as (Shaukat et al., 2016; Dwekat et al., 2020; Pozzoli et al., 2022; Yorke et al., 2023) document positive association between ACFE and ESG performance while studies such as (Li et al., 2012) provide evidence of negative association. Thus, we hypothesized as follows:

H_{12}: There is a positive relationship between presence of accounting and financial expert in audit committee and the level of corporate ESG disclosure.

5.2.6 Summary of existing literature

Table 5.0 below summarises prior empirical literature reviewed on the relationship between corporate governance and the extent of ESG/CSR disclosure. The table provides summary of the author (s) name and publication year, the objective of the study, the context of the study, key variables studied, underpinning theories and the key findings of the study.

Table I Summary of prior empirical studies on the relationship between CG and ESG

Authors	Objectives	Variables	Theoretical approach	Context	Summary of the findings
Alshbili et al., (2018)	Examine the association between corporate governance variables and ownership structure with the level of corporate social	CSR committee, board size, board meetings, CSR disclosure, government ownership, joint venture ownership,	Neo-institutional theory	Libya	**Positive Association** government ownership, joint venture ownership, foreign ownership **No Association**

	responsibility disclosures.	foreign ownership			Board size and CSR committee.
Aksoy et al., (2020)	Examines the impact of board characteristics on corporate sustainability performance of nonfinancial listed firms in Turkey.	Board size, female member on the board, CEO duality, and board independence	Agency and stakeholder theories	Turkey	Positive association between board size and board independence with the level of sustainability performance disclosure. however, the study document no association between CEO duality and female board membership with CSP.

Manita et al., (2018)	Examines the impact board gender diversity on corporate ESG disclosure of S&P 500 US listed firms.	Presence of female member on the board and presence of at least three female members on the board.	Critical mass and stakeholder theories	USA	The study document no association between female board membership with the level of ESG disclosure.
Tran et al., (2021)	Examines the impact of corporate governance variables on corporate sustainability reporting of nonfinancial listed firms from southeast Asian firms.	Board size, board gender diversity, presence of board sustainability committee, block holder ownership, CEO duality and board independence	Institutional theory	Southeast Asian countries	Positive association between board size and block ownership with the level of sustainability performance disclosure while female board membership and presence of

					sustainability committee were found to be negative and significant. However, the study document no association between CEO duality and board independence with corporate sustainability reporting.
Alnabsha et al., (2018)	Examines the impact of corporate governance and ownership structure variables on corporate	Board size, board gender diversity, presence of audit committee, frequency of board	Institutional theory	Libya	Negative and significant association between board size, board composition, and frequency

	sustainability reporting of nonfinancial listed firms from southeast Asian firms.	meetings, foreign ownership, government ownership, CEO duality and board independence			of board meetings with the level of sustainability performance disclosure while the findings document no relationship between board audit committee, director ownership, government ownership, institutional ownership and foreign ownership were found to be negative and significant.

					However, the study document no association between CEO duality and board audit committee with corporate sustainability reporting.
Dwekat et al., (2020)	Examine the impact of board and audit committee characteristics on the level of corporate social disclosure of European firms.	Board size, board gender diversity, board independence, board level of activity, CEO duality.	Complexity theory	Europe	**Positive Association** Board size, board gender diversity, board independence, board level of activity, CEO duality.

Hussain et al., (2018)	Examines the impact of corporate governance variables on corporate sustainability performance of sampled US firms.	Board size, board gender diversity, presence of sustainability committee, frequency of board meetings, CEO duality and board independence	Agency and stakeholders' theories.	United State of America	Positive and significant association between board gender diversity, board composition, and frequency of board meetings and board sustainability committee with the level of sustainability performance disclosure. However, the study document negative association between CEO

					duality with corporate sustainability performance.
Nguyen et al., (2021)	Examines the impact of corporate governance variables on corporate environmental performance of heavily polluting firms from China.	Board size, board gender diversity, presence of sustainability committee, frequency of board meetings, CEO duality and board independence	Agency, resources dependence, legitimacy, and stakeholders' theories.	Peoples Republic of China	Positive and significant association between board size and board meetings with the level of environmental performance. However, the study document no association between CEO duality with corporate environmental performance.

Jizi et al., (2014)	Examines the impact of corporate governance variables on corporate social responsibility of US banking sector.	Board size, frequency of board meetings, CEO duality and board independence	Agency and stakeholders' theories.	United State of America	Positive and significant association between board size, CEO duality, and board independence with the level of CSR disclosure.
Naciti (2019)	Examines the effect of corporate governance and board structures on corporate sustainability performance of fortune global 500 firms.	Board size, board gender and nationality diversity, separation of CEO and chair duty and board independence	Agency theory and stakeholder theory.	International evidence	Positive and significant association between board gender diversity and separation of CEO and chair duty with board sustainability performance. Negative association

					between board independence and sustainability performance.
Beji et al., (2021)	Examines the effect of corporate structure and composition variables on corporate social responsibility of SBF 120 index sampled firms.	Board size, foreign directors, board gender diversity, CEO duality, multiple directorships, directors' educational level, and board independence	Agency theory.	France	Positive and significant association between board size, foreign directors, board gender diversity, CEO duality, multiple directorships, directors' educational level, and board independence with the level

					of CSR disclosure.
Liao et al., (2016)	Examines the effect of corporate board structures and compositions on corporate voluntary disclosure of greenhouse gas (GHG) emissions of UK sampled firms.	Board gender diversity, environmental committee, and board independence	Agency, legitimacy and stakeholders' theories.	United Kingdom	Positive and significant association between board gender diversity, environmental committee and board independence with the level of corporate voluntary disclosure of greenhouse gas (GHG) emissions.
Nadeem et al., (2017)	Examines the effect of female representation on the board on the level of	Board gender diversity	Stakeholder theory and resource dependence theory.	Australia	Positive and significant association between board gender diversity with

	corporate sustainability performance of Australian sampled firms.				the level of sustainability performance.
Jizi (2017)	Examines the effect of corporate structure and composition variables on corporate social responsibility of UK sampled firms.	Board size, board gender diversity, CEO duality and board independence	Agency theory.	United Kingdom	Positive and significant association between board size, board gender diversity, and board independence with the level of CSR disclosure. No association between CEO duality and CSR disclosure.
Lu and Wang (2021)	Examines the effect of corporate	Board ESG committee, board gender	Agency theory voluntary	International evidence	Positive and significant association

	governance and cultural variables on corporate social responsibility performance and disclosure of international samples.	diversity, CEO non-duality, executive compensation, capital structure, and board independence	disclosure theory, resource dependence theory, legitimacy theory.		between board ESG committee, board gender diversity, CEO non-duality and capital structure with the level of CSR performance and disclosure.
Haque (2017)	Examines the effect of corporate board characteristics and sustainable compensation on corporate voluntary disclosure of greenhouse gas	Board gender diversity, ESG-based compensation policy, multiple directorships, and board independence	Agency and resource dependence theories.	United Kingdom	The study documents positive and significant association between board gender diversity, ESG-based compensation policy and

	(GHG) emissions of non-financial UK sampled firms.				board independence with carbon reduction initiative while no relationship was found between the variables and the level of corporate voluntary disclosure of greenhouse gas (GHG) emissions.

Sources: Author's creation

5.3. Research Methodology

5.3.1 Sample

To investigate the relationship between corporate governance variables and the extent of ESG disclosure, the Bloomberg database was used to collect data for listed energy industry firms. Bloomberg database was used because it provides one of the most widely used ESG disclosure ratings and ESG disclosure coverage in accounting literature (Peng et al., 2024; Ioannou and Serafeim, 2018). For a company to be considered in the sample, it must have a complete dataset for the period covered by the study. The final sample comprises (125) companies from five BRICS member countries with a total of 1750 firm-year observations. The final sample and country distribution are reported in Table 1. Both the corporate governance variables, control variables, and ESG disclosure data were collected from Bloomberg while ownership structure data were collected from the company website and annual reports. Hypotheses were tested using a fourteen-year panel from 2010 to 2023. Bloomberg ESG data was used to measure ESG disclosure because researchers such as Grewal *et al.,* (2018) posit that "Bloomberg calculates an ESG Disclosure Score to quantify a company's transparency in reporting ESG information" and Bloomberg ESG attracts the most attention from investors (Eccles *et al.,* 2011). We started our analysis with the year 2010 as the period witnessed significant policy pronouncements regarding ESG, sustainability and other non-financial reporting and disclosure in emerging economies such as India Ministry of Corporate Affairs (MCA) CSR guidelines 2009, China State Council CSR guideline 2008, Shanghai Stock Exchange guidelines on social and environmental disclosure 2007, South African King III report 2009 and the Brazilian Corporate Sustainability Index (ISE) 2005. The 2023 financial year provide the most recent dataset. Therefore, due to the non-availability of ESG data of most BRICS firms and the limited quantity of firms from the BRICS in the Bloomberg database pre-2010, this study decided to go with a minimum of 20 firms per country and the 2010-2023 period respectively.

Table II Study Sample

	Number of sample companies
Brasil	26
Russia	21
India	33
China	25
South Africa	20

Total	125

Source(s): Table created by the author.

5.3.2 Variables and their Measurement

5.3.2.1 Dependent Variable

ESG disclosure is the dependent variable of this study. ESG scores were obtained from the Bloomberg database, it comprises of environmental, social and governance dimensions. ESG disclosure ratios provided by the Bloomberg database is one of the most widely used disclosure score in accounting, finance, and sustainability literature in recent years (Peng et al., 2024; Nollet *et al.*, 2016; Gull et al., 2022). Manita et al., (2018) noted that the Bloomberg ESG scoring range from 0 to 100 in line with Global Reporting Initiative and each data point were weighted depending on the relevance to a particular industry.

5*.3.2.3 Control Variables*

This study control for firm-level and board-level characteristics that may affect the extent of ESG disclosure in line with previous studies (Gull et al., 2022; Benlemlih et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). These variables include firm size, profitability, liquidity, gearing, audit quality, Tobin's Q, ESG committee, audit quality and ESG based compensation. As Iliev and Roth (2023) noted, firm size affects the extent of ESG reporting as larger firms are associated with more stakeholder pressure to improve ESG performance while Xue et al., (2023) argues that larger firms have greater incentive to disclose ESG information to gain legitimacy from various stakeholders. Consistent with this, extant literature and empirical studies have shown that larger firms are associated with agency problem (Jensen and Mi 1976); greater visibility and operational impact (Hummel et al., 2019; Iliev and Roth 2023; Sarhan and Al-najjar 2022); more analyst following (García-Meca et al., 2024); more media coverage and scrutiny (García-Meca et al., 2024); more public scrutiny and pressure (Hummel et al., 2019; Issa and Zaid

2024) and available resources to engage in ESG activities and disclosure (Drempetic et al., 2020; Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024). Likewise, Issa and Zaid (2024) noted that larger firms face more societal pressure regarding environmental concerns and disclosure.

Prior studies in the literature have shown firm size has been measured in a variety of ways in accounting, finance, and management literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024). For example, Gull et al., (2022), Emma et al., (2024) and Duggal et al., (2024) measured FS using natural log of total sales, Boukattaya et al., 2024 and Xue et al., (2023) utilised natural log of market capitalization as a measure of firm size, while Benlemlih et al., (2022); Iliev and Roth (2023) and Wang et al., (2024) measured FS using log of total assets. Other measures of firm size in accounting and finance literature include number of employees (Krasodomska et al., 2023; Khalil et al., 2024; Morán-Muñoz et al., 2024); enterprise value (Dang et al., 2019); total sales (Gull et al., 2023b; Liao et al., 2018; Emma et al., 2024 and Duggal et al., 2024); total profit (Mubeen et al., 2021) and net assets (Morán-Muñoz et al., 2024). In line with prior studies, this study measure firm size using log of total assets. This is consistent with the studies of (Benlemlih et al., 2022; Iliev and Roth 2023; Wang et al., 2024; Lyu et al., 2024) that measure firm size using log of total assets. Measurement of firm size has been a subject of debate in accounting and finance literature. Dang et al., (2018) noted that different proxies provide different implications, and some measures are more relevant than others. Dang et al., further contend that empirical results are sensitive to different measures of firm size. Moreover, Vijh and Yang (2013) provides evidence of sensitivity of different firm size measures to empirical results in accounting and finance literature.

Theoretical and empirical justification for using total asset as measure of firm size.

As theorical and empirical evidence in the literature suggest that availability of resources affect the extent of ESG/CSR practices and disclosure (Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024), this study utilised log of total asset as a measure of firm size for the following reasons:

Unlike market capitalisation and total sales that measure capital market condition and product market penetration respectively, total assets measure firm resources that have a direct link with ESG practices, disclosure and assurance as different measures capture different aspect of FS. Similarly, a critical evaluation of other measures shows the measures are flawed and insufficient. For example, number of employees as a measure of firm size have been criticised for not capturing part time employees despite being part of the critical human resources (Dang et al., 2018). Consistent with this, the study of Dang et al., (2018) suggest that the use of market capitalization as a measure of FS may be mechanically correlated with the performance measure.

Secondly, log of total assets is the most employed measure of firm size in accounting and finance literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Wang et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Dang et al., (2018) in a study of empirical papers in accounting and finance literature over a period of 20 years found over 50 percent of the studies utilised log of total assets as a measure of FS because of its ability to measure resources base of the entity including both tangible and intangible resources. Therefore, the use of log of total assets will enhance comparability and generalisability because of the widespread use of total asset as a measure of FS.

Thirdly, total assets being the most utilised measure of firm size allow for consistency and comparison with prior empirical studies. This is consistent with the argument of (Gull et al., 2022; Nadeem et al., 2017; Haider and Kokubu 2015; and Martínez-Ferrero and García-Sánchez 2017).

Other control variables used in this study include profitability measured as return on asset as firms with higher profitability tend to have higher level of ESG practices and disclosure (Chen et al., 2020; Benlemlih et al., 2022; García-Meca et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Similarly, higher levels of debt are associated with higher oversight and monitoring by the lenders thus firms with higher leverage are likely to have greater level of ESG initiatives and disclosure (Dyck et al., 2019; Benlemlih et al., 2022; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Thus, this study measure gearing as the ratio of total debt to total asset. This study control for audit quality using dummy variable 1 if the sampled firms are audited by the Big4 firms and 0 otherwise (Wang et al., 2024; Liao et al., 2018). This study includes profitability, gearing, and liquidity as control variables to capture the financial health and resources availability of the sampled firms to engage in ESG disclosure and assurance. Other control variables include board ESG committee which indicate commitment to ESG transparency (García-Meca et al., 2024); Tobins Q to capture firm market value (Cheng et al., 2024) and ESG linked compensation (Adu et al., 2023). All data used in this study were extracted from the Bloomberg database and firms annual report.

5.3.2.2 Independent Variables

Corporate governance variables as key determinants of corporate policy and outcomes are the dependent variables of this study. A total of 12 independent variables across board, board committee and shareholding structure were utilised. These CG variables are board size measured as the total number of directors on the board in line with the studies of (Liao et al., 2018; Pozzoli et al., 2022; Liao et al., 2015; Gull et al., 2022; Zaman et al., 2021), board composition measured as the proportion of independent directors on the board in line with the studies of (Liao et al., 2018; Liao et al., 2015; Gull et al., 2022; Zaman et al., 2021), board gender diversity measured as the proportion of female directors on the board in line with the studies of (Manita et al., 2018; Liao et al., 2015; Nadeem et al., 2017; Rao et al., 2016; Zaman et al., 2021), board meetings measured as the number of meetings in a given financial year in line with the studies of (Liao et al., 2018; Liao et al., 2015; Gull et al., 2022; Zaman et al., 2021). Other independent variables include audit committee characteristics and ownership structure variables such as institutional ownership measured as a proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year in line with the studies of (Flammer et al., 2021; Raimo et al., 2020; Sarhan and Al-Najjar 2022), consistent with the studies of Flammer et al., (2021) and Sarhan and Al-Najjar (2022) foreign ownership is measured as percentage of shares held by foreigners, block holder ownership measured as a proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year in line with the studies of (Flammer et al., 2021; Raimo et al., 2020; Sarhan and Al-Najjar 2022), managerial ownership measured as a proportion of ordinary shares held by members of the board and the management team (Managers, Executive Directors and other board members) in relation to total ordinary share equity at the end of the financial year in line with the studies of (Raimo et al., 2020; Flammer et al., 2021; Sarhan and Al-Najjar 2022), audit committee meetings measured as the total number of meetings held by a company's audit committee over a full financial year Bravo and Reguera-Alvarado, 2019; Ma et al., 2024; Rao and Tilt, 2016), audit committee independence measured as proportion of the total number of Independent Non-Executive Directors to the total number of audit committee members at the end of a financial year (Pozzoli et al., 2022; Ma et al., 2024), audit committee size measured as the total number of members in the audit committee (Bravo and Reguera-Alvarado, 2019; Ma et al., 2024; Buallay and Aldhaen, 2018; Rao and Tilt, 2016) and lastly audit committee accounting and financial expertise measured as the total number of audit committee members with accounting and financial expertise over the year (Yorke et al., 2023; Pozzoli et al., 2022).

5.3.3 Regression Model

A multiple regression model was used to test the relationship between the independent variables and the dependent variable (ESG disclosure). The regression model employed is as follows:

$ESGD = \alpha + \beta_1 BSize_{it} + \beta_2 BGDiv_{it} + \beta_3 BCom_{it} + \beta_4 BM_{it} + \beta_5 FO_{it} + \beta_6 InsOwn_{it} + \beta_7 BloOwn_{it} + \beta_8 ManOwn_{it} + \beta_9 ACSize_{it} + \beta_{10} ACCom_{it} + \beta_{11} ACM_{it} + \beta_{12} ACAFE_{it} + \beta_{13} ESGLC_{it} + \beta_{14} Prof_{it} + \beta_{15} Liq_{it} + \beta_{16} FS_{it} + \beta_{17} Gea_{it} + \beta_{18} CSR/SC_{it} + \beta_{19} AQ_{it} + \beta_{20} TQ_{it}$ + Year Effects + Country Effects + Firm Effects $+ e_{it}$

Where:

ESG = Environmental, Social and Governance Disclosure

BSize = Board Size

BCom = Board Composition

BGDiv = Board Gender Diversity

BM = Board Meetings

FO = Foreign Ownership

InsOwn = Institutional Ownership

BloOwn = Block holder ownership

ManOwn = Managerial Ownership

ACSize = Audit Committee Size

ACAFE = Audit Committee accounting and financial expertise

ACCom = Audit Committee Composition

ACM = Audit Committee Meetings

FS = Firm Size

Prof = Profitability

Liq = Liquidity

Gea = Gearing

CSR/SC = Board CSR/Sustainability committee

AQ = Audit Quality

TQ = Tobin's Q

e = error term

5.4 Empirical Results and discussion

5.4.1 Descriptive statistics

The descriptive statistics of both dependent, independent and control variables are presented in Table 5.1. The mean ESGD score of our sample firms is 42 percent with a range from 4.9 percent to 72.8 percent, the board size has an average of 10 members with a maximum of 21 members. The average gender diversity is 14.4 percent which is line with the findings of previous studies such as (Nadeem et al., 2020; Gull et al., 2022) while independent directors on the board are averagely 49.9 percent. The board has an average of 10 meetings in a year with 13 percent foreign ownership stake. Moreover, institutional ownership has an average of 22 percent, block holder ownership has an average of 14 percent and an average of 6 percent managerial ownership. An average of 68 percent of the audit committee members are independent directors, ACS has average of 3 members with average of 5 meetings during the year. The results show 68 percent of firms have sustainability committee, an average of 57 percent of the sample firms are audited by the one of the big 4 firms and with an average profitability of 5 percent.

Table 5.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESGD	1750	42.097	15.843	4.959	74.830
BS	1750	10.054	2.391	4.000	21.000
BGDiv	1750	14.404	11.938	0.000	46.150
BI	1750	49.973	19.646	0.000	100.000
BM	1750	10.345	7.676	0.000	87.000
FO	1750	13.002	6.701	0.000	50.100
InstOwn	1750	22.936	17.616	0.000	98.540
BloOwn	1750	14.262	14.082	0.000	97.100
ManOwn	1750	6.754	6.922	0.000	63.900
ACI	1750	68.333	32.375	0.000	100.000
ACS	1750	3.744	0.824	3.000	9.000
ACM	1750	5.008	2.216	0.000	13.000
ACAFE	1750	50.493	32.484	14.300	100.000
LogofTA	1750	4.323	0.884	2.133	5.646
Prof	1750	5.184	15.234	-291.580	106.811
Liq	1750	3.335	68.911	0.000	2891.000
Gearing	1750	25.916	17.289	0.000	149.434
CSRSC	1750	0.687	0.464	0.000	1.000
TobinsQ	1750	1.116	0.625	0.050	7.500
AQ	1750	0.571	0.495	0.000	1.000
ESGLC	1750	0.539	0.499	0.000	1.000

Source(s): Table created by the author.

Table 5.2 shows the results of the pairwise correlation between ESG disclosure, independent variables and the control variables. The pairwise result shows a significant positive correlation between corporate governance variables (BS, BGD, BI, BM ACI, ACS, MO and BO) with ESG disclosure. However, the pairwise correlation shows an insignificant relationship between ESGD and foreign ownership, liquidity and profitability while institutional ownership, gearing and Tobin's Q show negative and significant correlation. Moreover, as all the correlation coefficients are below 0.6, the pairwise correlation suggests no multicollinearity concerns. This was further confirmed using VIF, the results show all the variables have VIF of less than 10.

Table 5.2 Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
(1) ESGD	1.000																				
(2) BS	0.127***	1.000																			
(3) BGDiv	0.495***	0.022	1.000																		
(4) BI	0.262***	0.005	0.380***	1.000																	
(5) BM	0.116***	0.033	-0.117***	-0.303***	1.000																
(6) FO	0.024	-0.103***	-0.051**	-0.201***	-0.002	1.000															
(7) InstOwn	-0.123***	0.060**	-0.235***	-0.154***	0.067***	0.363***	1.000														
(8) BloOwn	0.069***	-0.150***	-0.074***	-0.075***	0.032	0.370***	0.455***	1.000													
(9) ManOwn	0.076***	-0.064***	0.013	-0.166***	0.081***	0.332***	0.066***	0.226***	1.000												
(10) ACI	0.278***	-0.050**	0.233***	0.187***	-0.057**	-0.074***	-0.192***	0.052**	-0.112***	1.000											
(11) ACS	0.069***	0.001	0.088***	-0.053**	0.029	0.024	-0.166***	0.057**	0.114***	-0.029	1.000										
(12) ACM	0.087***	-0.092***	-0.001	0.029	0.002	-0.039*	-0.009	0.129***	0.031	0.191***	0.043*	1.000									
(13) ACAFE	0.366***	-0.156***	0.536***	0.211***	-0.037	-0.037	-0.322***	-0.028	0.014	0.469***	0.193***	0.047**	1.000								
(14) LogofTA	0.552***	0.171***	0.385***	0.124***	0.117***	-0.131***	-0.191***	-0.028	-0.135***	0.433***	0.084***	0.058**	0.500***	1.000							
(15) Prof	0.032	0.096***	-0.075***	-0.124***	0.045*	0.009	0.044*	-0.041*	0.043*	-0.074***	-0.013	0.019	-0.139***	-0.051**	1.000						
(16) Liq	0.028	-0.032	0.023	0.007	0.011	-0.002	-0.003	-0.013	-0.001	-0.003	-0.025	-0.010	0.031	0.002	0.006	1.000					
(17) gearing	-0.158***	-0.129***	-0.157***	-0.122***	-0.003	0.020	0.203***	0.128***	0.083***	-0.088***	0.042*	0.044*	-0.166***	-0.130***	-0.202***	0.005	1.000				
(18) CSRSC	0.555***	0.125***	0.499***	0.323***	-0.172***	-0.183***	-0.171***	-0.042*	-0.022	0.246***	0.050**	0.028	0.359***	0.379***	0.020	0.011	-0.157***	1.000			
(19) TobinsQ	-0.084***	-0.070***	-0.070***	-0.065***	0.031	0.046*	0.150***	0.099***	0.023	-0.135***	-0.084***	-0.038*	-0.187***	-0.157***	-0.034	0.013	0.080***	-0.073***	1.000		
(20) AQ	0.261***	-0.139***	0.247***	0.041*	0.026	-0.013	-0.177***	0.122***	-0.008	0.482***	0.058**	0.235***	0.428***	0.424***	-0.047**	0.021	-0.020	0.202***	-0.029	1.000	
(21) ESGLC	0.531***	-0.105***	0.528***	0.353***	-0.083***	0.069***	-0.150***	0.233***	0.096***	0.290***	0.093***	0.053**	0.538***	0.328***	-0.128***	0.020	-0.171***	0.417***	0.028	0.341***	1

**** p<0.01, ** p<0.05, * p<0.1*

Sources: Author's creation

5.4.3 Results and discussions

The result of the baseline regression analysis of the sample companies is shown in Table 5.3. The R-squared is 0.5923, meaning the explanatory variables explain 59.2% of the variation in ESG disclosure of the sampled firms while the adjusted R^2 of the model is 53.9%. This confirms the fitness of the model. The overall coefficient is statistically significant at 1% significant level.

Firstly, the regression results show a positive and statistically significant relationship between board size and the extent of ESG disclosure at 10 percent significant level. Although the finding is inconsistent with our prediction, it is in line with prior studies that find positive association between board size and the level of ESG disclosure (Jizi, 2014; Salem *et al.,* 2019; Tran *et al.,* 2020; Nguyen *et al.,* 2021; Erin *et al.,* 2021) while the finding contradicts the results of Ntim *et al.,* (2017) and Githaiga and Kosgei (2023). The finding is not in line with our Hypothesis 1 prediction; thus, we reject the first hypothesis. In terms of economic significance, the results indicate that a one-standard deviation increase in board size is associated with about 5.2 percentage increase in the level of ESG disclosure. One of the plausible reasons for the positive association between board size and ESG disclosure is the optimum board size among the sampled firms. The summary statistics shows an average of 10 members on the board, which is considered optimum size in corporate governance literature. For example, Martínez-Ferrero and García-Sánchez (2017) find a negative association between BS and CSR practices. However, the negative relationship turns to positive when the number of directors is reduced to around 11, suggesting a U-Shaped relationship. The finding regarding board size is consistent with the resource dependence theoretical arguments that associate larger boards with enhance ESG disclosure through resources provision such as knowledge, network and skills (Hillman et al., 2009; Pfeffer and Salancik, 1978); less susceptible to domination by management (Endrikat at al., 2020) and reduce information asymmetries.

The results also indicate that board gender diversity has a positive and statistically significant impact on the level of ESG disclosure of the sampled BRICS companies at a 1% significant level. In terms of economic importance, the finding can be quantified as a one standard deviation increase in board gender diversity results in a 1.1 percent increase in the level of ESG disclosure. The result is in line with the findings of (Ntim *et al.,* 2012; Boulouta 2013; Elmagrhi *et al.,* 2016 and Ntim *et al.,* 2017; Arayssi *et al.,* 2019; Wasiuzzaman and Mohammed, 2021; Nguyen *et al.,* 2021; Erin *et al.,* Githaiga and Kosgei, 2023; Nicolo et al., 2023) as well as support our theoretical prediction that draws insight from stakeholder and resource dependence theories that suggest a positive impact of board gender diversity on the overall ESG disclosure. The finding is inconsistent with the finding of Manita *et al.*, (2018). Therefore, the results support hypothesis 2.

The contradiction with the finding of Manita et al., (2018) can be explained as follows: Firstly, the context of the studies varies, while Manita et al., (2018) examine firms from developed country (USA), this study focused on emerging economies. As noted earlier and unlike emerging countries that are characterised by weak institutions and rule of the law, developed countries like the USA have strong institutions and regulators that make gender-diverse boards less important force in ensuring proper monitoring and protection for the environment. Finally, Manita et al., (2018) examine globally large firms (S&P 500) which are associated with greater ESG disclosure with or without diverse board. Extant literature links firm's size with the extent of ESG disclosure (Nguyen *et al.,* 2021; Erin *et al.,* 2021). The finding is more in support of resource dependence theory than stakeholders' theory to access critical resources.

Similarly, the results indicate that there is a positive and statistically significant relationship between board composition and ESG disclosure at a 1% significant level. The finding provides empirical support of a positive and statistically significant relationship between BC and the extent of ESG disclosure in line with the results of prior studies (Salem *et al.,* 2019; Tran *et* *al.,* 2020; Erin *et al.,* Githaiga and Kosgei, 2023) but inconsistent with the findings of (Ntim *et al.,* 2012; Samaha *et al.,* 2015; Ntim *et al.,* 2017; Nguyen *et al.,* 2021). The finding is consistent with our hypothesis prediction thus hypothesis is accepted. The finding is not surprising as the plausible explanation for this is a board with higher INEDs is associated with greater monitoring over management and the finding support stakeholder theory. The contradiction with some of the previous studies can be explained as follows. First, as noted earlier, ESG practices vary across industries, while this study focused on energy industry firms in emerging economies, Ntim *et al.,* (2017) examined Higher Educational Institutions in the UK. In the case of Samaha et al., (2015) a further analysis carried out in their study shows that the result is positive and significant in emerging economies with weak investor protection which is consistent with our findings. The finding is in support of stakeholders, resource dependence and agency theoretical perspectives that associate independent directors with higher monitoring, resource provision function and long-term considerations.

Likewise, the findings indicate a positive and statistically significant relationship between the frequency of board meetings and the extent of ESG disclosure at a 1% significant level. The positive impact of board diligence on ESG disclosure further supports the findings of prior studies (Jizi et al., 2014; Nguyen et al., 2021) and theoretical predictions that the frequency of board meetings creates good opportunities for the board of directors to discuss issues in order to address the issues of sustainability that have to do with environmental, social and governance disclosure. In terms of economic significance, the finding suggests that a one standard deviation increase in board diligence results in a 2.90 percent increase in the level of ESG disclosure. Theoretically, the finding is in line with our theoretical prediction of stakeholder theory. Thus, we accept the empirical hypothesis. The finding is in support of stakeholders’ theory that show a diligent and vigilant boards are more likely to support ESG disclosure.

Moreover, the regression results show that foreign ownership is positive and statistically significant with the level of ESG disclosure. The finding is in line with the documented empirical evidence in the literature on the relationship between foreign ownership and the extent of ESG disclosure (Bose et al., 2023; Gerged, 2021; Bae et al., 2018; Zaid et al., 2020). Theoretically, the finding is in line with neo-institutional theoretical argument that foreign shareholders in corporate organisations engage in ESG and sustainability reporting as a result of pressure from their foreign peers (Mimetic isomorphism) or the local regulatory authorities (Coercive isomorphism). The finding is in line with our hypothesis prediction, thus, hypothesis five is accepted. In terms of economic significance, the results show a one standard deviation increase in foreign ownership leads to a 2.68 percent increase in the level of ESG disclosure.

However, the finding also shows that institutional ownership has negative but insignificant relationship with the level of ESG disclosure. The finding is consistent with the findings of previous empirical studies of (Bose et al., 2023; Nguyen et al., 2024; Kim et al., 2019; Sarhan and Al-Najjar, 2022; Aluchna et al., 2022; Gerged, 2021) but inconsistent with the findings of (Bae et al., 2018; Dyck et al., 2019; Zaid et al., 2020; Dakhli 2021) and our hypothesis prediction of positive association. Therefore, our hypothesis is rejected. However, the negative finding is in line with the recent evidence in the literature that local and foreign institutional investors have different impact of the extent of ESG disclosure (Bose et al., 2023; Kavadis and Thomsen, 2023) and the empirical evidence by Kim et al., (2019) of positive (negative) association between long term (short term) institutional ownership and CSR performance. This finding can be explained as follows. Firstly, prior studies such as Kavadis and Thomsen (2023); Flammer et al., (2021); Jain and Jamali (2016) and Ali et al., (2022) noted that different time horizon of institutional investors either long term or short term affect the extent of ESG disclosure differently. Specifically, Kim et al., (2019) provides empirical evidence of positive (negative) association between long term (short term) institutional ownership and CSR performance of US sampled firms. The study further shows institutional shareholders with long term horizon affect CSR positively while short term institutional shareholders have negative effect on social and environmental performance. Secondly and consistent with this, Sarhan and Al-Najjar, (2022) argues that some institutional investors are reluctant to invest in long-term projects with long payback period. Consistent with this view, Cai et al., (2020) argues that firms sometimes may over-invest in sustainability issues to the detriment of equity holders. Moreover, Jain and Jamali (2016) provide evidence that pension fund institutional investors support ESG practices because they are associated with long term investment horizon while institutional investors with short term horizon like mutual funds consider ESG practises economically unjustified.

Secondly, Bose et al., (2023) provides empirical evidence that even though foreign institutional investors have positive impact on environmental disclosure, domestic institutional equity holders show no relationship with the extent environmental disclosure. Consistent with this view, Kavadis and Thomsen (2023) noted that as different shareholders have different time horizon, their attitude towards sustainability reporting may varies. They argued that long-term investors are positively associated with the propensity to disclose ESG information while some shareholders are associated with short-termism.

Thirdly, some researchers argued that some institutional investors such pensions funds, mutual funds and investment banks are associated with preference for short-term financial gains thus may not support ESG activities and disclosure (Velte, 2023; Sarhan and Al-Najjar, 2022). Other empirical studies provide evidence of different influence of different types of institutional shareholders. These studies include Kim et al., (2020) that provide evidence of institutional shareholders political orientation affecting social and environmental disclosure and performance differently.

The result also shows that block holder ownership has an insignificant relationship with the level of ESG disclosure. The finding is inconsistent with our hypothesis prediction thus, our hypothesis rejected. The finding is in line with prior empirical evidence documented in the literature (Chung et al., 2024; Al-Shaer *et al.*, 2022; Nguyen et al., 2024). Theoretically, the evidence is in line with neo-institutional and agency theoretical perspectives. The findings suggest that concentrated ownership is associated with alignment with management interest and consequently decrease the need for transparency and accountability through ESG disclosure. Similarly, block holder ownership is associated with less external supervision that makes them indifferent to ESG disclosure (Nguyen et al., 2024) and are unlikely to support ESG disclosure practices due to financial consideration.

However, the results show that managerial ownership has positive and statistically significant relationship with the level of ESG disclosure. The finding supports our hypothesis prediction and the findings of Shan et al., (2021) but inconsistent with the findings of Sarhan and Al-Najjar (2022) and Nguyen et al., (2024) who provide empirical evidence of negative association between managerial ownership and CSR performance. In terms of economic significance, the study findings show that a one-standard-deviation increase in the managerial shareholding ownership ratio leads to 1.80 percent increase in the level of ESG disclosure. The finding is consistent with the theoretical and empirical evidence that suggest convergence of interest between managers and managerial ownership that consequently leads to greater ESG disclosure.

Regarding audit committee independence, the study finds positive but insignificant relationship with the level of ESG disclosure. This indicate that the proportion of independent directors in the committee have a positive influence on the level of ESG disclosure. The finding is in line with our hypothesis prediction of positive association and partly supported our prediction. The finding is consistent with the findings of (Haji 2015; Arif *et al* 2021; Buallay and Al-Ajmi 2020 and Raimo *et al* 2020; Zaman et al., 2021; Al Shaer and Zaman 2018) and contradict the findings of (Li *et al.* 2012; Arif *et al.*, 2021; Haji & Anifowose, 2016; Al Lawati *et al.*, 2021). In a related study recently, Zaman et al., (2021) also find significant positive association between ACI and sustainability assurance quality. The finding is in line with resources dependence and stakeholders' theories. From the perspective of resource dependence theory, Buallay and Al-Ajmi (2020) noted that independent members of the AC are associated with helping the board and the committee in accessing critical resources, knowledge, skills and competences that help in improving the non-financial reporting to show accountability. Similarly, from stakeholder theory perspective, another possible explanation is independent directors are associated with higher monitoring and oversight thus greater non-financial disclosure.

However, the study finds negative but not significant relationship between audit committee size and ESG disclosure. The findings consistent with our hypothesis prediction of negative association. The studies of (Haji 2015; Buallay and Al-Ajmi, 2020; Raimo *et al*., 2020; Li *et al.* 2012; Arif, *et al* 2021; Erin *et al* 2021 Al Lawati *et al.*, 2021) also documents similar finding but contradict the findings of Wang and Sun (2022) and Haji and Anifowose (2016). However, the finding is in line with the argument advance by Abbott *et al.*, (2004) that as the ACS increases, there is the potential for an AC to become too large and unwieldy to be effective. In the same vein, Barua *et al.*, (2010) argues that a large audit committee is often characterised by free riding, disagreement, conflict and slow decision making. Haque and Jones (2020) posit that a lager board or board committee suffers from the problem of free-riding and divergent views from members that affect decision making process and outcome thus leading to poor ESG disclosure.

Consistent with the previous studies who provide positive association between ACM and the level of ESG disclosure (Bravo & Reguera-Alvarado, 2019; Buallay & Al-Ajmi, 2020; Raimo *et al*., 2020; Li *et al.* 2012; Arif, *et al* 2021; Erin *et al* 2021 and Haji 2015; Wang and Sun 2022), the coefficient of audit committee level of activity was positive and significant at 1 percent significant level. However, the positive relationship between ACM and ESG disclosure was inconsistent with the findings of prior empirical studies such as (Mohamad *et al.*, 2012; Al Lawati *et al.*, 2021). The finding suggests that, for AC to improve both financial and non-financial reporting functions such ESG, the AC must be diligent by meeting frequently. In terms of economic significance, the study findings show that a one-standard-deviation increase in the audit committee meetings leads to 10.73 percent increase in the level of ESG disclosure.

Similarly, the results show positive and significant relationship between accounting and financial expertise of the AC and the extent of ESG disclosure. The finding is consistent with our hypothesis prediction of positive association between AC members accounting and financial expertise and the extent of ESG disclosure. The finding is consistent with the findings of (Yorke et al., 202; Uyar et al., 2023; Kuzey et al., 2024; Wang and Sun 2022; ji 2015; H; De Villiers *et al.,* 2022; Zalata et al., 2018) who also documents positive association between AC accounting and finance expertise and the extent of ESG disclosure. the finding is in line with the previous studies that provides evidence of positive impact of AC accounting and financial expertise to ESG reporting (Uyar et al., 2023). The finding is consistent with the resource dependence theoretical perspective that suggest different skills set, knowledge, network and expertise provide critical resources for board and board committees to discharge their monitoring and oversights responsibilities. The findings also collaborate agency theory that emphasizes the importance of monitoring effectiveness of experts on corporate boards.

Regarding the control variables, the regression results shows that profitability, firm size, ESG linked compensation and presence of sustainability committee have positive and statistically significant effect on the level of ESG disclosure in line with findings documented in while gearing is negative but insignificant.

Overall, the regression results indicate that there is significant relationship between corporate governance variables and the extent of ESG disclosure at 1 percent significant level. The regression results indicates that corporate governance variables are important factors in explaining the extent and level of ESG disclosure.

Table 5.3 Regression results

	(1) ESGD
BS	0.2043*
	(0.1148)
BGDiv	0.1678***
	(0.0283)
BI	0.0767***
	(0.0151)
BM	0.3559***
	(0.0353)
FO	0.2583***
	(0.0450)
InstOwn	-0.0137
	(0.0180)
BloOwn	-0.0050
	(0.0233)
ManOwn	0.1897***
	(0.0408)
ACI	0.0147
	(0.0097)
ACS	-0.0395
	(0.3131)
ACM	0.4193***
	(0.1156)
ACAFE	0.0659***
	(0.0116)
TobinsQ	-0.6024
	(0.4090)
LogofTA	6.3840***

	(0.3840)
Prof	0.0666***
	(0.0164)
Liq	0.0046
	(0.0035)
CSRSC	10.7912***
	(0.6926)
AQ	-1.2850**
	(0.6246)
ESGLC	7.8870***
	(0.7777)
Cons	-12.5139***
	(2.5116)
Firm Effects	Yes
Year Effects	Yes
Country Effects	Yes
N	1750
R^2	0.5923

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01
Sources: Author's creation

5.4.4 Robustness test and additional analyses

Additional analyses were carried out to complement our baseline results. Several robustness tests were carried out to confirm the stability of the panel regression results and check the potential issue of endogeneity, simultaneity, reverse causality and sample selection bias. Chau and Gray (2010) posit that the issue of endogeneity is a potential problem in the analyses of the association between corporate governance variables and disclosure. To examine the dynamic effects of the independent variables on the level of ESG disclosure, lagged independent variables were used as suggested by (Nguyen et al., 2024; Larcker and Rusticus 2010; Wintoki *et al.,* 2012; and González, 2015; Manita *et al.,* 2017; Liu *et al.,* 2014; Issa and Zaid, 2021). The results presented in table 5.4 show a one-year and two-years lagged variables, and the result remained basically and qualitatively the same with the baseline regression.

Justification for using lagged variables is as follows: Firstly, the relationship between corporate governance and ESG practices is associated with time lags, the effect of effective corporate governance practices such as appointment of independent directors or diversity of the board might not impact ESG disclosure and assurance immediately, as this requires time for it impact to reflect. Therefore, lagged explanatory variables provide appropriate measure that account for the time lag. Secondly, although the use of lagged explanatory variables as a way of dealing with endogeneity concerns is subject to debate in the literature, there is argument that lagged explanatory variables provides appropriate estimates for dealing with endogeneity under certain data type (Li et al., 2024; Bellemare et al., 2016; Nguyen et al., 2024; Atif et al., 2019). Many studies have used lagged explanatory variables to account for endogeneity concerns in corporate governance, finance and accounting literature (Ghafoor and Gull 2024; Elbardan et al., 2023; Liu et al., 2014; Gull et al., 2023; Hoechle et al., 2009; Atif et al., 2020; Guluma, 2021; Duarte and Eisenbach, 2021; Li et al., 2024). Gull et al., (2023) argues that one year lagged is associated with addressing reverse causality in corporate governance literature and utilised one-year lagged board variables to address endogeneity and reverse causality concerns. Consistent with this, Ghafoor and Gull (2024) noted that lagged variables are robust in mitigating potential biases associated with estimators. Similarly, Elbardan et al., (2023) noted that lag variables strengthen the causality of the relationship between independent and dependent variables and utilised one-year lagged variables to examine the direct and moderating impact of variables. Moreover, Buchetti et al., (2024) noted that lagged variables have been used in CG and ESG literature to address omitted variables bias. Likewise, Li et al., (2024) noted that lagged variables have the potential to mitigate reverse causality and utilised one year lagged independent variables in their studies. Finally, Nguyen et al., (2024) noted that lag variables help in reducing simultaneity and endogeneity concerns and utilised one year lag in their study.

Similarly, extant literature has shown that the current action of a firm affects future financial and non-financial performance (Chen et al., 2022; Atif et al., 2020; Gull et al., 2023; Wintoki et al., 2012; Atif et al., 2021). Gull et al., (2023) noted that lagged explanatory variables provides more efficient measure than the contemporary variables while Atif et al., (2021) utilised one-year and two-year lagged CG variables to examine the impact of board diversity on corporate renewable energy consumption. Likewise, García-Sánchez et al., (2021) utilised one year lagged independent variables in regression to avoid endogeneity concerns. Moreover, Buchetti et al., (2024) noted that lagged variables have been used in CG and ESG literature to address omitted variables bias.

Finally, studies have provided empirical evidence in the literature that suggests changes to the board of directors take an average of two to three years to influence corporate outcomes. For instance, Chen et al., (2022) examined the relationship between NGO directors on the board and CSR. The study provided evidence of positive association between NGO directors and CSR performance. However, the impact of NGO directors on CSR performance is not immediate but take hold after 3 years of appointment. Similarly, Brown et al., (2017) argues that changes to the board of directors takes time to reflect on corporate outcome due to the learning curve effect. For example, the appointment of female director or independent director will have effect on corporate outcomes only after certain period of time, thus the utilisation of lagged independent variables to rerun the analysis.

This study used one-year, and two-years lagged explanatory variables to the examines the dynamic impact of CG variables on the ESG disclosure. The one year and two years lagged explanatory variables seems reasonable to account for time lag in explaining the ESG disclosure and assurance practices. Using the lagged explanatory variables, our results in Table 5.4 remain qualitatively the same to the baseline result, suggesting that our main findings are robust.

Secondly, table 5.5 present the results of an instrumental variable IV two stage least square (2SLS) regression using concentrated ownership as exogenous instrumental variables. In line with prior studies block holder ownership was used as endogenous variable with gearing, firm size and 2 years lagged of block holder ownership as instrumental variables. The selected instrumental variables can have a correlation with the endogenous variables but not with error term. Similarly, the use of lagged variables has been theoretically justified because the lagged and current values of corporate governance and the fact that the lagged value is exogenous to the current level of ESG disclosure thus satisfying instrumental validity criteria.

In line with the requirements for a valid instrument in 2SLS regression, the Hensen over-identification restriction test is insignificant suggesting our instruments are valid. Also, the result of postestimation test of the First-stage regression indicate that the F statistic is greater than all the critical values in the table meaning our variables are not weak. The 2SLS regression method is widely used in corporate governance and sustainability literature due to its efficiency in controlling issues relating to omitted variable bias and endogeneity. Larcker and Rusticus (2010) highlighted the importance of IV 2SLS regression in alleviating inconsistencies in parameter estimation that results in endogeneity issues in accounting and finance studies while Elbardan et al., (2023) argues that IV 2SLS is efficient in removing correlations between explanatory variables and the error terms thus controlling possible reverse causality, endogeneity concerns and omitted variables bias. Many studies have emphasized the importance of IV 2SLS regression in addressing endogeneity concerns in management, accounting and finance literature (Gull et al., 2024; Nguyen et al., 2024; Peng and Kong 2024; Gull et al., 2022; Elbardan et al., 2023; Hill et al., 2020; Antonakis et al., 2010).

In all, the findings of the robustness tests suggests that our results do not suffer from potential endogenous problem.

Table 5.4 Lagged variable regression

	(1) ESGDL1	(2) ESGDL2
BS_1	0.1984* (0.1146)	
BGDiv_1	0.1034*** (0.0273)	
BI_1	0.0717*** (0.0152)	
BIM_1	0.3273*** (0.0355)	
FO_1	0.2403*** (0.0456)	
InstOwn_1	-0.0253 (0.0182)	
BloOwn_1	0.0089 (0.0232)	
ManOwn_1	0.1806*** (0.0414)	
ACI_1	0.0046 (0.0095)	
ACS1_1	-0.0430 (0.3178)	
ACM1_1	0.3446*** (0.1180)	
ACAFE_1	0.0600*** (0.0108)	
TobinsQ	-0.4780 (0.4090)	-0.2447 (0.4090)
LogofTA	6.5298*** (0.3665)	6.5216*** (0.3603)
Prof	0.0737*** (0.0165)	0.0785*** (0.0165)
Liq	0.0042 (0.0036)	0.0049 (0.0036)
CSRSC	11.0946*** (0.6889)	10.8236*** (0.6891)

AQ	-1.1500*	-1.2455**
	(0.6115)	(0.5989)
ESGLC	8.0042***	8.0013***
	(0.7269)	(0.7074)
BS_2		0.2803**
		(0.1141)
BGDiv_2		0.0616**
		(0.0268)
BI_2		0.0663***
		(0.0152)
BIM_2		0.3020***
		(0.0355)
FO_2		0.2117***
		(0.0457)
InstOwn_2		-0.0286
		(0.0183)
BloOwn_2		0.0226
		(0.0232)
ManOwn_2		0.1849***
		(0.0416)
ACI_2		0.0075
		(0.0094)
ACS_2		0.1395
		(0.3198)
ACM_2		0.2672**
		(0.1190)
ACAFE_2		0.0625***
		(0.0107)
Cons	-11.1662***	-11.1572***
	(2.5441)	(2.5699)
Firm Effects	Yes	Yes
Year Effects	Yes	Yes
Country Effects	Yes	Yes
N	1749	1748
R^2	0.5802	0.5760

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01
Source(s): Table created by the author.

Table 5.5: IV 2SLS Regression

	(1) ESG
InstOwn	-.026
	(.041)
BS	.223*
	(.119)
BGDiv	.167***
	(.028)
BM	.359***
	(.036)
BI	.077***
	(.015)
ManOwn	.184***
	(.042)
FO	.269***
	(.059)
ACI	.014
	(.01)
ACS	-.096
	(.325)
ACM	.418***
	(.115)
LogofTA	6.384***
	(.382)
Prof	.07***
	(.017)
Liq	.005
	(.004)
Gearing	.013
	(.017)
ACAFE	-.066***
	(.012)
ESGLC	7.93***
	(.764)
AQ	-1.347**
	(.63)
TobinsQ	-.592
	(.412)
CSRSC	10.808***
	(.691)
Cons	-12.803***
	(2.638)
Country effect	Yes
Firm Effect	Yes
Year Effect	Yes

Observations	1750
R-squared	.592

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Source(s): Table created by the author.

5.5 Conclusion

The last few years have witness growing interest in corporate governance and sustainability disclosure literature. While a growing number of studies have empirically examined the relationship between corporate governance and ESG disclosure in developed economies context, emerging economies such as BRICS have remained understudied with paucity of empirical evidence. Motivated by this, the thesis empirically examines the impact of the corporate governance variables on the level of ESG disclosure in emerging economies using the BRICS countries energy industries as the sample. Using panel data from 2010 to 2023, the study examines the impact of a set of corporate governance variables on the level of ESG disclosure. Specifically, the study examines the impact of board characteristics, ownership structure and audit committee characteristics variables on the extent of ESG disclosure. The main conclusion from the study is as follows: Corporate governance variables have had significant influence on the level of ESG disclosure. Secondly, it can be concluded that the board attributes have more pronounced impact on the extent of ESG disclosure than ownership structure and audit committee variables as all the board characteristics variables are statistically significant in explaining the level of ESG disclosure of the sampled BRICS energy firms. Overall, the results show that corporate governance variables have significant influence on the level of ESG disclosure.

The findings of our study have important practical, policy, regulatory, and theoretical implications. The result show board size, board gender diversity, board composition, foreign ownership, ACAFE, ACM, managerial ownership and frequency of board meetings are found to be effective in enhancing the level of ESG disclosure. Therefore, firms interested in enhancing the performance and transparency of their ESG activities should be diligent with board activities, ensure the presence of more women on the board, have foreign shareholders and have an adequate number of INEDs on the board. The theoretical implication of the finding is, independent boards, foreign ownership, managerial ownership, diligent audit committee, diligent boards, and gender-diverse boards lead to improve ESG disclosure and performance, through which corporate organisations signify their commitment to ESG/sustainability issues to the wider stakeholders in order to access critical resources needed to achieve their corporate goal in line with stakeholder and resource dependence theories. Theoretically, the finding shows gender diverse, diligent, and independent boards benefit both equity providers and other stakeholders in line with resource dependence and stakeholder theories respectively. Similarly, given the need for corporate organizations to contribute toward achieving net zero and to carry all stakeholders along, the findings offer crucial empirical evidence to policy makers to develop CG code with emphasis on diversity of the board, composition of the board and the need for board diligence as these corporate governance mechanisms enhance non-financial reporting and reduce information asymmetry. Investors and potential investors need to pay attention to the board attributes as they are important in determining both financial and non-financial corporate policies and outcomes. Moreover, in line with the theoretical argument and empirical evidence of Lagasio and Cucari (2019), the findings provide theoretical and empirical evidence of heterogeneity of corporate governance mechanisms in relation to the corporate outcomes. Finally, the study confirms the role of foreign and managerial ownerships in balancing their financial interest with social and environmental commitment through ESG disclosure. The regulators and policymakers should also encourage managerial and foreign equity holding to improve ESG disclosure and comes up with policies to minimise significant institutional and block holder shareholding to reduce their negative impact on ESG disclosure. The study is arguably the first attempt to explore the impact of corporate governance on the level of ESG disclosures of energy industry firms in a multi-country context from emerging economies.

Finally, despite a cross-country longitudinal study based on a multiple-theoretical perspectives, this study has some limitations that need to be acknowledged. The study is limited to board characteristics, ownership structure and audit committee characteristics variables. Future studies should look at the impact of other corporate governance variables such as board expertise, board co-option, multiple directorships, business knowledge of directors, age, experience, demographic and cultural diversity of the board and qualifications of the board members among others on the ESG reporting and performance. Also, future studies may consider governance or board sub-committee variables such as the presence and characteristics of sustainability committee, climate governance and their impact on ESG reporting and disclosure. Similarly, future studies should look at the impact of external governance structures and country-level characteristics like regulations, government policies, corporate governance codes, national culture, economic policy uncertainty, Governmental efficiency and political stability on ESG disclosure behaviour. Finally, this study relies on data from the Bloomberg database implying only listed firms with complete datasets were considered. Future studies should consider using both listed and non-listed firms and/or mixed method of data analysis, this may help in enhancing the generalisability of the findings.

5.6 Chapter Summary

In summary, the chapter discussed the empirical findings of the first empirical study and shows the impact of corporate governance variables on the level of ESG disclosure. The empirical evidence reveals the positive effect of board size, board independence, board meeting frequency, board gender diversity, foreign ownership, ACAFE, AC meetings and managerial ownership on the firm's propensity to disclose ESG information. The findings are consistent with resource dependence, agency, neo-institutional and stakeholder theoretical perspectives.

The next chapter, which is the second empirical chapter will provide the empirical results on the relationship between corporate governance and the decision to obtain independent ESG assurance. The chapter will also discuss robustness analyses that were carried out to address potential endogeneity concerns and provide concluding remark.

CHAPTER SIX: Corporate governance and ESG Assurance

6.1 Introduction

This chapter provides empirical analysis of the second empirical chapter. The chapter starts with introduction and overview of CG and ESGA, then theoretical review, empirical review and hypotheses development on the relationship between corporate governance variables and the decision to obtain ESG assurance. Finally, the chapter provides summary statistics, correlation among the variables, empirical findings, discussion of results and finally conclusions.

6.2 Overview of corporate governance and ESG Assurance

Due to the surge of ESG reporting over the last decade, various stakeholders are putting the reported ESG information under increasing scrutiny (KPMG, 2024) and calling for transparent, reliable, comparable, and accurate ESG information (Buertey, 2020; Liu et al., 2023). As a result, there is increasing demand for third party assurance of ESG information (Venter and Krasodomska 2024). A burgeoning body of empirical literature has explored the determinants of firm decision to obtain ESG assurance at firm, market, industry, and country levels. These include studies relating to country legal system (Zhou et al., 2016; Bollas-Araya et al., 2019; Simnett et al., 2020); firm size (Datt et al., 2019; Bollas-Araya et al., 2019); firm industry (Cho et al., 2014; Peters and Romi 2015; Hassan et al., 2020) profitability (Branco et al., 2014) and country orientation (Kolk and Perego 2010). However, a conspicuous research lacuna is the paucity of empirical studies that examine the impact of corporate governance mechanisms and third-party ESG assurance. Empirical studies examine the economic consequences of ESG assurance in the literature that suggests ESG assurance enhance credibility and comparability of ESG information (Liao et al., 2018; Du and Wu 2019; Liu et al., 2023); reduce information asymmetry between BODs/TMT and other stakeholders (Fan et al., 2021; Zhang et al., 2022) influence investment decisions (Brown-Liburd and Zamora 2015; Shen et al., 2017; Quick and Inwinkl 2020; Hoang and Trotman 2021); reduce reputational risk and litigations (Cohent and Simnett 2015; Maso et al., 2020; Karaman et al., 2021; Zhang et al., 2021); improved financial performance (Clackson et al., 2019; Chen and Xie 2022) increase access to finance (Chen et al., 2014; Zhang et al., 2022) reduce ESG decoupling (García-Sánchez *et al.* 2022; Zhang et al., 2022; Gull et al., 2023) and increase firm value (Velte 2021; Rahat and Nguyen 2024; Elbardan et al., 2023). While there is a need for firms to obtained and maintained legitimacy as a form of social contract with the society. However, firms' legitimacy sometimes comes under threat due to systematic risk associated with environmental and sustainability issues which studies suggest can be mitigated through ESG assurance (García-Meca et al., 2024). However, studies on the impact of CG variables on ESG assurance remain scant, overlooked and understudied. Some of the studies on the impact of CG variables on ESG assurance examines certain elements of CG mechanism. These studies include the studies that examines the impact of sustainability committee on ESG assurance (Uyar et al., 2023; Elbardan et al., 2023 Mardawi et al., 2024); Board attributes on ESG assurance (Alsahali et al., 2023; Liao et al., 2018; Buertey 2021; García-Sánchez *et al.* 2022; Mardawi et al., 2024); Audit committee on ESG assurance (Uyar et al., 2023); board gender diversity on environmental assurance (Zhang et al., 2022) and ownership structure (Haider and Nishitani 2022). Although these studies provide an insight and contribute to the literature, contemporary literature suggests that CG elements are complementary thus studies on CG should be holistic and interconnected in a way that consider broad set of corporate governance mechanisms (Maroun 2022).

Additionally, extant literature has shown that effective corporate governance and board monitoring role affect firms' decision to obtain ESG assurance and other corporate outcomes (Liao et al., 2018; García-Sánchez et al., 2021; Lu et al., 2022; Liu et al., 2023; Elbardan et al., 2023). Empirical evidence in the literature shows that corporate governance plays a crucial role in corporate strategies and outcomes such as firms' decision to obtain ESG Assurance (Liao et al., 2018; García-Sánchez et al., 2021). For example, the board of directors have the important duty of appointing the providers of auditing and assurance services over financial and non-financial reporting (Liu et al., 2024); duty to ensure transparency and accountability regarding financial and non-financial information (Campopiano et al., 2022; Liao et al., 2015) and maintaining high ethical standard (Liao et al., 2018; Liu et al., 2024).

However, the results of the limited studies examining the impact of CG variables on ESG assurance show a mixed finding (Liao et al., 2018; Buertey, 2021; García-Sánchez et al., 2021). For example, García-Sánchez et al., (2021) examined the impact of both internal and external corporate governance variables on firms' decision to obtain third-party assurance. Using international sample, the study provides empirical evidence of positive association between board gender diversity, and institutional investors with third-party assurance. Similarly, Liao et al., (2018) in a study of Chinese sample firms provide empirical evidence of positive association between board size, separation of chairmanship and CEO, and gender diversity and with CSR assurance. The study further finds no relationship between board independence, board meetings and CEO foreign experience with firms' decision to obtain CSR assurance. Moreover, Cicchiello et al., (2021) in a study of a sample of Asian and African companies provides empirical evidence of positive relationship between board gender diversity and the external assurance of sustainability reports.

Notwithstanding the contribution of prior studies, they are not without limitations. Specifically, the study of García-Sánchez et al., (2021) and Liao et al., (2018) failed to address the endogeneity concern associated with CG and ESG outcomes studies. Similarly, the study of Cicchiello et al., (2021) is a cross-sectional study that can be considered of limited empirical evidential value. Consistent with this, Liu et al., (2024) examines the influence of only two board level variables. In this thesis, the study examines the relationship between CG variables and ESGA link using panel data over a period of 14 years using a comprehensive set of corporate governance and control variables in an understudied context, using various estimation approaches, and 2SLS and lag variables to mitigate endogeneity concerns.

Notwithstanding the importance and contribution of the previous studies on the relationship between corporate governance and ESG assurance, further studies are required to provide more insight into the link between CG variables and the propensity to obtain independent assurance for the following reasons. First, most of the prior studies focus on the link between CG and ESGA in the context of developed countries. For instance, Weber (2018) examines assurance practices of US sample firms while Hummel et al., (2019) study European companies. On their part, Braam and Peeters (2018) examine the relationship between sustainability performance and third-party sustainability assurance of European and North American firms. Likewise, Birkey et al., (2016) examine the link between sustainability assurance and environmental reputation of US firms while Liu et al., (2024) examines the influence of board attributes on the choice of ESG assurer of Australian firms.

Secondly, most of the prior studies are in the sectors other than the energy industry and the energy sector received limited attention in the literature (Kamaran et al., 2021; Uyar et al., 2020). However, extant literature has shown that energy sector is associated with social and environmental risk, are under regulatory scrutiny and receive more stakeholder pressure (Alam et al., 2019; Orazalin and Mahmood 2018). Consistent with this, empirical evidence shows that ESG assurance practices varies across industries (Simnett et al., 2009) and firms operating in environmentally sensitive industries are associated with third-party assurance practices to improve the credibility of their non-financial reporting (Sierra et al., 2013). Therefore, this study will offer important insights into the link between CG and ESGA in an environmentally sensitive industry context.

Finally, as the ESG assurance literature is an emerging area in sustainability literature, studies examining the determinants of ESG assurance are limited. Specifically, studies examining the link between corporate governance variables and ESG assurance have remain scarce, overlooked and unexplored (Liu et al., 2024; Peters and Romi 2015). Moreover, this study will add to existing literature and provide new insights into the relationship between CG variables and ESGA. Therefore, this study makes several important contributions to a growing body of knowledge by examining the impact and relevance of corporate governance variables on explaining the firms' decision to obtain third-party assurance.

The remainder of this chapter is organised as follows. Section 6.2 provides an overview of the relationship between CG and ESGA. Section 6.3 provides an overview of relevant theories and development of hypotheses for the study; Section 6.4 describes the sample, methodology and measurement of the variables; Section 6.5 presents the empirical findings and discussion; and Section 6.6 concludes the study.

6.3 Theory, literature review and hypothesis development

6.3.1 Board size and ESG assurance

Stakeholder theory posit that larger boards are associated with representation of various stakeholder interest and variety of competences (Hillman et al., 2001; Kock et al., 2012; Nuskiya et al., 2021; Ntim and Soobaroyen 2013). Consistent with this, agency theory posits that a larger board is associated with an increase in diversity which leads to a positive corporate ESG outcome. Similarly, extant literature suggest larger board are associated with resources provision (Liao et al., 2018) and skills and energy to monitor and control (Liao et al., 2018). In contrast, larger boards are also associated with free riding, lack of coordination and poor communication (Liao et al., 2015; Lu et al., 2022; Jain and Zaman 2020) and consideration for short term gains (Nguyen et al., 2022). Some scholars argue that larger boards are associated with conflicts and slow decision making regarding important issues such as ESG assurance. In line with this argument, agency theoretical perspectives also argues that larger boards are associated with cost and consumption of company resources (Lipton and Lorch, 1992). Likewise, critics of large boards argues that the ability, competence and experience of board members are more important than mere size (Atif et al., 2020).

Empirical evidence in the literature regarding the impact of board size on ESG assurance provide conflicting findings. While some studies provide evidence of positive association (Peters and Romi 2015; Liao et al., 2018; Maroun 2022; Erin and Ackers 2024; Mardawi et al., 2024) others provides evidence of negative association (Martínez-Ferrero and García-Sánchez (2017). For example, Mardawi et al., (2024) examined the influence of board size on firm decision to obtain third-party ESG assurance. The finding provides evidence of positive association. Maroun (2022) examined the relationship between board of directors and firm decision to use external ESG assurance. The study finds positive association between board attributes and ESG assurance. Similarly, Liao et al., (2018) in a study of Chinese sample firms also provides empirical evidence of positive association between BS and ESGA. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between board size and sustainability assurance practises. However, Martínez-Ferrero and García-Sánchez (2017) in a study of international sample from 2007-2014 provide empirical evidence of negative relationship between board size and ESG assurance and the choice of assurance provider. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_1: There is a negative relationship between board size and third-party ESG assurance.

6.3.3 Board Composition and ESG assurance

Board independence has become an important structure in recent years. Independence and composition of the board has been associated with the ESG reporting and assurance (Liao et al., 2018; Cui et al., 2020). The literature suggest independent directors are more aligned to adopt GRI framework and behave in a socially and environmentally friendly manner (Turzo et al., 2022). Independent directors have been associated with strong monitoring which is linked with the decision to obtain ESGA (Velte 2021). As independent directors strive to assert their independence and represent the interests of various stakeholders, stakeholder theory suggests that independent directors are associated with higher monitoring. The theory further posits stakeholder engagement through the appointment of independent directors enhance ESG practices.

Empirically, the evidence in the literature is mixed. For example, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of negative and statistically significant relationship between board independence and sustainability assurance practises. Similarly, Maroun (2022) examined the relationship between board of directors' attributes and firm decision to use external ESG assurance. The study finds positive association between board attributes and third-party ESG assurance. Martinez-Ferrero and Garcia-Sanchez (2017) also provide empirical evidence of positive association between board independence and assurance of non-financial information and the choice of a big four audit firm as assuror.

However, Liao et al., (2018) in a study of Chinese sample firms found no relationship between board independence and ESGA. Similarly, in a study of international sample, García-Sánchez et al., (2022) examined the relationship between BI and ESGA. The study finds no relationship with board independence and the decision to purchase third-party ESGA. Miras-Rodriguez and Di Pietra (2018) also do not find significant relationship between independent directors and

CSR assurance. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_2: There is a positive relationship between board independence and third-party ESG assurance.

6.3.4 Board gender diversity and ESG assurance

A large and growing body of literature has investigated the influence of gender diversity on corporate outcomes (García-Meca et al., 2015; Peng et al., 2023; Gull et al., 2023b). Extant literature shows that female directors are associated with enhance board effectiveness and improve governance quality (Gull et al., 2023b); protection of their reputation and that of the organization (McGuinness et al., 2017) and voluntary assurance of ESG information (Lu et al., 2022; Atif et al., 2021; Buertey 2021). However, another strand of literature argues that symbolic use of female directors and board gender diversity hampers their ability to influence important board strategies and corporate outcomes (Main and Gregory-Smith 2018). Consistent with this, “Tokenism” in the appointment of female directors serves as an impediment to their effectiveness (Atif et al., 2019; Gull et al., 2023b) with studies highlighting the need for critical mass of female directors in the board to influence ESG practices (Manita et al., 2018; Gull et al., 2023b).

Theoretically, stakeholder and resource dependence theoretical perspectives suggest that gender diverse boards improve board effectiveness and help in providing access to critical resources. Consistent with this argument, Liao et al., (2018) argues that female directors are associated with reliable and quality non-financial reporting. In terms of empirical evidence, Gull et al., (2023) noted about the paucity of empirical evidence on BGD and the transparency of ESG information and call for more empirical studies on the nexus.

Empirically, Maroun (2022) examined the relationship between board of directors' attributes and firm decision to use external ESG assurance. The study finds positive association between board attributes and third-party ESG assurance. Similarly, Liao et al., (2018) in a study of Chinese sample firms also provides empirical evidence of positive association between board gender diversity and ESGA. Consistent with this, García-Sánchez et al., (2022) also provides evidence of positive association between board gender diversity and third-party ESGA. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between gender diversity of the board and sustainability assurance practises. Moreover, Buertey (2021) examined the impact of board gender diversity on CSR assurance of South African largest firms from 2015-2018. The study provides empirical evidence of positive relationship between BGD and CSRA. Likewise, Cicchiello et al., (2021) in a study of a sample of Asian and African companies provides empirical evidence of positive relationship between board gender diversity and the external assurance of sustainability reports. However, Miras-Rodriguez and Di Pietra (2018) do not find significant relationship between board gender diversity and CSR assurance. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_3: There is a positive relationship between board gender diversity and third-party ESG assurance.

6.3.5 Borad Meeting and ESG assurance

García-Meca et al., (2024) posit that the efficiency of the board is dependent on the level of activity of the board. Extant literature suggests that board level of activities is associated with greater monitoring (Adams and Ferreira, 2012), reduce decoupling and greenwashing (Gull et al., 2022) and increase transparency to various stakeholders (Martínez-Ferrero & García-Sánchez, 2017) and help in discharging oversight functions (Liao et al., 2018). Similarly, agency theory suggests that board meeting frequency leads to greater board monitoring and supervision and thereby improving transparency (Kent and Stewart 2008; Buchetti et al., 2024).

Empirical evidence suggests that diligent boards are associated with improved financial and non-financial performance and enhanced non-financial reporting quality. For instance, Maroun (2022) examined the relationship between board of directors' attributes and firm decision to use external ESG assurance. The study finds positive association between board attributes and third-party ESG assurance. Consistent with this, Martínez-Ferrero and García-Sánchez (2017) in a study of international sample from 2007-2014 provide empirical evidence of positive role of board level of activity on ESG assurance and the choice of assurance provider.

However, Liao et al., (2018) in a study of Chinese sample firms found no relationship between frequency of board meetings and third-party ESGA. Similarly, in a study of European firms, Mardawi et al., (2022) find no relationship between frequency of board meetings and ESGA. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_4: There is a positive relationship between frequency of board meetings and third-party ESG assurance.

6.2.6 Foreign ownership and ESG assurance

Extant literature suggest that foreign shareholders are associated with pressuring management to engage in ESG practices in line with global best practices. Seow (2024) noted that as ESG practices moved from voluntary to mandatory, corporate organizations are adopting ESG practices in line with coercive isomorphism of institutional theory. Responding to pressure from investors especially foreign investors are among the reasons why companies engage in ESG reporting and assurance (Albitar et al., 2020). Velte (2021) noted that foreign shareholders are associated with pressuring management to engage in ESGA practices as an important external stakeholder. Foreign shareholders engage and pressurises firms regarding ESGA because of the mimetic isomorphism from their host country (Risi et al., 2023). However, Cheng et al., (2024) argued that foreign ownership association with CSR practices is not motivated by profit maximization but rather a shift of stakeholders' logic. Foreign shareholders are associated with distinct norms and values awareness from their countries of origin social norms (Cheng et al., 2024); social norms transmission to domestic shareholders (Chen et al., 2022; Li et al., 2021) and reduction in ESG decoupling (Tashman et al., 2019).

The empirical evidence in the literature provides mixed findings. Miras-Rodriguez and Di Pietra (2018) document empirical evidence of positive association between foreign ownership and the decision to obtain third party CSRA. Using Latin American context, Correa-García et al., (2020) examines the influence of foreign ownership on sustainability reporting quality for a period of five years from 2011-2015. The study finds positive and significant effect of foreign ownership on sustainability reporting quality. In a related study, Cheng et al., (2024) also document positive relationships between foreign institutional investors and CSR transparency.

In contrast to this, Kuzey and Uyar (2017), De Beelde and Tuybens (2015), Castelo Branco et al. (2014) and Ruhnke and Gabriel (2013) find no relationship between foreign ownership and CSRA. While the study of Jiang et al., (2023) find negative and significant relationship between foreign ownership and ESG outcomes of Chinese sample firms.

Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_5: There is a positive relationship between foreign ownership and third-party ESG assurance.

6.3.6 Institutional ownership and ESG assurance

Institutional shareholders are associated with shareholder activism through proposals to the board and management. From the neo institutional theoretical perspective, shareholder activism is associated with coercive and mimetic isomorphisms, as institutional shareholders exert pressure on the management to engage in ESG disclosure and assurance. Similarly, as institutional shareholders hold portfolio of investments across various countries and industries, they are associated with sustainability reporting and assurance in line with mimetic isomorphism. The literature shows that IO pressurises management to engage in ESG reporting and assurance (Flammer et al., 2021); have more power, resources and experience to influence corporate strategies and outcomes such as ESGA (Velte, 2022); are mostly driven by economic interest through ESG factors risk assessment (Nofsinger et al., 2019) and are often signatories to the Principles for Responsible Investment (PRI) (Kordsachia et al., 2021). From the agency theorical perspectives institutional ownership are associated with reduced agency costs and agency conflict. Siew et al., (2016) shows that institutional ownership is associated with reduced information asymmetry.

Empirically, in a study of international sample from 2009-2017, García-Sánchez et al., (2022) provides evidence of non-significant relationship between institutional ownership and third-party ESGA. Similarly, Calza et al., (2016) in a study of European sample firms provide empirical evidence of negative association between both short-term and long-term institutional ownership and corporate environmental strategy. However, Carlisle et al., (2024) provide evidence of positive association between institutional shareholder activism and environmental reporting and performance. Similarly, Miras-Rodriguez and Di Pietra (2018) document empirical evidence of positive association between institutional investors and the decision to obtain third party CSRA. In a related study, Nofsinger et al., (2019) examines the impact of institutional investors on ESG practices and document selective preferences regarding ESG practises mostly driven by institutional investors economic interest and the ESG risk involved. Similarly, Cheng et al., (2024) document positive relationships between foreign institutional investors and CSR practices. However, Cheng et al., (2022) document negative relationships between common institutional investors and CSR. Consistent with this, Nguyen et al., (2024) in a study of S&P 500 firms over a period of 6 years from 2015-2020 provide empirical evidence of negative and significant relationship between institutional ownership and transparency regarding climate information.

Based on the above empirical evidence in the literature, the proposed hypothesis is as follows:

H_6: There is a positive relationship between institutional ownership and third-party ESG assurance.

6.3.8 Block holder ownership and ESG assurance

Extant literature has shown that dispersion or concentration of shareholding influence corporate strategy and outcome (Khan 2019; Shu and Chiang 2020; Nguyen et al., 2024). Khan (2019) argues that, while effective corporate governance affects capital allocation and corporate strategy, however, quality of corporate governance varies across nations due to differences in ownership structure. While some countries like the United State are associated with disperse ownership structure, most of the emerging economies such as BRICS are associated with block ownership structure due to family, state or founder ties. The literature suggests that block holder ownership is associated with agency conflict between minority and major shareholders (Ntim and Soobaroyen 2013), opportunistic misapplication of capital (Khan 2019) and monopoly of ESG information to maintain superiority over minority shareholders (Nguyen et al., 2024).

Theoretically, form the new institutional theoretical perspective, block holder share ownership are less likely to be affected by the coercive, mimetic and normative pressures to engage in ESGA. Conversely, agency theory suggest that block holder ownership is associated with greater monitoring of management. Liao (2015) noted that block holder ownership monitors and discipline managers in ways that reduce agency problem and affect corporate outcome such as ESGA. However, another stream of literature argues and provide empirical evidence that block holder ownership is associated with exacerbation of agency problems by extracting financial gains at the expense of minority shareholders (Ge et al., 2021).

Empirically, the literature on the association between block holder ownership and ESG assurance provides mixed findings. For instance, Shu and Chiang (2020) in a study of Taiwan firms provide empirical evidence of negative association between block holder ownership and CSR performance practices. Consistent with this, Ntim and Soobaroyen (2013) in a study of South African firms, documents negative and statistically significant relationship between block ownership and CSR practices. In the same vein, Calza et al., (2016) in a study of European sample firms provide empirical evidence of negative association between block holder ownership and environmental proactivity. Moreover, Nguyen et al., (2024) in a study of S&P 500 firms over a period of 6 years from 2015-2020 provide empirical evidence of negative and significant relationship between block holder ownership and transparency regarding climate information. In contrast, Miras-Rodriguez and Di Pietra (2018) document empirical evidence of positive association between block holder ownership and the decision to obtain third party CSRA. However, Buertey (2021) in a study of South African largest firms from 2015-2018 provides empirical evidence of insignificant relationship between block holder ownership and CSR assurance. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_7: There is a positive relationship between block ownership and third-party ESG assurance.

6.3.9 Managerial ownership and ESG assurance

Drawing upon stewardship theory arguments, managerial ownership reduces agency conflict and information asymmetry through alignment of interest. Stewardship theory posits that since management are holding shareholding stake in the organisation, they require little monitoring to engage in ESG reporting and assurance. Consistent with this, extant literature shows that managerial ownership is associated with limiting the likelihood of short-term opportunistic behaviour due share ownership of management (Manning et al., 2019). However, another stream of literature regarding managerial ownership and ESGA suggests that managerial shareholders attitude towards third-party assurance relates to the costs and benefits of assurance. Consistent with this, Nguyen et al., (2024) argues that managerial shareholders are associated with cost reduction strategies and consideration for short term financial benefit thus provide limited support for ESG disclosure and transparency.

Empirical evidence in the provide mixed findings (Carlisle et al., 2024). Ongsakul et al., (2021) study the relationship between managerial ownership and CSR practices and provides evidence of positive association. The study further shows the moderating role of Economic Policy Uncertainty on the relationship. However, Nguyen et al., (2024) in a study of S&P 500 firms over a period of 6 years from 2015-2020 provide empirical evidence of negative and significant relationship between managerial ownership and transparency regarding carbon information. Similarly, Nurleni and Bandang (2018) provide empirical evidence of negative association between managerial ownership and CSR transparency.

Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_8: There is a positive relationship between managerial ownership and third-party ESG assurance.

6.3.10 Audit committee size and ESG assurance

Agency theoretical perspective posits ACs improve monitoring functions and reduce information asymmetry, thus help in reducing agency costs. ACs have responsibility for internal control, internal audit, financial and non-financial reporting. Form the stakeholders' theoretical perspectives, a bigger audit committee represent the interest of various stakeholders and is associated with divergent skills and expertise. Similarly, extant literature shows that higher AC size is associated with divergent of ideas and opinions during meetings and greater transparency in sustainability reporting (Liao et al., 2018; Velte 2023; Uyar et al., 2023). Velte (2023) argues that the effectiveness of the audit committee depends largely on the size of the committee as the size is considered as human resources needed for effective functioning of the committee. However, another stream of literature noted that AC size above optimum level is associated with slow decision making, lack of coordination and disagreements.

Empirically, the evidence in the literature provides mixed findings. While some studies provide evidence of positive association (Erin and Ackers 2024; Li et al., 2012), others document negative (Maroun 2022) or no relationship (Dwekat et al., 2022; Al-Shaer et al., 2017). For example, Dwekat et al., (2022) study European sample firms and provide evidence of non-significant relationship between audit committee size and the adoption of third-party CSR assurance. Similarly, Al-Shaer et al., (2017) in a study of UK FTSE350 firms from 2007-2011 find no relationship between audit committee size and CSR reporting quality. However, Li et al., (2012) in a study of UK listed firms, find a positive association between audit committee size and non-financial disclosure. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between ACS and sustainability assurance practises. However, Kend (2015) found no association between audit committee size and sustainability assurance.

Conversely, Maroun (2022) examined the relationship between audit committee characteristics and the firm use of external ESG assurance. The study finds negative association between audit committee characteristics and third-party ESG assurance. Based on the discussion above and the empirical evidence, the nineth hypothesis is as follows.

H_9: There is a negative relationship between audit committee size and third-party ESG assurance.

6.2.11 Audit committee independence and ESG assurance

Agency theory suggest that the level of independence of audit committee significantly affects it monitoring and oversights functions over financial and non-financial reporting and assurance (Harjoto et al., 2015; Uyar et al., 2023; Fama and Jensen 1983). Extant literature suggest independence members on the audit committee are associated with greater monitoring (Harjoto et al., 2015; Musallam 2018), transparency and attention to long term goals (Uyar et al., 2023) and credible financial and non-financial disclosures (Gull et al., 2024; Li et al., 2012). However, another stream of literature suggests that the efficiency of independent directors depend on the gender of the independent directors (Gull et al., 2022).

Empirically, Dwekat et al., (2022) study European sample firms and provide evidence of positive association between audit committee independence and the adoption of third-party CSR assurance. Using international sample, Uyar et al., (2023) provide evidence of positive and statistically significant relationship between ACI and ESGA. Conversely, Al-Shaer et al., (2017) in a study of UK FTSE350 firms from 2007-2011 find no relationship between audit committee independence and reporting quality. However, Maroun (2022) examined the relationship between audit committee characteristics and the firm use of external ESG assurance. The study finds negative association between audit committee characteristics and third-party ESG assurance. Consistent with this, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of negative and statistically significant relationship between ACI and sustainability assurance practises. Finally, García-Sánchez et al., (2023) in a study of firms across 58 countries provide evidence of negative and significant association.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_{10}: There is a positive relationship between audit committee independence and third-party ESG assurance.

6.3.12 Audit committee meetings and ESG assurance

For a board or board committee to perform it functions effectively, it has to be diligent. The level of activity of the board has been associated with effective supervision, monitoring and oversight (Velte 2023). Signalling theory posits that board committee with high levels of activity tends to have their ESG reports assured as a sign of diligence (Del Gesso and Lodhi 2024). High level of activity has been associated with decision to obtain assurance (Liao et al., 2018) and greater disclosure of non-financial information (Orazalin et al., 2024).

Maroun (2022) examined the relationship between audit committee characteristics and the firm use of external ESG assurance. The study finds negative association between audit committee characteristics and third-party ESG assurance. However, in a study of European context, Dwekat et al., (2022) provide evidence of positive association between frequency of audit committee meetings with the adoption of third-party CSR assurance. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between ACM and sustainability assurance practises. Similarly, Kend (2015) also provide evidence of positive association between active and diligent audit committee and sustainability assurance.

Conversely, Al-Shaer et al., (2017) in a study of UK FTSE350 firms from 2007-2011 provide empirical evidence of insignificant association between ACM and reporting quality. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_{11}: There is a positive relationship between frequency of audit committee meetings and third-party ESG assurance.

6.3.13 Audit committee accounting and finance expertise and ESG assurance

As audit committee has responsibility for both financial and non-financial, extant literature has shown that knowledge of accounting and finance is essential for members to properly discharge their responsibilities (Boiral et al., 2019; Zaman et al., 2021). The literature show AC members financial expertise is associated with efficient internal control system and risk management process (Buallay and Al-ajmi) and effective monitoring (Velte 2023). Agency theory suggests that members expertise mitigate agency conflict and thereby provide better decisions that enhance ESG transparency.

Maroun (2022) examined the relationship between audit committee characteristics and the firm use of external ESG assurance. The study finds negative association between audit committee characteristics and third-party ESG assurance. Conversely, in a study of European context, Dwekat et al., (2022) provide evidence of positive association between audit committee financial expertise with the adoption of external CSR assurance. Similarly, using international sample, Uyar et al., (2023) provide evidence of positive and statistically significant relationship between ACAFE and ESGA. Moreover, Al-Shaer et al., (2017) in a study of UK FTSE350 firms over a period of 5 years from 2007-2011 provide evidence of positive relationship between audit committee accounting and financial expertise and reporting quality. Consistent with this, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between ACAFE and sustainability assurance practises. Contrarily, García-Sánchez et al., (2023) in a study of firms across 58 countries provide evidence of negative and statistically significant association. Accordingly, based on the above empirical and theoretical evidence, it is hypothesised that:

H_{12}: There is a positive relationship between audit committee accounting and finance expertise and third-party ESG assurance.

6.4 Data and Methodology

6.4.1 Dependent Variable

The dependent variable is ESG assurance. ESGA is dummy variable 1 if the ESG report is assured and zero otherwise. The measurement is in line with prior studies such as (Liao et al., 2018; García-Sánchez et al., 2021; Ballou et al., 2018) and have been used in sustainability literature to measure ESG assurance.

6.4.2 Independent Variables

The study utilised a set of corporate governance mechanisms including board characteristics variables, ownership structure variables and audit committee characteristics variables as independent variables in line with related prior studies (Liao et al, 2018; Gull et al., 2023; Liao et al., 2015; Buallay & Al-Ajmi, 2020; Tran 2021; Arif, 2020; Raimo *et al*, 2020 Yorke et al., 2023; Bose et al., 2021). Corporate governance variables as key determinants of corporate policy and outcomes are the independent variables of this study. A total of 12 independent variables across board, board committee and shareholding structure were utilised. These CG variables are board size measured as the total number of directors on the board (Liu et al., 2024; Liao et al., 2018; García-Sánchez et al., 2021), board composition measured as the proportion of independent directors on the board (Liu et al., 2024; Liao et al., 2018; García-Sánchez et al., 2021), board gender diversity measured as the proportion of female directors on the board (Beji et al., 2021; Liu et al., 2024; Liao et al., 2015; García-Sánchez et al., 2021), board meetings measured as the number of meetings in a given financial year (Liao et al., 2018; García-Sánchez et al., 2021). Other independent variables include audit committee characteristics and ownership structure variables such as institutional ownership measured as a proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year (Nguyen et al., 2024; Ali et al., 2022; Jiang et al., 2023), foreign ownership measured as percentage of shares held by foreigners (Nguyen et al., 2024; Flammer et al., 2021; Ali et al., 2022; Jiang et al., 2023), block holder ownership measured as a proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year (Nguyen et al., 2024; Ali et al., 2022), managerial ownership measured as a proportion of ordinary shares held by members of the board and the management team (Managers, Executive Directors and other board members) in relation to total ordinary share equity at the end of the financial year (Flammer et al., 2021; Ali et al., 2022; Jiang et al., 2023), audit committee meetings measured as the total number of meetings held by a company's audit committee over a full financial year (Kend et al., 2015; Zaman et al., 2021; Garcia-Meca et al., 2021), audit committee independence measured as proportion of the total number of Independent Non-Executive Directors to the total number of audit committee members at the end of a financial year (Kend et al., 2015; Zaman et al., 2021; Alzeban 2020), audit committee size measured as the total number of members in the audit committee (Kend et al., 2015; Zaman et al., 2021; Pozzoli et al., 2022) and lastly audit committee accounting and financial expertise measured as the total number of audit committee members with accounting and financial expertise over the year (Kend et al., 2015; Zaman et al., 2021; Pozzoli et al., 2022). The definitions and measurements of the variables are presented in table 6.1.

6.4.3 Control variables

This study control for firm-level and board-level characteristics that may affect the extent of ESG assurance in line with previous studies (Gipper et al., 2024; Gull et al., 2022; Benlemlih et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). These variables include firm size, profitability, liquidity, gearing, audit quality, Tobin's Q, ESG committee, audit quality and ESG based compensation. As Iliev and Roth (2023) noted, firm size affects the extent of ESG reporting as larger firms are associated with more stakeholder pressure to improve ESG performance while

Xue et al., (2023) argues that larger firms have greater incentive to disclose ESG information to gain legitimacy from various stakeholders. Consistent with this, extant literature and empirical studies have shown that larger firms are associated with agency problem (Jensen and Mi 1976); greater visibility and operational impact (Hummel et al., 2019; Iliev and Roth 2023; Sarhan and Al-najjar 2022); more analyst following (García-Meca et al., 2024); more media coverage and scrutiny (García-Meca et al., 2024); attract more attention from foreign and institutional investors that demand transparency through assurance (Simnett et al., 2009; Gipper et al., 2024); more public scrutiny and pressure (Hummel et al., 2019; Issa and Zaid 2024) and better resources to engage in ESG activities and disclosure (Drempetic et al., 2020; Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024; Gipper et al., 2024). Likewise, Issa and Zaid (2024) noted that larger firms face more societal pressure regarding environmental concerns and disclosure.

Prior studies in the literature have shown firm size has been measured in a variety of ways in accounting, finance, and management literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024). For example, Gull et al., (2022), Emma et al., (2024) and Duggal et al., (2024) measured FS using natural log of total sales, Boukattaya et al., 2024 and Xue et al., (2023) utilised natural log of market capitalization as a measure of firm size, while Benlemlih et al., (2022); Iliev and Roth (2023) and Wang et al., (2024) measured FS using log of total assets. Other measures of firm size in accounting and finance literature include number of employees (Krasodomska et al., 2023; Khalil et al., 2024; Morán-Muñoz et al., 2024); enterprise value (Dang et al., 2019); total sales (Gull et al., 2023b; Liao et al., 2018; Emma et al., 2024 and Duggal et al., 2024); total profit (Mubeen et al., 2021) and net assets (Morán-Muñoz et al., 2024). In line with prior studies, this study measure firm size using log of total assets. This is consistent with the studies of (Benlemlih et al., 2022; Iliev and Roth 2023; Wang et al., 2024; Lyu et al., 2024) that measure firm size using log of total assets. Measurement of firm size has been a subject of debate in accounting and finance literature. Dang et al., (2018) noted that different proxies provide different implications, and some measures are more relevant than others. Dang et al., (2018) further contend that empirical results are sensitive to different measures of firm size. Moreover, Vijh and Yang (2013) provides evidence of sensitivity of different firm size measures to empirical results in accounting and finance literature.

Theoretical and empirical justification for using total asset as measure of firm size.

As theorical and empirical evidence in the literature suggest that availability of resources affect the extent of ESG/CSR practices and disclosure (Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024), this study utilised log of total asset as a measure of firm size for the following reasons:

Unlike market capitalisation and total sales that measure capital market condition and product market penetration respectively, total assets measure firm resources that have a direct link with ESG practices, disclosure and assurance as different measures capture different aspect of FS. Similarly, a critical evaluation of other measures shows the measures are flawed and insufficient. For example, number of employees as a measure of firm size have been criticised for not capturing part time employees despite being part of the critical human resources (Dang et al., 2018). Consistent with this, the study of Dang et al., (2018) suggest that the use of market capitalization as a measure of FS may be mechanically correlated with the performance measure.

Secondly, log of total assets is the most employed measure of firm size in accounting and finance literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Wang et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Dang et al., (2018) in a study of empirical papers in accounting and finance literature over a period of 20 years found over 50 percent of the studies utilised log of total assets as a measure of FS because of its ability to measure resources base of the entity including both tangible and intangible resources. Therefore, the use of log of total assets will enhance comparability and generalisability because of the widespread use of total asset as a measure of FS.

Thirdly, total assets being the most utilised measure of firm size allow for consistency and comparison with prior empirical studies. This is consistent with the argument of (Gull et al., 2022; Nadeem et al., 2017; Haider and Kokubu 2015; and Martínez-Ferrero and García-Sánchez 2017).

Other control variables used in this study include profitability measured as return on asset as firms with higher profitability tend to have higher level of ESG disclosure and assurance (Chen et al., 2020; Benlemlih et al., 2022; García-Meca et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Similarly, higher levels of debt are associated with higher oversight and monitoring by the lenders thus firms with higher leverage are likely to have greater level of ESG reporting and assurance (Dyck et al., 2019; Benlemlih et al., 2022; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021) and to lower the cost of capital (Cheng et al., 2015; Gipper et al., 2024). Thus, this study measure gearing as the ratio of total debt to total asset. This study control for audit quality using dummy variable 1 if the sampled firms are audited by the Big4 firms and 0 otherwise (Wang et al., 2024; Liao et al., 2018). This study includes profitability and liquidity as control variables to capture the financial health and resources availability of the sampled firms to engage in ESG disclosure and assurance. Other control variables include board ESG committee which indicate commitment to ESG transparency (García-Meca et al., 2024); Tobins Q to capture firm market value (Cheng et al., 2024) and ESG linked compensation (Adu et al., 2023). All data used in this study were extracted from the Bloomberg database and firms annual report.

Table 6.1 Definition and measurement of the variables

Variable	Definition	Measurement
Dependent Variable:		
ESGA	Environmental, Social and Governance Assurance	A dummy variable equal to 1 if the ESG report is assured, and zero otherwise.
Independent Variables:		
BS	Board Size	Total number of the members of the board of directors.
BGDiv	Board gender diversity	Ratio of female members to the total number of the board members at the end of the financial year.
BI	Board Independence	Ratio of the total number of Independent non-executive directors to the total number of directors on the board at the end of a financial year.
BM	Board Meetings	The total number of meetings held by a company's board of directors over a full financial year.
FO	Foreign Ownership	Percentage of shares held by foreigners
ManOwn	Managerial Ownership	Percentage of shares owned by managers
IO	Institutional Ownership	proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year
BloOwn	Block holder Ownership	proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year
ACS	Audit Committee Size	Total number of members in the committee
ACI	Audit Committee Independence	Ratio of non-executive independent directors to total number of directors in the committee.
ACM	Audit Committee Meetings	Number of committee meetings during the year.

ACAFE	AC accounting and financial expertise	Proportion of the accounting and financial experts to the total number of AC members
Control variables:		
AQ	Audit Quality	A dummy variable equals to 1 if the firm is audited by a Big 4 audit firm and 0 otherwise
Liq	Liquidity	Ratio of current assets to current liability.
CSRSC	ESG/CSR/Sustainability committee	A dummy variable equal to 1 for the presence of ESG/CSR/sustainability committee of the board and 0 otherwise.
LogofTA	Log of Total Assets	Natural logarithm of total assets at the end of the financial year
Gearing	The ratio of debt to the book value of total assets at the end of the financial year.	The ratio of debt to the book value of total assets at the end of the financial year.
Prof	Return on Equity	Ratio of net income to shareholders' equity
ESGLC	ESG Linked Compensation for the Board	A dummy variable 1 if there is ESG linked compensation for the board and 0 otherwise

Sources: Author's creation

6.4.4 Regression Model

Data for the study was extracted from Bloomberg database, annual reports, ESG reports and assurance reports for the 2010–2023 period to test the hypotheses. The sample was composed of 1,750 observations from 5 BRICS member countries for the same period.

Probit regression analysis is used to test the relationship between CG variables and control variables with ESG assurance in line with the study of (Alhababsah and Yekini 2021). The justification for using probit regressions is due to the dichotomic nature of ESG assurance as our dependent variable as OLS is inefficient because of violation of OLS assumption. Time-invariance, firm-level heterogeneity, and country variations are accounted for in the model by incorporating year effects, firm effect, and country effect, respectively. The regression model employed is as follows:

$ESGA = \alpha + \beta_1 BSize_{it} + \beta_2 BGDiv_{it} + \beta_3 BCom_{it} + \beta_4 BM_{it} + \beta_5 FO_{it} + \beta_6 InsOwn_{it} + \beta_7 BloOwn_{it} + \beta_8 ManOwn_{it} + \beta_9 ACSize_{it} + \beta_{10} ACCom_{it} + \beta_{11} ACM_{it} + \beta_{12} ACAFE_{it} + \beta_{13} ESGLC_{it} + \beta_{14} Prof_{it} + \beta_{15} Liq_{it} + \beta_{16} FS_{it} + \beta_{17} Gea_{it} + \beta_{18} CSR/SC_{it} + \beta_{19} AQ_{it} + \beta_{20} TQ_{it}$ + Year Effects + Country Effects + Firm Effects + e_{it}

Where:

ESGA = Environmental, Social and Governance Assurance

BSize = Board Size

BCom = Board Composition

BGDiv = Board Gender Diversity

BM = Board Meetings

FO = Foreign Ownership

InsOwn = Institutional Ownership

BloOwn = Block holder ownership

ManOwn = Managerial Ownership

ACSize = Audit Committee Size

ACAFE = Audit Committee accounting and financial expertise

ACCom = Audit Committee Composition

ACM = Audit Committee Meetings

FS = Firm Size

Prof = Profitability

Liq = Liquidity

Gea = Gearing

ESGLC = ESG Linked Compensation for Board

AQ = Audit Quality

TQ = Tobin's Q

CSR/SC = Board CSR/Sustainability committee

e = error term

6.5 Results and Discussion

6.5.1 Descriptive Statistics

The descriptive statistics of both dependent, independent and control variables are presented in Table 6.2. The summary statistics shows that 62 percent of the sample obtained third-party ESG assurance, this is in line with the studies of Mardawi et al., (2024), Datt et al., (2023) and Krasodomska et al., (2023) that document 65 percent, 62 percent and 64 percent respectively. However, the 62 is higher than the 46 and 56 percent evidence provided by García-Sánchez et al., (2021) and Meqbel et al., (2023) respectively. The board size has an average of 10 members with a maximum of 21 members. The average gender diversity is 14.4 percent which is line with the findings of previous studies such as (Nadeem et al., 2020; Gull et al., 2022) while independent directors on the board are averagely 49.9 percent. The board has an average of 10 meetings in a year with 13 percent foreign ownership stake. Moreover, institutional ownership has an average of 22 percent, block holder ownership has an average of 14 percent and an average of 6 percent managerial ownership. An average of 68 percent of the audit committee members are independent directors, ACS has average of 3 members with average of 5 meetings during the year. The results show 68 percent of firms have sustainability committee, an average of 57 percent of the sample firms are audited by the one of the big 4 firms and with an average profitability of 5 percent.

Table 6.2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESGA	1750	.62	.486	0	1
BS	1750	10.054	2.391	4	21
BGDiv	1750	14.404	11.938	0	46.15
BI	1750	49.973	19.646	0	100
BM	1750	10.345	7.676	0	87
FO	1750	13.002	6.701	0	50.1
InstOwn	1750	22.936	17.616	0	98.54
BloOwn	1750	14.262	14.082	0	97.1
ManOwn	1750	6.754	6.922	0	63.9
ACI	1750	68.333	32.375	0	100
ACS	1750	3.744	.824	3	9
ACM	1750	5.008	2.216	0	13
ACAFE	1750	50.493	32.484	14.3	100
LogofTA	1750	4.323	.884	2.133	5.646
Prof	1750	5.184	15.234	-291.58	106.811
Liq	1750	3.335	68.911	0	2891
Gearing	1750	25.916	17.289	0	149.434
CSRSC	1750	.687	.464	0	1
TobinsQ	1750	1.116	.625	.05	7.5
AQ	1750	.571	.495	0	1
ESGLC	1750	.539	.499	0	1

Sources: Author’s creation

6.5.2 Correlation

Table 6.3 shows the results of the pairwise correlation between ESG assurance, independent variables and the control variables. The pairwise result shows a significant positive correlation among corporate governance and firm level variables (BGD, BI, BM ACI, ACS, ACM, ACAFE, MO, BO, AQ, SC, TA, ESGLC) with ESG assurance. However, the pairwise correlation shows an insignificant relationship between ESGA and foreign ownership, liquidity and gearing while board size, institutional ownership, Tobin’s Q and profitability show negative and significant correlation. Moreover, as all the correlation coefficients are below 0.8 with the highest coefficient of 0.538, the pairwise correlation suggests no multicollinearity concerns. This was further confirmed using VIF, the results show all the variables have VIF of less than 10.

Table 6.3 Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13
(1) ESGA	1.000												
(2) BS	-0.198***	1.000											
(3) BGDiv	0.434***	0.022	1.000										
(4) BI	0.154***	0.005	0.380***	1.000									
(5) BM	0.040*	0.033	-0.117***	-0.303***	1.000								
(6) FO	0.011	-0.103***	-0.051**	-0.201***	-0.002	1.000							
(7) InstOwn	-0.137***	0.060**	-0.235***	-0.154***	0.067***	0.363***	1.000						
(8) BloOwn	0.089***	-0.150***	-0.074***	-0.075***	0.032	0.370***	0.455***	1.000					
(9) ManOwn	0.091***	-0.064***	0.013	-0.166***	0.081***	0.332***	0.066***	0.226***	1.000				
(10) ACI	0.266***	-0.050**	0.233***	0.187***	-0.057**	-0.074***	-0.192***	0.052**	-0.112***	1.000			
(11) ACS	0.091***	0.001	0.088***	-0.053**	0.029	0.024	-0.166***	0.057**	0.114***	-0.029	1.000		
(12) ACM	0.051**	-0.092***	-0.001	0.029	0.002	-0.039*	-0.009	0.129***	0.031	0.191***	0.043*	1.000	
(13) ACAFE	0.491***	-0.156***	0.536***	0.211***	-0.037	-0.037	-0.322***	-0.028	0.014	0.469***	0.193***	0.047**	1.00
(14) LogofTA	0.280***	0.171***	0.385***	0.124***	0.117***	-0.131***	-0.191***	-0.028	-0.135***	0.433***	0.084***	0.058**	0.500**
(15) Prof	-0.074***	0.096***	-0.075***	-0.124***	0.045*	0.009	0.044*	-0.041*	0.043*	-0.074***	-0.013	0.019	-0.139**
(16) Liq	0.013	-0.032	0.023	0.007	0.011	-0.002	-0.003	-0.013	-0.001	-0.003	-0.025	-0.010	0.03
(17) gearing	-0.034	-0.129***	-0.157***	-0.122***	-0.003	0.020	0.203***	0.128***	0.083***	-0.088***	0.042*	0.044*	-0.166**
(18) CSRSC	0.326***	0.125***	0.499***	0.323***	-0.172***	-0.183***	-0.171***	-0.042*	-0.022	0.246***	0.050**	0.028	0.359**
(19) TobinsQ	-0.086***	-0.070***	-0.070***	-0.065***	0.031	0.046*	0.150***	0.099***	0.023	-0.135***	-0.084***	-0.038*	-0.187**
(20) AQ	0.246***	-0.139***	0.247***	0.041*	0.026	-0.013	-0.177***	0.122***	-0.008	0.482***	0.058**	0.235***	0.428**
(21) ESGLC	0.358***	-0.105***	0.528***	0.353***	-0.083***	0.069***	-0.150***	0.233***	0.096***	0.290***	0.093***	0.053**	0.538**

Sources: Author’s creation

6.5.3 Empirical results and discussion

To examine the relationship between CG variables and the third-party ESG assurance, probit regression was used. The regression results regarding corporate governance variables shows that corporate governance variables are significant in explaining firms' decision to obtain ESG assurance. Specifically, board gender diversity, audit committee independence, accounting and finance expert on audit committee and board meeting show positive and statistically significant relationship at 1% significant level. Moreover, board independence, foreign ownership, block holder ownership and managerial ownership also shows a positive and statistically significant relationship while board size shows a negative and statistically significant relationship at 10%. Specifically, the finding show board size has negative and statistically significant relationship with decision to obtain third-party ESGA. The finding offers empirical support for hypothesis H_1 and is consistent with findings of prior CG and ESGA studies (Oware et al., 2022; Hay et al., 2023; Kılıç and Kuzey 2018; Haider and Nishitani 2022; Akhter and Sekishita 2019). The literature has questioned the relationship between board size and ESG outcomes and call on the need for optimal board in term of size (Velte 2021). The plausible explanation for this finding is the fact that a mere increase in the number of board members does not translate to better ESG assurance and corporate transparency, the board has to be diligent (through frequent meetings), diverse and truly independent (Nguyen et al., 2021; Hay et al., 2023) to achieve better transparency. Secondly, recent studies have highlighted the need for more independent directors on the board than a mere increase in board size that has a significant number of executive directors (Gull *et al.*, 2023). Finally, the size of the board could be counterproductive if it goes beyond a certain limit or with significant executive members. The results is in line with agency theory that suggests larger boards requires considerable time, resources and efforts to achieve consensus regarding ESG outcomes (Jensen 1993) and the challenges of larger board such as freeriding, poor decision and coordination challenges outweighed any additional benefit in board increase (Huang and Wang 2015).

Regarding board independence, the results show a positive and significant relationship with the decision to obtain third-party ESG assurance. The finding is consistent with the findings of (Martínez-Ferrero and García-Sánchez, 2017; Martinez-Ferrero et al. 2017; Haider and Nishitani 2022) and contradicts the findings of García-Sánchez et al., (2022). The result offers empirical support for our hypothesis prediction of positive association, thus H_2 is accepted. The results regarding board independence offer support for stakeholder theory regarding the role of independent directors in ensuring accountability and transparency to all stakeholders. The finding also aligns with the recent anecdotal and empirical evidence in the literature that associate independent directors with protecting their reputational capital, enhancing monitoring mechanism and asserting their independence. Consistent with this, board gender diversity shows a positive and significant relationship with the decision to obtain third-party ESG assurance at 1 percent significant level. The finding is consistent with the findings of García-Sánchez et al., (2022); Liao et al., (2018) and Buertey (2021). In line with the agency and stakeholder theoretical perspectives, the finding support the notion that women on corporate board are associated with strengthen oversights functions and increasing transparency regrading non-financial information. The findings also provide empirical evidence of positive and statistically significant relationship between frequency of board meetings and third-party ESG assurance. The finding is consistent with the findings of prior studies that show board meeting frequency has significant positive impact on ESG assurance (Hay et al., 2023).

Regarding ownership structure variables, the findings indicate that foreign ownership, block holder ownership and managerial ownership structure variables have a significant relationship with the decision to obtain third-party ESGA while institutional ownership has negative but insignificant relationship. Specifically, the results show institutional ownership has a negative and non-significant relationship with the decision to obtain third-party ESG assurance. The finding is consistent with the findings of prior studies (García-Sánchez et al., 2021). However, the result is inconsistent with our hypothesis prediction of this study. Similarly, the findings indicate that foreign ownership has a positive and significant relationships with ESG assurance. The finding is consistent with the findings of prior studies such as (García-Sánchez et al., 2022; Oh et al., 2011; Haider and Nishitani 2022) and the hypothesis prediction of this study. Likewise, the results show managerial ownership has a positive and significant relationship with the decision to obtain third-party ESG assurance. The finding is consistent with the findings of Oh et al., (2011) and the hypothesis prediction of this study. The finding is consistent with agency theory that suggest managerial ownership are associated with alignment of interest that reduce agency cost through ESG transparency. Consistent with stakeholder theory, the finding can be interpreted as mechanism by used by MO to gain the trust and support of stakeholders. Finally, the results show block holder ownership has a significant relationship with the decision to obtain third-party ESG assurance. The finding is consistent with the findings of García-Sánchez et al., (2022) and the hypothesis prediction of this study. The finding can be explained in line with the stakeholder theoretical perspective that suggests that block holder shareholders used their concentrated ownership as a tool for monitoring managers. Although the finding regarding institutional ownership is inconsistent with our hypothesis predictions, there are possible reasons for this finding. First, owing to the close-knit relationships between the institutional shareholders and the management, there seems to be less influence of these shareholders on corporate assurance practices.

Secondly, the energy industry as an environmentally sensitive industry with high public and regulatory pressure is less likely to be influenced by institutional shareholding in obtaining ESG assurance due to the different types of institutional shareholders with different preferences. Thirdly, another possible explanation regarding institutional shareholders is the pressure to deliver returns to their clients within short periods of time usually a quarterly. This explains why IO prefer short term financial gain over costly and long term ESG investments (Acar et al., 2021).

Regarding the ACC variables, ACI show positive and statistically significant relationship with ESGA. The finding is consistent with our hypothesis prediction of positive association and in line with findings of prior studies (Uyar et al., 2023; Dwekat et al., 2022; Al-Shaer and Zaman 2018; Zaman et al., 2021). The finding is also consistent with agency and stakeholder theorical perspectives that suggest boards with higher independent directors are more effective in monitoring the management and are associated with ESG transparency. However, the results show positive but insignificant relationship between ACS and the decision to obtain third-party assurance. The result is consistent with the findings of prior studies that provides evidence of no relationship (Zaman et al., 2021; Dwekat et al., 2022; Al-Shaer and Zaman 2018; Kend, 2015; Maroun 2022). Surprisingly, the results show no-relationship relationship between ACM and the decision to obtain third-party assurance. The result is consistent with the findings of prior studies that provides evidence of no relationship (Zaman et al., 2021; Dwekat et al., 2022; Al-Shaer and Zaman 2018; Maroun 2022). Finally, the result show positive and statistically significant relationship between accounting and financial expert on AC and purchase of third-party ESGA. The finding is consistent with our hypothesis prediction of positive association and in line with findings of prior studies (Dwekat et al., 2022; Al-Shaer and Zaman 2018; Uyar et al., 2023). The probable reason for the insignificant relationship with some of the audit committee attributes is the fact that it is economically more cost effective for audit committee to internally assess the ESG information due to the cost involved in assurance and the fact that most of the assurance services obtained are limited assurance. Secondly, some scholars argue that ESGA practices are vulnerable to exploitation by selfish management that will make diligent audit committee not to support the practice (Lemma et al., 2023; Perego and Kolk 2012). Overall, the results indicate ACI and ACAFE reduce agency conflict through ESGA.

Table 6.4 Probit regression

	(1) ESGA
BS	-0.1456*** (0.0250)
BGDiv	0.0540*** (0.0061)
BI	0.0058* (0.0036)
BM	0.0373*** (0.0075)
FO	0.0153* (0.0123)
InstOwn	-0.0050 (0.0048)
BloOwn	0.0091** (0.0066)
ManOwn	0.0015* (0.0111)
ACI	0.0051*** (0.0017)
ACS	0.0070 (0.0561)
ACM	-0.0350 (0.0273)
ACAFE	0.0209*** (0.0026)
TobinsQ	-0.1126 (0.0767)
LogofTA	-0.0209 (0.1003)
Prof	-0.0010 (0.0025)

Liq	-0.0006
	(0.0014)
CSRSC	1.1278***
	(0.1670)
AQ	0.0550**
	(0.1336)
ESGLC	0.0947**
	(0.1994)
Cons	-0.4997
	(0.6108)
/ lnsig2u	-0.5871**
	(0.2493)
Firm Effects	Yes
Year Effects	Yes
Country Effects	Yes
N	1750
R^2	

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01
Sources: Author's creation

6.5.4 Robustness test and Additional analysis

Additional analyses were carried out to complement our baseline results. Several robustness tests were carried out to confirm the stability of the panel regression results and check the potential issue of endogeneity, simultaneity, reverse causality and sample selection bias. Chau and Gray (2010) posit that the issue of endogeneity is a potential problem in the analyses of the association between corporate governance variables and disclosure. To examine the dynamic effects of the independent variables on the level of ESG assurance, lagged independent variables were used as suggested by (Larcker and Rusticus 2010; Wintoki *et al.,* 2012; and González, 2015; Manita *et al.,* 2017; Liu *et al.,* 2014; Issa and Zaid, 2021). The results presented in table 6.5 show a one-year and two-years lagged variables, and the result remained basically and qualitatively the same with the baseline regression. Justification for using lagged variables is as follows: Firstly, the relationship between corporate governance and ESG practices is associated with time lags, the effect of effective corporate governance practices such as appointment of independent directors or diversity of the board might not impact ESG disclosure and assurance immediately, as this requires time for it impact to reflect. Therefore, lagged explanatory variables provide appropriate measure that account for the time lag. Secondly, although the use of lagged explanatory variables as a way of dealing with endogeneity concerns is subject to debate in the literature, there is argument that lagged explanatory variables provides appropriate estimates for dealing with endogeneity under certain data type (Bellemare et al., 2016: Atif et al., 2019). Many studies have used lagged explanatory variables to account for endogeneity concerns in corporate governance, finance and accounting literature (Ghafoor and Gull 2024; Elbardan et al., 2023; Gull et al., 2023; Hoechle et al., 2009; Atif et al., 2020; Guluma, 2021; Duarte and Eisenbach, 2021). Gull et al., (2023) argues that one year lagged is associated with addressing reverse causality in corporate governance literature and utilised one-year lagged board variables to address endogeneity and reverse causality concerns. Consistent with this, Ghafoor and Gull (2024) noted that lagged variables are robust in mitigating potential biases associated with estimators. Similarly, Elbardan et al., (2023) noted that lag variables strengthen the causality of the relationship between independent and dependent variables and utilised one-year lagged variables to examine the direct and moderating impact of variables. Moreover, Buchetti et al., (2024) noted that lagged variables have been used in CG and ESG literature to address omitted variables bias. Likewise, Li et al., (2024) noted that lagged variables have the potential to mitigate reverse causality and utilised one year lagged independent variables in their studies.

Similarly, extant literature has shown that the current action of a firm affects future financial and non-financial performance (Atif et al., 2020; Gull et al., 2023; Wintoki et al., 2012; Atif et al., 2021). Atif et al., (2020). Gull et al., (2023) noted that lagged explanatory variables provides more efficient measure than the contemporary variables while Atif et al., (2021) utilised one-year and two-year lagged CG variables to examine the impact of board diversity on corporate renewable energy consumption. Likewise, García-Sánchez et al., (2021) utilised one year lagged independent variables in regression to avoid endogeneity concerns. Moreover, Buchetti et al., (2024) noted that lagged variables have been used in CG and ESG literature to address omitted variables bias.

Finally, studies have provided empirical evidence in the literature that suggests changes to the board of directors take an average of two to three years to influence corporate outcomes. For instance, Chen et al., (2022) examined the relationship between NGO directors on the board and CSR. The study provided evidence of positive association between NGO directors and CSR performance. However, the impact of NGO directors on CSR performance is not immediate but take hold after 3 years of appointment. Similarly, Brown et al., (2017) argues that changes to the board of directors takes time to reflect on corporate outcome due to the learning curve effect. For example, the appointment of female director or independent director will have effect on corporate outcomes only after certain period of time, thus the utilisation of lagged independent variables to rerun the analysis.

This study used one-year, and two-years lagged explanatory variables to the examines the dynamic impact of CG variables on the ESG disclosure. The one year and two years lagged explanatory variables seems reasonable to account for time lag in explaining the ESG disclosure and assurance practices. Using the lagged explanatory variables, our results in Table 6.5 remain qualitatively the same to the baseline result, suggesting that our main findings are robust.

Secondly, table 6.6 present the results of an instrumental variable IV two stage least square (2SLS) regression using concentrated ownership as exogenous instrumental variables. In line with prior studies block holder ownership was used as endogenous variable with gearing, firm size and 2 years lagged of block holder ownership as instrumental variables. The selected instrumental variables can have a correlation with the endogenous variables but not with error term.

In line with the requirements for a valid instrument in 2SLS regression, the Hensen over-identification restriction test is insignificant suggesting our instruments are valid. Also, the result of postestimation test of the First-stage regression indicate that the F statistic is greater than all the critical values in the table meaning our variables are not weak. The 2SLS regression method is widely used in corporate governance and sustainability literature due to its efficiency in controlling issues relating to omitted variable bias, reverse causality and endogeneity (Gull et al., 2022; Shahab et al., 2022; Nadeem et al., 2020). Larcker and Rusticus (2010) highlighted the importance of IV 2SLS regression in alleviating inconsistencies in parameter estimation that results in endogeneity issues in accounting and finance studies while Elbardan et al., (2023) argues that IV 2SLS is efficient in removing correlations between explanatory variables and the error terms thus controlling possible reverse causality, endogeneity concerns and omitted variables bias. Many studies have emphasized the importance of IV 2SLS regression in addressing endogeneity concerns in management, accounting and finance literature (Elbardan et al., 2023; Hill et al., 2020; Antonakis et al., 2010)

In all, the findings of the robustness tests suggests that our results do not suffer from potential endogenous problem.

Table 6.5 One-year and two-year lagged regression

	(1) ESGAL1	(2) ESGAL2
BS_1	-0.1980*** (0.0250)	
BGDiv_1	0.0130*** (0.0049)	
BI_1	0.0018* (0.0031)	
BM_1	0.0351*** (0.0080)	
FO_1	0.0228* (0.0118)	
InstOwn_1	0.0029 (0.0043)	
BloOwn_1	-0.0010 (0.0058)	
ManOwn_1	0.0024* (0.0100)	
ACI_1	-0.0055*** (0.0016)	
ACS_1	-0.0431 (0.0536)	
ACM_1	0.0126 (0.0191)	
ACAFE_1	-0.0026 (0.0021)	
TobinsQ	-0.2563*** (0.0754)	-0.2687*** (0.0769)
LogofTA	0.5195*** (0.1002)	0.5793*** (0.1003)
Prof	-0.0029 (0.0024)	-0.0030 (0.0026)

Liq	-0.0004	-0.0003
	(0.0010)	(0.0010)
CSRSC	1.4122***	1.2519***
	(0.1640)	(0.1619)
AQ	0.4292***	0.5313***
	(0.1279)	(0.1321)
ESGLC	1.0488***	1.3673***
	(0.1857)	(0.1910)
BS_2		-0.1911***
		(0.0251)
BGDiv_2		0.0023*
		(0.0050)
BI_2		0.0006*
		(0.0032)
BM_2		0.0342***
		(0.0085)
FO_2		0.0182*
		(0.0117)
InstOwn_2		0.0029
		(0.0043)
BloOwn_2		-0.0020
		(0.0055)
ManOwn_2		-0.0043
		(0.0095)
ACI_2		-0.0092***
		(0.0017)
ACS_2		-0.0022
		(0.0553)
ACM_2		0.0050
		(0.0182)
ACAFE_2		-0.0093***
		(0.0021)
Cons	-1.3373**	-1.0324
	(0.6449)	(0.6479)

/ lnsig2u	-0.1453	-0.0361
	(0.2359)	(0.2226)
Firm Effects	Yes	Yes
Year Effects	Yes	Yes
Country Effects	Yes	Yes
N	1749	1748
R^2		

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01
Sources: Author's creation

Table 6.6 2SLS regression

	(1) ESGA
InstOwn	.003
	(.002)
BS	-.032***
	(.005)
BGDiv	.01***
	(.001)
BM	.007***
	(.001)
BI	0
	(.001)
ManOwn	.003*
	(.002)
FO	-.001
	(.002)
ACI	.001***
	(0)
ACS	.011
	(.013)
ACM	-.002
	(.004)
LogofTA	-.011
	(.015)
Prof	0
	(.001)
Liq	0
	(0)
Gearing	.001
	(.001)
ACAFE	.004***
	(0)

ESGLC	-.003
	(.026)
AQ	-.018
	(.024)
TobinsQ	-.029*
	(.016)
CSRSC	.179***
	(.026)
Country effect	Yes
Firm Effect	Yes
Year Effect	Yes
Cons	.425***
	(.102)
Observations	1750
R-squared	.35

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*
Sources: Author's creation

6.6 Conclusions

Due to the scepticism over the reliability and rigour of ESG reporting, independent assurance of non-financial information become widespread among corporate organisations with expectation of enhancing user and stakeholder perception regarding reliability of ESG information. However, despite evidence in the literature regarding corporate governance influence on corporate financial and non-outcomes, little is known about the impact of corporate governance variables on ESG assurance in emerging economies context.

Drawing from multiple theoretical frameworks, this study fills the gap, extends and contributes to the theoretical and empirical literature by examining the relationship between corporate governance variables and firms' decisions to obtain third-party ESG assurance. Utilising 1750 firm-year observations from BRICS energy firms and applying probit regression method, this study found a significant positive relationship between corporate governance variables (board gender diversity, foreign ownership, managerial ownership, block holder ownership, audit committee independence, audit committee accounting and financial expertise, board composition, board meetings) and independent ESG assurance.

The findings provide a number of practical and theoretical implications for policy makers, regulators, corporate organisations, standard setters, investors and stockholders. Since investors value ESG transparency, corporate organisations should have an effective corporate governance structure that will ensure proper monitoring and transparency ESG information through obtaining ESG assurance. Similarly, policy makers and standard setters can review corporate governance code to improve governance structures that drive the propensity to obtain ESG assurance such as independent directors on the board and board diligence. Finally, since the findings of the study indicates positive and significant impact of board gender diversity on firm decision to obtain ESG assurance. There is the need for policy makers and regulators to ensure more female representation on the board through quota system and review of CG Code to improve transparency. Finally, due to different group of professionals providing assurance services, there is the need for standard setters to ensure harmonisation to improve comparability.

Despite providing important empirical and theoretical insights, this study is without limitations. First, the major limitation of this study is the measurement of ESG assurance using binary measure. Future studies should explore other ways of measuring assurance that provides more insight rather than dichotomous measure. Secondly, although the study utilised multiple countries from emerging economies context, future studies may consider comparative studies between developed and developing economies and identify the differences if any. Furthermore, future should consider other aspects of board diversity such as board national diversity, board cultural diversity, board racial diversity, board age diversity and board professional diversity to reduce incident of groupthink and represent the interest of various stakeholders as gender diversity show positive relationship with ESG assurance. Finally, it would be interesting for future studies to examine the influence of legal system, political system, national culture, economic policy uncertainty among others on the firm's decision to obtain ESG assurance.

6.7 Chapter summary

In summary, this chapter examines the impact of corporate governance variables on the firm decision to obtain independent ESG assurance. The findings of the chapter indicate that most of the corporate governance variables are significant in influencing firm decision to obtain ESG assurance. The result is consistent with the agency, stakeholder, legitimacy and neo institutional theories. The next chapter, which is the third empirical study will empirically examine the impact of corporate governance variables on the quality of third party ESG assurance.

7.0 CHAPTER SEVEN: Corporate governance and ESG assurance quality

7.1 Introduction

This chapter provides empirical analysis of the third and final empirical chapter. The chapter starts with introduction and background, the chapter then discuss the literature and development of hypotheses on the relationship between corporate governance variables and the level of ESG assurance quality. Finally, the chapter provides empirical findings, discussion of results and conclusions.

7.2 Overview of CG and ESG assurance quality

ESG disclosure and assurance have attracted attention in the last decade form academics, practitioners and the media. Firms are putting efforts to obtain third party assurance to enhance the credibility and transparency of ESG information. However, due to voluntary and unregulated nature of ESG assurance, the quality of assurance has become a source of concern due to significant variation in assurance practises (Zhang et al., 2022; García-Meca et al., 2024). Prior studies and extant literature suggest that ESG assurance can be used as a mere symbolic gesture and impression management tool to gain legitimacy (Hummel et al., 2019; García-Meca et al., 2024). Some studies argues that mere assurance of ESG information have failed to increase the credibility of sustainability information due to significant variation (Cohent and Simnett 2015; Hummel et al., 2019). Various factors such as the independent and expertise of assurance provider, scope of assurance, assurance provider type and level of assurance engagement affect the quality of assurance, and due to the voluntary nature of ESG assurance, corporate governance mechanisms especially the board of directors, ownership structure and audit committee have a key role to play regarding quality of ESG assurance obtained by corporate organisations. Studies in the literature have highlighted the impact of CG on corporate outcomes such as ESG disclosure and performance (Jain and Jamali 2016; Lu et al., 2022; Alhossini et al., 2022) and it has been argued that corporate governance mechanism influence ESG practices (Mustafa and Khatri 2024). García-Meca et al., (2024) argues that independent and diligent board may help in obtaining quality ESG assurance to mitigate reputational risk.

Although a few studies have empirically examined the relationship between ESG assurance quality with assurance joint provision (Mnif and Kchaou 2024); negative media reporting (García-Meca et al., 2024) access to finance (García-Sánchez et al., 2019) and cost of capital (Martínez-Ferrero et al., 2021). For example, Ruiz-Barbadillo and Martínez-Ferrero (2020) examined the effect of joint provision of financial and non-financial audit on sustainability assurance quality using international sample from 2007-2016. The findings show evidence of knowledge spillover in providing join financial and non-financial audit thus the high-quality assurance services. Likewise, García-Sánchez et al., (2019) find positive relationship between ESGAQ and access to finance. However, the result show mere purchase of ESG assurance has no influence on firms access to finance. This shows the crucial role of obtaining quality ESG assurance and its positive economic consequences.

While extant literature and empirical evidence highlighted the economic consequence and importance of ESGAQ on corporate outcomes such as access to finance (García-Sánchez et al., 2019); market value (Clarkson et al., 2019); reduced information asymmetry (Fuhrmann et al., 2017) and financial performance (Faller and Zu-Knyphausen-Aufseß, 2016). The literature examining the impact of corporate governance variables as drivers of ESG assurance quality have been overlooked thus remained unexplored. However, a body of literature has argued that corporate governance mechanism plays a key role resources provision and allocation (Aguilera et al., 2021); playing important role in ESG transparency (Bui et al., 2020; Haque and Jones 2020); determine the level of ESG disclosure (Liao et al., 2015; Gerged 2021) and influencing strategic decisions of corporate organizations (Pandey et al., 2022). Moreover, the current limited studies have not fully addressed the aggregate role of corporate governance mechanism on ESG assurance quality. Specifically, the study of Emma et al., (2024) examined the impact of board effectiveness on ESG assurance quality while Zaman et al., (2021) examined the impact of audit committee characteristics on sustainability assurance quality. Likewise, Martínez-Ferrero and García-Sánchez (2017) investigated the relationship between board characteristics and sustainability assurance quality likewise Mardawi et al., (2024) examined the impact of board characteristics and sustainability committee on sustainability assurance quality. However, these studies failed to consider the combined effect of board attributes, ownership structure and audit committee characteristics in a single study. Therefore, analysing the relationship between aggregate CG mechanism and ESGAQ is essential in understanding the drivers of corporate sustainability assurance quality.

7.3 Literature Review and Hypothesis Development

7.3.1 Board size and ESGAQ

In line with stakeholder theory, larger board have been theoretically associated with representation of various stakeholders' interest and provision of resources (Martínez-Ferrero and García-Sánchez 2017). Similarly, Agency theory suggests that heterogeneous boards with large membership are more likely to be independent than homogeneous boards (Fan et al., 2019). However, various studies have associated board size with lack of coordination, slow decision making, poor communication, and free riding (García-Sánchez 2020; Liao et al., 2018; Jian and Zaman 2020).

Prior studies empirically examined the impact of board size on ESG activities. For example, Martínez-Ferrero and García-Sánchez (2017) using an international sample over a period of 8 years, provide empirical evidence of negative and significant association between board size and ESG assurance quality. In contrast, García-Sánchez (2020) study a sample of 678 firms over a period of seven years. The findings indicate larger boards have positive and significant relationship with ESG assurance quality. Similarly, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between board size and sustainability assurance practises. Using Latin American context, Correa-García et al., (2020) examines the influence of board size on sustainability reporting quality for a period of five years from 2011-2015. The study finds positive and significant effect of board size on sustainability reporting quality.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_4: There is a negative relationship between board size and ESG assurance quality.

7.3.2 Board independence and ESGAQ

Legitimacy theory posit that corporate organisations have an implicit social contract with the society to operate. One of the ways companies gain and maintain legitimacy is by providing high quality ESG assurance. However, extant literature has shown that board composition and independence is effective in controlling and monitoring management and providing organisations with needed legitimacy through quality ESGA (Garcia-Meca et al., 2024; Gull et al., 2023). Extant literature suggests that independent directors are more assertive, more likely to resist pressure from the management and have been associated with increased transparency (Garcia-Meca et al., 2024; Gull et al., 2023; Jain and Jamali 2016; Zaman et al., 2023); are associated with boardroom dissent (Eirola et al., 2024; Velte 2021); improved decision making regarding corporate outcomes (Mathisen et al., 2013) and influenced important corporate strategic outcomes such as ESG assurance quality (Bezemer et al., 2023). Due to the efforts to protect their reputation, independent directors support ESG transparency through disclosure and quality assurance to all stakeholders (Zaman et al., 2023; Nadeem 2020; Lu et al., 2022).

However, Saeed et al., (2024) challenged the widely held view that independent directors improved environmental performance. The authors argue and point out that the effectiveness of independent directors on environmental performance depends on whether they are co-opted directors or not. Saeed et al., (2024) in a study of US sample firms provides empirical evidence of significant negative association between co-opted independent directors and environmental performance. Saeed et al., (2024) disputes the widely held account of the role of independent directors in addressing ESG concerns and reducing agency costs. In contrast to Saeed et al., (2024), Martínez-Ferrero and García-Sánchez (2017) argues that as most of the independent have reputation to protect, they mostly strive their independence by providing high quality assurance.

Empirically, Martínez-Ferrero and García-Sánchez (2017) in a study of sample firms operating in stakeholder-oriented countries find positive association between board independence and sustainability assurance quality. Consistent with this, Garcia-Meca et al., (2024) in a related study of European sample firms provide empirical evidence of complementary role of independent directors on ESGAQ. Similarly, García-Sánchez (2020) study a sample of 678 firms over a period of seven years and provide empirical evidence of positive and statistically significant relationship between board independence and ESG assurance quality. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between board independence and sustainability assurance practises. However, the studies of Liao et al., (2018) and Miras-Rodriguez and Di Pietra (2018) document no relationship between board independence and assurance practices.

Based on the theoretical argument and the empirical evidence, our second hypothesis is as follows:

H_2 There is a positive association between board independence and ESG assurance quality.

7.3.3 Board gender diversity and ESGAQ

A large and growing body of literature has investigated the impact of board gender diversity on different corporate outcomes. However, the evidence in the prior literature on the impact of BGD on ESG practices have remain contradictory. While some studies show positive association between BGD and ESG practices (Liao et al., 2015; Harjoto et al., 2015; Rao and Tilt, 2016; Peng et al., 2021). Others provide empirical evidence of negative association (Cucari et al., 2018) or no relationship (Boulouta, 2013; Kılıç and Kuzey 2018). However, majority of the prior studies have provided evidence of positive association between BGD and ESG practices (Adams et al., 2015; Tsang et al., 2023; Zaman et al., 2023; Liao et al., 2015; Peng et al., 2021; Liao et al., 2018; Francoeur et al., 2019). Recent evidence in the literature suggest that female directors are more risk averse (Liao et al., 2015); more likely to detect fraud (García-Meca et al., 2015; Cumming et al., 2016; Arnaboldi et al., 2021) bring values and perspectives that aligned with ESG behaviour (Mustafa and Khatri 2024) provide more monitoring and oversight (Gull et al., 2023; Mustafa and Khatri 2024) and support voluntary disclosures (Haque and Jones 2020; Wang et al., 2023). Furthermore, gender diversity is associated with reduced information asymmetry and low agency costs (García-Meca et al., 2015; Dwekat et al., 2022) and female directors tend to be more stakeholder-oriented (Zhang et al., 2021; Al-Shaer et al., 2024) and have greater support for transparency (Buertey, 2021).

Various factors have been attributed to the mixed findings in the literature. These include legal and institutional system, critical mass, national culture and symbolic appointment of female directors among others. However, stakeholder theoretical perspective suggests that female directors are more likely to supports ESG practices because they mostly provide alternative perspectives to the board. Consistent with this, resource dependence theory postulates that boards with different phycological and demographic characteristics are associated with better monitoring, more expertise and transparency regarding non-financial information (Guest 2019; hillman et al., 2007; Buertey 2021).

Empirically, Mustafa and Khatri (2024) in a study of international sample over a period of 20 years, find a positive and significant relationship between BGD and ESG performance. Consistent with this, García-Sánchez (2020) in a study of a sample of 678 firms from 50 countries over a period of seven years provides empirical evidence of positive and significant relationship between board gender diversity and ESG assurance quality. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between board gender diversity and sustainability assurance practises. Similarly, Cicchiello et al., (2021) in a study of a sample of Asian and African companies provides empirical evidence of positive relationship between board gender diversity and sustainability reporting and assurance practices.

In a related study, Buertey (2021) examined the impact of board gender diversity on CSR assurance of South African largest firms from 2015-2018. The study provides evidence of positive relationship between BGD and CSRA. However, the study of Miras-Rodriguez and Di Pietra (2018) find no significant relationship between board gender diversity and ESGA practices.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_3: There is a positive relationship between board gender diversity and ESG assurance quality.

7.3.4 Board meetings and ESGAQ

Among the board structures that influence corporate outcomes is the level of activities (Jain and Zaman). Empirical evidence has shown that level of board activity help in reducing reputational risk especially in time of crisis (Zaman et al., 2022; Jain and Zaman 2021). The level of board activity has been associated with less corporate social irresponsibility (Jain and

Zaman 2019; Gull et al., 2023); less ESG decoupling (Gull et al., 2024); quality discussion and deliberations regarding sustainability issues (Liao et al., 2018); more transparency to external stakeholders (Talpur et al., 2023) and better decision and outcomes pertaining ESG practices (Al-Shaer et al., 2024).

Empirically, Garcia-Meca et al., (2024) in a study of European sample firms provide empirical evidence of positive role of board level of activity on ESGAQ. In the same vein, Martínez-Ferrero and García-Sánchez (2017) in a study of sample firms operating in stakeholder-oriented countries find positive association between sustainability committee level of activity and sustainability assurance quality. Similarly, García-Sánchez (2020) study a sample of 678 firms over a period of seven years. The findings indicate boards level of activity have positive and significant relationship with ESG assurance quality. Consistent with this, Martínez-Ferrero and García-Sánchez (2017) in a study of international sample from 2007-2014 provide empirical evidence of positive role of board level of activity on ESG assurance practices.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_4: There is a positive relationship between board meetings and ESG assurance quality.

7.3.5 Foreign ownership and ESGAQ

The literature suggest that foreign investors are interested and more conscious in sustainability issues because of global awareness (Kaimal and Uzma 2024). In the context of G20 energy industry, Alghawwas and Aljabr (2024) provides empirical evidence of positive and significant effect of foreign ownership on environmental performance and disclosure. Agency theoretical perspective suggest that the level of disclosure and transparency regarding ESG is determine by the monitoring mechanism of the principal, which in turn is determined by the ownership structure of the firm (Jensen 1993; Eng and Mark 2003). Theoretically, foreign ownership is associated with greater support for transparency regarding ESG due to geographical distance (Nguyen et al., 2024).

Empirical evidence in the literature provides mixed findings regarding the relationship between foreign ownership and ESG practices. While some studies provide evidence of positive association between foreign investors and ESG practices (Muttakin & Subramaniam, 2015; Tokas & Yadav, 2023) others show negative or no relationship between foreign ownership ESG practices.

Using Latin American context, Correa-García et al., 2020 examines the influence of foreign ownership on sustainability reporting quality for a period of five years from 2011-2015. The study finds positive and significant effect of foreign ownership on sustainability reporting quality. Similarly, Cheng et al., (2024) document positive relationships between foreign institutional investors and CSR transparency. In the context of G20 energy industry, Alghawwas and Aljabr (2024) provides empirical evidence of positive and significant effect of foreign ownership on environmental performance and disclosure.

In a study of Jordanian firms, Gerged (2021) provide empirical evidence of negative association between FO and CED. Consistent with this, Similarly, Jiang et al., (2023) in a study of Chinese firms find negative relationship between foreign ownership and SGDs/Sustainability reporting practices.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_5: There is a positive relationship between foreign ownership and ESG assurance quality.

7.3.6 Institutional ownership and ESGAQ

As investors that represent and invest on behalf of others, IO are associated with long term sustainable goals such as ESG assurance quality. Extant literature show IO are associated with using voice and exit to influence corporate strategies such as ESGAQ (Mees and Smith 2019; Flammer et al., 2021); have multiple stewardship thus having greater monitoring role to play (Velte 2022; Klettner 2021) and exercise fiduciary duties to their clients regarding sustainability issues (Aguilera et al., 2024). However, the support of institutional ownership to long-term sustainability practices such as ESGAQ depends on the utilisation of ‘voice’ or ‘exit’. IO that utilised ‘voice’ are mostly associated with support for long term sustainability practices such as ESGAQ while utilising ‘exit’ is usually associated with short term financial gains (Mees and Smith 2019). Extant literature and empirical evidence show that institutional ownership is positively associated with portfolio firm's decision to announce a net-zero strategies or significant carbon emission reduction goals (Desai et al., 2023); and climate related disclosure to CDP (Cohent et al., 2023; Nguyen et al., 2024).

Theoretically, although agency theory explains the agency-principal relationships application to institutional ownership as stewards, this is from the perspective of financial performance (Klettner, 2021). However, form the stakeholder theoretical perspective, institutional investors act as the stewards of both the society and their clients, thus supporting social and environmental concerns such as ESGAQ. Consistent with this, institutional investors are associated with stakeholders generalizing a single firm's (ir)responsibility to other firms in their portfolio (DesJardine et al., 2023), thus they tend to mimic and support positive sustainability actions in line with neo-institutional theory.

The empirical evidence in the literature regarding IO and ESGAQ nexus provides conflicting evidence despite paucity of empirical studies. While some studies provide evidence of positive association (Chen et al., 2020; DesJardine et al., 2023), others show negative (Cheng et al., 2022; Nguyen et al., 2024) or no association (Calza et al., 2016; Kim et al., 2019). Using a sample of US firms from 1995-2018, DesJardine et al., (2023) document positive association between institutional ownership and CSR performance in a study of international sample from 2009-2017, García-Sánchez et al., (2022) provides evidence of positive and significant relationship between institutional ownership and third-party ESG assurance quality.

However, Cheng, (2022) provide evidence of negative association between institutional ownership and CSR practices. In a study of Jordanian firms, Gerged (2021) also provide empirical evidence of negative association between IO and CED. Consistent with this, Nguyen et al., (2024) in a study of S&P 500 firms over a period of 6 years from 2015-2020 provide empirical evidence of negative and significant relationship between institutional ownership and transparency regarding climate information. Jiang et al., (2023) in a study of Chinese firms also find negative relationship between institutional ownership and SGDs and sustainability reporting practices. In a related study in the context of G20 energy industry, Alghawwas and Aljabr (2024) provides empirical evidence of negative and significant effect of institutional ownership on environmental performance and disclosure.

In contrast, Kim et al., (2019) find no association between institutional ownership and CSR performance. Similarly, Similarly, Calza et al., (2016) in a study of European sample firms document no association between both short-term and long-term institutional ownership and corporate environmental strategy.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_6: There is a positive relationship between institutional ownership and ESG assurance quality.

7.3.7 Block holder ownership and ESGAQ

A stream of literature has shown that block ownership is associated with less incentive for transparency and public accountability (Buertey, 2021) and dominance of minority shareholders by the dominant shareholders (Ntim & Soobaroyen, 2013). Theoretically, concentrated ownership creates a new agency problem between major shareholders and minority shareholders that often lead to principal-principal agency conflict and information asymmetry (Meckling & Jensen, 1976; Ntim & Soobaroyen, 2013). However, another stream of literature argues that, unlike dispersed ownership that lack significant influence to monitor and influence managers, block holder ownership are associated with playing a crucial role in board appointments (Sikavica et al., 2018); exerting significant influence and power (Alghawwas and Aljabr 2024; Nguyen et al., 2024) utilising ‘exit and divestment’ to influence corporate outcomes (Diestre and Rajagopalan, 2014) and shareholder activism to influence corporate outcome (Flammer et al., 2021).

Calza et al., (2016) argued that concentrated shareholding is associated with support for environmental and sustainability issues. Consistent with this, Nguyen et al., (2024) argues that block holder ownership is associated with significant influence on management thus greater monitoring in line with agency theoretical perspective. However, extant literature suggests that due to differences in preference and motivation among dominant shareholders, block holder shareholders often fail to support ESG transparency as a means of holding sensitive information. The literature show that block holder ownership is associated with reduced ESG transparency due to the trade-off between sustainability and financial performance (Nguyen et al., 2024; Khlif et al., 2017). Consistent with this, Buertey (2021) argued that decision to obtain ESG assurance is less in firms with concentrated ownership.

Empirically, Gerged (2021) provide empirical evidence of negative association between BO and CED in the context of Jordan. Similarly, Nguyen et al., (2024) in a study of S&P 500 firms over a period of 6 years from 2015-2020 provide empirical evidence of negative and significant relationship between block holder ownership and transparency regarding climate information. Calza et al., (2016) in a study of European sample firms provide empirical evidence of negative and significant association between block holder ownership and proactive corporate environmental strategy. However, Buertey (2021) in a study of South African largest firms from 2015-2018 provides empirical evidence of insignificant relationship between block holder ownership and CSR assurance. Similarly, in the context of G20 energy industry, Alghawwas and Aljabr (2024) finds insignificant effect of concentrated ownership on environmental performance and disclosure.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_7: There is a negative relationship between block holder ownership and ESG assurance quality.

7.3.8 Managerial ownership and ESGAQ

While theoretical and empirical evidence in the literature show divergent perspective regarding the nexus between managerial ownership and ESG practices, agency theory contends that managerial ownership owners align with the management thus reduce information asymmetry. However, Ulaah et al., (2019) noted that managerial owners are reluctant to engage in ESG related practices. Consistent with this, Nguyen et al., (2024) argues that managerial shareholders are associated with consideration for short term financial benefit thus provide limited support for sustainability issues. Corporate governance literature suggests that managerial shareholders are associated with lack of transparency regarding ESG information as a means preserving their voting power and interest (Nguyen et al., 2024; Khlif et al., 2017).

Empirically, Nguyen et al., (2024) in a study of S&P 500 firms over a period of 6 years from 2015-2020 provide empirical evidence of negative and significant relationship between managerial ownership and transparency regarding climate information. Moreover, Gerged (2021) provide empirical evidence of negative association between MO and CED in the context of Jordan. Consistent with this, Nurleni and Bandang (2018) also find a negative relationship between managerial ownership and CSR information disclosure. However, Wei et al., (2024) provide evidence of positive relationship between managerial ownership and Environmental information transparency.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_8: There is a positive relationship between managerial ownership and ESG assurance quality.

7.3.9 Audit committee size and ESGAQ

Resources dependence theory contends that larger audit committees provide the board with the critical human resources and social capital needed for effective monitoring (Pfeffer and Salancik, 1978). Consistent with this, stakeholder theory suggest that larger audit committee represent the interest of diverse stakeholders that may align with ESGAQ. However, agency theoretical perspective posits that lager audit committee are associated with poor communications, free riding and lack of coordination (Jensen 1993; Jain and Jamali 2016). ACS refers to the number of board members on the AC. Zaman et al., (2021) noted that AC has responsibility over financial and non-financial reporting, suggesting that provision of quality ESGA has added to the responsibility of AC. The literature on the ACS offers conflicting views. While a stream of literature argues on the need for a larger ACs that possess the needed skills, competences and diversity of opinions for proper monitoring and quality ESG reporting and assurance (Le and Nguyen 2022). Conversely, another stream argues that larger AC are associated with disagreements, conflict of opinion, slow in decision making and poor communication (Masli et al., 2024; Zaman et al., 2021; Kend 2015).

The empirical literature regarding ACS and ESGAQ are limited and shows mixed findings (Zaman et al., 2021; Al-Shaer and Zaman 2018; Wang et al., 2020). While some studies provide evidence of positive relationship (Al-Najjar 2020; Erin and Ackers 2024), others find negative (Wang and Sun 2022) or no relationship (Al-Shaer et al., 2017; Zaman et al., 2021; Kend 2015). For example, Al-Shaer et al., (2017) in a study of UK FTSE350 firms from 2007-2011 find no relationship between audit committee size and reporting quality. Similarly, in a study of Australia and New Zealand firms over a period of 3 years from 2017 to 2019, Zaman et al., (2021) also find no relationship between ACS and ESG assurance quality. However, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between ACS and sustainability assurance practises.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_9: There is a negative relationship between audit committee size and ESG assurance quality.

7.3.10 Audit committee independence and ESGAQ

Scholars have associated AC independence with mitigation of agency costs and reduction of information asymmetry (Al-Shaer and Zaman 2018; Pozzoli et al., 2022; Zaman et al., 2021). Pozzoli et al., (2022) posit that due to important function of AC, independent of AC is paramount in ensuring the quality of reporting outcomes. Consistent with this, Zaman et al., (2021) argues that the independence of the AC helps the committee in discharging their fiduciary duties and make decisions that are in the best interest of the organization and all stakeholders. The stakeholder theoretical perspective postulates that the independent directors are associated with greater independence and monitoring to ensure high quality assurance processes. Extant literature suggests that independent directors on audit committee are associated with boardroom dissent (Eirola et al., 2024); improved decision making regarding corporate outcomes (Mathisen et al., 2013) and influenced important corporate strategic outcomes such as ESG assurance quality (Bezemer et al., 2023).

The scarce empirical evidence in the literature on the relationship between audit committee independence and ESG assurance quality provides mixed and conflicting findings. For instance, in a study of Australia and New Zealand firms over a period of 3 years from 2017 to 2019, Zaman et al., (2021) provides evidence of positive and statistically significant relationship between ACI and ESG assurance quality.

However, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of negative and statistically significant relationship between AC independence and sustainability assurance practises. Similarly, Al-Shaer et al., (2017) in a study of UK FTSE350 firms from 2007-2011 find no relationship between audit committee independence and reporting quality.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_{10}: There is a positive relationship between audit committee independence and ESG assurance quality.

7.3.11 Audit committee meetings and ESGAQ

The level of activity of the board or board committees have been associated with board effectiveness (Garcia-Meca et al., 2024). Extant literature show that meetings enable audit committee to discuss important audit and assurance related issues (Zaman et al., 2021); are associated with higher level of disclosure and transparency (Li et al., 2012); strengthen internal audit function (Hermanson et al., 2023) and signal the effectiveness and efficiency of the committee (Ha 2022). A higher level of meetings has been found to increase effectiveness of monitoring (Hermanson et al., 2023; Kao et al., 2024) and improve the quality of internal and external audit (Kao et al., 2024).

Garcia-Meca et al., (2024) in a study of European sample firms provide empirical evidence of positive role of board level of activity on ESGAQ. In the same vein, in a study of Australia and New Zealand firms over a period of 3 years from 2017 to 2019, Zaman et al., (2021) provides evidence of positive and statistically significant relationship between ACM and ESG assurance quality. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between AC meeting frequency and sustainability assurance practises. Al-Shaer and Zaman (2018) also provide evidence of positive association between audit committee meeting attendance and CSR assurance.

However, Al-Shaer et al., (2017) in a study of UK FTSE350 firms from 2007-2011 find no relationship between frequency of audit committee meeting and reporting quality.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_{11}: There is a positive relationship between audit committee meetings and ESG assurance quality.

7.3.12 Audit committee accounting and finance expertise and ESGAQ

Extant literature has shown that the crucial role of AC requires accounting and financial expertise. As the AC has responsibility over corporate reporting processes, the task requires technical expertise and skills (Zaman et al., 2021; Velte 2020). Theoretically, agency theory suggests that AC members with accounting and financial expertise are associated with effective internal control system and efficient risk management framework (Velte 2020; Hermanson et al., 2023). The literature suggests that AC expertise is associated with improved efficiency (Velte 2020), proper monitoring (Zaman et al., 2021) and error detection (Pozzoli et al., 2022).

Moreover, Al-Shaer et al., (2017) in a study of UK FTSE350 firms over a period of 5 years from 2007-2011 provide evidence of positive relationship between audit committee accounting and financial expertise and reporting quality. Consistent with this, in a study of Australia and New Zealand firms over a period of 3 years from 2017 to 2019, Zaman et al., (2021) provides evidence of positive and statistically significant relationship between AC expertise and ESG assurance quality. Moreover, Erin and Ackers (2024) in a study of firms from Sub-Sahara Africa provide empirical evidence of positive and statistically significant relationship between ACAFE and sustainability assurance practises. Similarly, in a study of UK firms, Ghafran and O'Sullivan (2017) show audit committee members expertise is significantly associated with enhanced assurance quality.

Based on the theoretical and empirical discussion above, the hypothesis is as follows:

H_{12}: There is a positive relationship between audit committee accounting and finance expertise and ESG assurance quality.

7.4 Data and Methodology

7.4.1 Dependent Variable: ESG Assurance Quality

To examine the quality of ESGA, various methods have been used to measure ESGAQ in the literature. The most common method of measuring ESGAQ is the use of content or textual analysis of the ESGA report. The content analysis is one of the more practical ways to measure quality of ESGA because it allows for the observation of the assurance reports. García-Meca et al., (2024) argued that content analysis of the assurance reports is justified because the report is the only visible outcome of the assurance process.

In line with the studies of (Martínez-Ferrero et al., 2018; Ruiz-Barbadillo and Martínez-Ferrero, 2023; García-Meca et al., 2024; Zaman et al., 2021) this study measure ESGAQ using by adopting the content analysis measure developed by Martínez-Ferrero et al., (2018) based on standard set criteria of 12 items categorization ranging from a score of 0-23. The items include scope of the assurance engagement, level of assurance, adoption of GRI framework guideline, ISAE 3000 and assurance criteria. The index developed by Martínez-Ferrero et al., (2018) improved on the earlier index developed by O'Dwyer and Owen (2005) that is based on international guidelines such as AccountAbility (2003), Fédération des Experts Comptables Européens (FEE) (2004), International Auditing and Assurance Standards Board (IAASB) ISAE 3000 and GRI (2006). The measure has been widely used in sustainability accounting literature to measure ESG assurance quality.

Table 7.1 ESG assurance quality measure

	Ranking Criteria	Definition	Scale	Total (23 points)
1	Addressee	Information about the party to whom the assurance statement is formally addressed	0	No reference
			1	Addressee is mentioned as “the readers”
			2	Specific stakeholder is mentioned

2	Assuror's responsibilities	Explicit statement that the reporter is responsible for expressing an opinion on the subject matter.	0	No reference
			1	Reference
3	Assuror's independence	Statement expressing the independence of all the involved parties.	0	No reference
			1	Mere statement expressing independence
			2	Compliance with IESBA and IFAC codes of ethics
4	Assurance engagement objective	Explicit objective to be achieved through the engagement.	0	No reference
			1	Limited assurance
			2	Reasonable assurance
5	Assurance engagement scope	Assurance statement coverage	0	No reference
			1	Reference to specific environmental pollution section
			2	Reference to multiple specific sections
			3	Reference to entire report
6	Criteria	A reference to particular criteria with which the sustainability report has been prepared.	0	No reference
			1	Reference to publicly specific non-public criteria
			2	Reference to publicly available criteria.

7	Assurance standard(s)	Following commonly used standards which are available to govern the work of the assuror: AA1000AS, IAE3000, etc.	0	No reference
			1	Reference to non-public criteria
			2	Reference to publicly available local criteria
			3	Reference to generally accepted standards, like AA1000AS and IAE3000
8	Work summary	Explanation of the actions taken to arrive at a conclusion	0	No reference
			1	Reference available
9	Materiality	Degree of information provision on the materiality level.	0	No reference
			1	Reference limited to a broad statement. Furthermore, there is mention that the assuror has not confirmed that all material issues are included.
			2	Reference and explanation of materiality setting or reference limited to a broad statement and stakeholder perspective introduced.
			3	A clear reference and explanation of the

				materiality setting. The materiality setting from a stakeholder perspective introduced.
10	Completeness	All material aspects are covered by the assurance report.	0	No reference
			1	Reference
11	Responsiveness to stakeholder	A clear statement that refers to the firm's ways of identifying stakeholder interests and concerns	0	No reference
			1	Reference
12	General opinion	Statement expressing the result of the assurance exercise.	0	No reference
			1	A general remark or a statement giving the opinion of the assurance provider (e.g., "XY's report is a fair presentation of XY's CSR performance").
			2	More detailed explanatory statement that includes recommendations for improvement.

Sources: Martínez-Ferrero et al., (2018).

7.4.2 Independent Variables

Corporate governance variables as key determinants of corporate policy and outcomes are the dependent variables of this study. A total of 12 independent variables across board, board committee and shareholding structure were utilised. These CG variables are board size measured as the total number of directors on the board in line with the studies of (Liao et al., 2018; Pozzoli et al., 2022; Liao et al., 2015; Gull et al., 2022; Zaman et al., 2021), board composition measured as the proportion of independent directors on the board in line with the studies of (Liao et al., 2018; Liao et al., 2015; Gull et al., 2022; Zaman et al., 2021), board gender diversity measured as the proportion of female directors on the board in line with the studies of (Manita et al., 2018; Liao et al., 2015; Nadeem et al., 2017; Rao et al., 2016; Zaman et al., 2021), board meetings measured as the number of meetings in a given financial year in line with the studies of (Liao et al., 2018; Liao et al., 2015; Gull et al., 2022; Zaman et al., 2021). Other independent variables include audit committee characteristics and ownership structure variables such as institutional ownership measured as a proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year in line with the studies of (Flammer et al., 2021; Raimo et al., 2020; Sarhan and Al-Najjar 2022), consistent with the studies of Flammer et al., (2021) and Sarhan and Al-Najjar (2022) foreign ownership is measured as percentage of shares held by foreigners, block holder ownership measured as a proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year in line with the studies of (Flammer et al., 2021; Raimo et al., 2020; Sarhan and Al-Najjar 2022), managerial ownership measured as a proportion of ordinary shares held by members of the board and the management team (Managers, Executive Directors and other board members) in relation to total ordinary share equity at the end of the financial year in line with the studies of (Raimo et al., 2020; Flammer et al., 2021; Sarhan and Al-Najjar 2022), audit committee meetings measured as the total number of meetings held by a company’s audit committee over a full financial year Bravo and Reguera-Alvarado, 2019; Ma et al., 2024; Rao and Tilt, 2016), audit committee independence measured as proportion of the total number of Independent Non-Executive Directors to the total number of audit committee members at the end of a financial year (Pozzoli et al., 2022;

Ma et al., 2024), audit committee size measured as the total number of members in the audit committee (Bravo and Reguera-Alvarado, 2019; Ma et al., 2024; Buallay and Aldhaen, 2018; Rao and Tilt, 2016) and lastly audit committee accounting and financial expertise measured as the total number of audit committee members with accounting and financial expertise over the year (Yorke et al., 2023; Pozzoli et al., 2022). More details on the variables, measurement references, and data sources in Table 7.2.

7.4.3 Control Variables

This study control for firm-level and board-level characteristics that may affect the extent of ESG disclosure in line with previous studies (Gull et al., 2022; Benlemlih et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). These variables include firm size, profitability, liquidity, gearing, audit quality, Tobin's Q, ESG committee, audit quality and ESG based compensation. As Iliev and Roth (2023) noted, firm size affects the extent of ESG reporting as larger firms are associated with more stakeholder pressure to improve ESG performance while Xue et al., (2023) argues that larger firms have greater incentive to disclose ESG information to gain legitimacy from various stakeholders. Consistent with this, extant literature and empirical studies have shown that larger firms are associated with agency problem (Jensen and Mi 1976); greater visibility and operational impact (Hummel et al., 2019; Iliev and Roth 2023; Sarhan and Al-najjar 2022); more analyst following (García-Meca et al., 2024); more media coverage and scrutiny (García-Meca et al., 2024); more public scrutiny and pressure (Hummel et al., 2019; Issa and Zaid 2024) and better resources to engage in ESG activities and disclosure (Drempetic et al., 2020; Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024). Likewise, Issa and Zaid (2024) noted that larger firms face more societal pressure regarding environmental concerns and disclosure.

Prior studies in the literature have shown firm size has been measured in a variety of ways in accounting, finance, and management literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024). For example, Gull et al., (2022), Emma et al., (2024) and Duggal et al., (2024) measured FS using natural log of total sales, Boukattaya et al., 2024 and Xue et al., (2023) utilised natural log of market capitalization as a measure of firm size, while Benlemlih et al., (2022); Iliev and Roth (2023) and Wang et al., (2024) measured FS using log of total assets. Other measures of firm size in accounting and finance literature include number of employees (Krasodomska et al., 2023; Khalil et al., 2024; Morán-Muñoz et al., 2024); enterprise value (Dang et al., 2019); total sales (Gull et al., 2023b; Liao et al., 2018; Emma et al., 2024 and Duggal et al., 2024); total profit (Mubeen et al., 2021) and net assets (Morán-Muñoz et al., 2024). In line with prior studies, this study measure firm size using log of total assets. This is consistent with the studies of (Benlemlih et al., 2022; Iliev and Roth 2023; Wang et al., 2024; Lyu et al., 2024) that measure firm size using log of total assets. Measurement of firm size has been a subject of debate in accounting and finance literature. Dang et al., (2018) noted that different proxies provide different implications, and some measures are more relevant than others. Dang et al., (2018) further contend that empirical results are sensitive to different measures of firm size. Moreover, Vijh and Yang (2013) provides evidence of sensitivity of different firm size measures to empirical results in accounting and finance literature.

Theoretical and empirical justification for using total asset as measure of firm size.

As theorical and empirical evidence in the literature suggest that availability of resources affect the extent of ESG/CSR practices and disclosure (Chen et al., 2019; Baraibar-Diez et al., 2019; Boukattaya et al., 2024; Wang et al., 2024), this study utilised log of total asset as a measure of firm size for the following reasons:

Unlike market capitalisation and total sales that measure capital market condition and product market penetration respectively, total assets measure firm resources that have a direct link with ESG practices, disclosure and assurance as different measures capture different aspect of FS. Similarly, a critical evaluation of other measures shows the measures are flawed and insufficient. For example, number of employees as a measure of firm size have been criticised for not capturing part time employees despite being part of the critical human resources (Dang et al., 2018). Consistent with this, the study of Dang et al., (2018) suggest that the use of market capitalization as a measure of FS may be mechanically correlated with the performance measure.

Secondly, log of total assets is the most employed measure of firm size in accounting and finance literature (Dang et al., 2018; Gull et al., 2022; Iliev and Roth 2023; Boukattaya et al., 2024; Wang et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Dang et al., (2018) in a study of empirical papers in accounting and finance literature over a period of 20 years found over 50 percent of the studies utilised log of total assets as a measure of FS because of its ability to measure resources base of the entity including both tangible and intangible resources. Therefore, the use of log of total assets will enhance comparability and generalisability because of the widespread use of total asset as a measure of FS. Therefore, the use of log of total assets will enhance comparability and generalisability because of the widespread use of total asset as a measure of FS.

Thirdly, total assets being the most utilised measure of firm size allow for consistency and comparison with prior empirical studies. This is consistent with the argument of (Gull et al., 2022; Nadeem et al., 2017; Haider and Kokubu 2015; and Martínez-Ferrero and García-Sánchez 2017).

Other control variables used in this study include profitability measured as return on asset as firms with higher profitability tend to have higher level of ESG practices and disclosure (Chen et al., 2020; Benlemlih et al., 2022; García-Meca et al., 2024; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Similarly, higher levels of debt are associated with higher oversight and monitoring by the lenders thus firms with higher leverage are likely to have greater level of ESG initiatives and disclosure (Dyck et al., 2019; Benlemlih et al., 2022; Martínez-Ferrero and García-Sánchez 2017; García-Sánchez et al., 2021). Thus, this study measure gearing as the ratio of total debt to total asset. This study control for audit quality using dummy variable 1 if the sampled firms are audited by the Big4 firms and 0 otherwise (Wang et al., 2024; Liao et al., 2018). This study includes profitability, gearing, and liquidity as control variables to capture the financial health and resources availability of the sampled firms to engage in ESG disclosure and assurance. Other control variables include board ESG committee which indicate commitment to ESG transparency (García-Meca et al., 2024); Tobins Q to capture firm market value (Cheng et al., 2024) and ESG linked compensation (Adu et al., 2023). All data used in this study were extracted from the Bloomberg database and firms annual report.

Table 7.2 Definition and measurement of the variables

Variable	Definition	Measurement
Dependent Variable:		
ESGAQ	Environmental, Social and Governance Assurance Quality	Refer to Table 7.1
Independent Variables:		
BS	Board Size	Total number of the members of the board of directors.
BGDiv	Board gender diversity	Ratio of female members to the total number of the board members at the end of the financial year.
BI	Board Independence	Ratio of the total number of Independent non-executive directors to the total number

		of directors on the board at the end of a financial year.
BM	Board Meetings	The total number of meetings held by a company’s board of directors over a full financial year.
FO	Foreign Ownership	Percentage of shares held by foreigners
ManOwn	Managerial Ownership	Percentage of shares owned by managers
IO	Institutional Ownership	proportion of ordinary shares held by institutional investors (pension funds, banks, mutual funds, banks etc) in relation to total ordinary share equity at the end of the financial year
BloOwn	Block holder Ownership	proportion of ordinary shares held by shareholders with shareholding of 5% and above in relation to total ordinary share equity at the end of the financial year
ACS	Audit Committee Size	Total number of members in the committee
ACI	Audit Committee Independence	Ratio of non-executive independent directors to total number of directors in the committee.
ACM	Audit Committee Meetings	Number of committee meetings during the year.
ACAFE	AC accounting and financial expertise	Proportion of the accounting and financial experts to the total number of AC members
Control variables:		
AQ	Audit Quality	A dummy variable equals to 1 if the firm is audited by a Big 4 audit firm and 0 otherwise
Liq	Liquidity	Ratio of current assets to current liability.
CSRSC	ESG/CSR/Sustainability committee	A dummy variable equal to 1 for the presence of ESG/CSR/sustainability committee of the board and 0 otherwise.
LogofTA	Log of Total Assets	Natural logarithm of total assets at the end of the financial year

Gearing	The ratio of debt to the book value of total assets at the end of the financial year.	The ratio of debt to the book value of total assets at the end of the financial year.
Prof	Return on Equity	Ratio of net income to shareholders' equity
ESGLC	ESG Linked Compensation for the Board	A dummy variable 1 if there is ESG linked compensation for the board and 0 otherwise

Sources: Author's creation

7.4.4 Regression Model

Data for the study was extracted from Bloomberg database, annual reports, ESG reports and assurance reports for the 2010–2023 period to test the hypotheses. The sample was composed of 1,750 observations from 5 BRICS member countries for the period of the study.

Multiple regression analysis is used to test the relationship between CG variables and control variables with ESG assurance quality. Time-invariance, firm-level heterogeneity, and country variations are accounted for in the model by incorporating year effects, firm effect, and country effect, respectively. The regression model employed is as follows:

$$ESGAQ = \alpha + \beta_1 BSize_{it} + \beta_2 BGDiv_{it} + \beta_3 BCom_{it} + \beta_4 BM_{it} + \beta_5 FO_{it} + \beta_6 InsOwn_{it} + \beta_7 BloOwn_{it} + \beta_8 ManOwn_{it} + \beta_9 ACSize_{it} + \beta_{10} ACCom_{it} + \beta_{11} ACM_{it} + \beta_{12} ACAFE_{it} + \beta_{13} ESGLC_{it} + \beta_{14} Prof_{it} + \beta_{15} Liq_{it} + \beta_{16} FS_{it} + \beta_{17} Gea_{it} + \beta_{18} CSR/SC_{it} + \beta_{19} AQ_{it} + \beta_{20} TQ_{it} + \text{Year Effects} + \text{Country Effects} + \text{Firm Effects} + e_{it}$$

Where:

ESGAQ = Environmental, Social and Governance Assurance Quality

BSize = Board Size

BCom = Board Composition

BGDiv = Board Gender Diversity

BM = Board Meetings

FO = Foreign Ownership

InsOwn = Institutional Ownership

BloOwn = Block holder ownership

ManOwn = Managerial Ownership

ACSize = Audit Committee Size

ACAFE = Audit Committee accounting and financial expertise

ACCom = Audit Committee Composition

ACM = Audit Committee Meetings

FS = Firm Size

Prof = Profitability

Liq = Liquidity

Gea = Gearing

ESGLC = ESG Linked Compensation for Board

AQ = Audit Quality

TQ = Tobin's Q

CSR/SC = Board CSR/Sustainability committee

e = error term

7.5 Empirical Results and Discussion

7.5.1 Descriptive statistics

The descriptive statistics of both dependent, independent and control variables are presented in Table 7.3. The descriptive statistics shows a mean score of 15.8 regarding ESG assurance quality with a minimum of 10 and a maximum of 21 which is lower than the average score of 18.7 document by Martínez-Ferrero et al**.**, (2018). However, the average score of 15 is in line with the study of Garcia-Meca et al., (2024) indicating that there is a room for improvement regarding ESG assurance quality. The summary statistics show board size has an average of 10 members with a maximum of 21 members. The average gender diversity is 14.4 percent which is line with the findings of previous studies such as (Nadeem et al., 2020; Gull et al., 2022) but far below the 30 percent documented by Garcia-Meca et al., (2024) while independent directors on the board are averagely 49.9 percent. The board has an average of 10 meetings in a year with 13 percent foreign ownership stake. Moreover, institutional ownership has an average of 22 percent, block holder ownership has an average of 14 percent and an average of 6 percent managerial ownership. An average of 68 percent of the audit committee members are independent directors, ACS has average of 3 members with average of 5 meetings during the year. The results show 68 percent of firms have sustainability committee, an average of 57 percent of the sample firms are audited by the one of the big 4 firms and with an average profitability of 5 percent.

Table 7.3 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESGAQ	1081	15.831	2.681	10.000	21.000
BS	1750	10.054	2.391	4.000	21.000
BGDiv	1750	14.404	11.938	0.000	46.150
BI	1750	49.973	19.646	0.000	100.000
BM	1750	10.345	7.676	0.000	87.000
FO	1750	13.002	6.701	0.000	50.100
InstOwn	1750	22.936	17.616	0.000	98.540
BloOwn	1750	14.262	14.082	0.000	97.100
ManOwn	1750	6.754	6.922	0.000	63.900
ACI	1750	68.333	32.375	0.000	100.000

ACS	1750	3.744	.824	3.000	9.000
ACM	1750	5.008	2.216	0.000	33.000
ACAFE	1750	50.493	32.484	14.300	100.000
LogofTA	1750	4.323	.884	2.133	5.646
Prof	1750	5.184	15.234	-291.580	106.811
Liq	1750	3.335	68.911	0.000	2891
Gearing	1750	25.916	17.289	0.000	149.434
CSRSC	1750	.687	.464	0.000	1.000
TobinsQ	1750	1.116	.625	.050	7.500
AQ	1750	.571	.495	0.000	1.000
ESGLC	1750	.539	.499	0.000	1.000

Source: Author's creation

Table 7.4 shows the results of the pairwise between ESG assurance quality, independent variables and the control variables. The pairwise result shows a significant positive correlation between corporate governance and firm level variables (BGD, BI, BM ACI, ACS, ACM, ACAFE, MO, BO, AQ, SC, TA, ESGLC) with ESG assurance quality. The pairwise correlation also shows only liquidity has an insignificant relationship with ESG assurance quality. However, the pairwise correlation coefficients show board size, institutional ownership, Tobin's Q, gearing, foreign ownership and profitability have negative and significant correlation with ESG assurance quality. Moreover, as all the correlation coefficients are below 0.8 with the highest coefficient of 0.678, the pairwise correlation suggests no multicollinearity concerns. This was further confirmed using VIF, the results show all the variables have VIF of less than 10.

Table 7.4 Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13
(1) ESGAQ	1.000												
(2) BS	-0.192***	1.000											
(3) BGDiv	0.443***	0.022	1.000										
(4) BI	0.263***	0.005	0.380***	1.000									
(5) BM	0.081***	0.033	-0.117***	-0.303***	1.000								
(6) FO	-0.066**	-0.103***	-0.051**	-0.201***	-0.002	1.000							
(7) InstOwn	-0.278***	0.060**	-0.235***	-0.154***	0.067***	0.363***	1.000						
(8) BloOwn	0.059*	-0.150***	-0.074***	-0.075***	0.032	0.370***	0.455***	1.000					
(9) ManOwn	0.065**	-0.064***	0.013	-0.166***	0.081***	0.332***	0.066***	0.226***	1.000				
(10) ACI	0.446***	-0.050**	0.233***	0.187***	-0.057**	-0.074***	-0.192***	0.052**	-0.112***	1.000			
(11) ACS	0.166***	0.001	0.088***	-0.053**	0.029	0.024	-0.166***	0.057**	0.114***	-0.029	1.000		
(12) ACM	0.106***	-0.092***	-0.001	0.029	0.002	-0.039*	-0.009	0.129***	0.031	0.191***	0.043*	1.000	
(13) ACAFE	0.621***	-0.156***	0.536***	0.211***	-0.037	-0.037	-0.322***	-0.028	0.014	0.469***	0.193***	0.047**	1.00
(14) LogofTA	0.468***	0.171***	0.385***	0.124***	0.117***	-0.131***	-0.191***	-0.028	-0.135***	0.433***	0.084***	0.058**	0.500**
(15) Prof	-0.109***	0.096***	-0.075***	-0.124***	0.045*	0.009	0.044*	-0.041*	0.043*	-0.074***	-0.013	0.019	-0.139**
(16) Liq	0.035	-0.032	0.023	0.007	0.011	-0.002	-0.003	-0.013	-0.001	-0.003	-0.025	-0.010	0.03
(17) gearing	-0.100***	-0.129***	-0.157***	-0.122***	-0.003	0.020	0.203***	0.128***	0.083***	-0.088***	0.042*	0.044*	-0.166**
(18) CSRSC	0.187***	0.125***	0.499***	0.323***	-0.172***	-0.183***	-0.171***	-0.042*	-0.022	0.246***	0.050**	0.028	0.359**
(19) TobinsQ	-0.114***	-0.070***	-0.070***	-0.065***	0.031	0.046*	0.150***	0.099***	0.023	-0.135***	-0.084***	-0.038*	-0.187**
(20) AQ	0.496***	-0.139***	0.247***	0.041*	0.026	-0.013	-0.177***	0.122***	-0.008	0.482***	0.058**	0.235***	0.428**
(21) ESGLC	0.708***	-0.105***	0.528***	0.353***	-0.083***	0.069***	-0.150***	0.233***	0.096***	0.290***	0.093***	0.053**	0.538**

**** p<0.01, ** p<0.05, * p<0.1*

Source: Author's creation

Table 7.5 presents the regression results on the relationship between the explanatory variables and the ESGAQ. Specifically board gender diversity, board independence, accounting and finance expert on audit committee, managerial ownership and board meeting show positive and statistically significant relationship at 1% significant level. Moreover, audit committee size also shows a positive and statistically significant relationship at 5 percent while board size and foreign ownership show a negative and statistically significant relationship at 1%. Specifically, the finding show board size have negative and statistically significant relationship with ESGAQ. The finding offers empirical support for hypothesis H_1 and is consistent with findings of prior CG and ESGA studies (Hay et al., 2023; Haider and Nishitani 2022). In terms of economic significance, the result suggests that, on average, when there is one addition to the board, the level of ESGAQ decreases by 2.754%.

The literature has questioned the relationship between board size and ESGAQ and call on the need for optimal board in term of size (Velte 2021). The plausible explanation for this finding is the fact that a mere increase in the number of board members does not translate to better ESG disclosure and other corporate outcomes, the board has to be diligent (through frequent meetings), diverse and truly independent (Nguyen et al., 2021; Hay et al., 2023) to achieve better transparency. Secondly, recent studies have highlighted the need for more independent directors on the board than a mere increase in board size that has a significant number of executive directors (Gull *et al.,* 2023). Finally, the size of the board could be counterproductive if it goes beyond a certain limit or with significant executive members. The results is in support of stakeholder theory that suggests board with more non-executive and independent directors represent the interest of various stakeholders.

Regarding board independence, the results show a positive and significant relationship with the quality of the ESG assurance. The finding is consistent with the findings of (Martínez-

Ferrero and García-Sánchez, 2017; Martinez-Ferrero et al. 2017) and contradicts the findings of Zaman et al., (2021) and García-Sánchez et al., (2022). The result offers empirical support for our hypothesis prediction of positive association, thus H_2 is accepted. Specifically, the results support the notion that appointment of independent directors on the board increase the quality of ESG assurance. This can be attributed to the fact that independent directors emphasize stakeholders' interest, wider societal interest, their personal integrity and corporate legitimacy.

Consistent with this, board gender diversity shows a positive and significant relationship with the ESG assurance quality at 1 percent significant level. The finding is consistent with the findings of García-Sánchez et al., (2022) and Buertey (2021). The findings suggest gender diverse board play important role in enhancing the quality of ESGAQ. The finding is consistent with stakeholder theoretical perspectives that suggest gender diverse boards are more sensitive to transparency and accountability through provision of quality ESGA (Alkhawaja et al., 2023).

The findings also provide empirical evidence of positive and statistically significant relationship between frequency of board meetings and the quality of external ESG assurance. The finding is consistent with the findings of prior studies that show board meeting frequency has significant positive impact on ESG assurance (Zaman et al., 2021; Liao et al., 2018; Hay et al., 2023). Consistent with stakeholder theoretical perspective, Zaman et al., (2021) provide evidence that meeting attendance has positive and significant effect on ESG assurance quality.

Regarding ownership structure variables, the results show institutional ownership has a nonsignificant relationship with the ESG assurance quality. The finding is consistent with the findings of (Nguyen et al., 2024; Farag et al., 2024; Alhababsah 2019; Borghesi et al., 2014; García-Sánchez et al., 2022). Similarly, the findings indicate that foreign ownership has a negative and significant relationships with ESG assurance quality. This finding is inconsistent with our hypothesis prediction but in line with the findings of (Al-Gamrh et al., 2020). Likewise, the results show block holder ownership has a negative and significant relationship with the ESG assurance quality. The finding is consistent with the findings of García-Sánchez et al., (2022) and Nguyen et al., (2024) and in line with the hypothesis prediction of this study. However, the results show managerial ownership has a positive and significant relationship with the decision ESG assurance quality. The finding is consistent with our hypothesis prediction and with the findings of (Ongsakul et al., 2019; Alhababsah 2019). The result is consistent with agency theory that suggest decreased agency problem as a result of interest alignment through managerial ownership.

Although the finding regarding institutional, foreign and block holder ownerships are inconsistent with the hypothesis predictions, there are possible reasons for this finding. Recent evidence in the literature highlights the heterogeneous nature of different categories of ownership structure types. For instance, Velte (2024) argues that the different types of institutional ownership such as insurance, pension, banks, mutual funds, hedge funds, pressure resistant and pressure-sensitive could be the reason behind the mixed finding regarding institutional ownership.

Secondly, the direct relationship between ownership structure and ESG disclosure and assurance has been found to be influenced by certain moderating and mediating variables (Chen and Xie 2022; Zhai et al., 2022; Shen et al., 2023). For instance, Alkhawaja et al., (2023) noted that countries credit market, stock market and information environment moderate the relationship between corporate governance mechanism and ESG practices.

Thirdly, the divergent and variation with different measurements and lack of standard for assurance provision regarding ESG has been associated with the mixed findings documented in the literature (Tsang et al., 2023; Stowly and Paugam 2023). Stowly and Paugam (2023) noted about the need for convergence and harmonisation regarding sustainability reporting and assurance.

The finding of positive and significant relationship between managerial ownership and ESG assurance quality is consistent with stakeholder theory that align managerial shareholding with the interest of the management in mitigating climatic risk.

Finally, the mixed empirical evidence in the literature has been attributed to the different categories of owners within similar ownership type that have different monitoring capabilities, investment strategies and incentives (Alhababsah, 2019).

The result regarding ACC variables shows ACS and ACAFE have positive and significant relationship with ESGAQ. Specifically, ACI show positive and statistically insignificant relationship with ESGAQ. The finding is consistent with our hypothesis prediction of positive association and in line with findings of prior studies (Zaman et al., 2021; Uyar et al., 2023; Dwekat et al., 2022; Al-Shaer and Zaman 2018). The finding partly supports our hypothesis prediction of positive association and is consistent with agency and stakeholder theorical perspectives that suggest boards with higher independent directors are more effective in monitoring the management and are associated with transparency. Moreover, the results show positive and significant relationship between ACS and the ESG assurance quality. The result is consistent with the findings of prior studies that provides evidence of no relationship (Zaman et al., 2021; Dwekat et al., 2022; Al-Shaer and Zaman 2018; Kend, 2015). Surprisingly, the results show no-relationship relationship between ACM and the ESG assurance quality. The result is consistent with the findings of prior studies that provides evidence of no relationship (Alhababsah and Yekini 2021; Dwekat et al., 2022; Al-Shaer and Zaman 2018). Possible reasons for the insignificant relationship between ACM and ESGAQ is the possibility that the board meet frequently to mimic other firms in mimetic pressure without fruitful discussions

(Alhababsah and Yekini 2021) or to satisfy the CG code recommendation without having any (Cohent et al., 2007).

Finally, the result show positive and statistically significant relationship between accounting and financial expert on AC and ESGAQ. The finding is consistent with our hypothesis prediction of positive association and in line with findings of prior studies (Alhababsah and Yekini 2021; Zaman et al., 2011; Dwekat et al., 2022; Al-Shaer and Zaman 2018). The finding is consistent with the argument that expertise enhances board monitoring activities and transparency through quality ESG assurance (Alhababsah, 2019; Alhababsah and Yekini 2021).

Table 7.6 Regression results

	(1) ESGAQ
BS	-0.1595*** (0.0259)
BGDiv	0.0248*** (0.0057)
BI	0.0123*** (0.0032)
BM	0.0489*** (0.0073)
FO	-0.0291*** (0.0092)
InstOwn	-0.0035 (0.0037)
BloOwn	-0.0093** (0.0045)
ManOwn	0.0265*** (0.0080)
ACI	0.0035 (0.0021)
ACS	0.1732** (0.0675)
ACM	0.0170 (0.0200)

TobinsQ	-0.2124**
	(0.0981)
LogofTA	0.3938***
	(0.0814)
Prof	0.0127***
	(0.0043)
Liq	0.0001
	(0.0005)
CSRSC	-0.4853***
	(0.1633)
AQ	0.0886
	(0.1393)
ESGLC	2.3680***
	(0.1673)
ACAFE	0.0177***
	(0.0023)
Cons	12.1324***
	(0.5318)
Firm Effects	Yes
Year Effects	Yes
Country Effects	Yes
N	1081
R^2	0.6745

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01
Source: Author's creation

Table 7.7 Lagged Regression

	(1) ESGAQL1	(2) ESGAQL2
BS_1	-0.1794***	
	(0.0246)	
BGDiv_1	0.0145***	
	(0.0055)	
BI_	0.0118***	
	(0.0030)	
BIM1_	0.0387***	
	(0.0066)	

FO1_	-0.0298***	
	(0.0087)	
InstOwn1_	-0.0012	
	(0.0035)	
BloOwn1_	-0.0140***	
	(0.0043)	
ManOwn1_	0.0285***	
	(0.0079)	
ACI1_	-0.0004	
	(0.0020)	
ACS1_	0.1847***	
	(0.0639)	
ACM1_	0.0354	
	(0.0221)	
ACAFE1_	0.0138***	
	(0.0021)	
TobinsQ	-0.2557***	-0.4179***
	(0.0968)	(0.0981)
LogofTA	0.5674***	0.6703***
	(0.0773)	(0.0779)
Prof	0.0100**	0.0076*
	(0.0043)	(0.0044)
Liq	0.0000	0.0001
	(0.0005)	(0.0006)
CSRSC	-0.3937**	-0.2658*
	(0.1589)	(0.1595)
AQ	0.2955**	0.4411***
	(0.1361)	(0.1379)
ESGLC	2.7130***	3.0596***
	(0.1549)	(0.1546)
BS_2		-0.1931***
		(0.0236)
BGDiv_2		0.0053
		(0.0054)
BI_2		0.0098***
		(0.0029)

BIM2_		0.0382***
		(0.0065)
FO2_		-0.0295***
		(0.0085)
InstOwn2_		0.0016
		(0.0035)
BloOwn2_		-0.0162***
		(0.0044)
ManOwn2_		0.0297***
		(0.0081)
ACI2_		-0.0040**
		(0.0019)
ACS2_		0.1123*
		(0.0625)
ACM2_		0.0453*
		(0.0252)
ACAFE2_		0.0078***
		(0.0020)
Cons	11.9396***	12.3776***
	(0.5128)	(0.5157)
Firm Effects	Yes	Yes
Year Effect	Yes	Yes
Country Effects	Yes	Yes
N	1081	1081
R^2	0.6730	0.6537

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01
Source: Author's creation

Table 7.8 IV 2SLS Regression

	(1) ESGAQ
InstOwn	-.025***
	(.008)
BS	-.137***
	(.027)
BGDiv	.024***
	(.006)
BM	.055***
	(.007)
BI	.013***

	(.003)
ManOwn	.014
	(.009)
FO	-.011
	(.013)
ACI	.002
	(.002)
ACS	.098
	(.07)
ACM	.015
	(.02)
LogofTA	.382***
	(.082)
Prof	.018***
	(.005)
Liq	0
	(.001)
Gearing	.012***
	(.004)
ACAFE	.019***
	(.002)
ESGLC	2.296***
	(.162)
AQ	-.008
	(.142)
TobinsQ	-.144
	(.104)
CSRSC	-.396**
	(.167)
Cons	12.096***
	(.558)
Country effect	Yes
Firm Effect	Yes
Year Effect	Yes
Observations	1081
R-squared	.668

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Source: Author's creation

7.5.2 Endogeneity test and additional analyses

The Additional analyses were carried out to complement our baseline results. Several robustness tests were carried out to confirm the stability of the panel regression results and check the potential issue of endogeneity, simultaneity, reverse causality and sample selection bias. Chau and Gray (2010) posit that the issue of endogeneity is a potential problem in the analyses of the association between corporate governance variables and disclosure. To examine the dynamic effects of the independent variables on the level of ESG assurance quality, lagged independent variables were used as suggested by (Gull et al., 2022; Nadeem et al., 2020; Larcker and Rusticus 2010; Wintoki *et al.,* 2012; and González, 2015; Manita *et al.,* 2017; Liu *et al.,* 2014; Issa and Zaid, 2021). The results presented in table 7.5 show a one-year and two-years lagged variables, and the result remained basically and qualitatively the same with the baseline regression. Justifications for using lagged variables is as follows: Firstly, the relationship between corporate governance and ESG practices is associated with time lags, the effect of effective corporate governance practices such as appointment of independent directors or diversity of the board might not impact ESG disclosure and assurance immediately, as this requires time for it impact to reflect. Therefore, lagged explanatory variables provide appropriate measure that account for the time lag (Li et al., 2024; Shahab et al., 2020; Gull et al., 2024). Secondly, although the use of lagged explanatory variables as a way of dealing with endogeneity concerns is subject to debate in the literature, there is argument that lagged explanatory variables provides appropriate estimates for dealing with endogeneity under certain data type (Li et al., 2024; Bellemare et al., 2016: Atif et al., 2019). Many studies have used lagged explanatory variables to account for endogeneity concerns in corporate governance, finance and accounting literature (Ghafoor and Gull 2024; Elbardan et al., 2023; Gull et al., 2023; Hoechle et al., 2009; Atif et al., 2020; Guluma, 2021; Duarte and Eisenbach, 2021; Li et al., 2024). Gull et al., (2023) argues that one year lagged is associated with addressing reverse causality in corporate governance literature and utilised one-year lagged board variables to address endogeneity and reverse causality concerns. Consistent with this, Ghafoor and Gull (2024) noted that lagged variables are robust in mitigating potential biases associated with estimators. Similarly, Elbardan et al., (2023) noted that lag variables strengthen the causality of the relationship between independent and dependent variables and utilised one-year lagged variables to examine the direct and moderating impact of variables. Moreover, Buchetti et al., (2024) noted that lagged variables have been used in CG and ESG literature to address omitted variables bias. Likewise, Li et al., (2024) noted that lagged variables have the potential to mitigate reverse causality and utilised one year lagged independent variables in their studies.

Similarly, extant literature has shown that the current action of a firm affects future financial and non-financial performance (Atif et al., 2020; Gull et al., 2023; Wintoki et al., 2012; Atif et al., 2021). Atif et al., (2020). Gull et al., (2023) noted that lagged explanatory variables provides more efficient measure than the contemporary variables while Atif et al., (2021) utilised one-year and two-year lagged CG variables to examine the impact of board diversity on corporate renewable energy consumption. Likewise, García-Sánchez et al., (2021) utilised one year lagged independent variables in regression to avoid endogeneity concerns. Moreover, Buchetti et al., (2024) noted that lagged variables have been used in CG and ESG literature to address omitted variables bias.

Finally, studies have provided empirical evidence in the literature that suggests changes to the board of directors take an average of two to three years to influence corporate outcomes. For instance, Chen et al., (2022) examined the relationship between NGO directors on the board and CSR. The study provided evidence of positive association between NGO directors and CSR performance. However, the impact of NGO directors on CSR performance is not immediate but take hold after 3 years of appointment. Similarly, Brown et al., (2017) argues that changes to the board of directors takes time to reflect on corporate outcome due to the learning curve effect. For example, the appointment of female director or independent director will have effect on corporate outcomes only after certain period of time, thus the utilisation of lagged independent variables to rerun the analysis.

This study used one-year, and two-years lagged explanatory variables to the examines the dynamic impact of CG variables on the ESG assurance quality. The one year and two years lagged explanatory variables seems reasonable to account for time lag in explaining the ESG assurance quality. Using the lagged explanatory variables, our results in Table 7.5 remain qualitatively the same to the baseline result, suggesting that our main findings are robust.

Secondly, table 7.6 present the results of an instrumental variable IV two stage least square (2SLS) regression using concentrated ownership as exogenous instrumental variables. In line with prior studies block holder ownership was used as endogenous variable with gearing, firm size and 2 years lagged of block holder ownership as instrumental variables. The selected instrumental variables can have a correlation with the endogenous variables but not with error term.

In line with the requirements for a valid instrument in 2SLS regression, Hansen over-identification restriction test was carried out and the results is insignificant implying that our chosen instruments are valid. Also, the result of postestimation test of the First-stage regression indicate that the F statistic is greater than all the critical values in the table meaning our variables are not weak. The 2SLS regression method is widely used in corporate governance and sustainability literature due to its efficiency in controlling issues relating to omitted variable bias and endogeneity. Larcker and Rusticus (2010) highlighted the importance of IV 2SLS regression in alleviating inconsistencies in parameter estimation that results in endogeneity issues in accounting and finance studies while Elbardan et al., (2023) argues that IV 2SLS is efficient in removing correlations between explanatory variables and the error terms thus controlling possible reverse causality, endogeneity concerns and omitted variables bias. Many studies have emphasized the importance of IV 2SLS regression in addressing endogeneity concerns in management, accounting and finance literature (Elbardan et al., 2023; Hill et al., 2020; Antonakis et al., 2010)

In all, the findings of the robustness tests suggests that our results do not suffer from potential endogenous problem.

7.6 Conclusions

This chapter empirically examines the impact of corporate governance variables on the quality of ESG assurance. While the assurance of ESG information has become a global phenomenon and seek to address the issue of quality and credibility in ESG reporting, the quality of the ESG assurance itself has become a source of academic debate due to the voluntary nature of the assurance and lack of unified standard (Zaman et al., 2021). Using sample firms from BRICS energy industry, the study shows the quality of ESG assurance is relatively low and provides empirical evidence of the influence of corporate governance variables on the quality of ESG assurance. Regarding the different governance structures, board characteristics have more significant influence on the quality of ESGA while ownership structure and audit committee characteristics have comparatively little predictive power in explaining the quality of ESG assurance within firms in BRICS.

The findings of this study have significant empirical, theoretical, policy, and practical implications. First, the study makes a novel contribution to the corporate governance and sustainability literature by demonstrating the impact of governance structures on the quality of ESG assurance. Prior studies mainly concentrate on the single aspects of governance structures. Zaman et al., (2021) examined the impact of audit characteristics on ESGAQ while Emma et al., (2024) examined the impact of board characteristics on ESGAQ.

Secondly, as the cost of assurance varies directly with the quality of assurance and the nature of assurance that involves significant investment with delayed returns. Based on the findings of this study, there is the need for firms, management and board of directors to ensure gender diverse board, more independent directors on the board and board diligence to improve the quality of non-financial assurance.

Thirdly, by basing the study on the multi-country context of emerging economies dataset, the generalisability of the findings has been enhanced. This is because prior studies mainly examined single country mostly form developed countries. This study is a response to numerous calls for more studies in the context of emerging economies (Zaman et al., 2021).

Despite the best of efforts, this study is without limitations. First, the study examined the impact of corporate governance on the quality of ESG assurance. Future studies should consider the impact of CEO characteristics and TMT on sustainability assurance quality. Similarly, future studies should consider the impact of corporate variables as a bundle on sustainability assurance quality. Specifically, future studies should consider examining the impact of board demographic and structural diversity on ESGAQ. Secondly, the study is limited to listed companies that are relatively large. However, extant literature has shown that size is one of the major determinants of ESGA and ESGAQ (Gipper et al., 2024, Cho et al., 2014). Therefore, examining the sustainability assurance practices and of the small and medium enterprises will provide interesting insights and novel contributions.

7.6 Chapter summary

In summary, this chapter examines the impact of corporate governance variables on the quality of ESG assurance. The findings of the chapter indicate that most of the corporate governance variables are significant in influencing and explaining ESGAQ. The result is consistent with the legitimacy, stakeholders and neo institutional theories. The next and final chapter will summarize the contributions of the study, provides conclusion and offers the recommendations management, policy makers and regulators.

Chapter Eight: Summary, Recommendation and Conclusion

8.0 Introduction

This is the final chapter of the study. The chapter discusses the conclusions, summary of the research findings, discusses the methodological, theoretical and empirical contributions of the findings, the policy and practical implication of the findings, make recommendations based on the findings of the study, identifies the limitations of the study and the suggests areas and frontiers for further studies.

8.1 Summary of the study

As highlighted in the previous chapters and the review of the extant literature, the link between corporate governance and ESG disclosure and assurance practices in emerging economies contexts have remained understudied and unexplored in the literature. This motivation and the call by prior studies for more empirical studies in the context of emerging and developing economies that will add to existing literature leads to this study. The study empirically examines the impact of corporate governance variables on the level of ESG disclosure, ESG assurance and the quality of the ESG assurance using a complete set of both internal and external governance mechanisms. Specifically, and as a reminder, the study set out to achieve the following objectives:

Examine the impact of corporate governance variables on the level of ESG disclosure of listed energy firms in BRICS.

Examine the impact of corporate governance variables on firms' decisions to obtain third-party ESG assurance.

Examine the impact of corporate governance variables on ESG assurance quality in the context of BRICS energy firms.

Utilising a sample of 1750 firm-years observations from BRICS emerging economies over a fourteen-year period from 2010-2023. The study adopts positivism as a research philosophy in line with quantitative research approach using multi theoretical perspective to examine the link. Bloomberg database, corporate websites, sustainability reports and annual reports of the sampled firms were used to collect data for the dependent and explanatory variables. Moreover, various methods of data analysis such as OLS, probit, lag and 2SLS regressions were used to analyse the collected data using Stata software version 17. To control for various endogeneity related issues and problems such as reverse causality between the independent and dependent variables, omitted variable bias, unobservable heterogeneity, sample selection bias and simultaneity, various methods were used such as lagged variables and Two Stage Least Square (2SLS) regression techniques to address the endogeneity problems that are associated with corporate governance and ESG disclosure and assurance literature. The findings of this thesis are consistent with the evidence in the literature that suggest that corporate governance mechanism play important role in the extent of ESG disclosure, ESG assurance and ESG assurance quality. The insight from this study extends and add to existing literature and has policy implication especially in the context of emerging economies. Specifically, board of directors are found to exert more influence on ESG disclosure, ESG assurance and ESG assurance quality than ownership structure and audit committee characteristics variables.

The first essay in chapter five empirically examines the impact of corporate governance variables on the level of ESG disclosure of the sampled firms. Specifically, the study examines the impact of explanatory variables relating to board characteristics, ownership structure and audit committee characteristics on the level of ESG disclosure. The study provides empirical evidence that higher proportion of female members on the board, frequency of board meetings, foreign ownership, managerial ownership, audit committee meetings, higher proportion of independent directors on the board and board size have positive and significant impact on the level of ESG disclosure while statistically insignificant relationship was found among, institutional ownership, block holder ownership, audit committee size, audit committee independence and the level of ESG disclosure.

In the second essay in chapter six, the thesis empirically examines the impact of corporate governance variables on the firm's decision to obtain third-party ESG assurance in a hitherto unexplored context. The findings provide empirical evidence of positive and statistically significant relationship between board gender diversity, frequency of board meetings, foreign ownership, audit committee accounting and finance expertise, audit committee independence, board independence, foreign ownership, managerial ownership, block holder ownership and the decision to obtain ESG assurance. However, the study finds insignificant relationship between audit committee size, institutional ownership and audit committee meetings with firm decision to obtain ESG assurance.

The final essay in chapter seven empirically examines the impact of corporate governance variables on ESG assurance quality. The results also provide empirical evidence that managerial ownership, board gender diversity, frequency of board meetings, audit committee meetings, audit committee size and board independence have positive and statistically significant relationship with the quality of ESG assurance. However, the results indicate institutional ownership, foreign ownership, block holder ownership, and board size impact ESG assurance quality negatively. The results of the study are robust to alternative measures, estimation methods, potential endogeneity problems such as sample selection bias, reverse causality/simultaneity, and unobserved heterogeneity.

8.2 Implication and contributions of the study

The study has important implications for academics, regulators, policy makers, investors, management, and other stakeholders in emerging economies.

8.2.1 Implication for policy makers and regulators

The study findings suggest board of directors' structure (BGD, BI and BM) and ownership structures (foreign ownership, managerial ownership and block holder) variables have positive and significant impact on the level of ESG disclosure. Various stock exchanges, Security and Exchange Commissions and financial reporting councils from emerging economies should make a law, amend existing code of CG and/or amend the existing listing requirement of listed companies that gives a minimum of 50 percent for both female and independent members on the board to ensure adequate ESG disclosure, third party assurance and quality ESGA as these are found to have significant influence on the level of ESG disclosure and assurance. The increase in board diversity and board independence is expected to enhance transparency and accountability regarding non-financial performance through ESG disclosure and assurance practices.

The study provides evidence of low level of ESG disclosure in emerging economies compared to other advanced and developed economies. Therefore, policy makers and regulators such as stock exchanges, Security and Exchange Commissions, financial reporting councils, and other government ministries charged with reporting and disclosure practices from emerging economies should make or amend an existing law, amend existing code of CG and/or amend the existing listing requirement of listed companies that will provide guidelines and mandate the publication of standalone ESG reports and a clear guideline for assurance service due to the high demand for ESG disclosure by various stakeholders and the need to reduce the incidence of decoupling, greenwashing and information asymmetry. This will enhance transparency and accountability thereby minimizing the negative social and environmental impact of corporate organisations.

Going by the global increasing calls for more diversified board of directors, policymakers might find the results of this study useful. The evidence from all the three empirical studies supports regulatory bodies' inducement of companies to increase diversity in their corporate boards as board gender diversity has been found to positively influence ESG disclosure, ESG assurance and the quality of the assurance. Other aspects of diversity such as ethnic diversity, national diversity, age diversity and cultural diversity need to be given priority by the policy makers based on the findings relating to board gender diversity.

Similarly, the empirical evidence from this study suggests that board size have negative and significant impact on ESG assurance and ESG assurance quality. Therefore, regulators and policy makers should ensure that codes of corporate governance limit the number of board and AC members to reduce freeriding, lack of coordination and delay in decision making. Consistent with this, the study provides empirical evidence of positive and significant impact of board independence and AC independence, policy makers should provide guidelines that will mandate the appointment of independent directors into the board and board committees.

Moreover, based on the findings of the study and crucial role of the gender diverse board, there is the need for regulatory authorities to integrate gender diversity at both micro and macro levels in social and environmental frameworks such as the dual net zero targets of China, Russia carbon neutrality by 2060, Indias net zero emission target 2070 among others.

Similarly, the results show that about 40 percent of the sampled firms does not obtain independent assurance for their ESG report. Regulators and policy makers should make policies that will mandate obtaining ESG assurance in order to ensure accountability, transparency and improved credibility of the disclosed ESG information.

Finally, due to the low quality of ESG assurance, there is the need for standard setters and regulators to establish a framework that standardise ESG assurance processes to improve comparability, harmonisation, convergence and the overall quality of the sustainability assurance outcomes. Standard setters such as International Ethics Standards Board for

Accountants (IESBA), EFRAG, Global Reporting Initiative, IAASB International Sustainability Standards Board, AccountAbility and IFRS Foundation should work together to harmonise various standards to ensure comparability. Specifically, IAASB should expedite action regarding full implementation and adoption of ISSA 5000 as this is expected to offer comprehensive framework for assurance engagement thus improve the quality of assurance.

The evidence of low quality ESG assurance further show that obtaining third-party assurance plays a limited role in mitigating agency problem and may be use by management for impression management. Therefore, there is the need for regulators to ensure that firms obtain reasonable assurance and obtain quality ESG assurance to mitigate potential incidence of greenwashing.

Finally, the findings of the study also provide policy makers and regulators with evidence regarding ESG assurance quality level and the need to regulate a minimum legal assurance quality level to reduce the variation among companies especially those operating in the same industry and ensure sustainable economic development and achieve net zero.

8.2.2 Implication for the board and management

The results regarding ownership structure indicate that foreign and managerial ownerships have positive impact on the level of ESG disclosure. Board of directors should give share bonuses, stock option compensation and other incentives to CEOs, CFOs, directors, and other management staff to increase managerial share ownership thus increasing the level of ESG disclosure. Similarly, the board and management should find a way of attracting foreign investors to invest in their shareholdings as this has been found to increase the level of ESG disclosure. The findings further suggest that managerial ownership structure aligns the interest of managerial shareholders with other stakeholders like management to reduce climate risk thus leading to increase level of ESG disclosure and assurance.

The board of directors should ensure they meet regularly, increase the presence of more women and independent directors on the board as the study suggest these variables increase the level of ESG disclosure. Regarding ownership structure, management and board of directors in strategic decision-making roles should identify shareholding type that will foster corporate transparency and disclosure. For instance, the study provides evidence of negative association between IO and ESG disclosure and assurance. Therefore, firms, boards and management interested in increasing the level of ESG disclosure and assurance practices should monitor the proportion of institutional ownership in their shareholding structure. In contrast, foreign ownership has been found to enhance ESG disclosure and assurance, therefore corporate management and the board should strive to increase their foreign shareholdings.

Similarly, the study offers insights on the role of board of directors in ensuring transparency regarding ESG disclosure and assurance and providing high quality ESG assurance. Therefore, for firms to be transparent with all its stakeholders, there is need for energy firms to ensure governance structure that enhance disclosure of ESG information and provides high quality assurance.

Moreover, management and the board of directors should be conscious of the stakeholder scepticisms regarding ESG disclosure alone due to the prevalence of ESG greenwashing. There is the need to complement ESG disclosure with quality ESG assurance from external independent third party to reduce reputational risk and gain stakeholder support and strengthen stakeholder relation.

Finally, the study provides empirical evidence of positive and significant impact of board independence, board gender diversity, and AC independence on the extent of ESG disclosure. Therefore, the board and top management team should ensure that board of directors and board committees are populated with female members and independent directors to increase the level of ESG disclosure in order to gain more societal legitimacy through accountability and transparency.

Although studies suggest that the appropriate board size is dependent on the complexity of the firm (Treepongkaruna et al., 2024; Cole et al., 2008). The evidence from this study shows the need for firms to have an optimum board size that has the right balance in terms of diversity and independence.

8.2.3 Implication for academics

Based on the findings of the study, it may interest academics and researchers to investigate the impact of various types of institutional ownerships, their heterogeneity, their business relationship and their time horizon such as domestic and foreign institutional ownerships, long term and short-term institutional ownership horizons, pressure insensitive and pressure sensitive, institutional shareholder activism and common institutional ownership among others.

Secondly, the findings of the study show that board composition and board gender diversity have positive and statistically significant effect on the level of ESG disclosure and third party assurance. Therefore, there is the need for further studies on the other areas of diversity such as ethnic diversity, religion diversity, industrial expertise and experience, cultural diversity, ideological diversity, and national diversity of both the board and the top management team. Further studies on gender diversity should be conducted to examine whether the influence of gender diversity is affected by the concepts of tokenism or critical mass.

Thirdly, some of the variables show insignificant relationship with ESGD, ESGA and ESGAQ. For instance, institutional ownership is insignificant in all the three empirical chapters, there is the need for researchers to dig deep into this by examining the relationship between institutional ownership with ESGD and ESGA especially the different types of institutional ownerships.

Finally, the study provides evidence of low level of ESG disclosure in the emerging economies context. Therefore, researchers should consider alternative measure or combination of measures regarding ESG. Specifically, researchers should examine ESG performance and examine whether mandated or voluntary disclosure practices will improve the level of ESG disclosure.

8.2.4 Contribution of the study

The study makes many contributions.

Firstly, the study responds to a call for more empirical studies in the context of emerging economies that have remained understudied and unexplored. Specifically, the study responds to a call by (Jain and Jamali 2016; Gillan et al., 2021; Zaman et al., 2021; Zaman et al., 2022) and provides empirical evidence in the context of emerging economies. Using this context allow us to make novel contribution, extend the literature and shed more lights.

Secondly, the study contributes and extends corporate governance and sustainability literature by examining the relationship between corporate governance and ESG disclosure and assurance practices using multi-country context of emerging economies. Moreover, this study contributes to the sustainability literature by integrating and examining three empirical ESG related outcomes in a single study.

Thirdly, the study makes use of aggregated corporate governance variables such as board of directors' attributes, audit committee characteristics and shareholding and ownership structure. The findings show combined and complementary role of these variables on the extent of ESG disclosure and assurance and contribute to the emerging sustainability and ESG literature.

The study also contributes to the literature by concentrating on energy industry that has been severally termed as environmentally sensitive industry, carbon intensive industry and controversial industry in the literature. Extant literature has shown that ESG practices varies across different industries with Baldini et al., (2018) calling for future studies to concentrate their analysis on specific industries as the ESG practise varies across different industries.

Theoretically, the study provides theoretical evidence in support of multiple theoretical perspectives in explaining the relationship between corporate governance mechanisms such as board characteristics, ownership structure and audit committee characteristics on the level of ESG disclosure. Specifically, the study makes theoretical contributions by employing stakeholders, resources dependence, institutional, legitimacy and agency theories in the examining the nexus between corporate governance and the level of ESG disclosure. The study provides evidence of complementary rather than substituting role of CG and ESG disclosure theories by integrating diverse theoretical perspectives. The empirical findings provide support for legitimacy theory on the need for energy firms to improve their accountability and transparency through ESG reporting and assurance as this is associated with greater legitimacy, more public support and higher corporate value. The findings of the study further identify the corporate governance mechanisms that impact the level of ESG disclosure and firms third party assurance practices. The results enrich the theoretical literature relating to corporate governance and ESG reporting and assurance practices thus extending the literature on the determinants of corporate ESG disclosure and assurance.

Methodologically, the study makes methodological contribution by employing Bloomberg database ESG rating as against self-developed content analysis index that has been criticised in the literature. Moreover, the study employed and examined the combined effect of a set of corporate governance structures as complimentary variables that has hitherto been utilised individually thus enhancing the synergy in CG variables. Additionally, the study methodologically addressed the endogeneity issues that have been associated with prior studies on CG and sustainability literature using various methods such as IV 2SLS and lagged variables regressions. Finally, the study goes beyond the dichotomous measurements of non-financial assurance by further examining the quality of ESG assurance thus increasing the validity of the study.

The findings of the study also provide policy makers and regulators with evidence regarding ESG assurance quality level and the need to regulate a minimum legal assurance quality level to reduce the variation among companies especially those operating in the same industry and ensure sustainable economic development and achieve net zero.

This study makes a significant empirical and theoretical contribution by integrating and providing evidence supporting the stakeholder, legitimacy, neo-institutional, and agency theories application in CG and ESG disclosure and assurance practices in an understudied context. The findings of the study highlight that these theories are interconnected, complimentary and collectively influence and explain corporate governance effectiveness and corporate outcomes. This complementary and multi theoretical perspective contributes to the literature, which has been traditionally dominated by the agency theory in corporate governance literature.

To the best of my knowledge, this is the first study that examines the impact of CG variables on the level of ESG disclosure and assurance in BRICS. Unlike prior studies that examined GGC countries, Sub-Sahara Africa and other single country studies, BRICS is more representative of emerging economies thus increasing the generalisability of the findings and wider applicability.

The study sheds light and provide new insights on the effectiveness of board attributes, ownership structure and audit committee on the level of ESG disclosure and assurance. Overall, the study offers a nuanced understanding of the relationship between a set of corporate governance structure and ESG practices in emerging economies and polluting heavy industry context, an industry associated with greater environmental impact and public pressure and scrutiny regarding ESG practices.

8.3 Limitations of the study and direction for future research

Despite the best of efforts and the contribution of the study, the study is without limitations. The sample of 1750 firms-year observations and fourteen-year period although large enough to provide important insight. However, future studies should consider studies with larger sample size, longer period and extensive data sets to increase generalisability. Similarly, despite the importance of studying the link in the contexts of emerging economies, a comparative study of developing countries with the western developed countries will shed light and provides new insight on the relationship and show differences if any. This study examined the link between corporate governance and ESG assurance, future studies should consider examining the impact, determinants or economics consequences of different ESG assurance practices such as accountant and non-accountant assurance provider, provision of both financial audit and non-financial assurance by an audit firm simultaneously, the issue of limited and reasonable assurance, the cost of assurance and it implication on assurance quality, developments relating to International Auditing and Assurance Standards Board (IAASB) ISSA 5000 among others. Moreover, extant literature suggests that CEO and TMT values, level of education, foreign and domestic experience, ideology, social connection, environmental awareness and conscience, confidence level, managerial ability and competence, cognitive ability, expertise, cultural background, CEO sociopolitical activism, gender, power, narcissism, and social background affect strategic decisions such as ESG and sustainability reporting and assurance. Therefore, future studies should examine the link between CEO characteristics and sustainability disclosure and assurance. Similarly, as this study is quantitative studies, future studies should consider using qualitative studies that will possibly provide new insights, in-depth analysis and first-hand information regarding the relationship between corporate governance and ESG disclosure and assurance.

The first empirical chapter examines the impact of CG on ESG disclosure, even with the popular saying of “what gets measured gets managed”, future studies should look at the link between CG variables and ESG or sustainability performance. Moreover, the study investigates the link between CG and ESG disclosure using mostly internal governance variables. Based on the findings of the studies, future should explore the relationship using additional variables, moderating variables and/or mediating variables such as institutional ownership type, gender of the accounting and financial expert in the audit committee, investment horizon, co-opted directors, family ownership, foreign direct investment, board interlock, CG-ESG overlap, bribery and corruption, greenwashing, board demographic and structural diversity, mandatory regulations, CSR decoupling, corporate social irresponsibility, analyst coverage, political risk, ESG contracting, board over-boarding among others. Similarly, future studies should consider exploring the external governance factors and country level factors such as national culture, level of development, investors protection, sovereign wealth funds, religiosity, social trust, multi-stakeholder initiatives, public governance, legal system, informal institutions, structural dimensions of governance, national business system, traditional and new media and their relationship with ESG disclosure and assurance.

Theoretically, future studies should consider using other theoretical lenses and perspectives to examine the relationship. Specifically, theories such as rationalism, systems and contingency theory, social cognitive theory, impression management theory, upper echelon theory, network theory and social phycology to examine the impact of CEO characteristics or board diversity on the level of ESG disclosure and purchase of assurance. Moreover, this study concentrates on the listed firms that are large, financially stable, and sometimes requires by the regulations and listing requirements to disclose ESG information. Future studies should study the governance and ESG disclosure and assurance practices of small and medium scale enterprises especially within the context of emerging economies since SMSEs play major role in emerging economies. Finally, despite examining ESG practices relating to ESG disclosure, ESG assurance and ESG assurance quality, ESG misconduct and CRS irresponsibility are other areas worth exploring by researchers to provide more insights.

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Appendix 1: Trainings Attended

S/N	TITTLE	DATE	TIME	VENUE

1	Career Symposium: Strategies for Successfully publishing your Research (in jounarls)	Fri 31 Jan 2020	11:00 am – 1:00 pm	Old fire station G05 (Council Chambers)
2	IA Preparation Workshop	Wed 5 Feb 2020	1:00 pm - 2:00 pm	Maxwell room 824
3	Introduction to Qualitative Research	Thu 6 Feb 2020	1:00 pm - 2:00 pm	Chapman seminar room 2
4	Welcome to Research at Salford University & Researcher roadmap	Mon 10 Feb 2020	11:00 am – 1:00 pm	Old fire station G05 (Council Chambers)
5	Researcher Development Day: Communication skills	Tue 11 Feb 2020	9:30 am – 11:00 am	Maxwell Hall
6	Research Ethics Workshop	Mon 10 Feb 2020	2:30 pm – 4:00 pm	Maxwell Hall
7	How to write an Abstract	Tue 11 Feb 2020	11:30 am – 1:00 am	Maxwell Hall
8	Researcher Development Day – Writing for your IA and IE	Tue 11 Feb 2020	9:30 am – 11:00 am	Maxwell Hall
9	Data collection using NVivo and SPSS data analysis software	Mon 24 Feb 2020	8:30-9:30am	University Library
10	Introduction to research design planning using NVivo and SPSS data analysis software	Mon 24 Feb 2020	9:30-10:30am	University Library
11	Word: Formatting your dissertation or thesis	Mon 16 Mar 2020	10:am – 1:00 pm	C811, Allerton, Frederick Campus
12	How to reference and avoid plagiarism (Harvard APA 6^{th})	Mon 16 Mac 2020	2:00pm - 4:00pm	Maxwell room 824
13	Giving good presentation workshop	Tue 24 Mac 2020	1:00 pm – 4:00 pm	Online

14	Academic Resilience: Facing the challenges of University study	Thu 26 Mac 2020	2:00 pm – 4:00 pm	Online
15	Idea Puzzle: how to design your Ph.D dissertation or thesis with Idea Puzzle software.	Tue 14 Apr 2020	1:00 pm – 2:00 pm	Online
16	Preparing for assessments: Viva's, IA, IE and new online formats.	Wed 15 Apr 2020	1:00pm - 2:00pm	Online
17	PhinisheD- How to continue doctoral research during an international crisis.	Wed 15 April 2020	3:00 pm – 4:00 pm	Online
18	How to adjust your research in the light of unforeseen circumstances: session one: using telephone interviews.	Wed 06 May 2020	11:00 pm – 12:00 pm	Online
19	How to adjust your research in thelight of unforeseen circumstances: session TWO: Ethics	Mon 11 May 2020	10:00 am – 11:00 am	Online
20	Methodological challenges	Wed 27 May 2020	10:00 am – 11:00 am	Online
21	Preparing for the Viva and the new online formats.	21 May 2020	1:00pm - 2:00pm	Online
22	Visualizing and organising your literature review	Wed 03 June 2020	1:00 pm – 2:00 pm	Online
23	SBS Seminar series	Wed 03 June 2020	04:00 pm – 05:00 pm	Online
24	Avoiding plagiarism in your work.	Tue 09 June 2020	06:00 pm – 07:00 pm	Online
25	Research methods and measurement	Wed 10 June 2020	10:00 am – 11:00 pm	Online
26	The what, why, when and how of referencing.	Wed 10 June 2020	5:45 pm – 6:30 pm	Online

27	Finding journals and articles online	Tue 16 June 2020	06:00 pm – 07:00 pm	Online
28	SBS Seminar series	Wed 17 June 2020	10:00 am – 11:00 pm	Online
29	Introducing open research series	Thu 09 July 2020	2:00 pm – 2:30 pm	Online
30	Cross-institutional PGR networking	Tues 13th October, 2020	11:00 am – 1:00pm	Online
31	Researcher Development conference: The responsible researcher, integrity and compliance Skills	Thu 15th October, 2020	1:30 am – 2:20pm	Online
32	Researcher Development conference: Research ethics workshop	Thu 15th October, 2020	03:00pm–03:30pm	Online
33	SBS Research Seminar	Wed 21st October, 2020	04:00 pm – 6:00pm	Online
34	SBS Research Seminar	Wed 21st October, 2020	04:00 pm – 6:00pm	Online
35	PGR inter-disciplinary research seminar series	Wed 18 Nov 2020,	12:00 pm - 2:00 pm	Online
36	Word: formatting your thesis or dissertation part 1	Mon 23 Nov 2020	03 – 04 pm	Online
37	Word: formatting your thesis or dissertation part 2	Mon 23 Nov 2020	04 – 05 pm	Online
38	Experimental and research design: introduction to planning and methodologies	Wed 10 Feb 2021	12-02 pm	Online

39	Researcher Development conference: How to pass your IA, EA and Viva assessment	Thu 11 Feb 2021	09-11 pm	Online
40	Quantitative Tuesdays: week two panel regression and categorical dummy variables	Tue 2 Mar 2021	01-02pm	Online
41	Qualitative Thursdays: Data collection in qualitative research	Thu 4 Mar 2021	01-02pm	Online
42	Quantitative Tuesdays: week three univariate analysis and forecasting	Tue 9 Mar 2021	01-02pm	Online
43	Managing your research data: Salford Business School	Wed 10 Mar 2021	10-11am	Online
44	PGR inter-disciplinary research seminar series and Doctoral school huddle	Wed 10 Mar 2021	12-1pm	Online
45	Qualitative Thursdays: week 3 practicalities of focus groups and interviews	Thu 11 Mar 2021	1-2pm	Online
46	Quantitative Tuesdays: week four time series and spurious regression	Tue 16 Mar 2021	1-2pm	Online
47	SPSS Data manipulation	Mon 22 Mar 2021	09-12am	Online
48	SBS Seminar series	10 November 2021	04:00 pm – 06:00 pm	Online
49	SBS Seminar series	24 November 2021	04:00 pm – 6:00 pm	Online
50	SBS Seminar series	08 December 2021	04:00 pm – 06:00 pm	Online

51	Vox Viva and interview training	Wed 27 April 2022	09am - 5pm	Peel 331
44	PGR inter-disciplinary research seminar series and Doctoral school huddle	Wed 10 Mar 2021	12-1pm	Online
45	Qualitative Thursdays: week 3 practicalities of focus groups and interviews	Thu 11 Mar 2021	1-2pm	Online
46	Quantitative Tuesdays: week four time series and spurious regression	Tue 16 Mar 2021	1-2pm	Online
47	SPSS Data manipulation	Mon 22 Mar 2021	09-12am	Online
48	SBS Seminar series	10 November 2021	04:00 pm – 06:00 pm	Online
49	SBS Seminar series	24 November 2021	04:00 pm – 6:00 pm	Online
50	SBS Seminar series	08 December 2021	04:00 pm – 06:00 pm	Online

Table 0.1 Trainings Attended

Appendix 2: Supervision Meetings

S/N	DATE	SUPERVISOR	VENUE
1	22nd January, 2020	Dr. Ashraful Alam	Maxwell 304
2	5th February, 2020	Dr. Ashraful Alam	Maxwell 304
3	7th February, 2020	Dr. Al Balhloul Mohammed	Maxwell 302
4	2nd March, 2020	Dr. Ashraful Alam	Maxwell 304
5	10th March, 2020	Dr. Ashraful Alam	Maxwell 304
6	24th April, 2020	Dr. Ashraful Alam	Online
7	07th May, 2020	Dr. Ashraful Alam	Online
8	28th May, 2020	Dr. Ashraful Alam	Online
9	10th June, 2020	Dr. Ashraful Alam	Online
10	17th July, 2020	Dr. Ashraful Alam	Online
11	29th August, 2020	Dr. Ashraful Alam	Online

12	26th September, 2020	Dr. Ashraful Alam	Online
13	14th October, 2020	Dr. Ashraful Alam	Online
14	25th October, 2020	Dr. Ashraful Alam	Online
15	30 November 2020	Dr. Ashraful Alam	Online
16	15 December 2020	Dr. Ashraful Alam	Online
17	28 January 2021	Dr. Ashraful Alam	Online
18	26th February 2021	Dr. Ashraful Alam	Online
19	28 March 2021	Dr. Ashraful Alam	Online
20	1st April 2021	Dr. Ashraful Alam	Online
21	30th April 2021	Dr. Ashraful Alam	Online
22	1st June 2021	Dr. Ashraful Alam	Online
23	29th June 2021	Dr. Ashraful Alam	Online
24	30th July 2021	Dr. Ashraful Alam	Online
25	4th September 2021	Dr. Ashraful Alam	Online
26	18th, October 2021	Dr. Ashraful Alam	Maxwell 304
27	8th, November 2021	Dr. Ashraful Alam	Maxwell 304
28	4th December 2021	Dr. Ashraful Alam	Online
29	31st, January 2022	Dr. Ashraful Alam	Maxwell 304
30	28th, February 2022	Dr. Ashraful Alam	Maxwell 304
31	16th March 2022	Dr. Ashraful Alam	Online
32	21st March 2022	Dr. Ashraful Alam	Maxwell 304
33	29th April 2022	Dr. Ashraful Alam	Online
34	30th July 2022	Dr. Ashraful Alam	Online
35	4th September 2022	Dr. Ashraful Alam	Online
36	18th, October 2022	Dr. Ashraful Alam	Maxwell 304
37	8th, November 2022	Dr. Ashraful Alam	Maxwell 304
38	4th December 2022	Dr. Ashraful Alam	Online
39	31st, January 2022	Dr. Ashraful Alam	Maxwell 304
40	28th, February 2022	Dr. Ashraful Alam	Maxwell 304
41	2nd, December 2023	Dr. Ashraful Alam	Online
42	7th, January 2024	Dr. Ashraful Alam	Online
43	11th, March 2024	Dr. Ashraful Alam	Online
44	15th, April 2024	Dr. Ashraful Alam	Maxwell 304
45	11th, June 2024	Dr. Ashraful Alam	Online
46	28th, October 2024	Dr. Ashraful Alam	Online
47	12th, November 2024	Dr. Ashraful Alam	Maxwell 304
48	25h, November 2024	Dr. Ashraful Alam	Maxwell 304