

CONTRAST ANALYSIS OF CORPORATE GOVERNANCE MECHANISM AND ENVIRONMENTAL DISCLOSURES IN OIL AND GAS SECTORS IN NIGERIA AND GHANA

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ABSTRACT

The environment has generated a great deal of concern globally since the last two decades and consequently, environmental concerns have attracted considerable attention arising from the need to ensure environmental sustainability. The main objective of the study is a contrast analysis of the impact of corporate governance mechanisms on environmental disclosures in the oil and gas sectors of Nigeria and Ghana. The researcher adopted the ex post facto design. The study population was the listed oil and gas companies in Nigeria and Ghana. The researcher adopted the convenient sampling technique. The data required for the study was secondary data. The data were extracted from the financial statements of the selected companies through content analysis. Descriptive Statistics technique and multiple linear regression analysis were the techniques adopted for the analysis. The data analysis was enhanced using Statistical Package for Social Science version 20. A T-test was carried out to examine the difference between disclosures between the two countries of the study. The result of the analysis shows that Board Size has a significant influence on the environmental disclosure of oil and gas companies in Ghana but an insignificant influence in Nigeria. The board meeting has a significant influence on the environmental disclosure of oil and gas companies in Ghana but has a negative effect on environmental disclosure in Nigeria. Board Composition has an insignificant influence on environmental disclosures of oil and gas companies in Nigeria but in Ghana, board composition influenced environmental disclosures significantly. Audit committee size has a significant influence on the environmental disclosures of oil and gas companies in Nigeria and Ghana. However, there is a significant composite influence of corporate governance on environmental disclosures both in Nigeria and Ghana. According to the study's results, Nigerian oil firms do not significantly include environmental information in their financial reports. It can be concluded that oil and gas companies in Ghana disclose their environmental information more than their Nigerian counterpart. Based on the findings of the study, the following recommendations were made; the number of directors in the oil and gas sector in Nigeria should increase to a minimum of ten directors to allow the presence of diverse skills and experience on the board.

Keywords: Contrast Analysis, Corporate Governance Mechanism, Environmental Disclosures, Oil and Gas Sectors, Nigeria and Ghana.

1.0 INTRODUCTION

The environment has generated a great deal of concern globally in the last two decades, and consequently, environmental concerns have attracted considerable attention arising from the need to ensure environmental sustainability. Of particular emphasis in this regard have been the roles that various stakeholders can play. From the accounting angle, the need for environmental disclosures (ED) can be seen as a response to these concerns about the environment. This has been exacerbated by the growing environmental problems and challenges coming from the impact of corporate activities. The role of environmental disclosures has emerged as a result of a concern for the relationship between the organization and the natural environment (Ogunode & Adegbe, 2022).

Consequently, environmental disclosures are fast becoming a key issue both in academic and corporate circles. The advocacy for companies to integrate environmental performance into their financial performance models has been a key driver for several initiatives encouraging companies to become more environmentally responsible. In response, companies have begun to intensify their environmental performance initiatives across several dimensions. However, the depth and quality of these initiatives are still very debatable and vary considerably from firm to firm, industry to industry, and even from country to country (Oyekale et al., 2022).

Environmental disclosure is important because the public can monitor the activities undertaken by the company in order to fulfil its social responsibility through environmental disclosure in the annual report of the company. In this way, the company will benefit from the positive attention, trust, and support of the community. Based on these opinions, environmental disclosure can help companies get support and capital from stakeholders and investors. In addition, it can also be used to assess the impacts or risks that may be incurred by the company's operations and reduce the impact of company activities on the environment created around the company so that the image of the company, both internally and externally, can be improved (Okoye & Erinugha, 2023).

The task of corporate governance in settling disputes between internal and external investors has been considerably examined, and various works have submitted that corporate governance influences the supervisory role of management and the conduct of companies (Liao et al., 2021). Corporate governance mechanisms are principles and procedures designed by management to regulate the operations of firms to attain their objectives (Menike, 2020).

Disclosure of environmental performance in a separate report is to reflect the level of accountability, responsibility, and corporate transparency to investors and other stakeholders. Corporate governance (CG) refers to a collection of procedures that decide how and by whom organizations are regulated, as well as how effective responsiveness and knowledge disclosure to stakeholders should be implemented (Arani, 2016). Consequently, corporate governance is a method of ensuring that managers' disclosures of company knowledge are more transparent. The openness of information is a vital feature of corporate governance, and it can be considered one of the tools for evaluating managers' responsiveness to duties (De Villiers & Staden, 2009). This concept is quite undeveloped in Nigeria in relation to environmental disclosures (Ajibolade & Uwuigbe, 2013).

Corporate governance can assist in ensuring environmental sustainability disclosure in the right way to meet the increasing request of stakeholders for voluntary disclosure of information that can inform stakeholders' decision-making, either investment decisions or other forms of decisions. The previous studies investigating the extent of corporate voluntary reporting practices were of the view that environmental disclosures are a significant phenomenon employed by corporations and are influenced by many corporate governance and firm-specific attributes (Obiora et al., 2022).

The outburst of environmental disclosures has helped to solve environmental issues ranging from environmental pollution and environmental litigation to proper environmental accounting and reporting. However, the success of this reporting also led to global concern over how to harmonize accounting and environmental reporting costs and liabilities. Notwithstanding the challenges of harmonizing accounting and environmental reporting disclosures, corporations should strive to be socially responsible because building a good image is key to the survival of a business (Uford & Duh, 2021), and when this is done, it transcends to a long-lasting relationship with diverse stakeholders, which is ideal for a perpetual and sustainable business environment (Ezhilarasi & Kabra, 2017).

Traditionally, environmental engagement has drawn lots of attention recently, but environmental disclosure reports are voluntary in nature. However, the voluntary nature of such reports could undermine the credibility of this report because some organizations may not be willing to disclose such information or, rather, not disclose at all or partially disclose environmental information (Ioannou & Serafeim, 2012). In the context of Nigeria and Ghana, we could observe lots of companies not fully providing adequate environmental information in their annual reports.

However, lots of studies have scrutinized the influence of governance on company economic performance with less attention to non-financial performance indicators (Carter et al., 2003; Rose, 2007). The members of the board with relevant skills, technical intelligence, and external exposure would facilitate quality and a more improved decision-making process, aimed at increasing the level of the company's policy towards corporate social and environmental disclosure (Strandberg, 2005). In the same vein, Lilik et al. (2014) asserted that the absence of board diversity led to the failure and weakness of governance in corporations and admonished that a diverse board would enhance the quality of decision-making at top-level management, promote high ethical standards, reduce narrow-minded decisions, and improve corporate strategic planning and accountability.

Corporate governance on the board would encourage better ethical behaviour and reduce fraud so as to greatly reduce agency costs. However, a gap in the literature exists on how corporate governance mechanisms would impact the level of environmental disclosures in the oil and gas sectors of Nigeria and Ghana. The present study is an endeavour to encircle environmental disclosures and their relationship with corporate governance. Corporate governance mechanisms are manifested and categorized into the size of the board, board meetings, board composition, role duality, and proportion of female directors, board audit committee, and ownership structure (Uwah & Akpan, 2019).

1.1 Statement of the Problem

Oil and gas together constitute over 90% of Nigerian foreign exchange earnings. It is a fact that all aspects of oil and gas exploration and exploitation have deleterious effects on the local ecosystem and biodiversity (Uford, Charles & Ekong, 2022). Oil exploration by seismic companies involves surveying, clearing of seismic lines, and massive dynamiting for geological excavations. The explosion of dynamite in aquatic environments leads to narcotic effects and the mortality of fish and other faunal organisms (Zabbey, 2004).

Destabilization of sedimentary materials associated with dynamite shooting causes increases in turbidity, blockage of filter feeding apparatuses in benthic (bottom-dwelling) fauna, and reduction of plant photosynthetic activity due to reduced light penetration. The burying of oil and gas pipelines in the Delta fragments rich ecosystems such as rainforests and mangroves. Apart from the reduction in habitat area, the clearing of pipeline tracks segregates natural populations, which may in turn distort breeding behavior. Oil spillages routinely occur in the Niger Delta. Sources of oil entering the environment are variable, including pipeline leakage and rupturing, accidental discharges (e.g., tank accidents), discharges from refineries and urban centers, etc.

There are also biogenic sources of hydrocarbons in the environment. Negative impacts of oil exploration in the Niger Delta Impact Assessment and Project Appraisal June 2008 Between 1976 and 1997, there were 5,334 reported cases of crude oil spillages, releasing around 2.8 million barrels of oil into the land, swamps, estuaries, and coastal waters of Nigeria (Dublin-Green et al., 1998). Most of these oil spill incidents reported in Nigeria occurred in the mangrove swamp forest of the Niger Delta region. Mangrove, of course, is one of the most productive ecosystems in the world, with a rich community of fauna and flora. The negative effects of the oil spills are obvious.

Oil and gas exploration has improved the economy of Ghana through revenue generation (Abokoma, 2017). In contrast, Siakwah (2017) has argued that the benefits of oil and gas exploration have been hyped since oil has only diversified Ghana's dependency on natural resources without structurally changing the national economy.

Consequently, it is contested that the development and expansion of the oil fields in Ghana is fraught with several challenges, many of which have been unresolved but rather left to damage the supposed gains from oil exploration (Abokoma, 2017). A key example is a specialized product such as oil and gas activity that served as a leading cause of expansion in the nearby populace. The adverse impacts of oil and gas exploitation in Ghana have included destruction of the integrity of biological and ecological resources within the mining zones where communities such as Ahanta West, Shama, Nzema East/West, Jomoro, Elembelle, and Sekondi-Takoradi are located (Amoasah, 2010). This development has been a recipe for conflict since fishermen in oil-bearing networks had to stay off the stamped span of the oil rigs, particularly the 500-m no-angling zone, if they intended to avoid the potential impacts of oil and gas production activity on their environment. Oil and gas exploitation activities impacting the environment and its resources have also included pollution due to the use of some harmful chemical substances (Atairet, Atairet & Mark, 2021), unintended spills, drill cuttings, emissions into the atmosphere, noise, and, to some extent, the location of installations and pipelines on the sea bed. In other cases, the production of oil and gas has destroyed crops such as coconut plantations found nearby the sea, as these crops are plausible to be influenced by

the assimilation of dangerous materials that may affect the cycle of photosynthesis (Amarfio, 2010). The situation of these impacts has worsened the livelihoods of people living near these oil and gas production sites.

As a result of the pollution that is created from toxic and dangerous materials in our environment, not only does the planet's ecosystem come under threat, but the health of the stakeholders is potentially at risk too. Industrial factories have played a big part in the amount of air pollution that we as a people are suffering from (Adindu, Ekung, & Ukpong, 2022). The toxic gases that factories release into the air, combined with those added by automobiles on the road, contribute to an increased risk of developing chronic respiratory diseases such as lung cancer, heart disease, and many other illnesses, diseases, and conditions. From the foregoing, it is very clear that there is a need for companies to be held accountable for their impact on the environment.

Several empirical research works have been conducted on corporate governance and environmental disclosure, independently in different sectors of the Nigerian and Ghanaian economies (Bala et al., 2023; Cong & Martin, 2011; Fakoya & Lawal, 2020). Therefore, the focus of this research is to carry out a contrast analysis of the effect of corporate governance on the environmental disclosures of oil and gas companies in Nigeria and Ghana, with attention to board size, board meetings, board composition, and the audit committee.

1.2 Objectives of the Study

The main objective of the study is contrasting analysis of the impact of corporate governance mechanisms on environmental disclosures in oil and gas sectors of Nigeria and Ghana. The following were the specific objectives;

- i. to examine the difference between the effect of board size on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.
- ii. to assess the difference between the effect of board meetings on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.
- iii. to assess the difference between the effect of board composition on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.
- iv. to ascertain the difference between the effect of audit committee on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.
- v. to evaluate the difference between the composite impact of corporate governance on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.

1.3 Research Questions

The following research questions were formulated to guide the researcher;

- i. What is the difference between the effect of board size on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana?
- ii. What is the effect of board meetings on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana?
- iii. What is the difference between the effect of board composition on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana?

- iv. What is the difference between the effect of audit committee on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana?
- v. What is the difference between the composite effect of corporate governance on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana?

1.4 Research Hypotheses

The following research hypotheses were formulated for the study;

Ho1: There is no significant difference between the effect of board size on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.

Ho2: There is no significant difference between the effect of board meetings on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.

Ho3: There is no significant difference between the effect of board composition on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.

Ho4: There is no significant difference between the effect of audit committee on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.

Ho5: There is no significant difference between the effect of corporate governance on the environmental disclosures in oil and gas sectors of Nigeria and that of Ghana.

1.5 Scope of the Study

The scope of this study focused on the comparative analysis of the impact of corporate governance on the environmental disclosures in oil and gas sectors. The study would cover Nigeria and Ghana for the period of 2013 and 2022 (10 years). The study covers quoted oil and gas firms in Nigeria and Ghana.

2.0 REVIEW OF RELATED LITERATURE

2.1 Corporate governance

Corporate governance is a concept that emerged following the growth of corporations in the 20th century, and in particular, following the stock market crash in 1929, which led scholars to argue for corporate governance mechanisms that would allow shareholders to keep companies in check (Dombin, 2013). A lot of scholars however attribute the considerable interest in corporate governance practices in modern corporations to the high-profile collapse of a number of large firms in the US such as the Enron Corporation

Corporate governance is simply defined as the acceptance by management of the alienable rights of shareholders as the true owners of the corporation and their role as the trustees on behalf of the shareholders (Ibid). A report by World Bank (2006) defines corporate governance as the structures and processes for the direction and control of companies; in order words, corporate governance concerns the relationship amongst the management, board of directors, controlling shareholders, minority shareholders and other stakeholders.

2.2 Corporate governance mechanism

2.2.1 Board size

Allegrini and Greco (2013) stated that board size can be seen as a crucial corporate governance mechanism that may influence the level of corporate voluntary disclosure, including environmental disclosure (Ntim et al., 2013). On the other hand, both the theoretical and empirical literature provide contradictory explanations regarding the relationship between board size and environmental disclosure.

Board size refers to the total number of directors in the Board (Andreou et al., 2014; Roshima et al., 2009). However, both large and small board size has its advantages and disadvantages. Advantages of large board size include larger pool of expertise and experience (Reddy et al., 2010), better links which improve the companies' access to resources, corporate performance, and corporate capital structure.

2.2.2 Board meetings

Board meeting is one of the initiatives by the board to perform its oversight function on the management (agent); this is in tandem with the agency theory in which the board members act as the principal. Board meeting serves as a platform to share knowledge and information among experts. This is a crucial and critical resource for the organization. Prior studies suggest that frequency of the BMs is credited to the number of meetings held annually by the board of directors. As indicated by Chen et al. (2006), board meeting recurrence reflects sound checking systems. Thus, implies that board practices if carried out by the recurrence of meetings influence the capacity of the board to scrutinize reports to reduce agency problems and improve more quality disclosures (Xie et al., 2003; Knechel et al., 2007). Increase scrutiny and monitoring by board decrease agency cost and information asymmetry and invariably improve quality disclosures (Chou et al., 2013). Board meeting has a significant relationship with corporate environmental disclosures. More board meetings can increase the performance of company since many activities can be planned and more issues can be resolved during board meetings (Nkundabanyanga et al., 2013).

2.2.3 Audit committee

An audit committee is an important tool in improving the organizational situation and independence of internal auditing. The audit committee is forecasted to be an informed, wise, and constructive superintendent of the financial reporting process (Catikkas & Alpaslan, 2003). Bromark and Hoffman (1992) stated that the key reasoning of the setting up of the audit committee is to facing the permanent defiance's of business environment, also to assist the board of directors and management to deal with those challenges.

2.2.4 Board Composition

Board composition refers to the people in an organization's board of directors and what they bring to the board table, such as their management background and skills. Board composition varies widely depending upon an organization's goals and industry. Diversity in terms of members' experience, skills, and backgrounds can improve board performance (Charles &

Uford, 2023). It offers deep insights, a wealth of experience, and the multiple perspectives necessary for an organization to tackle challenging industry issues.

The board of directors can be called the brain of the company. They are responsible for taking all the big decisions and making policy changes. These decisions are taken in special meetings members of the board hold together, called 'Board Meetings'. Section 149 of the Companies Act states that every company's board of directors must necessarily have a minimum of three directors if it is a public company, two directors if it is a private company and one director in a one-person company. The maximum number of members a company can assign as directors is fifteen. However, the company can pass a special resolution in a general meeting to allow for assigning more than fifteen members to the board of directors. The board of director can also be composed of executive and non-executive directors.

2.3 Environmental reporting Disclosures

Chartered Institute of Management Accountants (CIMA) (2012) defines environmental reporting as the public disclosure of information concerning an entity's environmental performance and it makes organisations appear more accountable for the economic, environmental and social consequences of their activities. Environmental reporting can also be defined as public disclosure by a firm of its environmental performance information, similar to the publication of its financial performance.

Environmental reporting, represents the degree in which the company discusses its emissions, energy sources and consumption, environmental incidents and violations, materials use, mitigations and remediation, waste produced and water used. It also includes the use of life cycle analysis, environmental performance and stewardship of products, and environmental performance of suppliers and contractors.

Corporate Environmental Reporting can be defined as an umbrella term that describes various means by which companies disclose information on their environmental activities to the users. This should not be confused with corporate environmental reports, which represents only one form of corporate environmental reporting. A Corporate Environmental Report is a tool to communicate a company's environmental performance. Corporate environmental reporting is the process by which a corporation communicates information regarding the range of its environmental activities to a variety of Stakeholders including employees, local communities, shareholders, customers, government and environmental groups (Pramanik et al., 2008).

2.4 Theoretical Framework

2.4.1 Agency Theory (Jensen & Meckling, 1976)

Agency theory explains the relationship between the owners (shareholders) and management, in which owners appoint management to serve best on their behalf (Jensen & Meckling 1976; Harjoto & Jo, 2011). However, a conflict exists regarding the goals of the owner and agent due to managers' inclination toward controlling business policy and strategy to enhance their short-term interests, rather than to make long-term decisions. Agency theory is also defined in terms of monitoring and incentives, a board is responsible for monitoring the top management's environmental policy, strategy, investments, and reporting. Thus, the ESRP significantly

relates to the firm's long-term decisions and investments in environmental initiatives as enacted by top management.

However, this management may be reluctant to incur expenses, such as R&D expenditures, unless these ensure an immediate financial benefit; management more commonly focuses on short-term investments that will enhance both financial and nonfinancial opportunities (Hillman & Dalziel, 2003). Moreover, ESRP is considered as an opportunistic, transparent and credible mechanism to reduce information asymmetry between agents and owners. Existing agency conflicts regarding environmental decision can be mitigated by ESRP practices as well as utilizing stakeholder's advocacy by the management (Cespa & Cestone 2007). Therefore, managers' incentive to engage in environmental disclosures would be larger when corporate governance is stronger.

Therefore, environment disclosures is the process of social and organizational engagement that differ across the country and organizational management uses it communicating with any circumstances mitigating agency conflicts as well as cost.

2.4.2 Stakeholder theory by Fredman 1983

Stakeholder theory is a theory that explains the relationship between the company and its stakeholders. A company is not only responsible to the owners (shareholders) but also to the stakeholders. The company's survival depends on the support of stakeholders and support should be sought so that the activity of the company is to seek the support. The more powerful stakeholders, the greater the company's efforts to adapt. Social disclosure is considered as part of the dialogue between the company and its stakeholders.

Stakeholder analysis helps in making rankings, which organization stakeholders should be prioritized to be given information as part of its accountability to those group (Van Der Laan, 2009; Thomas, Ukpog & Usoro, 2022). The purpose of the stakeholder theory is to help corporate managers understand their stakeholder environment and to manage more effectively within their corporate environment. However, the broader objectives of stakeholder theory is to help company managers to increase the value of the impact of their activities, and to minimize losses for the stakeholders.

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Therefore, environmental disclosure practices reduce information gap regarding environmental policy among the stakeholders. The present study is anchored specifically on the stakeholder's theory.

2.5 Empirical Review

Almaqtari et al., (2023) analyzed the impact of environmental disclosure, board attributes, and firms' specifics on the levels of environmental and ESG performance in Europe and Asia. The study utilizes secondary data from Refinitiv Eikon database for 8094 firms for the period between 2016 and 2021. The study employs panel data analysis using fixed effect models to estimate the results. The findings suggest that disclosure on emissions, innovations, environmental controversies, environmentally friendly products, proactive environmental investments, environmental expenses, and fines charged by authorities have a positive and significant influence on the level of firms' environmental and ESG performance. Furthermore, the study identifies board tenure, independence, size, and meetings as being associated with greater levels of environmental disclosures, reporting, and sustainability score. However, board diversity is found to have a limited contribution to environmental disclosures, especially in Asian countries. Additionally, the results reveal that companies with higher revenue growth, larger size and market capitalization, and better performance have greater and better disclosure of environmental and sustainability issues. The study provides practical implications for policymakers to establish comprehensive guidelines for environmental and sustainability reporting based on the analysis of institutional, regulatory frameworks, legislation, and sustainability score enforcement status of the country.

According to Bala et al. (2023), there is growing concern for corporate entities to disclose information in respect of their environmental practices as an addition to conventional economic reporting. Their study explores the influence of corporate board physiognomies on environmental accounting disclosures (CEADs). The study examines the data of 13 oil and gas companies for the period of 2014 to 2020. Pool regression was used to analyse the data. The key findings of this research show that the EAD Among Nigeria's publicly traded oil and gas firms is substantially influenced by the board financial expertise, audit committee (AC) independence and AC financial expertise. This supports the stakeholder's theory which suggests that the board of directors as environmental representatives, protect the shareholders' objective since more EADs will increase their reputation, appeal prospective investors and customers. While the EAD of these enterprises was unaffected by by-the--the-board independence. The study exposed the need for the regulatory agency to come up with empowering laws that can ensure that listed Nigerian oil and gas companies cuddle CEAD regardless of their size and profitability. Finally, the Global Environmental Disclosure Index (GEI) should be recognised as the most palatable benchmark for evaluating environmental accounting in Nigeria.

Okoye and Erinugha (2023) ascertained the effect of environmental disclosure on the financial performance of listed Oil and Gas companies in Nigeria for a period of eleven (11) years spanning from 2011 to 2021. Specifically, this study determined the effect of employee health and safety disclosure, waste management disclosure, and environmental protection disclosure on cash value added. This study employed Panel data which were extracted from audited annual reports and accounts of eleven (11) listed Oil and Gas companies for the periods 2011-2021. Ex-post facto research design was employed. Descriptive statistics was used to analyze the data and inferential statistics was employed using Pearson correlation coefficient and Panel least square regression analysis to test the hypotheses of the study. The results showed that there is a significant and positive relationship between employee health and safety disclosure, waste management disclosure, environmental protection disclosure and cash value added. The study recommended that in an attempt to sustain the positive relationship between waste management

disclosure, firm should endeavour to identify wastes, evaluate waste and manage wastes in order to provide economic benefits for the community and the ability to lower production costs which can translate to bigger savings as well as profits in the long run.

Igbinovia and Agbadua (2023) study examines the influence of environmental, social and governance (ESG) reporting on value-based performance; and the moderating effect of firm advantage on the nexus between ESG reporting and value-based performance of Nigerian quoted manufacturing firms. Using secondary data from the annual report of 20 manufacturing firms for the period 2017 to 2021, analysis involved descriptive statistics, correlation and regression analysis. The study finds that ESG reporting exerts no significant impact of firm value during the study period, but the effect was magnified and significant when moderated with firm advantage (profitability minus capital cost). Firm advantage has a significant effect on firm value-based performance of Nigerian quoted firms. No direct impact was observed for ESG and firm value, implying that ESG disclosures can only influence firm value meaningfully if it is focused on improving profitability by increasing sales through improved public image, and by achieving reduced finance cost. From the study's findings, ESG alone do not directly drive firm valuation, suggesting the existence of possible channels of transmitting ESG disclosure to value.

Ayuba and Yunusa (2023) examined the impact of environmental and social disclosure on return on asset of listed oil and gas companies in Nigeria. The study used expo factor research. The population of the study comprises of all the thirteen (13) oil and gas companies and eight (8) of those companies made up the sampled population. The study used three variable, the dependent, independent and control variable. ROA is the dependent variable, environmental and social disclosure is the independent variable while firm size and firm age are the control variable. The study used secondary data sourced from annual report and account of the sampled companies for the period 2010 to 2019. To examine the study data, descriptive statistics, correlation matrix and multivariate regression analysis were used. The study revealed that environmental and social disclosure have negative impact on return on asset (ROA) of listed oil and gas companies in Nigeria. The study recommended that there should be proactive effort from policy makers like National Environmental Standards and Regulations Enforcement Agency and other standards setting bodies to introduce a standard framework for mandatory disclosure of corporate environmental information.

3.0 METHODOLOGY

Research design: The researcher adopted the ex-post facto design. The design was chosen because the ex-post facto design involves the use of secondary data.

Population of the Study: The study population was the listed oil and gas companies in Nigeria and Ghana. There are 9 listed oil and Gas firms in Nigeria namely; Japaul Oil Plc., Mrs Oil Plc., Rak Unity Plc., Seplat Plc, Total Plc., 11 Plc, Conoil Plc., Eterna Plc., and Forte Oil Plc according to the Nigeria Exchange Group website. In Ghana, there were three quoted oil firms namely; Total Energy, Tullow Plc and Ghana Oil Plc according to the Ghana Stock Website.

Sample Size and sampling technique: The researcher adopted the census sampling technique. This involves the use of the population as the sample. Thus, the sample size of the study was all the oil and Gas firms in Nigeria and Ghana making total sample to be twelve firms.

Sources of Data: The data required for the study was secondary data. The data were extracted from the financial statements of the selected companies through content analysis. The required data were board size, number of board meetings, board composition, audit committee size and environmental disclosures.

3.1 Measurement and Description of Variables

Table 3.1: Description of variables

S/N	Variables	Description & Measurement	Type	Apriori Expectation
1	Environment Disclosures	Sum of Environmental disclosures index	Dependent	
2	Board Size	No. of Board Members	Independent	Positive
3	Board meetings	No. of Board meetings	Independent	Positive
4	Audit Committee	Audit Committee Size	Independent	Positive
5	Board composition	Ratio of Executive directors to the non-executive directors	Independent	Positive

Source: Researcher's Compilation (2023).

Method of Data Analysis and Decision Rule: Descriptive Statistics technique and linear regression analysis were the techniques adopted for the analysis. The data analysis was enhanced using Statistical Package for Social Science version 20. Difference between the impacts of corporate governance on environmental reporting in the two countries was identified by company the R² for the two countries. All hypotheses were tested at 5% level of significance. A null-hypothesis was rejected if the probability value was less than 0.05 (p<0.05) and the F-cal was greater than the critical value of F.

Model Specification: In this study, the researcher adapted a multiple linear regression model to capture the impact of corporate governance and environmental disclosures in oil gas sectors in Nigeria and Ghana.

Environmental disclosure= f(corporate governance mechanism)

ED = F (BS, BM, AC, BC).

To make equation easy for empirical verification, data would be transformed in a multiple linear regression equation.

$$\text{Log (ED)}_{it} = \beta_0 + b_1 \log (\text{BS}_{it}) + u \quad \text{Equation 3.1}$$

$$\text{Log (ED)}_{it} = \beta_0 + b_2 \log (\text{BM}_{it}) + u \quad \text{Equation 3.2}$$

$$\text{Log (ED)}_{it} = \beta_0 + b_3 \log (\text{AC}_{it}) + u \quad \text{Equation 3.3}$$

$$\text{Log (ED)}_{it} = \beta_0 + b_4 \log (\text{BC}_{it}) + u \quad \text{Equation 3.4}$$

$$\text{Log (ED)}_{it} = \beta_0 + b_1 \log (\text{BS}_{it}) + b_2 \log (\text{BM}_{it}) + b_3 \log (\text{AC}_{it}) + b_4 \log (\text{BC}_{it}) + u \quad \text{Equation 3.5}$$

This is a modification of the model used in previous studies. This model was respectively adapted to test the hypothesis

Where: β_0 - β_3 = Parameter to be estimated, μ = Error term, ED= Environmental Disclosures,

BS= Board Size, BM= Board Meetings, BC = Board Composition, AC= Audit Committee, β_0 = Constant, b_1 - b_2 = coefficients, u = error, i = no. of company, t = time frame.

4.0 DATA ANALYSIS

Table 4.3 Differential Descriptive Statistics Between Nigeria and Ghana

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Variable 1	BOARD SIZE - NG & BOARD SIZE – GH	-2.20000	2.55154	.46584	-3.15276	-1.24724	-4.723	.000
Variable 2	Audit Committee - NG & Audit Committee – GH	2.80000	1.06350	.19417	2.40288	3.19712	14.421	.000
Variable 3	Board Composition - NG & Board Composition – BC	10.55900	20.87037	3.81039	2.76588	18.35212	2.771	.010
Variable 4	Board Meeting - NG & Board Meeting – GH	-.40000	2.04434	.37324	-1.16337	.36337	-1.072	.293
Variable 5	Environmental Disclosure- NG & Environmental Disclosure- GH	-10.93333	7.49682	1.36873	-13.73269	-8.13398	-7.988	.000

Source: Researcher's Computation (2023)

The result of the analysis in Table 4.3 shows that the difference in mean of board size between Nigeria (NG) and Ghana (GH) is -2.20. This difference is statistically significant ($p = 0.001 < 0.05$), indicating that there is a significant variance in board sizes between Nigeria and Ghana. The average difference in audit committee between Nigeria and Ghana is 2.80. This difference is statistically significant ($p = 0.001 < 0.05$), showing a significant variance in the size of audit committees between the two countries. There is an average difference of 10.56 in board composition between Nigeria and Ghana. This difference is statistically significant ($p = 0.010 < 0.05$), indicating a significant variation in the composition of boards between the Nigeria and Ghana.

The average difference in board meetings between Nigeria and Ghana is -0.40. This difference is not statistically significant ($p = 0.293$), indicating that there is no significant variation in the frequency of board meetings between Nigeria and Ghana. The average difference in environmental disclosure between Nigeria and Ghana is approximately -10.93. This difference is statistically significant ($p < 0.001$), demonstrating a significant variation in environmental disclosure practices between Nigeria and Ghana.

Table 4.8 Effect of Board Size on environmental disclosures in Nigeria

				Std. Error of the			
Model	R	R Square	Adjusted R Square	Estimate		Durbin-Watson	
1	.041 ^a	.002	-.009	5.06365		1.548	
Model		Sum of Squares	Df	Mean Square		F	Sig.
1	Regression		3.922	1	3.922	.153	.697 ^b
	Residual		2358.929	92	25.641		
	Total		2362.851	93			
		Unstandardized	Standardized				
		Coefficients	Coefficients	T	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta		Tolerance	VIF
1	(Constant)	9.481	1.902		4.985	.000	
	BOARD						
	SIZE – NG	-.087	.222	-.041	-.391	.697	1.000

Source: Researcher's Computation (2023).

Table 4.9: Effect of Board Size on environmental disclosures in Ghana

19.7 Effect of Board Size on Environmental Disclosure in Ghana								
Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
1	.367 ^a	.134	.103	.87855	.095			
Model		Sum of Squares		df	Mean Square	F	Sig.	
1	Regression	3.355		1	3.355	4.347	.046 ^b	
	Residual	21.612		28	.772			
	Total	24.967		29				
Coefficients								
		Unstandardized Coefficients	Standardized Coefficients	T	Sig.	Collinearity Statistics		
		B	Std. Error	Beta		Tolerance		
Model		B	Std. Error	Beta		VIF		
1	(Constant)	17.023	1.136		14.992	.000		
	BOARD							
	SIZE – GH	.241	.115	.367	2.085	.046	1.000	1.000

Source: Researcher's Computation (2023).

Table 4.10 Contrast Results – Board Size

	Adjusted R ²	P-value	Beta	T-cal	T-crit.	Decision Rule	Statistical Significance
Nigeria	-0.009	0.697	-0.041	-0.391	1.985	Accept Ho	Insignificant
Ghana	0.103	0.046	0.367	2.085	2.045	Reject Ho	Significant
Difference	0.113		0.408				

Source: Researcher's Computation (2023).

Table 4.11: Effect of Board Meetings on environmental disclosures in Nigeria

				Std. Error of the	Durbin-		
Model	R	R Square	Adjusted R Square	Estimate	Watson		
1	.091 ^a	.008	-.003	5.04697	1.566		
Model		Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	19.431	1	19.431	.763	.385 ^b	
	Residual	2343.420	92	25.472			
	Total	2362.851	93				
		Unstandardized	Standardized			Collinearity	
		Coefficients	Coefficients	t	Sig.	Statistics	
						Tolera	
Model		B	Std. Error	Beta		nce	VIF
1	(Constant)	7.343	1.711		4.292	.000	
	Board Meeting						
	– NG	.283	.324	.091	.873	.385	1.000
							1.000

Source: Researcher's Computation (2023).

Table 4.12: Effect of Board Meetings on environmental disclosures in Ghana

				Std. Error of the				
Model	R	R Square	Adjusted R Square	Estimate	Durbin-Watson			
1	.491 ^a	.241	.214	.82267	.101			
Model		Sum of Squares	Df	Mean Square	F	Sig.		
1	Regression		6.017	1	6.017	8.890	.006 ^b	
	Residual		18.950	28	.677			
	Total		24.967	29				
		Unstandardized		Standardized			Collinearity	
		Coefficients		Coefficients			Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	V
1	(Constant)	18.100	.451		40.169	.000		
	Board Meeting – GH	.237	.080	.491	2.982	.006	1.000	1.000

Source: Researcher's Computation (2023).

Table 4.13 Contrast Results- Board Meetings

	Adjusted R ²	P-value	Beta	T-cal	T-crit.	Decision Rule	Statistical Significance
Nigeria	-0.003	0.365	0.091	0.873	1.985	Accept Ho	Insignificant
Ghana	0.214	0.006	0.491	2.982	2.045	Reject Ho	Significant
Difference	0.217		0.400				

Source: Researcher's Computation (2023).

Table 4.14: Effect of Board Composition on environmental disclosures in Nigeria

				Std. Error of the			
Model	R	R Square	Adjusted R Square	Estimate		Durbin-Watson	
1	.104 ^a	.011	.079	5.04060		1.549	
		Sum of					
Model		Squares	Df	Mean Square	F	Sig.	
1	Regression	25.347	1	25.347	.998	.321 ^b	
	Residual	2337.504	92	25.408			
	Total	2362.851	93				
		Unstandardized	Standardized				
		Coefficients	Coefficients	t	Sig.	Collinearity	
						Statistics	
						Toleranc	
Model		B	Std. Error	Beta		e	VIF
1	(Constant)	11.069	2.364		4.682	.000	
	Board Composition						
	– NG	-.075	.075	-.104	-.999	.321	1.000
							1.000

a. Dependent Variable: Environmental Disclosure- NG

Source: Researcher's Computation (2023).

Table 4.15: Effect of Board Composition on environmental disclosures in Ghana

				Std. Error of the				
Model	R	R Square	Adjusted R Square	Estimate		Durbin-Watson		
1	.471 ^a	.222	.194	.83299		1.155		
Model		Sum of Squares	Df	Mean Square	F	Sig.		
1	Regression		5.538	1	5.538	7.982	.009 ^b	
	Residual		19.428	28	.694			
	Total		24.967	29				
		Unstandardized	Standardized				Collinearity	
		Coefficients	Coefficients				Statistics	
		Std.						
Model		B	Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	18.795	.253		74.287	.000		
	Board							
	Composition –	.025	.009	.471	2.825	.009	1.000	1.000
	BC							
a. Dependent Variable: Environmental Disclosure- GH								

Source: Researcher's Computation (2023).

Table 4.16 Contrast Result – Board Composition

	Adjusted R ²	P-value	Beta	T-cal	T-crit.	Decision Rule	Statistical Significance
Nigeria	0.079	0.321	-0.104	-0.999	1.985	Accept Ho	Insignificant
Ghana	0.194	0.009	0.471	2.825	2.045	Reject Ho	Significant
Difference	0.115		0.575				

Source: Researcher's Computation (2023).

Table 4.17: Effect of Audit Committee on environmental disclosures in Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
1	.324 ^a	.105	.095	4.79394	1.629			
Model		Sum of Squares	Df	Mean Square	F	Sig.		
1	Regression	248.524	1	248.524	10.814	.001 ^b		
	Residual	2114.327	92	22.982				
	Total	2362.851	93					
		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B		Beta			Tolerance	VIF
1	(Constant)	1.259	2.336		.539	.591		
	Audit Committee – NG	1.437	.437	.324	3.288	.001	1.000	1.000

Source: Researcher's Computation (2023).

Table 4.18: Effect of Audit Committee on environmental disclosures in Ghana

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
1	.479 ^a	.230	.202	.82882	1.142			
Model		Sum of Squares	Df	Mean Square	F	Sig.		
1	Regression	5.732	1	5.732	8.345	.007 ^b		
	Residual	19.234	28	.687				
	Total	24.967	29					
		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B		Beta			Tolerance	VIF
1	(Constant)	18.242	.418		43.677	.000		
	Audit Committee – GH	.411	.142	.479	2.889	.007	1.000	1.000

Source: Researcher's Computation (2023).

Table 4.19 Contrast Results – Audit Committee

	Adjusted R ²	P-value	Beta	T-cal	T-crit.	Decision Rule	Statistical Significance
Nigeria	0.095	0.001	0.324	3.288	1.985	Reject Ho	Significant
Ghana	0.202	0.007	0.479	2.889	2.045	Reject Ho	Significant
Difference	0.107		0.155				

Source: Researcher's Computation (2023).

Table 4.20: Effect of Corporate on environmental disclosures in Nigeria

				Std. Error of the				
Model	R	R Square	Adjusted R Square	Estimate		Durbin-Watson		
1	.419 ^a	.175	.138	4.67949		.672		
Model		Sum of Squares	Df	Mean Square		F	Sig.	
1	Regression	413.962	4	103.491		4.726	.002 ^b	
	Residual	1948.889	89	21.898				
	Total	2362.851	93					
		Unstandardized	Standardized					
		Coefficients	Coefficients		Collinearity Statistics			
		Std.			Toleranc			
Model		B	Error	Beta	t	Sig.	e	VIF
1	(Constant)	6.092	2.967		2.053	.043		
	BOARD SIZE - NG	-.476	.245	-.223	-1.943	.055	.703	1.422
	Audit Committee – NG	1.907	.488	.430	3.908	.000	.765	1.308
	Board Composition – NG	-.144	.072	-.198	-1.989	.050	.931	1.074
	Board Meeting - NG	.207	.363	.066	.570	.570	.683	1.464

Source: Researcher's Computation (2023).

Table 4.21: Effect of Corporate on environmental disclosures in Ghana

				Std. Error of the		
Model	R	R Square	Adjusted R Square	Estimate	Durbin-Watson	
1	.482 ^a	.464	.458	.18974	2.011	
		Sum of		Mean		
Model		Squares	Df	Square	F	Sig.
1	Regression	24.067	4	6.017	167.130	.000 ^b
	Residual	.900	25	.036		
	Total	24.967	29			

Model		Unstandardized		Standardized		Collinearity Statistics	
		Coefficients	Std. Error	Coefficients	t		
1	(Constant)	14.610	.346		42.278	.000	
	BOARD SIZE - GH	.143	.030	.217	4.797	.000	.702 1.425
	Board Composition - GH	.027	.003	.513	10.703	.000	.628 1.593
	Audit Committee – GH	-.633	.066	-.559	-9.548	.000	.420 2.379
	Board Meeting - GH	.267	.060	.430	21.111	.000	.503 1.987

Source: Researcher's Computation (2023).

Table 4.22 Contrast Results – Governance

	Adjusted R ²	P-value	F-cal	F-crit.	Decision Rule	Statistical Significance
Nigeria	0.138	0.002	4.726	2.474	Reject Ho	Significant
Ghana	0.458	0.000	167.13	2.758	Reject Ho	Significant
Difference	0.32					

Source: Researcher's Computation (2023).

5.0 DISCUSSION OF THE FINDINGS

5.1 Board Size and Environmental Disclosure in Nigeria and Ghana

The results of the analysis in Tables 4.8 and 4.9 show a beta coefficient of -0.041 for board size in Nigeria and 0.367 for board size in Ghana. The implication of this result is that -4.1% and 36.7% of the variation in environmental disclosures in Nigeria and Ghana is accounted for by board size. This result means that having more directors on the boards of oil and gas companies would increase the disclosure of environmental information in Ghana but reduce it in Nigeria. The result also suggests that board size has a positive effect and relationship with environmental disclosures of oil and gas firms in Ghana but an inverse relationship in Nigeria. This finding in Ghana is in line with the findings of Akbas (2016), who analyzed the relationship between selected board characteristics and the extent of environmental disclosure in the annual reports of Turkish companies, using a sample of 62 non-financial firms listed on the BIST-100 index at the end of 2011. The implication of the current study for Ghana is that an increase in board size will ensure improvement in environmental disclosures.

The finding for Nigeria opposes the findings of Ajibolade and Uwuigbe (2013), who examined the effects of corporate governance (CG) mechanisms on corporate social and environmental disclosure (CSED) among firms listed on the Nigerian Stock Exchange. Their findings revealed a significant negative relationship between CEO duality and CSED and significant positive relationships between the proportion of non-executive directors, board size, audit size, and CSED. The implication of the Nigerian result is that having more people on the board does not improve environmental disclosures.

5.2 Board meetings and environmental disclosure in Nigeria and Ghana

The result of the analysis shown in Table 4.11 showed a beta coefficient of 0.091 for board meetings in Nigeria, but for Ghana, the beta coefficient stood at 0.491 in Table 4.12. This implies that 9.1% and 49.1% of the variation in environmental disclosures of oil and gas companies is accounted for by board meetings in Nigeria and Ghana, respectively. The result means that an increase in the number of board meetings will increase the disclosure of environmental information both in Ghana and Nigeria. An increase in the number of meetings will create an avenue for the discussion of environmental matters. The result also suggests that board meetings have a positive relationship with the environmental disclosures of oil and gas firms in Nigeria and Ghana.

This finding is in line with the findings of Abazu and Okoye (2021), who analyzed the effect of corporate governance on the environmental disclosure of listed construction firms in Nigeria. It also opposes the findings of Oyekale, Olaoye, and Nwaobia (2022), who investigated the impact of corporate governance on the environmental sustainability disclosure of non-financial companies quoted in Nigeria. The implication of the findings of the current study is that frequent board meetings in both countries will give ample time for the board to engage in extensive discussions in which environmental disclosures will be among the issues discussed.

5.3 Board Composition and environmental disclosures in Nigeria and Ghana

The results of the analysis in Tables 4.14 and 4.15 showed a beta coefficient of -0.104 for board composition in Nigeria and 0.471 in Ghana. This implies that -10.74% and 47.1% of the variation in environmental disclosures of the selected oil and gas companies is accounted for by executive directors. This result means that a higher number of executive directors on the board of directors will increase the disclosure of environmental information in Ghana, but the reverse is the case in Nigeria. The higher membership gives room for diversity in the qualifications and experience of the directors. The analysis further reveals a positive relationship between board composition and environmental disclosures in Ghana but a negative effect in Nigeria. This finding is in line with the findings of Ika, Nugroho, Achmad, and Widagdo (2021), who empirically examined the impact of corporate governance practices on environmental reporting.

5.4 Audit committee size and environmental disclosures in Nigeria and Ghana

The results of the analysis in Tables 4.17 and 4.18 showed a beta coefficient of 0.324 and 0.479 for audit committee size in Nigeria and Ghana, respectively. This implies that 32.4% and 47.9% of the variation in environmental disclosures of the selected oil and gas companies is accounted for by the audit committee in Nigeria and Ghana. This result means that a higher number of directors in the audit committee will increase the disclosure of environmental information. The higher membership gives room for diversity in the qualifications and experience of the directors. The analysis further reveals a positive relationship between the audit committee and environmental disclosures. This finding is in line with the findings of Akbas (2016), who analyzed the relationship between selected board characteristics and the extent of environmental disclosure in the annual reports of Turkish companies, using a sample of 62 non-financial firms listed on the BIST-100 index at the end of 2011. The implication of the

findings of the present study is that an increase in the number of audit committees will improve the level of environmental disclosures in both countries under study.

5.5 Corporate Governance and environmental disclosure in Nigeria and Ghana

The result of the analysis showed an adjusted R-squared of 0.138 and 0.458 for corporate governance. This implies that 13.8% and 45.8% of the variation in environmental disclosures is accounted for by corporate governance in Nigeria. This implies that the combined influence of board size, board meeting, board composition, and audit committee size on the environmental disclosure of oil and gas companies is 13.8% and 45.8%, respectively. This finding is in line with the study of Oyekale et al. (2022), who investigated the impact of corporate governance on the environmental sustainability disclosure of non-financial companies quoted in Nigeria. The implication of the present findings is that better corporate governance will improve environmental disclosures in Nigeria and Ghana, respectively.

6.0 CONCLUSION

According to the study's results, Nigerian oil companies and firms do not significantly include environmental information in their financial reports. It can be concluded that oil and gas companies in Ghana disclose their environmental information more than their Nigerian counterparts. It can also be concluded that the governance mechanisms used in Nigeria are the same as in Ghana. Additionally, it is established that corporate governance practices have a big impact on how much environmental data is disclosed.

7.0 RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made;

- i. The number of directors in the oil and gas sector in Nigeria and Ghana should be increased to a mandatory minimum of six allow the presence of diverse skills and experience on the board.
- ii. The frequency of board meetings should be increased to a minimum of two months interval as this create avenue for extensive deliberation on environmental issues and reports both in Nigeria and Ghana from the currently average of once in a quarter.
- iii. The law regulating the governance of companies and the appointment of members of the audit committee should be revised to accommodate more members in the audit committee for both Nigeria and Ghana from the current national corporate governance code to law.
- iv. The composition of executive directors on the board should be improved to allow the entrance of new and fresh brain with ideas and innovations in Nigeria and Ghana.

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