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INTERNATIONAL STANDARD AND ENVIRONMENTAL AND SOCIAL DISCLOSURE IN LISTED OIL AND GAS FIRMS IN NIGERIA

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Abstract

The research analyses how the adoption of international standards affects the quality and amount of environmental and social disclosures in the case of Nigerian listed oil and gas companies. Data from the selected oil and gas companies, which was composed of ten years of data (2014–2023), was the main source of information for the study. The focused of the research is on the 8 quoted oil and gas firms that are listed on the Nigerian Exchange Group (NGX). The descriptive statistics reveal that the level of ESD of the Nigerian oil and gas companies is very good, with an average score of 71.81. The regression results also suggest that the COMPL variable not only positively affects but also significantly increases the ESD with a coefficient of 0.41 and a p-value of 0.007. FOWN has also shown a positive coefficient (14.14), which may imply that there exists a positive relationship with disclosure, however, the FOWN's p-value of 0.172 suggests that the relationship is not statistically significant at the 5% level. The adjusted R-squared value of the model was found to be 0.111 which means that model can explain only about 11% of the variations in ESD and statistically significant as shown by the p-value of F-statistic (0.00395). The results indicate that the oil and gas sector in Nigeria has to adhere to international standards if they want to be in line with the global trend of sustainability reporting.

Introduction

Environmental and social disclosure (ESD) is one of the important aspects of corporate voluntary reporting, especially when the sustainability impacts of companies are not fully captured by regulatory requirements. Voluntary disclosure means that the management provides the information with the aim of improving the decision-making and it goes beyond the minimum requirements of GAAP and the regulators (Al-Akra & Ali, 2012). In reality, such disclosures reveal non-financial information beside the traditional financial statements and these are related to the companies' environmental responsibility, social engagement and governance practices. Li and Yang (2016) and Samuel (2024) hold that the sustainability disclosures often involve performance indicators, assessments of future plans and qualitative information that depicts management's wide accountability to the stakeholders.

The past years have seen the world concerned about the environment and the need for society to become more responsible, and this has been one of the main reasons for the development of ESD to become a core element in corporate sustainability reporting. Companies are increasingly urged to measure and report their environmental and social in a transparent way, especially in such

industries where environment is critical like the oil and gas sector. In Nigeria, the oil and gas sector that is the biggest contributor to the economy has been the cause of a great deal of environmental problems and the rising stakeholder scrutiny has made ESD even more significant (Samuel, 2024). This means that ESD is considered by many, not only as a choice to disclose but also as a way to prove their existence and to be doing what society expects of them.

Nigeria's sustainability reporting which is in line with IFRS has portrayed a clear road map but the empirical inferences regarding the adoption of the international sustainability standards that increase the scope, depth, and credibility of environmental and social disclosure (ESD) among the listed oil and gas firms are very few. The reason why this gap is of importance is that the Nigerian oil and gas industry is under strict surveillance from the world investors who take environmental and social performance into consideration when making their investment and capital allocation decisions. To overcome these pressures, regulatory bodies in Nigeria, the Financial Reporting Council of Nigeria (FRCN) and the Nigerian Exchange Group (NGX) among them have pledged to gradually move to the adoption of the International Sustainability Standards Board's IFRS S1 and S2 standards. The timeline charts out the period from 2024 to 2027 for voluntary adoption, after which public interest entities will be required to comply by 2028, small and medium-sized enterprises by 2030 (FRCN, 2024). According to Anyaogu (2024), Nigeria is the first country in Africa to co-launch these standards; in recognition of the pioneering effort, the IFRS Foundation has complimented the structured and phased implementation for being the right way to go. Still, the alignment with international sustainability standards is not the only thing regulators have to worry about as it is still uncertain if it has been translated in practice into better environmental and social disclosure. Therefore, this study fills the empirical gap by investigating the impact of international standard compliance on environmental and social disclosure among the listed oil and gas firms in Nigeria.

The main aim is to evaluate the effect of adherence to international standards on the quantity and quality of environmental and social disclosures of the oil and gas companies listed in Nigeria. The objectives are to:

i. discover the relationship between compliance with international standards and environmental and social disclosure of listed oil and gas firms in Nigeria.

ii. assess how the percentage of foreign investors affects the environmental and social disclosure of listed oil and gas firms in Nigeria.

Research Question

i. What is the effect of compliance with international standards on environmental and social disclosure of listed oil and gas firms in Nigeria?
ii. How does foreign ownership influence environmental and social disclosure of listed oil and gas firms in Nigeria?

Hypotheses of the Study

H_O1: The Environmental and Social Disclosure of listed oil and gas companies in Nigeria will not change significantly with the application of international standards.

H_O2: The Environmental and Social Disclosure of listed oil and gas companies in Nigeria will not be influenced by foreign ownership.

Significance of the Study

This research is very important since it connects global standards and local implementations. It adds to the body of knowledge, helps policymakers with evidence, makes

business practices transparent, directs investors, and finally, it is part of the whole process of making the Nigerian economy sustainable. The corporate sector in Nigeria would even more rely on evidence-based research as the world is shifting faster towards ESG integration and thus, researchers would have to align Nigeria's corporate sector with international sustainability expectations.

This study looked at the relationship between the level of environmental and social disclosures of Nigerian listed oil and gas companies and their compliance with the international standards. The study will make use of data obtained from the selected listed oil and gas companies during the ten-year period (2014–2023).

Conceptual Review

Concept of Sustainability Reporting

Sustainability reporting refers to the process whereby companies disclose their performance and impact regarding environmental, social, and governance (ESG) issues to their stakeholders. It is the main way to ensure corporate accountability and openness in the oil and gas industry, which is one of the most environmentally sensitive sectors. The Global Reporting Initiative (GRI) defines sustainability reporting as a comprehensive practice that consists of measuring, disclosing, and being accountable for one's performance related to sustainable development (GRI, 2020). Over time the sustainability reporting has moved from being merely a voluntary environmental disclosure to the creation of the ESG reporting frameworks that have enabled stakeholder decision-making that results in the creation of long-term value (Ioannou & Serafeim, 2015). Moreover, the sustainability reporting process has recently been enhanced through the introduction of the International Sustainability Standards Board (ISSB) with the IFRS S1 and IFRS S2 standards that are projected to bring a new era of global sustainability-related disclosures marked by consistency, comparability, and reliability. Within the context of IFRS S1, the general template for reporting sustainability-related risks and opportunities that might have an impact on the entity's financial position, performance, or cash flows, is presented while IFRS S2 specifically addresses climate-related disclosures covering governance, strategy, risk management, and metrics and targets. These standards will serve as one in the journey from predominantly voluntary sustainability reporting to a more formal and investor-focused disclosure regime.

Environmental Disclosure in Corporate Reporting

Environmental disclosure is a term that refers to the supplying of data about the environmental practices, performance, and impacts of a company. It covers such reports as those on energy consumption, emissions, water usage, waste management, and environmental compliance. This kind of reporting has turned into an inseparable part of sustainability reporting and has been strongly recommended by global standards like the GRI 300 series on Environment, IFRS S2, and ISO 14001 on Environment—specifically stressing climate-related risks and environmental performance (Δαραμήλας, 2019; Altarawneh, 2023). The practice of environmental disclosure improves the situation by providing more information, thereby allowing various stakeholders—such as investors, regulators, and local communities—to evaluate the firm's sustainability practices. It is posited that companies with extensive environmental disclosures are more likely to be in the good books of socially responsible investors and thus avoid the risks of losing reputation (Clarkson *et al*., 2008; Barbosa, *et al*., 2022).

Social Disclosure in Corporate Reporting

Social disclosure pertains to the disclosure of a corporation's impacts and positive contributions relating to social matters among which are human rights, employee welfare,

community development, health and safety, diversity, and labour practices. It is based on the premise that companies have responsibilities not only in the area of financial profitability but also in the area of society and hence the businesses have to be positive to be considered so. The GRI 400 series (Social Standards) and ISO 26000 are the international frameworks that Sebrina *et al* (2023) refer to as guiding social disclosure. These frameworks propose that organizations revel to the world their social performing measures and moral behaviour which is very important in winning stakeholder's trust especially for Sectors like oil and gas which have a higher impact. Weak social practices can bring about the tempestuous relations in the community, disruptions of the projects, and legal sanctions. On the one hand, ISO 26000 is a non-certifiable and mainly principle-based standard whereas, on the other hand, it supports the financial materiality-focused standards such as IFRS S1 by providing for the wider stakeholder issues. Besides, good social disclosure can lead to the easy and smooth flow of the corporate-community relationship and thus brand value being enhanced (Michelon *et al*., 2015; Usman *et al*., 2015). Not to mention, social disclosure works like an investor tool that they so often rely on in their decision-making while integrating ESG factors. Companies that are transparent with their social responsibilities are generally viewed not only as less risky but also more resilient in the long run.

International Sustainability Standards and Frameworks

The international sustainability standards and frameworks are like the golden rules for the organizations to evaluate, control, and present their environmental, social, and governance (ESG) impacts. They have to follow the same rules and the results can be compared. Along with the International Financial Reporting Standards (IFRS) Sustainability Disclosure Standards (IFRS S1 and S2), the corporate disclosure of the company and the financial statements are now interconnected. The sustainability info that is communicated to the investors is made clearer and more focused. Usually, the voluntary frameworks of the past would not stress financial materiality, which would allow the different types of disclosures on sustainability to be of lesser credibility and usability in decision making. A contrasting example is the Global Reporting Initiative (GRI), which provides the extensive array of sustainability reporting standards, notably the GRI 100 (General), 200 (Economic), 300 (Environmental), and 400 (Social) sector series. GRI also motivates companies to disclose not only their positive contributions but also the adverse effects of their activities. Moreover, the frameworks of the United Nations Global Compact (UNGC), Task Force on Climate-related Financial Disclosures (TCFD), and ISO 26000 on social responsibility, are some of the international bodies that are providing guidance to the companies in providing proper embedding of the concept of sustainability in their governance and operational systems. The frameworks promote corporate transparency, ethical behaviour, stakeholder inclusiveness and long-term thinking. The International Organization for Standardization (ISO) came up with the ISO 26000 standard in 2010 which aimed at providing all types of businesses around the globe with guidelines concerning social responsibility. A multi-stakeholder approach was adopted in which the experts from 40 organizations in 90 different countries worked together.

Regulatory Environment for Sustainability Reporting

According to Comyns (2016) and, Perrault and Clark (2016), environmental sustainability reporting is a vital tool for fostering openness in the dissemination of information to stakeholders on an organization's approach to environmental preservation. Environmental sustainability reporting, according to Global Reporting Initiatives (2011), is a subset of sustainability reporting that addresses how businesses affect natural systems, both living and non-living, such as ecosystems, the land, the air, and the water. According to GRI, environmental performance indicators are divided into twelve (12) sub-divisions, including materials, energy, water,

biodiversity, emissions, waste management, products and services, compliance, transportation, overall expenditure on environmental protection, supplier environmental assessment, and environmental grievance mechanism (Olayinka, & Owolabi, 2021).

In 2021, the Nigerian Exchange Group (NGX) set forth guidelines for sustainability disclosures, thus compelling listed companies to submit sustainability reports in accordance with the said guidelines. Besides, the recent announcement of Nigeria's adoption roadmap for IFRS S1 and S2 signals a gradual shift from voluntary to mandatory sustainability reporting mainly for public interest entities. Even though the country has made some strides in this area, sustainability reporting in Nigeria is still confronted with the issues of ineffective enforcement measures, lack of uniformity among different reports, and a general unawareness of the reporting among companies. The situation is, however, gradually changing as being influenced by global pressure, investor activism, and alignment with international standards that are all contributing to the enhancement of quality and consistency of sustainability disclosures among publicly traded Nigerian companies (Abdullahi & Makama 2021).

Theoretical Framework

Resource Dependency Theory (RDT)

Resource Dependency Theory (RDT), advanced by Pfeffer and Salancik (1978), posits that firms' strategies and disclosure practices are shaped by their dependence on critical external resources such as regulatory approval, capital, and organizational legitimacy. Because these resources are largely controlled by external actors, firms adopt practices that reduce uncertainty and secure continued access to them. In this specific research, the Resource Dependency Theory (RDT) comes to our assistance as a very robust theoretical framework to elucidate the reasons why oil and gas companies listed in Nigeria might consider international sustainability standards as an addition to their environmental and social disclosure practices. To start with, the companies are relying more and more on the regulatory bodies to provide them with access to the markets and grant them credibility to exist there. Thus, their compliance with the globally accepted standards like IFRS S1 and S2 is a strategic move in response to regulatory dependence and, as a result, the companies can synchronize with the changing disclosure requirements of local and international regulators (Hillman *et al.*, 2009).

Furthermore, RDT points out that the foreign ownership assures the company a critical financial and reputational resource. Companies with the foreign backing are dependent on the international capital markets, and in these markets, the sustainability practices and the transparency are under very close supervision. Hence, the companies are likely to comply with the sustainability standards that are internationally accepted and also expand environmental and social disclosure so as to cater to the needs of the foreign investors, and thus eliminate the uncertainty surrounding the resources.

Moreover, the adoption of international standards comes as a big plus in terms of legitimacy for the organization in the world of business. According to the RDT view, the better the environmental and social disclosure the more the company gets access to external resources as a result of signaling the conformity to the sustainability norms globally accepted (Hillman *et al*., 2009; Olayinka, & Owolabi, 2021). Accordingly, the Resource Dependency Theory is rightly applied to illuminate the association existing between the international standard compliance, foreign ownership, and the environmental and social disclosure of the listed oil and gas companies in Nigeria.

Empirical Review

International Standard Compliance and Environmental and Social Disclosure

Empirical studies have consistently examined the role of international standard compliance in shaping environmental and social disclosure (ESD). Through the content analysis of annual reports from listed Nigerian companies, Uwuigbe and Uadiale (2011) discovered that the adherence to the international disclosure frameworks was on the whole low, with sustainability reporting being mostly voluntary and non-uniform. Likewise, Adegbite *et al* (2012) found that companies in Nigeria, mainly the ones in the extractive sector, had low compliance with the international standards for sustainability reporting. This was attributed to weak regulatory enforcement, inadequate institutional capacity, and poor corporate governance. Evidence from developed countries has further emphasized the need for compliance. Al-Tuwaijri *et al* (2004) revealed a correlation between the environmental performance of U.S. corporations and their environmental disclosures, which insinuates that the compliance with the international standards not only improves the quality but also the credibility of the disclosures. In agreement with this idea, Line *et al* (2002), Barbu *et al* (2014), and Camilleri (2015) have pointed out that businesses using global sustainability frameworks like GRI are more likely to reveal extensive information about their environmental and social impacts. The most recent findings from developing countries, however, still affirm that the observation that compliance with international standards improves sustainability reporting practices (Brahim & Arab, 2020; Pratama *et al*., 2022). All these studies together suggest that compliance with international standards is a major determinant of ESD.

Foreign Ownership and Environmental and Social Disclosure

The ownership structure, especially foreign ownership, has been the subject of a lot of research as a factor influencing sustainability disclosure. Theories of the past indicated that companies with a larger proportion of their shares held by foreigners would, to a great extent, take up the leading positions in the environment and social reporting practices considering the foreign investors' and global capital markets' pressure. Michelon *et al* (2015) showed that companies dealing with international stakeholders made much more extensive disclosures of the environment and social issues. Likewise, Saini and Singhania (2019) and Rustam, Wang, and Zameer (2019) came to the conclusion that foreign ownership was a favourable factor for sustainability disclosure through the improvement of governance and accountability mechanisms. Moreover, the evidence from developing economies like Indonesia and the Middle East also shows increased environmental disclosure because of foreign investors (Fitri *et al*., 2019; Alregab, 2022; Zarefar *et al*., 2024). Nonetheless, the record of the findings is not unambiguous; some researchers argue that obstacles in local institutions and stringent regulations in host countries can weaken the impact of foreign ownership.

Environmental and Social Disclosure in the Oil and Gas Sector

The oil and gas sector is one of the industry sectors whose impacts on the environment and society have received a lot of attention from scholars. Studies conducted in Nigeria and other developing economies indicate that, as a rule, oil and gas companies release more environmental data than firms in less environmentally sensitive industries, the main reason for that being stakeholders' pressure and risk to reputation. Yet the quality, consistency, and depth of such reporting are still very different across the board. Alhassan and Islam (2019) and Ismail *et al* (2018) came to the conclusion that sustainability reporting by oil and gas firms is mostly tokenistic; these companies prefer showing the narrative side rather than revealing the quantifiable results of their environmental efforts. In Nigeria, Oti and Mbu-Ogar (2018) stated that poor enforcement and the voluntary nature of reporting on sustainability limit the reliability and comparability of

environmental and social disclosures. Thus, still the global and local pressure to the contrary is increasing simultaneously, the environmental and social disclosure practices in Nigeria's oil and gas sector remain substandard compared to the international best-practice standards.

Gap in Literature

A lot of studies surrounding sustainability reporting, environmental disclosure, and social responsibility in corporate reporting have pointed out the importance of these matters and covered the very vast area of the Nigerian context and the oil and gas sector. The majority of the research done so far has been in a very general manner on corporate social responsibility (CSR) or financial performance and has not considered the influence of international sustainability standards like GRI, ISO 26000, TCFD, or the IFRS Sustainability Disclosure Standards (S1 & S2) on environmental and social disclosures separately. In addition, regulatory responses and institutional pressures in Nigeria are still not the subject of much research even though the country has been gradually adopting international standards through the Nigerian Exchange Group (NGX) Sustainability Disclosure Guidelines and the Corporate Governance Code. Further, no studies are available at the firm level that would investigate the actual practices of disclosure with the help of content analysis or compliance scoring against global benchmarks that is based on the same standard as disclosure.

Research Design

This research uses a quantitative, explanatory research design to study the connection between compliance with international sustainability standards and environmental and social disclosure (ESD) of the Nigerian listed oil and gas firms. With the aid of this design, it is possible to determine the patterns, relationships, and possible causes between variables that are independent and dependent. The technique of panel data allows for the capturing of both cross-sectional and time-series changes among firms and reporting years.

Population of Study

The entire population consists of the oil and gas companies that are listed on the Nigerian Exchange Group (NGX) and exist in the market. The study is aimed at all 8 oil and gas firms that are publicly traded and listed on the Nigerian Exchange Group (NGX). Their selection is based on the large environmental impacts they exert and the influential role they play in society, which are the two main reasons for being chosen as major participants in sustainability reporting.

Sample Size and Sampling Technique

The total targeted population for the research includes eight (8) oil and gas firms that are listed in Nigeria. Because of the population's relatively small size, the whole population was chosen to be the study's subjects. Thus, the sample size was eight (8), representing a 100% coverage of the population.

A census sampling technique was adopted, which involves the inclusion of all elements in the population. This method was appropriate considering the small and accessible population, ensuring comprehensive data collection and eliminating sampling bias.

Sources of Data

This study relies exclusively on secondary data, extracted from the Published annual reports and sustainability/ESG reports from company websites or the Nigerian Exchange portal. Certification databases, such as the ISO registry and regulatory announcements from the Financial Reporting Council of Nigeria (FRCN). ESG-related data from platforms like Bloomberg, CSR Hub, or Refinitiv Eikon (if accessible) and Board and financial information from the NGX or company disclosures.

Method of Data Collection

A structured content analysis technique is employed to extract relevant quantitative data from corporate reports. A compliance and disclosure checklist based on international frameworks (e.g., IFRS S1/S2, GRI Standards, ISO 14001/26000) is developed to systematically assess each firm's level of: International standard compliance, and Environmental and social disclosure (ESD).

Measurement of Variables

Table 1: Measurement of Variables

Variable	Proxy	Measurement	Sign
Environmental and Social Disclosure (Dependent)	ESD	Weighted average or simple average of ED and SD indices.	
Foreign Ownership (Independent)	FOWN	Dummy variable: 1 = Foreign ownership > 10%, 0 = Otherwise	+
Compliance Score (Independent)	COMPL	Composite index from checklist based on GRI, IFRS Sustainability Standards, and ISO 14001/26000.	+

Method of Data Analysis

The study adopted panel multiple regression to analyse data, while also carrying out Descriptive Statistics (Mean, standard deviation, minimum, maximum) to summarize ISC and ESD levels. Inferential Statistics Hausman test will determine whether to use Fixed Effects Model (FEM) or Random Effects Model (REM) for panel data.

Model Specification

The following econometric techniques will be used:

$$ESD_{it} = \beta_0 + \beta_1 FOWN_{it} + \beta_2 COMPL_{it} + \epsilon_{it}$$

Where:

ESD_{it} = Environmental and Social Disclosure Index for firm i (dependent variable, could be a combined index or separated into two models)

$FOWN_{it}$= Foreign Ownership

$COMPL_{it}$= Compliance Score with international standards

i = firm

t = year

єit = error term

Data Analysis

Table 2: Descriptive Statistics

	ESD	FOWN	COMPL
Mean	71.813	0.250	37.500
Median	65.000	0.000	37.500
Maximum	95.000	1.000	50.000
Minimum	10.000	0.000	25.000
Std. Dev.	18.405	0.436	12.579
Skewness	-0.424	1.155	-1.250
Kurtosis	2.983	2.333	1.000
Jarque-Bera	2.400	19.259	13.333
Probability	0.301	0.000	0.001
Sum	5745.000	20.000	3000.000
Sum Sq. Dev.	26762.19	15.000	12500.00
Observations	80	80	80

Source: Authors Computation, 2025

Table 2 shows the descriptive statistics indicate that ESD has a relatively high average value of about 71.81, with moderate variability, as shown by its standard deviation of 18.41. The distribution is slightly left-skewed and approximately mesokurtic, with the Jarque-Bera test suggesting it follows a normal distribution. FOWN, on the other hand, has a low mean of 0.25, implying limited foreign ownership among observations, with a strong positive skew and platykurtic shape. The Jarque-Bera probability indicates its distribution is significantly non-normal. COMPL has an average of 37.5, relatively low variability, and is symmetrically distributed but highly platykurtic. Its Jarque-Bera probability also shows significant deviation from normality. Overall, while ESD appears normally distributed, FOWN and COMPL deviate from normality and exhibit differing patterns of skewness and kurtosis.

Table 3: correlation matrix

	COMPL	**FOWN**	**ESD**
COMPL	1		
FOWN	0.57735	1	
ESD	0.686847	0.495196	1

Source: Authors Computation, 2025

Table 3 shows the correlation matrix which shows that all three variables are positively related, with the strongest relationship observed between COMPL and ESD (0.69), indicating that higher environmental and social disclosure tends to be associated with greater compliance. COMPL also has a moderately strong positive correlation with FOWN (0.58), suggesting that firms with higher foreign ownership tend to demonstrate greater compliance. The weakest, though still moderate, relationship exists between FOWN and ESD (0.50), implying that foreign ownership is associated with increased disclosure, but less strongly than its association with compliance. None of the correlations are negative, suggesting the variables tend to move together.

Table 4: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.344715	1	0.1257

Source: Authors Computation, 2025

Table 4 shows that Hausman test result shows a Chi-square statistic of 2.34 with 1 degree of freedom and a p-value of 0.1257, which is greater than the 5% significance level. This means we fail to reject the null hypothesis that the random effects model is appropriate. In other words, there is no significant difference between the fixed effects and random effects estimates, so the random effects specification is preferred for the analysis.

Table 5: Regression Analysis

Dependent Variable: ESD
Method: Panel EGLS (Cross-section random effects)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	53.02973	6.974158	7.603747	0.0000
COMPL	0.406608	0.146624	2.773143	0.0070
FOWN	14.13987	10.24590	1.380050	0.1716

R-squared	0.133872	Mean dependent var	15.57880
Adjusted R-squared	0.111375	S.D. dependent var	8.945658
S.E. of regression	8.432793	Sum squared resid	5475.624
F-statistic	5.950717	Durbin-Watson stat	0.596760
Prob(F-statistic)	0.003953		

Unweighted Statistics			
R-squared	0.416574	Mean dependent var	71.81250
Sum squared resid	15613.75	Durbin-Watson stat	0.209279

Source: Authors Computation, 2025

Table 5 shows the regression results indicate that compliance (COMPL) has a positive and statistically significant effect on environmental and social disclosure (ESD), with a coefficient of 0.41 and a p-value of 0.007, implying that an increase in compliance is associated with higher disclosure levels. Foreign ownership (FOWN) is still encountered with a positive coefficient (14.14), which points to a possibly positive correlation with disclosure, however its p-value of 0.172 confirms that this impact is not significant in statistical terms at the 5% level. The Adjusted R-squared of 0.111 indicates that the model accounts for approximately 11% of the variation in ESD, which is quite low, but the model's overall statistical significance is confirmed by the F-statistic p-value (0.00395). The 0.60 Durbin-Watson statistic hints at the existence of positive autocorrelation in the residuals, which may limit the accuracy of the estimates.

The unweighted regression results indicate that the model demonstrates moderate explanatory strength, with an R-squared value of 0.4166, implying that approximately 41.7% of the systematic variation in the dependent variable is explained by the included explanatory variables. The mean value of the dependent variable (71.81) provides an indication of the average performance level observed in the sample and suggests that the fitted model captures a meaningful proportion of deviations around this average. The sum of squared residuals (15,613.75) reflects the extent of unexplained variation remaining after model estimation, confirming that although the model performs reasonably well, a non-trivial proportion of variation remains unaccounted for.

The Durbin–Watson statistic of 0.2093 indicates the presence of strong positive serial correlation in the residuals, suggesting a violation of the classical assumption of error term independence.

Discussion of Findings

This research looked into the association that exists between the compliance with international standards (COMPL), foreign ownership (FOWN), and environmental and social disclosure (ESD) in the case of the Nigerian listed oil and gas companies during the years 2014-2023. The analysis used panel data econometric techniques, beginning with descriptive statistics, correlation analysis, model specification testing, and finally random effects regression estimation. As per the descriptive statistics, the level of environmental and social disclosure (ESD) in the case of the Nigerian oil and gas market is high enough, as reflected by the average score of 71.81. The firms' choice to disclose such information extensively is perhaps influenced by the attention that the world is giving to the sustainability practices and the environmental impacts of the sector. The moderate variability (standard deviation of 18.41) indicates that there are still considerable differences in the levels of disclosure among the firms and the years. The findings suggest that compliance with international standards is the primary push factor for the sustainability reporting in Nigeria's oil and gas industry. This has a huge implication for regulators, as they can improve the quality of disclosure by implementing and monitoring compliance frameworks in a more stringent manner. For corporate management, the study results are a reminder of the reputational and governance advantages that come with the alignment of operations with international standards. The limited impact of foreign ownership indicates that foreign investors in the oil and gas sector may either be too weak to control and change the disclosure policy or their influence is being negated by the local regulatory demands. This calls for policy measures that would protect and strengthen shareholder rights and thus promote the active participation of investors in the companies' governance. The strong positive correlation between compliance and disclosure reinforces the view that the institutional pressures, such as mandatory regulations, industry guidelines, and international reporting frameworks (e.g., GRI, UNGC, ISO standards) can play a pivotal role in the corporate transparency improvements.

Summary

The study analysed the interplay of international standard compliance (COMPL) and foreign ownership (FOWN) on the environmental and social disclosure (ESD) of listed oil and gas companies in Nigeria from 2014 to 2023, according to the Resource Dependency Theory. The panel data econometric methods utilized for the analysis reveal that the industry's mean ESD level is relatively high, which is indicative of increased sustainability consciousness and regulatory oversight. However, disclosure practices are still very different and changes among companies and periods are to be expected. The data further indicate that there exists a positive and statistically significant relationship between compliance with international standards and ESD, which means that companies following the standards closely are more likely to make their sustainability practices known. Conversely, the foreign ownership factor pointed to ESD as a positive impact but did not reach significance, thus suggesting that the contribution of foreign investors to the disclosure practices of the Nigerian oil and gas sector is, at the moment, quite small.

Conclusion

The research paper states that adherence to international sustainability standards is the foremost factor determining environmental and social disclosures for the oil and gas companies listed in Nigeria. The companies that are more in sync with the international reporting regimes are the ones that are more likely to exhibit transparency and accountability in their sustainability reporting. On the other hand, foreign ownership does not have a strong independent effect on the

disclosure which suggests that the institutional and regulatory pressures are stronger than the ownership-related incentives. The results highlight the pivotal position of the national regulatory frameworks and enforcement mechanisms in determining the sustainability disclosure practices in the environmentally delicate industries.

Recommendation

Based on the findings of this study on international standard compliance and environmental and social disclosure among listed oil and gas firms in Nigeria, the following recommendations are stated.

The strong effect that compliance has on disclosure makes it necessary for the regulatory agencies, like the Financial Reporting Council of Nigeria (FRCN) and the Nigerian Upstream Petroleum Regulatory Commission (NUPRC), to seriously consider enforcing the adoption of IFRS S1 and S2 through regular compliance audits, imposition of penalties for non-compliant practices, and public display of the compliance status of the oil and gas companies. The oil and gas firms, whose practices are guided by compliance, should, as a matter of course, fall under the sustainability reporting requirements that are linked to operating licenses and renewals in the sector to ensure that only real, not cosmetic, disclosures are made. Regulations that intend to overcome the negative influence of foreign ownership should concentrate on making shareholder rights and voting powers linked to disclosure more accessible. This way, besides the foreign investment, the institutional investors will also be able to have a say in the decision-making processes regarding the sustainability issues.

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