The Impact of Environmental and Social Disclosures on the Financial Performance of Oil and Gas Companies in Nigeria

Ismail Alhassan  
School of Business Education  
Federal College of Education  
(Technical), Gombe, Gombe State, Nigeria  
E-mail: alhassan1412@gmail.com

K. M. Anwarul Islam  
Associate Professor and Research Coordinator  
Department of Business Administration  
The Millennium University, Dhaka, Bangladesh  
E-mail: ai419bankingdu@gmail.com

Abstract
This paper critically examines the effect of environmental and social disclosures on the financial performance of oil and gas companies in Nigeria. The study is crucial as it describes the level of environmental and social disclosures impact on companies' performance. This study uses environmental and social disclosures as independent variables while Returns on Assets (ROA) as a proxy for financial performance. The study formulates two hypotheses to guide the study and uses a panel regression model in testing the statistical parameter estimates. Ex Post Facto design was adopted and data were collected from the NSE Factbook and published financial statements of the oil and gas companies listed in the NSE with data ranging from 2010-2019. The findings of the study show that corporate environmental and social disclosures have a significant impact on companies' performance at a 5% significant level. Because of this, the study concludes that environmental and social disclosures have improved companies' performance over the years. The study also recommends that companies should have an optimistic outlook regarding environmental and social friendly services and also disclose more of such information in their financial statements as over the years the degree of disclosures of these information has exercised considerable impact on companies' financial performance.

Keywords: Environmental Disclosure, Social Disclosure, Financial Performance, Returns on Assets.

1. Introduction
The widespread global awareness of environmental value couple with the urgent need for sustainable social and economic development is refocusing the attention of companies towards environmental compassion. The environment where human being lives should not be distorted with substances that are dangerous to his life. Therefore, the need for sustainability has resulted in the appearance of various international organizations expressing a range of attitudes that guide and direct human dealings with the environment (Nahiba, 2017). The utilization of natural resources by industries and incessant discharge of gases across the world is increasing. This is observable in the industrial revolution of the late 18th century in which economic activities in many areas moved from agriculture to manufacturing. The mode of production also changed from its traditional locations to modern factories. The industrial revolutions result in the improvement of the economy and standard of living of many people in the industrialized society. However, these economic developments attract some costs associated with them. Industrialization normally requires the utilization of natural resources which include petrol, gas, diesel, etc which brought about factory pollution and excessive land use, which normally cause harm to the natural environment (Jeroh, & Okoro, 2016).

This fact is obvious due to the degradation of environmental and atmospheric pollution being witnessed nowadays generally in the world and especially in Nigeria. However, the focus of sustainable development is mainly on wealth creation and prosperity, while considering the actual value of environmental and social aspects, giving way to businesses and public organizations to meet the triple bottom line in sustainable management (Eze, Nweze, Enekwe, 2016). To tackle the environmental issues in Nigeria, different agencies were established such as National-
Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2008, National Environmental Standards and Regulations Enforcement Agency Act 2007, Environmental Impact Assessment Act 2004, Harmful Waste Act 2004, Nuclear Safety and Radiation Protection Act 2007 which focused on a review of regulations and guidelines on the quality of air and water, discharge of sewage and other dangerous substances and control of other forms of environmental pollution. Because of this, some companies in these countries are conscious of their global market and are, therefore, making considerable effort regarding environmental practices. Various findings from the industries in Nigeria indicate that some companies have increased their environmental concerns and therefore report it in their annual reports (Okafor 2018). However, a great number of companies are still unconcerned about their environmental and social responsibilities (Javed, Saeed, Lodhi & Malik, 2013). In light of this observation, this study examines the association between environmental and social disclosures and companies' performance.

1.2 Statement of the Problem
The studies on environmental and social disclosures have been surrounded by diverse measurements and definitions based on the researchers' methodologies, research approaches, and the scope of their studies. Therefore, the scope of the study on environmental and social disclosures is very wide that shallow research cannot bridge the gap in the literature. Even though studies have been carried out on environmental and social disclosures particularly in the developed nations that give it the seriousness it deserves unlike the developing nations (Menassa, 2010).

Studies conducted in the developed nations such as Amran and Siti-Nabila (2017), Kowaleski (2014), Guthrie, Cuganesan and Ward (2016), Pratten and Mashat (2014), Pattan (2012), Brockman (2015), Adjound and Amar (2015), Menassa (2010), documented a significant positive relationship between the level of environmental and social disclosures and companies financial performance. Conversely, the studies of Domenico (2014), Makori and Jagong (2013), Lang (2016), etc recorded an insignificant negative effect between environmental and social disclosures and a company's performance. Therefore, there is no unanimous agreement on the effect of environmental and social disclosures on the performance of companies in the developed nations which calls for additional evaluation and justifications.

Similarly, in the developing nations; Ifurueze, Lydon and Bingilar (2013), Yusuf (2016), Ijeoma (2015), Jeroh and Okoro (2016), Bassey, Effiok and Eton (2013), Kanwal, Khanam, Nasreen and Hameed (2013) recorded significant positive correlation between environmental and social disclosures and companies performance. Conversely, some researchers reported an insignificant negative effect between the level of environmental and social disclosures and the performance of companies. Such researchers include Dibua and Onwuchekwa (2015), Emeakponuzo and Udih (2015), Bessong and Tapang (2016), Ezejiofor, Rachael, and Chigbo (2016), etc. Therefore it is prejudice to conclude that the financial performance causes environmental and social activities or whether environmental and social activities result in the improvement of firms' financial performance in the developing countries which also calls for further evaluation using more robust methods.

Because of this, this present study adopts with modification the models of Brockman (2015) and Kanwal, Khanam, Nasreen, and Hameed (2013). Moreover among the studies reviewed by the researcher as mentioned above, the studies focused mainly on four sectors namely the financial service sector, industrial goods sector, consumer goods sector, and conglomerate sector. The present study, however, concentrates on the oil and gas sector due to its pervasive negative impact on the environment. This is to determine the effect of environmental and social disclosures on the financial performance of Nigerian companies.

1.3 Objectives of the Research
The main objective of this study is to evaluate the relationship between environmental disclosure and corporate social responsibility disclosure on the financial performance of oil and gas companies in Nigeria. The specific objectives are:

- Examine the impact of Environmental Disclosure on the financial performance of oil and gas companies in Nigeria.
- Examine the impact of Corporate Social Responsibility Disclosure on the financial performance of oil and gas companies in Nigeria.

1.4 Research Questions
The following research questions are formulated for the study:

- What is the impact of Environmental Disclosure on the financial performance of oil and gas companies in Nigeria?
2. Review of Related Literature

2.1 The Concept of Financial Performance

Corporate financial performance can be conceptualized to mean a subjective appraisal of how well a company can utilize assets from its business operation to generate revenues. This term can also be used as a general determinant of a company's overall financial outcome over a while. Corporate performance can be used to evaluate similar companies across a particular industry or to appraise distinct industries or sectors in aggregation (Okeke, 2015). This definition has prompted reflection of substitute measures of performance so that the response of environmental and social disclosures to companies' performance can be established statistically and generalized instead of relying on environmental and social disclosures behavior to a particular performance measure. Profitability is considered among the most essential studied indicators of the strategic value of environmental and social responsibilities (Brockman, 2015; Kanwal, Khanam, Nasreen & Hameed 2013). Researchers have been conducting the empirical study of corporate environmental and social responsibilities and profitability some decades ago in western countries. Several companies have been faced with escalating pressure from their stakeholders for proper corporate accountability (Nahiba, 2017). This pressure includes the aspects of social, legal, moral, and financial aspects. Profitability therefore in this context signifies financial performance. For this study, returns on assets (ROA) was used as a proxy for firms' performance measurement.

2.2 Environmental Disclosures and Financial Performance

This involves reports on the activities carried out by a firm for sustaining the environment. It is, therefore, disclosure or a presentation of information on the use and control of firms' secretions and sewages into the environment. It comprises the use of materials, procedures to decrease or eliminate the formation of wastes of pollutants. This consists of practices that decrease the use of materials, water, energy, and other resources that are toxic or hazardous to human beings and their environment (Ijeoma, 2015; McWilliams & Siegel, 2010). According to Ngwakwe (2018), waste created by a production process mostly has to be processed before it should be released to the environment. Some of the waste materials can be utilized by the firms themselves while other waste can be handled better by external waste material treating companies. The handling of waste materials causes environmental costs to firms. The costs associated with the transportation of waste materials are considered an environmental cost. Other environmental costs include exhaustion of natural resources, noise and creative impacts, water emissions, residual air, and long-term ravage disposal (Odetayo, Adeyemi, & Sajuyigbe, 2014).

In Nigeria, the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007 & 2008, Environmental Impact Assessment Act 2004, Harmful Waste Act 2004, Nuclear Safety and Radiation Protection Act 2007, etc clearly stated the conformity laws to be firmly adhered to by companies whose activities harm environmental. A study conducted by Guthrie, Cuganesan, and Ward (2016) on environmental and social reporting and their effect on the performance of food and beverage companies in Australia observed that good environmental and social disclosure has a positive impact on a company's performance. The study use of dummy variable and applied the ordinary least square test tool. Their study recommends that firms' stakeholders should not only dwell on the quantitative information in the companies report and its footnote but also the narrative report because some numerical presentation contained in annual reports need to be accompanied by a narrative explanation. Therefore, much emphasis needs to be placed also on qualitative information presented in the companies report for investment decision making. Because of this, the following hypothesis is formulated:

H₀₁: Environmental Disclosure has no significant impact on the financial performance of oil and gas companies in Nigeria.

2.3 Corporate Social Responsibility Disclosure and Financial Performance

Recently, companies were paying serious attention to showing their dedication to corporate social responsibility by presenting it in the information given to their stakeholders (Kowaleski, 2014). Although some researchers refer to this disclosure as corporate social responsibility reporting (Patten, 2012), corporate social disclosure (Menassa, 2010), environment and social reporting (Guthrie, Cuganesan, & Ward, 2016) and corporate social reporting (Amran & Siti-Nabila, 2017), they refer to the same thing i.e reporting the companies’ corporate social responsibility activities to the public. Researchers across the globe studied the level of their nations’ corporate social responsibility disclosure to point out the awareness of the practice of corporate social responsibility.
Ajayi and Ovwarhe (2016) noted that the concept of corporate social responsibility mandated that companies should map out and give effect to specific programs under a properly defined social policy. Social responsibility exists and can be viewed in many aspects in the companies' corporate relationship with the stakeholders such as the management, suppliers, employees, customers, host community, creditors, owners of businesses, government, and the society (Odetayo, Adeyemi, & Sajuyigbe 2014). This concept may relate to the handling of the problems of pollution, product safety, poverty and ethnic bias and parochial interests, deceptive advertising, consumer complaints, and smuggling.

The term corporate social responsibility is not difficult to perceive. According to Business for Social Responsibility (BSR), corporate social responsibility is defined as attaining business success in ways that respect ethical values and admire people, communities, and the natural environment. McWilliams and Siegel (2010) describe corporate social responsibility as activities that appear to further some social good, apart from the interests of the firm that is mandated by law. It is however essential to note that corporate social responsibility is more than just compliance with the law.

Adjound and Amar (2015) posited that management of gainful organizations may likely disclose thorough information in their financial statement because they feel relaxed to communicate their positive news to the stock market in quest of improvement of their firms' valuation. However mixed empirical findings were documented in both developed and emerging nations. For example, Dibua and Onwuchekwa (2015), and Yusuf (2016) recorded findings that support governance reporting, profit-environmental, and social relationship. (Ngakweke, 2018) provided proof for a positive correlation between lagged profit and disclosure. Pratten and Mashat (2014) and Uwalomwa and Egbide (2016) found no relationship between the extent of disclosure and profitability. They concluded that the size of the organization and industry are significantly related. Because of this, the following hypothesis is formulated:

\[ H_{02} \]: Corporate Social Responsibility Disclosure has no significant impact on the financial performance of oil and gas companies in Nigeria.

2.4 Theoretical Framework
2.4.1 The Stakeholders’ Theory
The basis of this study is laid on the “Stakeholders’ Theory”. This theory was advocated by Freeman in the year 1983. The theory considers corporate firms as the components of the group or social system where the companies’ interests are concerned. This theory considers success depends on the successful coordination of all the associations that a company has with its stakeholders. The stakeholders’ support is very paramount to the success of firms. Freeman’s stakeholders’ theory affirms that managers must persuade a variety of its stakeholders such as customers, suppliers, employees, local community, and the rest who can influence the firm’s operations. Because of this, it is not adequate for managers to exclusively dwell on the needs of shareholders, or the real owners of the business alone. This shows that it can be favorable for the firm to embark on certain environmental activities that firms’ stakeholders consider imperative because, without this, the supports of such groups might not be gotten as expected by the business (Friedman, 2017).

The stakeholders’ theory supports that the level of environmental awareness which results in the need for companies to manage the group interests exclusively to become environmentally friendly to the environment that the business is located. The major focus of the theory of stakeholder in environmental accounting is to maintain the environmental disclosure aspects and valuation as well as its inclusion in the annual reports for external stakeholders’ consumption (Akinlo & Iredede, 2014).

Consequently, the stakeholder theory shows that the firm has the main goal of satisfying the needs of shareholders by generating more earnings. However, profit may not be achievable if the community in which the business operates is disregarded. Thus, the study is anchored solely on stakeholders’ theory because its concern is to encourage managers of business organizations to carry out environmental practices which the firm’s stakeholders regard as essential to improve stakeholders’ value and also minimize the costs associated with environmental maintenance (Odetayo & Adeyemi, 2014).

2.4.2 Review of Empirical Studies
Numerous studies have been conducted on corporate social responsibility and environmental disclosure as they affect firms’ performance in Nigeria and beyond. The findings of these studies give diverse views and different correlations. Pratten and Mashat (2014) observed a significant positive relationship between the extent of environmental disclosures and the performance of manufacturing companies in Canada. The study utilized Ordinary Least Square (OLS) and measured environmental and social disclosure using the environmental disclosure index and
recommends that companies should comply with this disclosure as it has a positive impact on companies' performance over the years.

Patten (2012) in his study conducted on corporate environmental and social disclosures and the extent of profitability of listed manufacturing companies in India used the waste management disclosure variables and return on capital employed (ROCE). The study made use of a simple regression model and obtained a significant positive relationship between firms' disclosures of waste management and companies ROCE. The study concludes that environmental information disclosure has a significant impact on companies' performance.

Furthermore, Kowaleski (2014) observed the influence of non-financial information on the investment decision of shareholders. He used the statistical test tool of OLS, taking the variable of environmental disclosures and ROA as the index for non-financial information, and observed that the extent of companies' environmental disclosures has an impact on their performance. The study, therefore, recommends that the high intensity of this disclosure should be adopted in corporate reporting for investors' utilization and better accountability. This finding agrees with that of Gelb (2017) on the impact of the environmental disclosures on corporate performance in Japan who observed a significant positive correlation between the extent of environmental disclosure of companies and ROA as a proxy of financial performance. However, this does not concur with the finding of Makori and Jagong (2013) and that of Adekanmi, (2015) who explored simple regression and observed that environmental disclosure has a negative relationship with companies' returns on investment which served as a proxy of financial performance.

Adjound and Amar (2015) carried out a study on the impact of the disclosures of non-financial information on the performance of listed manufacturing companies in France. The study used a simple regression technique to evaluate the relationship. Their study found a significant positive relationship between the extent of environmental disclosures and companies' ROA as a proxy of financial performance. The study concludes that there is a significant positive impact between environmental disclosures and companies' performance. This also in line with the study conducted by Brockman (2015) who in the same vein used the OLS and collected data from the financial statement and accounts of the selected manufacturing companies in Italy and observed a significant positive relationship between environmental disclosure and companies' financial performance represented by Returns on assets. The study concludes that environmental disclosures show useful information that can have a financial impact on investment decisions. However, this finding does not agree with the prior expectations of Lang (2016) who found a negative relationship between environmental and social disclosures with companies' financial performance over the years. The study used the regression model and found that the extent of companies' environmental disclosures reduces their financial performance.

Nahiba (2017) also carried out studies on non-financial disclosures and financial performance of manufacturing companies in India utilized the environmental disclosures variable, corporate governance disclosure, and companies return on assets. The study utilized a regression model and observed a significant positive relationship between non-financial disclosures and the companies' financial performance over the years. Similarly, Shil and Paramanik (2009) examined corporate social responsibility disclosure and companies' performance in Bangladesh and used a logistic regression model using dummy variables and found that this disclosure increases the value of companies reporting for the use of firms' stakeholders. This agreed with the prior expectations of Khaveh, Nikhashemi, Yousefi, and Haque (2014) that identified a positive relationship between corporate social responsibility disclosures on financial performance. The study used OLS and recommended that disclosure of corporate social responsibility should be supported and should form a base for corporate reporting for scrutiny by the stakeholders.

Uwalomwa and Egbide (2016) carried out research using a sample of 41 quoted companies in the Nigerian Stock Exchange and used multiple regression analysis to analyze the data. The study showed a significant negative relationship between companies' financial performance and the extent of corporate social responsibility disclosures.

Domenico (2014) selected samples from Italian companies and saw a weak positive relationship between corporate social performance and financial performance. The study used a regression model and found that corporate social responsibility disclosure has no significant influence on the financial performance of companies as measured by returns on equity. Kanwal, Khamam, Nasreen, and Hameed (2013) also conducted a study on the relationship between firm financial performance and corporate social responsibility in different listed companies in Kenya Stock Exchange and recorded a positive relationship between these two variables using OLS. They conclude that corporate social responsibility activities give double benefits to the company. On the other hand, they improve firms' reputation in the minds of their stakeholders and consequently enhance their financial position.

3. Research Methodology
This study used an ex-post facto design. Its adoption is based on the fact that the study utilized secondary data that already exists and which cannot be controlled or manipulated by the researcher. The population of the study consists
of the entire 112 oil and gas companies listed on NSE from 2010 to 2019. The firms that are selected fulfilled the criteria of having a complete ten (10) year financial statement and not being delisted during the period under study. The use of quoted companies on NSE is justified by the accessibility and consistency of their financial data. The sampled firms are Conoil Plc, Japou Oil Nigeria, Forte Oil Plc (ARDOVA Plc), Eterna Oil and Gas Plc, Mobil Oil Nigeria, MRS Oil Nigeria Plc, and Oando Plc. Based on this, a total of 7 companies formed the sample size of the study with 70 observations.

This study used panel data from secondary sources which are in quantitative form. The data were collected from the NSE Factbook and financial statements and accounts of the companies. Multiple regression analysis was adopted as the technique of data analysis for the study. The study used this method to determine the effect of the companies' environmental and social disclosures on companies' financial performance which was measured using returns on assets. The data were analyzed using STATA 16 statistical package, and the result was used in testing the hypotheses formulated for the study after carrying out other essential statistical tests. The study also conducted various robustness tests like tests for multi-collinearity between the explanatory variables for improving the validity of the results of the study.

3.1 Operationalization and Measurement of Variables

3.1.1 Dependent Variable

The dependent variable in this study is 'Companies' Financial Performance' which is represented by 'Returns on assets'. This is in line with the studies conducted by Bessong and Tapang (2016), Nahiba (2017), Brockman (2015), and Kanwal, Khanam, Nasreen, and Hameed (2013).

3.1.2 Independent Variable

The independent variables of the study are environmental and social Disclosures as used by Yusuf (2016). The explanatory variables are therefore measured as follows:

3.1.3 Environmental Disclosure (ED)

Environmental disclosure is represented by the disclosure index adopted from the Global Reporting Initiative (GRI) as adopted in the study of Kowalewski (2014), Pratten and Mashak (2014), Adjaoud and Amar (2015), Lang (2016). A dichotomous process by GRI was used in scoring the items whereby, in particular, a "1-point" score was given for each aspect that is shown in the financial statement, and absence of disclosure is given a "0-point".

3.1.4 Corporate Social Responsibility Disclosure (CSRD)

Corporate Social Responsibility Disclosure is represented by the disclosure index adopted from the Global Reporting Initiative (GRI) as adopted in the study of Wibowo (2015), Sabo, Rabi, Usman, Fatima, and Tijani, (2015), Khaveh, Nikhashemi, Yousefi, and Haque (2014). A dichotomous process by GRI was used in scoring the items whereby especially, a "1-point" score was given for each aspect that is disclosed in the financial statement, and absence of disclosure is given a "0-point".

3.2 Model Specification

Under the prior studies, the researcher used with modification the Models of Kanwal, Khanam, Nasreen, and Hameed (2013) and Brockman (2015) in evaluating the impact of environmental and social disclosures on companies' performance. This is shown below:

Kanwal, Khanam, Nasreen, and Hameed (2013): \[ \text{NAPS} = \beta_0 + \beta_1 \text{CSRD} + \mu \]

Brockman (2015): \[ \text{NAPS} = \beta_0 + \beta_1 \text{ED} + \mu \]

Where:

\[ \text{NAPS} = \text{Net Assets per Share} \]
\[ \text{CSRD} = \text{Corporate Social Responsibility Disclosure} \]
\[ \text{ED} = \text{Environmental Disclosure} \]

The clear form of the regression equation modified for the study is shown below:

Model 1: \[ \text{ROAit} = \beta_0 + \beta_1 \text{EDit} + \beta_2 \text{CSRDit} + \mu \]
Where:

ROA = Returns on assets
ED = Environmental Disclosure
CSRD = Corporate Social Responsibility Disclosure

Decision Rule: accept Ho if P-value is greater than 5% level of significance otherwise reject Ho

4. Results and Discussion
This section shows the results from the analysis of data and its interpretation

Table 1. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Observations</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dvt</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>70</td>
<td>0.69246</td>
<td>0.0000</td>
<td>2.06564</td>
<td>2.9767</td>
<td>1.0844</td>
</tr>
<tr>
<td>ED</td>
<td>70</td>
<td>1.43201</td>
<td>2.3430</td>
<td>1.067373</td>
<td>0.4631</td>
<td>12.574</td>
</tr>
<tr>
<td>CSRD</td>
<td>70</td>
<td>2.87505</td>
<td>0.0245</td>
<td>0.681014</td>
<td>1.7110</td>
<td>4.4322</td>
</tr>
</tbody>
</table>

Source: STATA 16 Results Computed (1999).

Table 1 shows that the average value of returns on assets (ROA) among the sampled companies was 0.692. This indicates that about 69.2% of the observations had disclosed environmental and social items in their financial statements. The average value of environmental disclosure (ED) and corporate social responsibility disclosure (CSRD) for the sampled companies' were 1.43 and 2.88 respectively. This shows that companies' with CSRD values of 2.88 fairly disclosed that information in their financial statements while companies with ED values of 1.43 did not adequately disclose that information in their financial statement. A high variation in minimum and maximum values are recorded which gives the value of CSRD at 1.7110 and 4.4322 respectively; while ED stood at 0.4631 and 12.574 respectively. These broad gaps in ED and CSRD values among the sampled companies justify the need for this study as it assumes that companies with greater CSRD and ED values are superior in terms of profit-making than those companies with low values of CGD and ED.

Table 2. Collinearity Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF (TV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED</td>
<td>1.16</td>
<td>0.861070</td>
</tr>
<tr>
<td>CSRD</td>
<td>1.16</td>
<td>0.861070</td>
</tr>
<tr>
<td>Mean Vif</td>
<td>1.16</td>
<td></td>
</tr>
</tbody>
</table>

Source: STATA 16 Computational Results (1999)

In table 2, the TV ranges from 0.86 to 0.86 which suggests the non-multi-collinearity aspect among the independent variables. The VIF which is simply the reciprocal of TV ranges from 1.02 to 1.02 also indicates a non-multi-collinearity feature. A multi-collinearity element according to Sabo, Rabi, Usman, Fatima, and Tjjani (2015) occurs where the value of TV is below 0.20 or where VIF is more than 10 i.e VIF>10

Breush Pagan/Cook Weisberg Heteroskedasticity Test
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROA
\[ \text{chi}^2(2) = 48.53 \]

\[ \text{Prob} > \chi^2 = 0.450 \]

The above result was obtained from the test for heteroskedasticity. The probability value of 0.450 emanating from the heteroskedasticity test shows that the model does not contain unequal variance. This indicates that the probability values for concluding the significance level are reliable and valid. The panel regression model result was validated by the absence of heteroskedasticity. This means that there is no call for a robust or weighted least square regression.

### 4.1 Test of Hypotheses

<table>
<thead>
<tr>
<th>Variable</th>
<th>ROA Fixed Effect</th>
<th>ROA Random Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Co-efficient</td>
<td>Z-value</td>
</tr>
<tr>
<td>Constant</td>
<td>.9784944</td>
<td>3.21</td>
</tr>
<tr>
<td>CSRD</td>
<td>.078675</td>
<td>5.06</td>
</tr>
<tr>
<td>ED</td>
<td>.4736378</td>
<td>19.78</td>
</tr>
</tbody>
</table>

**R-Sq:**

- Within: 0.7430
- Between: 0.6433
- Overall: 0.8912

**Prob > F**: 0.0000

**HAUSMAN TEST**  
\[ \text{Prob} > \chi^2 = 0.0000 \]

Note: * 5% level of significance  
Source: Result from STATA 16.

In testing for the cause-effect correlation between the explained and explanatory variables contained in the model, the two broadly used panel data regression estimation methods of random and fixed effect were adopted. Table 3 shows the two methods of panel data regression estimation. The estimation of fixed-effect regression was subject to the assumption of the absence of association between the error term and independent variables. On the other hand, the random effect considers that the error term and independent variables are related. In choosing between the random and fixed effect for the model, the study conducted a Hausman test.

The p-value of the Hausman test gives a value of 0.0000. This implies that the null hypothesis is rejected and the alternative hypothesis is accepted that the random effect model is not preferred to the fixed-effect model at a 5% significance level. Based on this, the fixed effect panel regression is adopted and it was used results in drawing our inference and recommendations. This shows that the fixed effect results happened to be more appropriate statistically compared to the random effect. The coefficient of determination "R-Square" shows 84.44% for the model which indicates that the variables considered in the model influence about 84.44% change in the dependent variable of ROA. This shows that the remaining 15.66% is a result of other variables not captured by the model of this study.

The within R2 of 74.30% indicates that the model could result in 74.30% variations within the panel units. This shows that only 74.30 of intra-individual variability of the dependent variable (ROA) are explained by independent variables (ED and CSRD). Furthermore, the 'between R2' of 64.33% shows that the models could result in a 64.33% disparity between the separate panel units. This implies that the contribution of the fixed effects in the model is equal to 64.33%. The p-value for the Model has a value of 0.0000 which is less than the 0.05 level.
Therefore, it can be concluded that the overall model is significant. In other words, the independent variables have a combined effect on the dependent variable. With this, the researcher confirms that the panel regression model adopted in this study is valid.

4.2 Discussion of Findings

**H₀₁**: Environmental Disclosure has no significant impact on the financial performance of oil and gas companies in Nigeria.

This hypothesis was tested in this study and the result of the fixed effect regression model as shown in table 4.4.1 indicates that the correlation between ED and ROA is significantly positive with a P-value of 0.003 which is below the 5% level of significance adopted in the study. Furthermore, the result of the positive coefficient of 0.473 is confirming that environmentally friendly companies generate higher returns. This implies that companies that conform to environmental laws generate higher profits since such companies' have supported environmental sustainability. This study, therefore, rejected the null hypothesis and accepted the alternate hypothesis which asserts that corporate companies' ED has a significant effect on companies' performance.

This finding agrees with the prior expectation of Adjaoud and Amar (2015) and that of Dyllick and Hockerts (2016) who recorded that environmental disclosure has a significant positive correlation with companies' financial performance. This also concurs with the findings of Pratten and Mashat (2014), Kowalewski (2014), Gelb (2017), Patten (2012), Brockman (2015). This is also in line with the stakeholders' theory which postulates that the major purpose of every company is to generate returns but the profit could not be accomplished if the environment is being neglected. However, this is not under the finding of Lang (2016), Makori and Jagong (2013) who recorded an insignificant correlation between environmental disclosures and financial performance. The disagreement may be based on the period covered and scope of the study as the current study covered up to 10 years.

**H₀₂**: Corporate Social Responsibility Disclosure has no significant impact on the financial performance of oil and gas companies in Nigeria.

This hypothesis was tested in this study and the result of the fixed effect regression model as shown in table 4.4.1 indicates that the correlation between CSRD and ROA is significantly positive with a P-value of 0.000 which is below the 5% level of significance adopted in the study. Furthermore, the result of the positive coefficient of 0.78 is confirming that an increase in companies’ CSR activities socially social-friendly 7.8%. This implies that companies that conform to socially friendly laws generate higher profit since such companies' have supported social sustainability. This study, therefore, rejected the null hypothesis and accepted the alternate hypothesis which asserts that corporate companies' CSRD has a significant effect on companies' performance.

This finding is in line with the findings of Khaveh, Nikhashemi, Yousefi, and Haque (2014) and that of Wibowo (2015) whose studies were carried out in Italy and France respectively. However, this does not accord to the findings of Amran and Siti-Nabiha (2017) who consider Malaysia as a study area.

The study of Wibowo (2015) on relations between CSRD and profitability of Italian Companies recorded a positive relationship between CSRD on financial performance. The study concluded that CSRD has enhanced companies' financial performance. Khaveh et al. (2014) in the same vein obtained a positive association between CSRD and financial performance. The study, therefore, supported that non-financial narrative disclosure should be encouraged and form an integral part of corporate reporting for stakeholders' inspection. The findings of the study support stakeholders' theory that socially responsible companies and environmentally friendly companies perform better.

The finding however is not in agreement with the findings of Amran and Siti-Nabiha (2017) in their study conducted on corporate social reporting in Malaysia who documented a negative correlation between corporate social reporting and companies’ financial performance. The disagreement might be based on the number of observations covered by the study.

5. Conclusion

This study has developed a model on environmental and social disclosures where the study concludes that environmental and social disclosures have significant impacts on companies' performance. This has been concluded where the study revealed that greater profitability is related to socially responsible and friendly companies'. Similarly, the study also documents a positive correlation between environmental disclosures and companies' financial performance.
5.1 Recommendations

Based on the conclusion of the study, the study recommends that companies should disclose more environmental disclosure information in their financial statements to legalize their operations by making the community known about their obligation of business in contributing to sustainable economic development, working with employees, their families and the local communities.

Similarly, the study also suggests that companies should have a positive outlook on environmentally friendly practices. They should also disclose more of this information in their financial statements showing the commitment of their business operation in contributing to sustainable economic development. This is because over the years the disclosure level of this information has a significant positive impact on companies’ performance.

References


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