# EFFECT OF ENVIRONMENTAL ACCOUNTING ON FINANCIAL PERFORMANCE OF QUOTED DEPOSIT MONEY BANKS IN NIGERIA

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**Abstract:** This study investigates the impact of environmental accounting on the financial performance of quoted deposit money banks in Nigeria. The sample consisted of 14 banks, which were selected using census sampling techniques. A random effect regression model was used to test the hypotheses after conducting diagnostic tests. The results indicate that environmental conservative cost disclosure has a significant positive effect on return on assets, while environmental compliance cost disclosure has an insignificant positive effect on return on assets. Additionally, community development cost disclosure has an insignificant negative effect on return on assets. The study suggests that deposit money banks in Nigeria should prioritize environmental conservative cost disclosure in their financial reporting and continue to comply with environmental regulations by disclosing their environmental compliance costs to improve their financial performance. In summary, the lack of clarity on environmental accounting practices can lead to information gaps for responsible financiers and investors. The study recommends specific actions for Nigerian banks to enhance their sustainability reporting and ultimately improve their financial performance.

**Keywords:** Financial Performance, Deposit money banks, Environmental Accounting

## 1.1 Introduction

Environmental accounting refers to the process of evaluating and reporting the environmental impact of a company's activities, products, and services, encompassing the identification, measurement, and communication of environmental costs and benefits associated with operations. The objective is to facilitate a deeper understanding of environmental impact, enabling informed decision-making that promotes sustainability and responsible environmental management (Omiya, 2019). Studies have indicated that integrating environmental accounting into financial reporting correlates with enhanced long-term financial performance. For instance, research by KPMG revealed that businesses prioritizing sustainability tend to experience heightened revenue growth and robust financial outcomes compared to their counterparts. Besides financial advantages, environmental accounting assists in enhancing environmental performance by pinpointing opportunities for resource efficiency and waste reduction, thereby aiding in the mitigation of environmental footprints (Oli, 2018). With environmental conservation gaining prominence globally, deposit money banks face increasing scrutiny regarding their environmental impact, compelling them to disclose environmental costs and their implications on financial performance (Karimu, 2018). These costs encompass expenses linked to pollution control, waste management, and resource conservation, exerting a direct influence on financial outcomes through profit reduction, expense escalation, and potential legal repercussions. Additionally, disclosing environmental costs can attract socially responsible investors favoring companies demonstrating robust environmental practices, fostering long-term stock price stability (Monday, 2017). Investors and stakeholders increasingly acknowledge the significance of environmental compliance cost disclosure in evaluating financial performance, with studies indicating a positive correlation between such disclosure and financial outcomes. For instance, Harvard Business School research suggests that companies voluntarily disclosing greenhouse gas emissions tend to enjoy higher market valuations. Similarly, findings from the Global Reporting Initiative suggest that disclosing sustainability performance correlates with improved financial returns (Ahemen, 2019).

## 1.2 Statement of the Problem

The challenge of environmental accounting and its impact on financial performance prompts crucial inquiries into how Nigerian deposit money banks effectively gauge and disclose their environmental footprints to support sustainability and responsible environmental management. While evidence suggests that integrating environmental accounting into financial reporting correlates with improved long-term financial performance, there remains a lack of consensus on best practices and standards for environmental accounting. A significant hurdle is the absence of standardized metrics for measuring and reporting environmental impact. Although frameworks like the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) exist, inconsistency and incomparability persist in the metrics utilized by firms. Furthermore, there's a necessity for better alignment between environmental and financial reporting. Despite some progress, environmental reporting often remains disjointed from financial reporting rather than being an integral part thereof. Research on the relationship between environmental accounting and financial performance is insufficient. While evidence hints at a positive correlation, further exploration is warranted to comprehend the causal mechanisms and identify effective strategies for integrating environmental accounting into financial reporting. Addressing these challenges is crucial for firms seeking to enhance both environmental and financial performance, as well as for policymakers striving to advance sustainability and responsible environmental management. Awareness of the interplay between firms and the environment has heightened due to concerns about resource depletion, environmental degradation, and activities contributing to ozone layer depletion. This has intensified interest in environmental accounting and reporting in Nigeria. While awareness isn't novel among stakeholders, recent years have witnessed renewed attention. Environmental accounting is deemed crucial for organizational performance and environmental preservation, involving pollution prevention and process innovation.

In Nigeria, there's a dearth of environmental accounting regulations, although governmental efforts like the Environmental Impact Assessment Act of 2004 and others aim to promote environmental sustainability. Despite this, companies align with principles from the Global Reporting Initiative (GRI) Guidelines for environmental reporting. Some companies hesitate to disclose environmental costs due to potential negative investor reactions, which can impede informed decision-making. Nonetheless, there's a rising trend in environmental cost disclosure, aiding investors in assessing long-term risks and opportunities. Companies that neglect environmental compliance may face managerial deficiencies and struggle to endure environmental risks, missing out on opportunities in the sustainable economy. Existing empirical studies on environmental accounting and financial performance in Nigeria often employ outdated data, highlighting a need for updated research. This study thus aims to investigate the impact of environmental accounting on the financial performance of Nigerian deposit money banks, focusing on data up to 2021 during the implementation of IFRS in Nigeria.

## 1.4 Objectives of the Study

i.    evaluates the effect of environmental conservative cost disclosure on return on assets of quoted Deposit Money Banks in Nigeria;
ii.   determine the effect of environmental compliance cost disclosure on return on assets of quoted Deposit Money Banks in Nigeria;
iii.  ascertain the effect of community development cost disclosure on return on assets of quoted Deposit Money Banks in Nigeria. And
iv.   access the effect of Environmental sustainability Disclosure on return on assets of quoted Deposit Money Banks in Nigeria.

## 1.5 Research Hypotheses

**Ho₁:**   Environmental conservative cost disclosure has no significant effect on the return on assets of quoted Deposit Money Banks in Nigeria,
**Ho₂:**   Environmental compliance cost Disclosure has no significant effect on the return on assets of quoted Deposit Money Banks in Nigeria,
**Ho₃:**   Community development cost Disclosure has no significant effect on the return on assets of quoted Deposit Money Banks in Nigeria and
**H04:**   Environmental sustainability Disclosure has no significant effect on the return on assets of quoted

Deposit Money Banks in Nigeria.

## 2.0 Literature Review

### 2.1 Conceptual Framework

Environmental accounting is a vital branch of accounting focusing on an organization's environmental impact. It encompasses identifying, measuring, and communicating environmental costs and benefits (Smith, 2021). This practice aids in identifying areas for reducing environmental impact and costs, fostering sustainability, and informing decision-making. Despite its benefits, challenges such as lack of standardized methodologies and data availability persist (Burritt, 2017).

Environmental conservative cost disclosure involves companies disclosing financial costs linked to environmental impact, aiding stakeholders in assessing long-term sustainability (Securities and Exchange Commission, 2021). Similarly, environmental compliance cost disclosure entails revealing costs associated with meeting environmental regulations (International Finance Corporation, 2017). These disclosures enable stakeholders to understand a company's environmental efforts and associated financial risks.

Community development cost disclosure involves revealing financial investments in communities (United Nations Global Compact, 2015), aiding stakeholders in assessing social impact and sustainability. Environmental disclosure practice involves reducing long-term risks related to environmental issues and maintaining ecological balance (Buallay, 2020; Mutalib et al., 2020). It emphasizes resource conservation, waste reduction, and strategic operational changes (Asuquo et al., 2018; Joseph et al., 2021).

Financial performance measures a company's profitability and stability over time, crucial for shareholder stewardship (Magara, 2015). Key indicators include revenue, profit margins, return on assets (ROA), and market value. ROA reflects asset efficiency in generating profits, with higher ratios indicating better performance (Magara, 2015). These practices and disclosures are integral for companies aiming to demonstrate sustainability and accountability while managing environmental and social impacts.

### 2.2 Empirical Review

Various studies have delved into the relationship between environmental accounting practices and financial performance in Nigeria. For instance, Ilelaboye and Alade (2022) explored the impact of environmental accounting on family-owned companies, revealing that while restoration costs had an insignificant effect, community development costs negatively affected financial performance, and health and safety costs had an insignificant positive effect. Mohammed et al. (2022) focused on the steel industry, finding that environmental compliance disclosure positively influenced financial performance. Olayemi et al. (2022) studied banking companies, suggesting that social and environmental accounting significantly impacted return on capital employed, moderated by firm size. Fabian et al. (2022) analyzed the profitability of quoted firms, concluding that environmental accounting disclosure significantly affected return on assets and equity. Similarly, Emeke et al. (2021) observed a significant effect of social and environmental disclosure on return on assets in deposit money banks. Ihimekpen (2021) reported a positive effect of environmental sustainability reporting on earnings before interest and tax. Nkwoji (2021), however, found no significant relationship between environmental expenditure and net profit in oil and gas companies. Conversely, Nwafor et al. (2021) highlighted the significant impact of environmental cost accounting on the financial performance of oil and gas firms. Olayemi and Ishola (2021) emphasized the significant effect of environmental conservation costs on the financial performance of natural resource companies. Olusola et al. (2021) revealed a significant positive effect of environmental accounting disclosure on earnings per share for multinational companies. Visemih (2021) concluded that environmental accounting significantly influences corporate performance, suggesting improved disclosure themes. On the contrary, Musa (2022) found varied effects of environmental accounting practices on net profit in oil and gas companies. Edwin (2021) emphasized the positive impact of environmental management and social responsibility practices on financial performance in deposit money banks. Karimu (2021) highlighted substantial impacts of sustainability reporting practices on the financial performances of deposit money banks.

## 2.3 Theoretical Framework

There are several theories developed to explain the role of environmental accounting in business.

**Stakeholder theory:** emphasizes that firms should prioritize the interests of all stakeholders, including the environment, not just profit maximization. This means minimizing environmental impact and contributing to sustainability. Environmental accounting aids in understanding stakeholders' needs by providing data on environmental performance (Gray et al., 1996). Stakeholder theory asserts that a firm's success hinges on managing stakeholder interests (Freeman, 1984). Stakeholders, like shareholders, employees, and the environment, must be considered. The theory suggests firms should create value for all stakeholders (Freeman et al., 2010). Effective stakeholder management is vital for long-term success (Jones & Wicks, 1999). However, stakeholder theory faces criticisms for unclear stakeholder definitions and resolving conflicting interests (Phillips, 2003; Jones & Wicks, 1999). Despite criticisms, stakeholder theory's strengths lie in holistic management, ethical decision-making, long-term focus, reputation building, fostering innovation, and promoting social responsibility (Freeman, 1984; Donaldson & Preston, 1995; Jones & Wicks, 1999; Fombrun & Shanley, 1990; Garriga & Melé, 2004; Carroll, 1991). It aligns with environmental accounting and financial performance, as considering stakeholder interests, including the environment, can enhance financial performance by improving environmental practices and transparency, thus attracting environmentally conscious stakeholders (Gray et al., 1996).

**Triple Bottom Line (TBL**): is a framework developed by John Elkington in 1994, aiming to evaluate organizational performance based on economic, social, and environmental outcomes. These three dimensions, often referred to as "people, planet, and profit," are interconnected and essential for long-term sustainability (Elkington, 1997). The TBL underscores the importance of businesses being financially profitable while also contributing to societal well-being and environmental preservation (Elkington, 1999; Elkington, 2001). This framework acknowledges that businesses impact various stakeholders, including employees, communities, and the environment, and should thus be accountable for their social and environmental footprints (Elkington, 1998). Despite its widespread adoption, the TBL framework is not without weaknesses. These include its limited scope, subjectivity in assessment, lack of clear guidance on prioritization, difficulty in measuring outcomes, and overlooking interconnections between the three dimensions (Dyllick & Hockerts, 2002; Carroll & Shabana, 2010; Bocken et al., 2014; Hahn et al., 2010; McDonough & Braungart, 2002). The TBL framework offers several strengths. It provides a holistic perspective on sustainability, offers flexibility for adaptation, aligns with stakeholder expectations, fosters innovation, and supports improved decision-making (Friedman & Miles, 2002; Van-Marrewijk, 2003; Eccles & Serafeim, 2013; Clarkson, 1995).

**Natural capital accounting:** which assesses the economic value of natural resources and ecosystem services in the context of sustainable development, has gained prominence in recent years (United Nations, 2021). It encompasses frameworks such as the System of Environmental-Economic Accounting (SEEA) by the United Nations, the Natural Capital Protocol for businesses, and initiatives like the Wealth Accounting and Valuation of Ecosystem Services (WAVES) program led by the World Bank (World Bank, 2021). The approach is based on several assumptions, including the economic value of natural resources and ecosystems, their finite nature, and their interdependence with other forms of capital (World Bank, 2021). Natural capital accounting provides decision-makers with valuable insights into the economic contributions of ecosystems and helps in formulating policies for sustainable development (United Nations, 2021). Critics have pointed out various limitations of natural capital accounting. These include reductionism, which oversimplifies complex ecological systems (Sullivan et al., 2018), anthropocentrism, which prioritizes human needs over intrinsic value (Chan et al., 2016), and a lack of standardization in valuation methods (Costanza et al., 2017). Data limitations (Diaz et al., 2018) and ethical concerns about commodifying nature (Sandhu et al., 2018) are also raised. Despite criticisms, natural capital accounting offers strengths such as providing a comprehensive view of ecosystems (Norgaard, 2010), offering standardized methodologies (TEEB, 2010), enabling monetization of ecosystem services (Costanza et al., 2017), supporting integrated reporting (IIRC, 2013), and contributing to sustainable development (UNEP, 2012). Natural capital accounting is part of environmental accounting, helping companies understand their environmental impact and make informed decisions (United Nations, 2021). By accounting for natural resources, companies can identify opportunities to reduce costs and attract socially responsible investors (United Nations, 2021).

**Stakeholder theory:** emphasizes the importance of various stakeholders and how organizations engage with them, stressing their role in shaping corporate outcomes. Freeman (1984) advocates for managers to consider the needs of different stakeholders, not just shareholders, as neglecting them could lead to loss of support. Identifying stakeholders and devising strategies to meet their expectations is crucial for CSR. The theory comprises an ethical aspect, emphasizing fair treatment of all stakeholders, and a managerial aspect, which prioritizes satisfying powerful stakeholders for survival (Deegan & Unerman, 2006). Roberts (2004) notes stakeholder theory addresses stakeholder rights, power, and managing conflicting demands, aiming for balance. CSR efforts, like environmental management and employee relations, are integral to managing stakeholder relationships.

**Legitimacy theory**: focuses on how organizations fulfill societal expectations, contrasting with stakeholder theory's emphasis on specific stakeholder groups. It's considered pivotal in understanding corporate social reporting (Campbell, 2007), asserting that organizations must maintain legitimacy to operate by fulfilling their social contract with society (Cormier and Gordon, 2001). Corporate legitimacy can be gained through transparent communication with stakeholders. Campbell (2007) examined corporate social reporting evolution in Marks and Spencer Plc over 28 years, finding partial explanatory power of legitimacy theory. The study noted the influence of chairmen on social reporting volume, not entirely accounted for by legitimacy theory. Other research (Wilmshurst and Frost, 2000; Cormier et al., 2004) explored various theories, including agency and stakeholder theories, to understand corporate reporting frameworks.

### 3.0 Methodology

The study employed an ex post facto research design to analyze the impact of environmental accounting on financial performance of quoted Deposit Money Banks in Nigeria, utilizing secondary data. The population comprised all fourteen Deposit Money Banks listed on the Nigerian Exchange Group as of December 31, 2022. Data were collected from the annual financial reports of the sampled banks. Reliability was assessed using Cronbach's Alpha, Panel data analysis utilized a random effect model, supported by robustness tests. Return on Assets (ROA) served as the dependent variable, with Environmental Conservative Cost Disclosure (ECCD), Environmental Compliance Cost Disclosure (ECD), and Community Development Cost Disclosure (CDCD) as independent variables.

### Model Specification

The specified model was:
$$ROA = f(ECCD + ECD + CDCD)$$
The econometric form of the model is:
$$ROA_{it} = \alpha + \beta_1 ECCD_{it} + \beta_2 ECD_{it} + \beta_3 CDCD_{it} + \beta_4 ESD_{it} + e\_{it}$$

### Where:
$ROA_{it}$ = Return on Assets for firm i at time t
$ECCD_{it}$ = Environmental Conservative Cost Disclosure for firm i at time t
$ECD_{it}$ = Environmental Compliance Cost Disclosure for firm i at time t
$CDCD_{it}$ = Community Development Cost Disclosure for firm i at time t
$ESD_{it}$ = Environmental Sustainability Disclosure for firm i at time t
$\alpha$ = Constant term
$\beta_1, \beta_2, \beta_3, \beta_4$ = Parameters estimated
$e_{it}$ = Error term
i = Firms
t = Time periods

### 4.0 Results and Discussion

### 4.1 Data Analysis

### 4.2 Descriptive Statistics

**Table 2 summarizes the descriptive statistics of the entire data set.**

| Variable | Obs | Mean | Std. Dev. | Min. | Max. |
|----------|-----|------|-----------|------|------|
| ROA | 140 | 4.60 | 7.88 | -25.69 | 26.49 |
| ECCD | 140 | 0.62 | 0.49 | 0 | 1 |
| ECD | 140 | 0.82 | 0.39 | 0 | 1 |
| CDCD | 140 | 0.89 | 0.31 | 0 | 1 |
| ESD | 140 | 0.77 | 0.42 | 0 | 1 |

**Source:** Researcher's Computation using STATA 15 software

In the context of assessing the effect of environmental accounting on the financial performance of quoted deposit money banks in Nigeria, the descriptive statistics presented in Table 2 provide valuable insights.
Return on Assets (ROA):

The mean ROA value of 4.60 suggests the average return generated by the banks on their assets over the studied period. With a standard deviation of 7.88, indicating considerable variability, the banks experienced fluctuating returns, potentially influenced by various factors including environmental accounting practices. The range from -25.69 to 26.49 signifies diverse performance outcomes among the banks, reflecting potential impacts of environmental accounting practices on financial performance.

Environmental Conservative Cost Disclosure (ECCD):

The mean ECCD value of 0.62 indicates the extent of conservative environmental cost disclosures made by the banks. A standard deviation of 0.49 suggests variability in the level of conservative environmental cost disclosures across the banks. The range from 0 to 1 showcases the diversity in the degree of ECCD practices among the banks, which could influence their financial performance outcomes.

Environmental Compliance Cost Disclosure (ECD):

With a mean ECD value of 0.82, the banks disclosed compliance costs related to environmental regulations to a certain extent. The standard deviation of 0.39 reflects variability in the level of compliance cost disclosures, potentially impacting financial performance differently among the banks. The range from 0 to 1 highlights difference in the degree of ECD practices among the banks, suggesting potential implications for financial performance.

Community Development Cost Disclosure (CDCD):

The mean CDCD value of 0.89 indicates the level of disclosure of costs associated with community development initiatives by the banks. A standard deviation of 0.31 suggests variability in the extent of community development cost disclosures, potentially influencing financial performance diversely. The range from 0 to 1 signifies differences in CDCD practices among the banks, which may contribute to varying financial performance outcomes.

Environmental Sustainability Disclosure (ESD):

The mean ESD value of 0.77 reflects the degree of sustainability-related disclosures made by the banks. With a standard deviation of 0.42, variability exists in the level of sustainability disclosures among the banks, potentially impacting financial performance differently. The range from 0 to 1 underscores diversity in ESD practices, indicating potential implications for financial performance variations among the banks.

Overall, the descriptive statistics suggest that environmental accounting practices, as reflected in ECCD, ECD, CDCD, and ESD, exhibit variability among quoted deposit money banks in Nigeria. These practices may influence financial performance outcomes differently, highlighting the importance of further analysis to

understand the relationship between environmental accounting and financial performance in this context.

### 4.2.2 Shapiro Wilk Normality Test

**Table 3 and figure 2 below present the results of the normality test conducted with the use of the Shapiro-Wilk Normality test and normal distribution curve.**

| Variable | OBS | W | V | Z | Prob>Z |
|---|---|---|---|---|---|
| Residual | 140 | 0.93 | 8.8o | 4.96 | 0.00 |

**Source:** Researcher's Computation using STATA 15 software
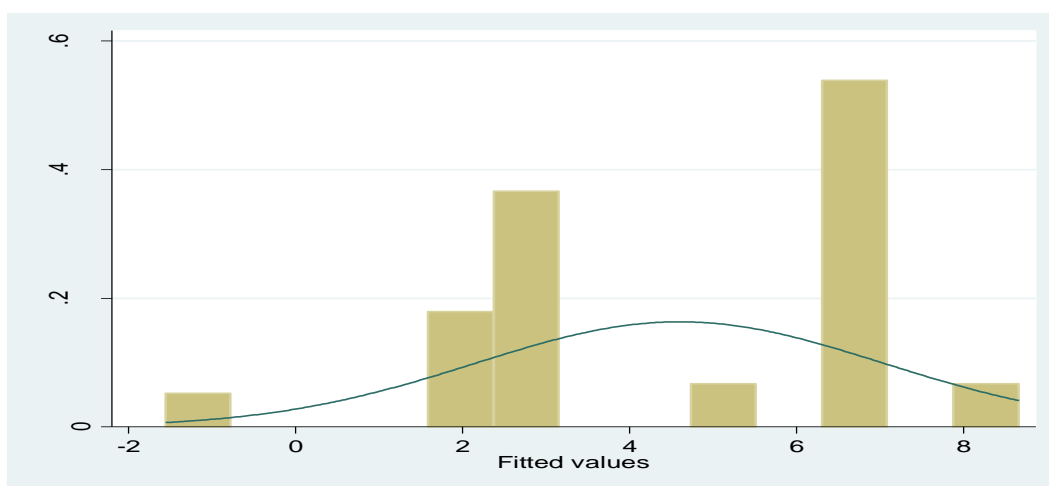
**Figure 2: Normal Distribution Curve**



Table 3 presents a residual that has a z value of 4.96 and a probability value of 0.00, indicating that it is significantly different from the expected value. This suggests that the residual is not normally distributed around the average. This observation is further supported by the normal distribution curve shown in Figure 2. As a result, the basic assumption of linear regression, which requires normally distributed residuals, is violated. In order to address this issue, a robust regression method is utilized.

### 4.2.3 Pearson Correlation

**Table 4 below is the Pearson correlation matrix for the data set to show the extent of associations between the variables.**

| Variable | ROA | ECCD | ECD | CDCD | ESD |
|---|---|---|---|---|---|
| ROA | 1 | | | | |
| ECCD | 0.2007 | 1 | | | |
| ECD | 0.1915 | -0.1521 | 1 | | |
| CDCD | -0.0942 | 0.0833 | -0.1625 | 1 | |
| ESD | 0.0823 | 0.0432 | 0.1934 | 0.1234 | 1 |

**Source:** Researcher's Computation using STATA 15 software

The Pearson correlation matrix presented in Table 4 indicates the strength and direction of relationships between different variables relevant to the topic "EFFECT OF ENVIRONMENTAL ACCOUNTING ON FINANCIAL PERFORMANCE OF QUOTED DEPOSIT MONEY BANKS IN NIGERIA."

Return on Assets (ROA) exhibits a correlation of 1 with itself.

Environmental Cost of Capital Deployment (ECCD) shows a correlation of 0.2007 with ROA.

Environmental Cost of Disclosure (ECD) demonstrates correlations of 0.1915 with ROA and -0.1521 with ECCD.

Corporate Disclosure of Climate Data (CDCD) displays correlations of -0.0942 with ROA, 0.0833 with ECCD, -0.1625 with ECD, and 1 with itself.

Environmental Sustainability Disclosure (ESD) exhibits correlations of 0.0823 with ROA, 0.0432 with ECCD, 0.1934 with ECD, 0.1234 with CDCD, and 1 with itself.

A Breakdown of what each correlation coefficient signifies:

A correlation coefficient of 1 indicates a perfect positive linear relationship, meaning that as one variable increases, the other variable also increases proportionally.

A correlation coefficient of -1 indicates a perfect negative linear relationship, meaning that as one variable increases, the other variable decreases proportionally.

Correlation coefficients closer to 0 suggest weaker relationships between variables.

In the context of the topic, these correlation coefficients provide insights into how environmental accounting metrics (such as ECCD, ECD, CDCD, and ESD) relate to financial performance (ROA) among quoted deposit money banks in Nigeria. For instance, positive correlations between environmental accounting metrics and ROA may suggest that higher levels of environmental accounting activities are associated with better financial performance, while negative correlations may suggest the opposite.

### 4.2.4 Heteroscedasticity Test Results

**Table 5: Heteroscedasticity test**

| Type of test | Chi2 | P-Value |
|---|---|---|
| Heteroscedasticity Test | 4.25 | 0.0393 |

**Source:** Researcher's Computation Using STATA 15 software

In order to determine the reliability of the data for this study, a heteroscedasticity test was carried out. The analysis revealed that there is heteroscedasticity present in the data, indicating that the basic assumptions of the linear regression model have been violated. This finding is supported by the results shown in Table 5, where the heteroscedasticity test produced a chi-squared value of 4.25 and a p-value of 0.0393. These results do not meet the requirements for the classical linear regression assumption of homoscedasticity, which assumes that the variability of the errors is constant.

### 4.2.5 Breusch-Pagan Lagrangian Multiplier

**Table 6 below presents the result of the Breusch-Pagan Lagrangian Multiplier test conducted.**

| Variable | Chibar2 | P-Value |
|---|---|---|
| ROA | 73.45 | 0.0000 |

**Source:** Researcher's Computation using STATA 15 software

To determine whether the Random Effect Model (REM) or Pooled Ordinary Least Square Regression is more appropriate for the analysis, the Breusch-Pagan Lagrangian Multiplier test was conducted. The results displayed in Table 6 show that the test yielded a chibar2 value of 73.45, with a probability of 0.00. These findings indicate that the Random Effect Model (REM) is more suitable for the analysis in question compared to Pooled Ordinary Least Square Regression.

### 4.2.6 Hausman Specification Test

**Table 7 below presents the result of a Hausman specification test conducted.**

| | |
|---|---|
| Chi2 | 0.51 |
| Prob. Chi2 | 0.9171 |

**Source:** Researcher's Computation using STATA 15 software

Panel data analysis presents the possibility of errors that are clustered and correlated over time, which can be a result of unique characteristics specific to each deposit money bank. These characteristics introduce unobserved heterogeneity, which has the potential to introduce bias in both the outcome and explanatory variables. To address this issue, it is important to control for these effects. To determine which model is more suitable, the Hausman test was employed. The results of the test suggest that the random effect model is more appropriate than the fixed effect model. This conclusion is supported by the insignificant Chi-squared value of 0.51, which is associated with a p-value of 0.9171, as shown in Table 7. These results indicate a lack of significance at all levels, further supporting the superiority of the random effect model.

### 4.2.7 Results of the Robust Random Effect Regression Model

**Table 8 below is the robust random effect regression model conducted for the estimation of this model.**

| Variable | Coefficients | z-value | Prob. |
|---|---|---|---|
| Cons. | 2.015 | 0.67 | 0.504 |
| ECCD | 3.392 | 3.19 | 0.002 |
| ECD | 2.908 | 1.45 | 0.148 |
| CDCD | -2.221 | -1.06 | 0.278 |
| ESD | 2.341 | 0.37 | 0.211 |
| R-sq overall | 0.6945 | | |
| Wald chi2 | 12.76 | | |
| Prob. >chi2 | 0.005 | | |

**Source:** Researcher's Computation using STATA 15 software

According to Table 8, the model successfully predicts 69% of the variation in return on assets (ROA) by considering environmental conservative cost disclosure (ECCD), environmental compliance cost disclosure (ECD), and community development cost disclosure (CDCD) within Environmental Sustainability Disclosure (ESD). The overall R-squared value of 0.6945 suggests that these independent variables are effectively integrated and utilized. Additionally, the Wald chi-square value of 12.76 with a P-value of 0.005 indicates that the model is appropriate for the research conducted.

### 4.3 Test of Hypotheses

The test of hypotheses was conducted to assess the impact of environmental accounting on the financial performance of quoted Deposit Money Banks in Nigeria, employing a random effect regression model. As per Table 8, the z-value of 3.19 with a corresponding p-value of 0.002 demonstrates a significant positive association between environmental conservative cost disclosure (ECCD) and return on assets of quoted Deposit Money Banks in Nigeria during the specified period. Consequently, null hypothesis one, which posits that ECCD has no significant effect on return on assets, is rejected.

Additionally, Table 8 indicates that the z-value of 1.45 with a p-value of 0.148 suggests an insignificant positive impact of environmental compliance cost disclosure on return on assets. Hence, null hypothesis two, stating that environmental compliance cost disclosure has no significant effect on return on assets, is accepted.

Moreover, the results in Table 8 show a z-value of -1.06 with a p-value of 0.278, indicating an insignificant negative influence of community development cost disclosure on return on assets. Therefore, null hypothesis three, asserting no significant effect of community development cost disclosure on return on assets, is accepted.

Furthermore, Table 8 presents a z-value of 2.341 with a p-value of 0.37, signifying a significant effect of relationships community development cost disclosure (ESD) on return on assets. Hence, null hypothesis three, which suggests no significant effect of relationships community development cost disclosure (ESD) on return on assets, is accepted.

## 5.0 Conclusion and Recommendations

In conclusion, the study indicates that there is a significant positive association between environmental conservative cost disclosure (ECCD) and return on assets in quoted Deposit Money Banks in Nigeria. This means that when banks disclose conservative environmental costs, their financial performance improves. However, the study found no significant impact of environmental compliance cost disclosure or community development cost disclosure on return on assets. Additionally, the study found a significant effect of the relationship between community development cost disclosure and return on assets. Overall, this suggests that environmental accounting practices have a positive impact on the financial performance of quoted Deposit Money Banks in Nigeria.

## 5.2 Recommendations

Based on the conclusions drawn, the following recommendations are proposed:

Deposit Money Banks in Nigeria should prioritize environmental conservative cost disclosure (ECCD) within their financial reporting practices. By doing so, they can potentially bolster their financial performance while simultaneously improving their standing among investors and stakeholders who place value on sustainability and ethical business conduct.

Continued adherence to environmental regulations and transparent disclosure of environmental compliance costs (ECD) is advised for Deposit Money Banks in Nigeria. This commitment ensures alignment with sustainability reporting standards, which in turn can positively impact financial performance.

While community development cost disclosure appears to have an insignificant impact on financial performance, it remains essential for Deposit Money Banks to fulfill their social responsibilities. However, in terms of financial prioritization, resources may be better allocated elsewhere for optimizing performance.

Environmental Sustainability Disclosure (ESD) should not be disregarded by Deposit Money Banks, as it has demonstrated a positive effect on their financial performance. Therefore, while community development cost disclosure may not be a priority, attention to broader environmental sustainability practices can yield favorable outcomes for the banks.

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