

**AKUHLWA MOSES VERSHIMA**

**VPG/MSO/ACC/24/13405**

**TOPIC: SEMINAR PAPER ON THE EFFECT OF GREEN ACCOUNTING DISCLOSURES ON THE FIRM VALUE OF CONSUMER GOODS FIRMS IN NIGERIA**

**DATE: 5<sup>TH</sup> JUNE, 2025**

### **Abstract**

This study, The Effect of Green Accounting Disclosures on the Firm Value of Listed Consumer Goods Firms in Nigeria investigates the impact of green accounting practices on the financial performance of consumer goods companies listed on the Nigerian Exchange Group (NGX) from 2014 to 2023. The study aims to bridge a research gap, as most existing literature on green accounting in Nigeria focuses on high-polluting sectors like oil and gas, overlooking the significant environmental impact of the consumer goods industry. The research uses environmental waste management and efficient use and conservation of natural resources as proxies for green accounting disclosures, and Return on Assets (ROA) as the measure for firm value. The findings suggest that, in the Nigerian context, environmental waste management and efficient use and conservation of natural resources do not have a statistically significant immediate impact on firm profitability. This suggests that while these practices are important for strategic positioning and stakeholder engagement, their direct financial benefits may be minimal or not easily quantifiable in the short term, possibly due to factors like weak regulatory enforcement and low investor awareness in emerging economies. The study concludes by emphasizing the need for further research with additional control variables, longer time horizons, and alternative measures of firm value to fully understand these dynamics.

**Key Words:** Green Accounting Disclosures and Firm Value

### **INTRODUCTION**

The adoption of green accounting practices, which incorporate environmental costs and sustainability indicators into corporate financial reporting, has garnered growing significance worldwide, especially in environmentally impactful sectors such as consumer goods (Adebayo, Oseni, & Adeyemi, 2021). In Nigeria, where the consumer goods industry contributes significantly to national economic growth and employment, the integration of green accounting has attracted increasing interest among stakeholders concerned about environmental sustainability and corporate responsibility (Eze & Nwankwo, 2022). The rising environmental consciousness among investors, regulators, and consumers has amplified the call for greater transparency in environmental performance and sustainable business practices (Ojo & Akinlade, 2023). As a result,

embedding green accounting within financial disclosures has become a strategic imperative for consumer goods firms seeking to strengthen regulatory compliance, enhance corporate reputation, and build stakeholder confidence. This transition not only fosters a culture of environmental accountability but also carries important implications for firm value, shaping investor perceptions, influencing capital allocation decisions, and supporting long-term business viability (Adekunle & Osagie, 2021).

When firms fail to integrate environmental costs transparently through green accounting disclosures, it can distort their financial reporting and obscure the true cost of operations, thereby undermining long-term value creation. In Nigeria's consumer goods sector, weak or inconsistent environmental reporting has been linked to stakeholder skepticism, regulatory scrutiny, and reputational challenges (Adebayo, *et al.*, 2021). The absence of clear environmental accountability often translates into diminished investor confidence and brand erosion, particularly in an era of rising consumer awareness around sustainability. For example, companies involved in excessive plastic packaging, water pollution, or poor waste management practices have faced public criticism and consumer boycotts, which can negatively impact market valuation and sales performance (Eze & Nwankwo, 2022).

Conversely, listed consumer goods firms that adopt robust green accounting practices such as Unilever Nigeria and Nigerian Breweries have been recognized for their commitment to sustainability and environmental stewardship. These firms often benefit from enhanced investor relations, better access to green financing, and improved corporate image, all of which contribute positively to firm value (Ojo & Akinlade, 2023). Transparent disclosure of environmental costs, such as waste treatment, renewable energy investments, and compliance with environmental regulations, signals strong governance and long-term risk mitigation, attracting socially responsible investors and fostering sustainable profitability (Adekunle & Osagie, 2021).

Green accounting disclosures involve the systematic integration of environmental data into corporate financial and non-financial reports, aimed at enhancing the transparency of a firm's environmental performance and sustainability initiatives (Bebbington *et al.*, 2001). For consumer goods firms, which are often closely scrutinized for their environmental footprint due to packaging waste, resource usage, and emissions from manufacturing processes, the quality of green disclosures has become increasingly critical (Clarkson *et al.*, 2008; Qian *et al.*, 2011). Transparent environmental reporting allows stakeholders such as consumers, investors, regulators, and advocacy groups to assess the firm's environmental responsibility, regulatory compliance, and long-term sustainability (Gray, 2006). High quality green disclosures not only enhance reputational capital but also serve as strategic tools for improving stakeholder engagement, competitive positioning, and financial performance in an increasingly sustainability conscious market. These outcomes underscore that, within the consumer goods industry, green accounting is not only a compliance measure but a strategic asset that influences firm valuation.

Firm value refers to the overall performance and efficiency of a company in utilizing its resources to generate earnings, often measured by accounting-based indicators such as Return on Assets (ROA). ROA evaluates a firm's ability to convert its total assets into net income and serves as a proxy for operational efficiency and profitability (Penman, 2012). In recent years, non-financial disclosures particularly green accounting disclosures have gained increasing attention as key drivers of firm value. Green accounting, which involves the systematic reporting of environmental costs, obligations, and sustainability initiatives, offers stakeholders valuable insights into a company's environmental management and risk exposure (Alrazi *et al.*, 2016; Burritt & Schaltegger, 2010). Empirical evidence suggests that firms committed to transparent green disclosures often experience improved corporate image, investor trust, and operational resilience, which in turn enhance financial performance as reflected in stronger ROA (Clark *et al.*, 2015; Ameer & Othman, 2012).

While a growing body of literature has explored the link between green accounting practices and corporate financial performance across various sectors globally, limited empirical attention has been given to how green accounting disclosures influence firm value within the consumer goods sector in developing economies, particularly Nigeria. Most existing studies on green accounting in Nigeria have emphasized environmental disclosure practices within high-polluting sectors such as oil and gas (Okafor *et al.*, 2021; Uwuigbe *et al.*, 2018), thereby overlooking the environmental impacts and disclosure practices of consumer goods firms, which also significantly contribute to waste generation, resource consumption, and carbon emissions through packaging, production, and distribution processes. Therefore, an empirical study that investigates the effect of green accounting disclosures on firm value in the Nigerian consumer goods sector is both timely and necessary. This study aims to bridge the current sector gap.

The main objective of the study is to investigate the effect of green accounting disclosures on the firm value of listed consumer firms in Nigeria while the specific objectives are:

1. To examine the effect of environmental waste management on the firm value of listed consumer goods firms in Nigeria.
2. To determine the effect of efficient use and conservation of natural resources on the firm value of listed of consumer goods firms in Nigeria.

In relation to the objectives above, the following research question were formulated

1. What is the effect of environmental waste management on the firm value of listed consumer goods firms in Nigeria?
2. What is the effect of efficient use and conservation natural resources on the firm value of listed consumer goods firms in Nigeria

In line with the research objectives, the following null hypothesis are formulated and tested.

**H<sub>01</sub>:** Environmental waste management has no significant effect on the firm value of listed consumer goods firms in Nigeria

**H<sub>02</sub>:** Efficient use and conservation of natural resources has no significant effect on the firm value of listed consumer goods firms in Nigeria

Significantly, this study will shed more light on the extent to which green accounting disclosure practices influence the perception of investors regarding the environmental performance of consumer goods firms. Secondly, the study is expected to provide valuable guidance for regulatory authorities in Nigeria regarding the formulation of policies aimed at promoting environmental transparency and accountability within the consumer goods industry. Thirdly, the findings of the study are likely to influence the strategic decision-making processes of consumer goods firms operating in Nigeria. It will also help scholars to explore how green accounting disclosures influence investor perceptions and market dynamics. It will equally serve as reference material for future researchers.

This study covers consumer goods firms who have maintained a continuous listing on the Nigerian Exchange Group (NGX) throughout the period 2014 to 2023 (10 Years).

## **LITERATURE REVIEW**

### **Conceptual Review**

Two concepts are significant to this study; green accounting disclosures and firm value. Green accounting disclosures is proxied by environmental waste management and efficient use and preservation of natural resources while firm value is proxied by return on asset (ROA).

### **Green Accounting Disclosures**

Green accounting disclosure is the practice of providing financial and non-financial information related to organization's environmental performance and sustainability practices. It involves the measuring, reporting and disclosure of environmental costs, risks, and opportunities that exist in a transparent and standardized way. Green accounting disclosures aim at communicate the environmental impact of business activities such as resource consumption, pollution, and emissions thereby enhancing transparency and accountability (Kolk & Perego, 2018). It encompasses the measurement, valuation, and reporting of environmental assets and liabilities

alongside financial data (Deegan, 2002). Green/Environmental accounting disclosures are the costs of what it costs the organization to care for their environments (Yahaya, *et al.*, 2022). It is focused on environmental monitoring and data collections. This environment accounting disclosure in the annual reports indicates to the public whether those charged with the responsibilities to take decisions (the board) are taken environmental issues serious or not. Ala posits that environmental accounting disclosure is the disclosure of the company's goal on their environment. He stated that despite the increase in focus on environmental accounting disclosures, it has been a problem for companies to invest immensely in their environments (Ala, 2019).

### **Environmental Waste Management**

Environmental waste management refers to the control of generation, storage, collection, transfer and transport, processing, and disposal of solid waste, in a manner that is in accord with the best principles of public health, economics, engineering, conservation, and other environmental considerations. This broad definition highlights the multifaceted nature of waste management, combining environmental science, engineering, and public policy (Tchobanoglous & Kreith, 2002). It encompasses a range of practices, including recycling, composting, incineration, and landfill management, as well as efforts to reduce waste at the source through sustainable production and consumption strategies (Wilson *et al.*, 2012). The primary objectives of environmental waste management are to protect public health, preserve natural resources, and reduce pollution and greenhouse gas emissions associated with improper waste disposal. Effective waste management is especially critical in industrial and manufacturing sectors, including consumer goods and oil and gas, where large volumes of solid, liquid, and hazardous waste are produced (Morrissey & Browne, 2004).

### **Efficient use and the Conservation of Natural Resources**

Environmental efficiency and the conservation of natural resources refer to the strategic use of energy, water, raw materials, and other environmental assets in a manner that maximizes utility while minimizing waste, degradation, and ecological harm (Ayres & Ayres, 2002; OECD, 2010). These practices are grounded in the principles of sustainable development, emphasizing the need to meet present demands without compromising the ability of future generations to meet theirs (WCED, 1987). Organizations are increasingly adopting resource-efficient approaches such as cleaner production technologies, circular economy models, eco-design, and life-cycle assessments to reduce resource intensity, optimize inputs, and extend product life spans (UNEP, 2011; DeSimone & Popoff, 2000). Resource efficiency not only helps firms reduce operational costs and environmental liabilities but also enhances competitive advantage by aligning with global sustainability goals (Porter & Linde, 1995; Schaltegger & Burritt, 2010). In the context of developing countries like Nigeria, resource conservation is not just an environmental concern but an economic necessity. Consequently, policies promoting efficient production methods, recycling,

renewable energy use, and sustainable land management are essential to reversing environmental decline (Federal Ministry of Environment, 2016; Olukanni & Mnenga, 2015).

## **Firm Value**

Firm value is the economic market value of the whole organization. It is the total value of interest of both shareholders and creditors who have invested in that entity. The market value and growth of the company is of most interest to all the stakeholders. The environmental resources used by the company go a long way to determine future value of the company. The firm value is important because it shows how effective and efficient the company is, in conducting their business operations (Obiora, *et. al.*, 2022). It is the value which a potential purchaser would want to pay to take over the entire business (Nwala, *et. al.*, 2020). Firm value is the market value of outstanding securities and business equity (Bui *et al.* 2023). It is a term used to characterize how investors view a company's success, and it is frequently linked to stock prices. Firm value shows the market value and can provide maximum shareholder prosperity if the share price increases. The higher the share price, the higher the prosperity of shareholders. It is one of the factors that investors pay attention in choosing a company to invest their capital in, because company value is related to stock prices. High corporate value will be followed by the prosperity of the shareholders, the wealth of shareholders and the company can be represented by the market price of the company's shares.

## **Return on Assets (ROA)**

Return on Assets (ROA) is a fundamental financial performance metric that evaluates how efficiently a company utilizes its assets to generate profit. As a profitability ratio, ROA serves as a key indicator of managerial effectiveness in deploying the firm's resources to achieve earnings (Brigham & Houston, 2019). It reflects the company's ability to convert its investment in assets into net income and is widely used in financial analysis, investment decision-making, and academic research related to firm performance and valuation (Ross *et al.*, 2022). By analyzing ROA, researchers can gauge not only the internal operational efficiency of a firm but also how effectively the company's asset base contributes to value creation. A higher ROA indicates better performance and potentially enhances market confidence, which can translate into improved firm value over time (Damodaran, 2012).

Return on Assets is calculated using the following formula:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

## Where:

- **Net Income:** The profit after all expenses, taxes, and costs have been deducted from total revenue.
- **Total Assets:** The book value of all assets owned by the company, both current and non-current.

## Empirical Review

(Fernando et al, 2023) investigated to seek how Green Accounting Disclosure (GAD) affects firm value using GDA Coverage Percentage quantified by NVIVO Software in Mining and Agriculture Companies in Southeast Asia. The 5-year observation period for the study was taken from 2017 to 2021. This research used control variables, such as profitability, sales growth, leverage and size of mining and agriculture company in Southeast Asia. The data used were secondary data obtained from Capital IQ SnP and annual reports and/or sustainability reports posted on the company websites. Data regression with a fixed effect model approach was used for data analysis. The findings indicate that Green Accounting Disclosure, as reflected by coverage percentage in compliance with GRI standard, has insignificant on firm value in Mining and Agriculture Companies. Leverage is the only variable that matters on GAD. Even though GAD performed by this study is more rigid than binary variable, the keywords need to be developed to quantify what it takes in determining GAD variable. Though green accounting disclosure is not associated with the firm value, the author's additional analysis found that there are only a few companies in Southeast Asia that disclose green accounting in their report. Since the disclosure of green accounting is voluntarily and companies are still hesitant to voluntarily disclose green accounting in their reports.

(Adebanjo & wisdom, 2024) in their study analyzed the effect of green accounting practices on the value of publicly traded Nigerian companies. The methodology adopted for this research was the ex-post facto research design. Data collection was carried out through stratified sampling, employing secondary data from the annual report of 18 listed firms on the Nigerian stock exchange. Secondary data from 2012 to 2021 period were collected from the annual report of listed firms on the Nigerian stock market. The panel Generalized Method of Moments was used in this investigation as well as other econometric tests. The results demonstrated that green accounting practices (waste management disclosure (WMD) is not significantly related to Tobin's Q (TQ), but was positively and significantly related to price earnings ratio (PE).

(Susilawati, *et al*, 2024) in their study, analyzed the profitability in mediating the influence of green accounting and corporate social responsibility disclosure on the firm value. The samples consisted of 220 manufacturing companies, while the moderating variable regression was used in data analysis. The effect of mediating variables was determined using the Sobel test. The study

results showed that green accounting did not affect firm value; while CSR disclosure and profitability influenced firm value, but profitability was not able to mediate the effect of green accounting and CSR disclosure on the firm value. The unintegrated system and the company's inability to internalize green accounting and CSR disclosure hindered its non-financial goals to gain an advantage in a competitive market.

(Nugraha *et al*, 2024) in their study aimed to obtain empirical evidence regarding the effect of environmental accounting disclosures and environmental performance on firm value in the manufacturing sector listed on the Indonesia Stock Exchange (IDX) for the 2017-2020 period. This study used a sample of 43 manufacturing companies in Indonesia where the data needed in the study is in the form of financial report data obtained from the Indonesian Stock Exchange Gallery. The sampling method is purposive sampling. The data analysis technique used is single linear regression using SPSS. The results showed that the environmental accounting disclosure variable had a significant effect on firm value. Meanwhile, the environmental performance variable has no effect and is not significant on firm value. The single linear regression model in this study has an R<sup>2</sup> value of 77.48%, which means the firm value can be explained by using the variable value of environmental accounting disclosures, where the remaining 22.52% is influenced by other factors, variables outside the model that have been studied.

(Collins *et al*, 2025) in their research centered on Green Accounting Disclosure and Firms Value of oil and gas companies quoted in the Nigeria Exchange Group revealed the influence of Green accounting disclosure on the value of the companies. Descriptive statistics with panel regression-method with Statistic V. 15 were used. Ex-post facto design was adopted. Secondary data from the annual reports of selected companies quoted in the Nigeria Exchange Group for ten-years (2014 to 2023) were used. The study indicated that Green Accounting Disclosure have positive and significant effects on the market value of all the selected quoted oil and gas companies. The Study recommended that regulatory bodies need to wake- up to their responsibilities and reward firms that practices green accounting disclosures.

## **Research Gap**

While a growing body of literature has explored the link between green accounting practices and corporate financial performance across various sectors globally, limited empirical attention has been given to how green accounting disclosures influence firm value within the consumer goods sector in developing economies, particularly Nigeria. Most existing studies on green accounting in Nigeria have emphasized environmental disclosure practices within high-polluting sectors such as oil and gas (Okafor *et al.*, 2021; Uwuigbe *et al.*, 2018), thereby overlooking the environmental impacts and disclosure practices of consumer goods firms, which also significantly contribute to waste generation, resource consumption, and carbon emissions through packaging, production, and distribution processes. Therefore, an empirical study that investigates the effect of green accounting disclosures on firm value in the Nigerian consumer goods sector is both timely and necessary. This study aims to bridge the current sector gap.



## **Theoretical Review**

The theories that relates to this study are stakeholder theory and signaling theory.

### **Stakeholders Theory**

Stakeholder theory, developed by Freeman (1984), posits that organizations are accountable not only to shareholders but to all parties affected by their operations referred to as stakeholders. These include employees, customers, local communities, regulators, investors, and the environment itself. The theory underscores the importance of balancing competing stakeholder interests to ensure long-term organizational success and legitimacy. In the context of green accounting, stakeholder theory provides a compelling rationale for why firms. Green accounting disclosures including data on environmental waste management and efficient use and conservation of natural resources serve as accountability tools that communicate a firm's commitment to environmental responsibility. Green accounting disclosures help firms build trust, secure a social license to operate, and mitigate reputational risks which are key concerns for stakeholders such as regulators, communities, and investors (Clarkson et al., 2008). Such disclosures also show transparency, ethical governance, and risk management capacity, aligning with stakeholder expectations for environmental stewardship.

### **Signaling Theory,**

Introduced by Spence (1973), explains how one party (the "signaler") credibly conveys information to another party (the "receiver") in situations of information asymmetry. In corporate settings, managers possess private information about firm performance and prospects, which external stakeholders (investors, regulators, and the public) do not directly observe. To reduce this asymmetry, firms engage in signaling through various disclosures, financial and non-financial. Environmental disclosures, including green accounting reports, serve as signals of a firm's environmental performance, sustainability orientation, and risk profile. By disclosing green accounting data, firms aim to communicate unobservable attributes such as environmental responsibility, regulatory compliance, and long-term sustainability" (Verrecchia, 2001).

This study is anchored on Signalling Theory due to its focus on information asymmetry and the role of corporate disclosures in conveying valuable information to stakeholders. The link between Signalling Theory, green accounting disclosures, and firm value is critical. Signalling Theory, as developed by Spence (1973), provides a useful framework for understanding how firms communicate their quality, intentions, and performance to external parties, particularly in situations where such information is not directly observable. In this context, green accounting disclosures such as environmental waste management and efficient use and conservation of natural resources serve as credible signals to investors and stakeholders about a firm's environmental

responsibility and risk management capabilities (Clarkson *et al.*, 2008; Dhaliwal *et al.*, 2011). These signals can influence investor perceptions, reduce information asymmetry, and enhance a firm's reputation, ultimately contributing to higher firm valuation (Hassel *et al.*, 2005).

## **METHODOLOGY**

### **Research Design**

This study adopts a quantitative, explanatory research design, utilizing panel data regression techniques to examine the relationship between environmental accounting disclosures and firm financial performance among listed oil and gas companies in Nigeria.

### **Population and Sample size**

The target population for this study encompasses all sixteen (16) consumer goods firms listed on the Nigerian Exchange Group (NGX) as of 31st December 2023 (see Appendix 1). These firms collectively constitute the entire universe of publicly quoted companies operating within the consumer goods sector in Nigeria. The sample size is ten (10). The study employed a purposive sampling technique to select firms from the identified population. The selection criteria were designed to enhance the internal validity and analytical robustness of the study and are as follows:

- a.** The firm must have maintained a continuous listing on the Nigerian Exchange Group (NGX) throughout the period 2014 to 2023; and
- b.** The firm must have disclosed sustainability-related information, either embedded within its annual reports or through standalone sustainability reports, for the period under review.

### **Model Specification**

This study adapted the panel estimation regression model of Umar and Mustapha (2021) to examine the effect of sustainability reporting on the sales turnover of listed consumer goods firms in Nigeria,

$$ROA_{it} = \beta_{0it} + \beta_1 EVWM_{it} + \beta_2 ECNR_{it} + \xi_{it}$$

Where:

ROA = Return on Assets

EVWM= Environmental Waste Management

ECNR = Efficient use of Natural Resources

$\xi_{it}$  = Error Term

“i” and “t” represent the cross sections and time series respectively.

**Table 1***Descriptive Statistics of Key Variables (N = 160, n = 16, T = 10)*

Variable Statistic		Mean	Std. Dev.	Min	Max
<b>Roa</b>	Overall	0.0512	0.1390	-0.3029	1.2589
	Between	—	0.0634	-0.0100	0.2152
	Within	—	0.1246	-0.2518	1.0949
<b>Evwm</b>	Overall	0.6688	0.2798	0.0000	1.0000
	Between	—	0.2330	0.3000	1.0000
	Within	—	0.1645	0.0688	1.1188
<b>Ecnr</b>	Overall	0.7219	0.2492	0.5000	1.0000
	Between	—	0.1991	0.5000	1.0000
	Within	—	0.1571	0.2719	1.1719

*Source: STATA 15.0 Output*

The table 1 above provides insights into the behavior and variation of the key variables under investigation, Return on Asset (roa), Environmental Waste Management (evwm), and Efficient Use and Conservation of Natural Resources (ecnr), across a panel of 16 firms over 10 years (N = 160). The average return on asset (roa) is approximately 5.12%, with a relatively high standard deviation of 13.90%. This implies that the firms in the sample exhibit a wide range of profitability, from substantial losses (minimum of -30.29%) to extremely high returns (maximum of 125.89%). Notably, the within-firm standard deviation (12.46%) is nearly twice the between-firm standard deviation (6.34%), suggesting that profitability tends to fluctuate more significantly over time within individual firms than it does across different firms. This may reflect varying operational efficiency, market dynamics, or firm-specific shocks over the years.

For environmental waste management (evwm), the average score is 66.88%, indicating a moderate level of engagement among the firms with regard to waste management practices. The standard deviation of 27.98% suggests considerable variation among observations. Interestingly, while there is meaningful variation across firms (between standard deviation = 23.30%), the variation within firms over time is slightly lower (16.45%). This may suggest that firms tend to maintain a consistent approach to waste management once such practices are established. The range spans

from 0 (no engagement) to 1 (full implementation), indicating that some firms have not adopted any waste management measures while others are fully compliant.

Similarly, the variable for efficient use and conservation of natural resources (ecnr) shows an average score of 72.19%, indicating that most firms are relatively active in resource conservation. The overall variability (standard deviation = 24.92%) reflects some diversity in practice, but again, the within-firm variation (15.71%) is lower than the between-firm variation (19.91%). This reinforces the impression that once firms commit to resource efficiency, their practices tend to remain relatively stable over time. The observed range from 0.5 to 1.0 suggests that even the least compliant firms still demonstrate some level of effort in conserving natural resources.

Overall, the descriptive results indicate that while firm profitability (roa) is quite dynamic and varies considerably over time, environmental practices such as waste management and resource conservation are more stable within firms. This consistency in sustainability practices could serve as a foundation for examining their potential impact on firm performance. The findings underscore the importance of looking at both between and within dimensions in panel data, especially when assessing the interplay between environmental sustainability and financial outcomes.

**Table 2**  
*Correlation Matrix*

Variable	1	2	3
1. roa	1.0000		
2. evwm	0.0431	1.0000	
3. ecnr	-0.0606	0.0460	1.0000

*Source: STATA 15.0 Output*

The correlation matrix in Table 2 reveals the strength and direction of the linear relationships between firm financial performance (as measured by return on asset, roa) and two dimensions of environmental sustainability: environmental waste management (evwm) and efficient use and conservation of natural resources (ecnr).

The correlation between roa and evwm is positive but very weak ( $r = 0.0431$ ), indicating a slight tendency for firms that engage more in waste management to have marginally higher returns on assets. However, the relationship is so weak that it may not be statistically or practically significant. This suggests that the adoption of environmental waste management practices alone may not strongly influence profitability among the firms studied.

Conversely, the correlation between roa and ecnr is negative but also very weak ( $r = -0.0606$ ), suggesting a slight tendency for firms with more active natural resource conservation efforts to experience lower returns on assets. Again, the magnitude of the relationship is very small, implying

that resource conservation practices do not have a meaningful linear relationship with profitability in this dataset.

Finally, the correlation between the two environmental variables, evwm and ecnr, is positive and very weak ( $r = 0.0460$ ), indicating that while the two practices may co-occur, their relationship is not strong.

Overall, the results suggest that there is no strong linear association between environmental practices and firm profitability among the sampled firms. This lack of strong correlation does not rule out more complex or lagged relationships, which could be better explored through regression or panel data modelling.

**Table 3**

*Variance Inflation Factor (VIF)*

Variable	VIF	1/VIF
Ecnr	1.00	0.9979
Evwm	1.00	0.9979

**Mean VIF 1.00**

*Source: STATA 15.0 Output*

Table 3 presents the Variance Inflation Factors (VIFs) for the independent variables—environmental waste management (evwm) and efficient use and conservation of natural resources (ecnr). Both variables have a VIF of 1.00, with corresponding tolerance values (1/VIF) of approximately 0.9979.

These values are significantly below the commonly accepted thresholds for multicollinearity concerns ( $VIF > 5$  or  $10$ ), indicating that there is no evidence of multicollinearity between the independent variables in the model. In other words, evwm and ecnr do not overlap significantly in the information they provide in predicting the dependent variable (e.g., roa), and each can be interpreted independently in a regression model.

This result confirms the statistical validity of including both environmental variables in the same regression model without the risk of biased or unstable coefficient estimates due to multicollinearity.

**Table 4**

*Regression Analysis*

Predictor	B	SE	<i>t</i>	<i>P</i>	95% CI
Evwm	0.0228	0.0396	0.58	.564	[−0.0553, 0.1010]
Ecnr	−0.0350	0.0444	−0.79	.432	[−0.1227, 0.0528]
Constant	0.0612	0.0421	1.45	.148	[−0.0220, 0.1443]

**Model Summary:**  $R^2 = .0058$ , Adjusted  $R^2 = -.0069$ ,  $F(2, 157) = 0.46$ ,  $p = .634$ , Root MSE = 0.1394

*Source: STATA 15.0 Output*

Table 4 presents the results of an ordinary least squares regression analysis examining whether environmental waste management (evwm) and efficient use and conservation of natural resources (ecnr) significantly predict firm financial performance, as measured by return on asset (roa).

The overall regression model was not statistically significant,  $F(2, 157) = 0.46$ ,  $p = .634$ , indicating that the model does not explain a significant portion of the variance in roa. The R-squared value of 0.0058 suggests that only 0.58% of the variation in return on asset is accounted for by the two environmental predictors, and the adjusted R-squared value is negative (−0.0069), which typically signals that the model fits the data poorly when adjusting for the number of predictors.

Individually, neither evwm nor ecnr significantly predicted return on asset. For evwm, the unstandardized coefficient (B) was 0.0228 ( $p = .564$ ), indicating a very small and non-significant positive relationship with financial performance. Similarly, ecnr had a coefficient of −0.0350 ( $p = .432$ ), suggesting a weak and statistically non-significant negative association with roa. The 95% confidence intervals for both predictors include zero, further confirming the lack of statistical significance.

In summary, the regression analysis shows that environmental waste management and resource conservation practices do not have a statistically significant linear effect on profitability (roa) among the sampled firms. While such practices may serve other strategic or ethical purposes, their direct impact on short-term financial performance appears minimal based on the current data.

## Discussion of Findings

The findings of this study indicate that environmental waste management (evwm) and the efficient use and conservation of natural resources (ecnr) do not have a statistically significant effect on return on asset (roa), a measure of firm financial performance. Although the coefficients for both predictors were in the expected directions—positive for evwm and negative for ecnr—neither reached statistical significance. This suggests that while these environmental practices may be relevant for long-term strategic positioning or stakeholder engagement, their immediate financial benefits, at least among the sampled firms, are minimal or not easily quantifiable.

These results align with several empirical studies that report similarly insignificant or weak relationships between environmental sustainability and firm profitability. For example, Ameer and Othman (2012) found that while firms engaged in sustainability reporting generally showed better financial performance in the long run, individual environmental indicators often did not yield significant results in isolation. Garzón and Cuadrado-Ballesteros (2021), examining Latin American companies, also reported that certain dimensions of environmental disclosure failed to show significant influence on firm profitability, reinforcing the view that sustainability benefits may be indirect or delayed. In the Nigerian context, Adediran and Alade (2013) examined the relationship between environmental accounting practices and financial performance and concluded that the relationship was weak and statistically insignificant, attributing the outcome to factors such as poor enforcement, limited awareness, and the additional costs associated with environmental compliance.

Furthermore, the insignificant relationship found in this study may be explained by institutional theory, which suggests that the adoption of sustainability practices is often driven by legitimacy-seeking behavior rather than a profit motive. Firms may adopt environmental practices to conform to stakeholder expectations, regulatory pressure, or international trends, rather than to achieve immediate financial returns. In emerging economies like Nigeria, the market may not yet fully reward sustainability initiatives due to weak regulatory enforcement, low investor awareness, and limited integration of environmental, social, and governance (ESG) metrics into financial evaluation.

On the other hand, the findings contrast with studies that have found a significant positive relationship between environmental practices and financial performance. For instance, Eccles, Ioannou, and Serafeim (2014) documented that high-sustainability firms significantly outperformed their counterparts over the long term, both in stock market performance and accounting measures. Similarly, Ching, Gerab, and Toste (2017) reported that sustainability indicators, including environmental performance, had a positive and significant effect on financial outcomes among Brazilian firms. These discrepancies may stem from differences in regulatory environments, stakeholder expectations, data quality, and the maturity of sustainability reporting frameworks across regions.

## **Conclusion**

In conclusion, while this study contributes to the ongoing debate on the financial implications of corporate environmental practices, it suggests that, in the Nigerian context, such practices do not have an immediate or statistically significant impact on profitability. This underscores the need for further research that considers additional control variables, longer time horizons, and alternative measures of firm value to fully understand the dynamics at play.

## Reference

- Acti, A., Lyndon, T., & Bingilar, J. (2013). Impact of environmental cost on corporate performance: A study of oil companies in Niger Delta States of Nigeria. *International Journal of Accounting and Financial Management*, 3(2), 120-135.
- Acti, A., Lyndon, T., & Bingilar, J. (2013). Impact of environmental cost on corporate performance: A study of oil companies in Niger Delta states of Nigeria using returns on total assets (ROTA) as a performance measure. *International Journal of Accounting and Financial Management*, 3(2), 120-135.
- Adebayu, I. O. (2022). The impact of environmental disclosure on stock market value: Evidence from Nigeria's oil and gas sector. *Journal of Accounting and Finance*, 33(4), 456-472.
- Adediran, S. A., & Alade, B. M. (2013). Environmental accounting impact on the performance of companies in Nigeria. *Journal of Accounting and Taxation*, 5(3), 53-65.
- Adegbaju, A. O., & Oloko, T. T. (2019). *Corporate governance and sustainability reporting in Nigeria: An empirical analysis*. Nigerian Journal of Business and Management, 16(2), 75-92.
- Ajayi, F. A., & Uwuigbe, O. R. (2020). *The role of corporate social responsibility in sustainable business operations in Nigeria*. Journal of Business Ethics, 162(3), 611-625.
- Akinwumi, J., Adebayo, M., & Adewumi, D. (2019). *Environmental disclosure practices and financial performance of Nigerian oil and gas companies*. Journal of Business Ethics, 156(4), 1061-1078.
- Baker, J., & Wilkinson, S. (2001). *Environmental remediation in the context of financial reporting: An overview*. Journal of Environmental Management, 62(2), 295-310.



- Boyd, M. (2003). *Understanding environmental compliance and its impact on businesses*. Environmental Management Journal, 25(3), 251-267.
- Burritt, R. L., & Schaltegger, S. (2010). *Sustainability accounting and reporting: Fad or trend?*. In *Handbook of environmental accounting* (pp. 181-201). Springer.
- Clarkson, P. M., Richardson, G. D., & Vasvari, F. P. (2020). *The impact of environmental performance on stock market performance: A study of U.S. oil and gas companies*. Accounting and Business Research, 50(1), 72-101.
- Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (3rd ed.). Wiley.
- Deegan, C. (2002). *The legitimising effect of social and environmental disclosures—a theoretical foundation*. Accounting, Auditing & Accountability Journal, 15(3), 282-311.
- Deegan, C., & Gordon, B. (2015). *Environmental disclosure practices of Australian corporations*. Australian Accounting Review, 25(3), 189-206.
- Dowling, J., & Pfeffer, J. (1975). *Organizational legitimacy: Social values and organizational behavior*. Pacific Sociological Review, 18(1), 122-136.
- Egbunike, F. I., & Okoro, B. (2018). Green accounting and profitability of Nigerian companies. *Journal of Environmental Management*, 12(4), 87-101.
- Elkington, J. (2018). *Partnerships from cannibals with forks: The triple bottom line*. Journal of Business Ethics, 79(3), 259-277.
- Epstein, M. J., & Roy, M. J. (2003). *Making sustainability work: Best practices in managing and measuring corporate social, environmental, and economic impacts*. Berrett-Koehler Publishers.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman Publishing.
- Graham, B., & Dodd, D. L. (1934). *Security analysis: Principles and technique*. McGraw-Hill.
- Gray, R. (2006). *Social and environmental accounting: A case for critical intervention*. Accounting, Auditing & Accountability Journal, 19(6), 930-951.
- Gray, R., Owen, D., & Adams, C. (1996). *Accounting and accountability: Changes and challenges in corporate social and environmental reporting*. Prentice-Hall.
- Hahn, T., & Kühnen, M. (2013). *The influence of corporate sustainability on organizational processes and performance*. Journal of Business Ethics, 145(2), 287-307.
- Igbekoyi, A. A., Solanke, L., & Sunday, E. (2021). *Environmental accounting disclosure and financial performance of listed multinational companies in Nigeria*. Nigerian Journal of Accounting and Finance, 8(2), 213-228.

- Jero, S., & Okoro, E. (2016). The effect of environmental and dismantling costs on firm performance among selected companies in the oil and gas sector. *International Journal of Business and Economic Development*, 5(3), 213-225.
- Kolk, A., & Perego, P. (2010). *Determinants of the adoption of sustainability reporting standards*. *Business & Society*, 49(3), 346-374.
- Kothari, C. R. (2014). *Research methodology: Methods and techniques* (3rd ed.). New Age International Publishers.
- KPMG. (2022). *Oil and gas sector performance report: 2021*. KPMG Nigeria.
- Lapreku, K. A. (2022). Financial performance and stock market value in the Nigerian oil sector: A longitudinal study. *Nigerian Journal of Financial Research*, 9(1), 67-80.
- Malkiel, B. G., & Fama, E. F. (1970). *Efficient capital markets: A review of theory and empirical work*. *Journal of Finance*, 25(2), 383-417.
- Nigeria Exchange Group. (2024). *Annual financial statements of listed oil and gas companies*. Nigeria Exchange Group.
- Nnamani, S. I., Onyekwelu, U., & Ugwu, F. O. (2017). The effect of sustainability accounting on the financial performance of listed manufacturing companies in Nigeria. *African Journal of Accounting*, 10(5), 230-245.
- Noviansyah, H., & Yatminiwati, L. (2019). *Disclosure of green accounting on financial performance*. *Journal of Accounting and Finance*, 19(4), 24-38.
- Ntim, C. G. (2016). *Corporate governance and environmental sustainability reporting: Evidence from the Nigerian oil and gas industry*. *International Journal of Corporate Social Responsibility*, 1(1), 4-22.
- Nwaiwu, F. I., & Oluka, L. (2018). The effect of environmental cost and financial performance measures of quoted oil and gas companies in Nigeria. *Nigerian Journal of Accounting*, 4(2), 150-167.
- Odesa, G. U., Igbru, E., & Agbasi, A. O. (2016). The effect of environmental cost on firm performance: A study of selected manufacturing and oil and gas companies in Nigeria. *African Journal of Business Management*, 10(9), 235-242.
- Odesa, G. U., Igbru, E., & Agbasi, A. O. (2016). The effect of environmental cost on firm performance: A study of selected manufacturing and oil and gas companies in Nigeria. *African Journal of Business Management*, 10(9), 235-242.
- Okafor, C. I. (2018). The effect of environmental costs on firm performance: A study of oil and gas companies quoted in the Nigerian Stock Exchange. *Journal of Environmental Economics*, 16(2), 141-157.
- Okoye, L. U., & Ezejiolor, R. A. (2019). *Challenges in green accounting adoption in Nigerian oil and gas companies*. *International Journal of Energy Economics and Policy*, 9(4), 89-98.

- Okoye, L. U., & Nwezeaku, P. (2018). *The role of green accounting disclosure in oil and gas companies' financial transparency in Nigeria*. Nigerian Journal of Environmental Accounting, 4(3), 142-158.
- Onumah, J. M. (2020). *Corporate social responsibility and environmental sustainability in Nigerian companies: A critical review*. Journal of Environmental and Sustainability Studies, 25(4), 34-50.
- Oti, P. C., & Mbu-Ogar, G. (2018). Analysis of environmental and social costs and financial performance of selected quoted oil and gas companies in Nigeria. *International Journal of Business and Management*, 13(10), 234-245.
- Oti, P. C., & Mbu-Ogar, G. (2018). Analysis of environmental and social costs and financial performance of selected quoted oil and gas companies in Nigeria. *International Journal of Business and Management*, 13(10), 234-245.
- Oyedepo, J. A. (2017). *The impact of socio-political factors on environmental disclosure practices in Nigerian oil and gas companies*. Energy Policy, 105, 42-50.
- Oyewo, B. O., & Owolabi, S. A. (2018). *Green accounting and corporate sustainability: Evidence from the Nigerian oil and gas sector*. Environmental Economics and Policy Studies, 20(2), 219-233.
- Penman, S. H. (2013). *Financial statement analysis and security valuation* (5th ed.). McGraw-Hill.
- Riyadh, M., Khurshid, M., & Zaman, S. (2020). Green accounting and financial performance: An empirical investigation of the top 100 multinational corporations. *Journal of Environmental Economics*, 12(2), 211-228.
- Riyadh, M., Khurshid, M., & Zaman, S. (2020). Green accounting and financial performance: An empirical investigation of the top 100 multinational corporations. *Journal of Environmental Economics*, 12(2), 211-228.
- Sawani, S., & Alagathurai, K. (2018). *Green accounting and its importance in managing environmental risks in the oil and gas industry*. Journal of Environmental Management, 221, 197-210.
- Schaltegger, S., & Burritt, R. L. (2010). *Sustainability accounting for companies: Catchphrase or decision support for business leaders?*. Journal of Business Research, 63(3), 255-264.
- Schaltegger, S., & Burritt, R. L. (2015). *Sustainability accounting for companies: Catchphrase or decision support for business leaders?*. Journal of Environmental Accounting and Management, 3(1), 1-14.
- Shiller, R. J. (2000). *Irrational exuberance*. Princeton University Press.

- Solomon, A. (2020). Environmental disclosure and financial performance of listed oil and gas companies in Nigeria: A literature review. *Journal of Business and Finance*, 17(3), 129-145.
- Solomon, A. (2020). Environmental disclosure and financial performance of listed oil and gas companies in Nigeria: A literature review. *Journal of Business and Finance*, 17(3), 129-145.
- Suchman, M. C. (1995). *Managing legitimacy: Strategic and institutional approaches*. Academy of Management Review, 20(3), 571-610.
- Uwuigbe, U., &Uwuigbe, O. R. (2017). *Sustainability reporting and corporate governance in Nigeria: A study of selected listed companies*. International Journal of Accounting and Financial Reporting, 7(2), 58-71.
- Vogt, W. P. (2007). *Quantitative research methods for professionals* (2nd ed.). Pearson.
- Yang, X., & Li, Y. (2020). The impact of environmental information disclosure on the firm value of listed manufacturing companies in China. *Environmental Economics and Policy Studies*, 22(3), 319-334.
- Yang, X., & Li, Y. (2020). The impact of environmental information disclosure on the firm value of listed manufacturing companies in China. *Environmental Economics and Policy Studies*, 22(3), 319-334.

## APPENDIX 1

### DATA OF THE STUDY

ID	COMPANY	YEAR	EVWM	ECNR	ROA
1	Cadbury Nigeria Plc	2014	0.5	0.5	0.074183
1	Cadbury Nigeria Plc	2015	0.5	0.5	0.040585
1	Cadbury Nigeria Plc	2016	0.5	0.5	-0.00072
1	Cadbury Nigeria Plc	2017	0.5	0.5	0.01546
1	Cadbury Nigeria Plc	2018	0.5	0.5	0.0299
1	Cadbury Nigeria Plc	2019	0.5	0.5	0.03718
1	Cadbury Nigeria Plc	2020	0.5	0.5	0.026317
1	Cadbury Nigeria Plc	2021	0.5	0.5	0.010294
1	Cadbury Nigeria Plc	2022	0.5	0.5	0.009765
1	Cadbury Nigeria Plc	2023	0.5	0.5	-0.30095
2	Champion Breweries Plc	2014	1	0.5	-0.08277
2	Champion Breweries Plc	2015	1	0.5	0.009152
2	Champion Breweries Plc	2016	1	0.5	0.055136

2	Champion Breweries Plc	2017	1	0.5	0.046051
2	Champion Breweries Plc	2018	1	0.5	0.015738
2	Champion Breweries Plc	2019	1	0.5	0.008948
2	Champion Breweries Plc	2020	1	0.5	0.000985
2	Champion Breweries Plc	2021	1	0.5	0.087244
2	Champion Breweries Plc	2022	1	0.5	0.089434
2	Champion Breweries Plc	2023	1	0.5	0.013664
3	Dangote Sugar Refinery Plc	2014	1	0.5	0.125384
3	Dangote Sugar Refinery Plc	2015	1	0.5	0.1124
3	Dangote Sugar Refinery Plc	2016	1	0.5	0.035433
3	Dangote Sugar Refinery Plc	2017	1	0.5	0.030757
3	Dangote Sugar Refinery Plc	2018	1	0.5	0.125496
3	Dangote Sugar Refinery Plc	2019	1	0.5	0.115439
3	Dangote Sugar Refinery Plc	2020	1	1	0.107093
3	Dangote Sugar Refinery Plc	2021	1	1	0.061341
3	Dangote Sugar Refinery Plc	2022	1	1	0.111166
3	Dangote Sugar Refinery Plc	2023	1	1	0.122772
4	Flour Mills of Nigeria Plc	2014	1	1	0.018058
4	Flour Mills of Nigeria Plc	2015	1	1	0.024717
4	Flour Mills of Nigeria Plc	2016	1	1	0.041756
4	Flour Mills of Nigeria Plc	2017	1	1	0.01989
4	Flour Mills of Nigeria Plc	2018	1	1	0.031954
4	Flour Mills of Nigeria Plc	2019	1	0.5	0.010299
4	Flour Mills of Nigeria Plc	2020	1	0.5	0.026307
4	Flour Mills of Nigeria Plc	2021	1	0.5	0.04721
4	Flour Mills of Nigeria Plc	2022	1	0.5	0.041952
4	Flour Mills of Nigeria Plc	2023	1	0.5	0.028651
5	Guinness Nigeria Plc	2014	0.5	1	0.071757
5	Guinness Nigeria Plc	2015	0.5	1	0.064026
5	Guinness Nigeria Plc	2016	0.5	1	-0.01346
5	Guinness Nigeria Plc	2017	0.5	1	0.012931
5	Guinness Nigeria Plc	2018	0.5	1	0.04362
5	Guinness Nigeria Plc	2019	0.5	1	0.034117
5	Guinness Nigeria Plc	2020	0.5	0.5	-0.08806
5	Guinness Nigeria Plc	2021	0	0.5	0.007369
5	Guinness Nigeria Plc	2022	0.5	1	0.072335
5	Guinness Nigeria Plc	2023	0.5	1	-0.07515
6	Honeywell Flour Mills Plc	2014	0.5	1	0.052507
6	Honeywell Flour Mills Plc	2015	0.5	1	0.016488

6	Honeywell Flour Mills Plc	2016	0.5	1	-0.02285
6	Honeywell Flour Mills Plc	2017	0.5	1	0.032824
6	Honeywell Flour Mills Plc	2018	0.5	1	0.035463
6	Honeywell Flour Mills Plc	2019	0.5	1	0.000497
6	Honeywell Flour Mills Plc	2020	0.5	1	-0.00436
6	Honeywell Flour Mills Plc	2021	0.5	1	-0.00306
6	Honeywell Flour Mills Plc	2022	0.5	0.5	-0.06511
6	Honeywell Flour Mills Plc	2023	0.5	0.5	-0.07558
7	International Breweries Plc	2014	1	0.5	0.086395
7	International Breweries Plc	2015	1	0.5	0.108118
7	International Breweries Plc	2016	1	0.5	0.136145
7	International Breweries Plc	2017	1	0.5	0.023745
7	International Breweries Plc	2018	1	0.5	-0.01238
7	International Breweries Plc	2019	0.5	0.5	-0.07572
7	International Breweries Plc	2020	0.5	0.5	-0.04966
7	International Breweries Plc	2021	0.5	0.5	-0.03496
7	International Breweries Plc	2022	0.5	1	-0.03712
7	International Breweries Plc	2023	0.5	1	-0.00262
8	McNichols Consolidated Plc	2014	0.5	1	0.273183
8	McNichols Consolidated Plc	2015	0.5	1	0.029376
8	McNichols Consolidated Plc	2016	0.5	1	0.130224
8	McNichols Consolidated Plc	2017	0.5	1	0.063143
8	McNichols Consolidated Plc	2018	0.5	1	0.049473
8	McNichols Consolidated Plc	2019	0.5	1	0.02798
8	McNichols Consolidated Plc	2020	0.5	1	0.002934
8	McNichols Consolidated Plc	2021	0.5	1	0.00474
8	McNichols Consolidated Plc	2022	0.5	1	0.052424
8	McNichols Consolidated Plc	2023	0.5	1	0.025912
9	National Salt Company Nigeria Plc	2014	0.5	0.5	0.148698
9	National Salt Company Nigeria Plc	2015	0.5	0.5	0.129222
9	National Salt Company Nigeria Plc	2016	0.5	0.5	0.098165
9	National Salt Company Nigeria Plc	2017	0.5	0.5	0.177391
9	National Salt Company Nigeria Plc	2018	0	0.5	0.146024
9	National Salt Company Nigeria Plc	2019	0	0.5	0.047719
9	National Salt Company Nigeria Plc	2020	1	1	0.060717
9	National Salt Company Nigeria Plc	2021	1	1	0.073319
9	National Salt Company Nigeria Plc	2022	1	1	0.093036
9	National Salt Company Nigeria Plc	2023	1	1	0.164231

10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2014	0	0.5	0.209647
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2015	0	0.5	0.139969
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2016	0	0.5	0.066476
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2017	0	0.5	0.229719
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2018	0.5	0.5	0.264935
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2019	0.5	1	0.236242
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2020	0.5	0.5	0.159279
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2021	0.5	0.5	0.129053
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2022	0.5	0.5	0.117977
10	Nestle Nigeria (Food Specialties Nigeria Ltd) Plc	2023	0.5	0.5	-0.13661
11	Nigerian Breweries Plc	2014	0.5	1	0.000122
11	Nigerian Breweries Plc	2015	0.5	1	0.000107
11	Nigerian Breweries Plc	2016	0.5	1	7.73E-05
11	Nigerian Breweries Plc	2017	0.5	1	8.64E-05
11	Nigerian Breweries Plc	2018	0.5	1	0.050064
11	Nigerian Breweries Plc	2019	0.5	1	0.042076
11	Nigerian Breweries Plc	2020	0.5	1	1.69E-05
11	Nigerian Breweries Plc	2021	0.5	1	2.66E-05
11	Nigerian Breweries Plc	2022	0.5	1	2.25E-05
11	Nigerian Breweries Plc	2023	0.5	1	-0.00013
12	Nigerian Enamelware Plc	2014	0.5	0.5	0.027936
12	Nigerian Enamelware Plc	2015	0.5	0.5	0.014805
12	Nigerian Enamelware Plc	2016	0.5	0.5	0.029402
12	Nigerian Enamelware Plc	2017	0.5	0.5	0.007733
12	Nigerian Enamelware Plc	2018	0.5	0.5	-0.00073
12	Nigerian Enamelware Plc	2019	0.5	0.5	-0.05515
12	Nigerian Enamelware Plc	2020	0.5	0.5	-0.07033
12	Nigerian Enamelware Plc	2021	0.5	0.5	-0.05965
12	Nigerian Enamelware Plc	2022	0.5	0.5	-0.09781

12	Nigerian Enamelware Plc	2023	1	0.5	0.27928
13	Northern Nigeria Flour Mills Plc	2014	1	0.5	0.07331
13	Northern Nigeria Flour Mills Plc	2015	1	1	-0.30293
13	Northern Nigeria Flour Mills Plc	2016	1	1	-0.2667
13	Northern Nigeria Flour Mills Plc	2017	1	1	-0.00262
13	Northern Nigeria Flour Mills Plc	2018	1	1	-0.01104
13	Northern Nigeria Flour Mills Plc	2019	1	1	-0.0048
13	Northern Nigeria Flour Mills Plc	2020	1	1	0.190566
13	Northern Nigeria Flour Mills Plc	2021	1	1	0.006178
13	Northern Nigeria Flour Mills Plc	2022	1	1	0.007016
13	Northern Nigeria Flour Mills Plc	2023	1	1	0.211237
14	PZ Cussons Nigeria (PZ Industries) Plc	2014	1	1	0.014252
14	PZ Cussons Nigeria (PZ Industries) Plc	2015	1	1	0.027382
14	PZ Cussons Nigeria (PZ Industries) Plc	2016	1	0.5	1.258898
14	PZ Cussons Nigeria (PZ Industries) Plc	2017	1	1	0.153184
14	PZ Cussons Nigeria (PZ Industries) Plc	2018	1	1	0.021747
14	PZ Cussons Nigeria (PZ Industries) Plc	2019	0.5	1	0.01446
14	PZ Cussons Nigeria (PZ Industries) Plc	2020	0.5	1	-0.08783
14	PZ Cussons Nigeria (PZ Industries) Plc	2021	0.5	1	0.016894
14	PZ Cussons Nigeria (PZ Industries) Plc	2022	0.5	1	0.054535
14	PZ Cussons Nigeria (PZ Industries) Plc	2023	0.5	1	0.678581
15	Unilever Nigeria (Lever Brothers) Plc	2014	0.5	1	0.052745
15	Unilever Nigeria (Lever Brothers) Plc	2015	0.5	0.5	0.023765
15	Unilever Nigeria (Lever Brothers) Plc	2016	0.5	0.5	0.042376
15	Unilever Nigeria (Lever Brothers) Plc	2017	0.5	0.5	0.061528
15	Unilever Nigeria (Lever Brothers) Plc	2018	0.5	0.5	0.080035
15	Unilever Nigeria (Lever Brothers) Plc	2019	0.5	0.5	-0.07156
15	Unilever Nigeria (Lever Brothers) Plc	2020	0.5	0.5	-0.04334
15	Unilever Nigeria (Lever Brothers) Plc	2021	0.5	0.5	0.031482
15	Unilever Nigeria (Lever Brothers) Plc	2022	0.5	0.5	0.035626
15	Unilever Nigeria (Lever Brothers) Plc	2023	0.5	0.5	0.072569
16	Vitafoam Nigeria Plc	2014	1	0.5	0.039484
16	Vitafoam Nigeria Plc	2015	1	0.5	0.043578
16	Vitafoam Nigeria Plc	2016	1	0.5	-0.02056
16	Vitafoam Nigeria Plc	2017	1	0.5	-0.00138
16	Vitafoam Nigeria Plc	2018	1	0.5	0.042024
16	Vitafoam Nigeria Plc	2019	1	0.5	0.17268
16	Vitafoam Nigeria Plc	2020	0.5	0.5	0.189848
16	Vitafoam Nigeria Plc	2021	0.5	0.5	0.144608



16	Vitafoam Nigeria Plc	2022	0.5	0.5	0.114671
16	Vitafoam Nigeria Plc	2023	0.5	0.5	0.088076