

GREEN ACCOUNTING REPORTING AND FINANCIAL PERFORMANCE OF MANUFACTURING FIRMS IN NIGERIA

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ABSTRACT: This study examined green accounting disclosure and its effect on financial performance of listed manufacturing firms in Nigeria. Particularly, the study examined the effect of green accounting disclosure on ROA, ROE and share price of manufacturing firms in Nigeria. The ex-post facto research design was employed. Data from the annual reports of forty out of the sixty-six manufacturing companies listed in the Nigerian Stock Exchange as at 31st December 2019 for the period spanning 2010 – 2019 were used. The descriptive statistics and the panel regression methods were employed for the data analysis. The Arellano and Bond (1991) GMM estimator which controls for potential endogeneity problem was employed to ensure robustness of the parameter. The study findings revealed that green accounting disclosure had a positive significant effect each on ROA and ROE. However, a negative effect subsists between green accounting disclosure and share price of manufacturing firms in Nigeria. The findings recommend that manufacturing firms are encouraged to increase the extent of their green accounting activities for ease of assessment by stakeholders for investment decision making. Furthermore, the government should strictly enforce green accounting disclosure practice by ensuring that firms that are going public should comply with this practice in line with the GRI benchmark so as to obviate the skewed spirit of free-market individualism.

Key words: Green accounting, financial performance, Return on asset, Return on Equity, GRI.

I. INTRODUCTION

The spate of environmental disruption or environmental footprint grows by the day and could be traced to a leap in industrial revolution of late 18th century when the use of mechanized system or technology began to take over from the traditional approach of doing things in organizations. Firms report the economic or financial results of their operations but fail to recognize the effect of their economic actions on the environment. Green accounting is a type of accounting which attempts to integrate environmental costs into the financial operations of public interest entities, showing the ability to make money and also improve people's lives and the planet. Financial performance communicates the financial health of an organization measured from the purview of liquidity, gearing, growth opportunity, Profitability, particularly, return on total assets and return on equity. Performance is therefore considered from efficient resource allocation which integrates environmental costs and profitability.

1.1 Statement of the Problem

In Nigeria, green accounting is not a mandatory requirement for firms that are listed in the nation's stock market. Despite the voluntary disclosure, Studies have shown the existence of a positive link between green accounting disclosures and profitability of firms (Ogoun & Ekpulu, 2020; Menike, 2020). However, quite a few other studies maintain that a negative or mixed association exists between green accounting and financial performance of entities (Azzam & Alqudah, 2020; Dibia & Onwuchekwa, 2015). Discrepancies in findings and submissions from majority of these studies could partly be attributed to contemporary developments and partly to different statistical test techniques employed by the researchers. These mixed and inconclusive findings elicited the researcher to conduct this study as an addition to the existing body of knowledge.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Green accounting is a subset of sustainability reporting. In research and accounting literature, green accounting is often and variously used as sustainability report, corporate social and environmental disclosure, corporate environmental report among others (Ogoun & Ekpulu, 2020). Despite the differences in taxonomy, green accounting is viewed from the prism of all inclusive or full costing as the practice of providing accurate

information in organisations' annual reports and accounts for the probable social costs arising from neighbourhood effect upon the environment. According to Makori and Jagongo (2013), this is a deliberate intervention cost incurred in order to bridge the gap between marginal social cost and private costs. It is a method by which information covering the degree of environmental activities of firms is reported to different stakeholders including employees, shareholders, consumers, local communities, government and environmental groups or concerned NGOs (GRI, 2011). Green accounting reporting is all encompassing and forms an integral part of sustainable development goals set to be achieved by members of the United Nations in 2030.

Return on Equity

This ratio measures the overall performance of an entity; it shows the earning power of investors' book value, often used in comparing two or more entities in an industry. A high return on equity is an indication that an entity accepts a strong investment opportunities and employs effective expense management. Return on equity is net profit after tax and preference dividend scaled by the number of shares. Studies have shown that green accounting practices increased earnings of firms. Uadiale and Fagbemi (2012) in their study revealed that corporate social spending improves the return on equity of firms. Yusoff and Adamu (2016) reported a positive relationship existing between corporate responsibility and return on equity. However, the empirical review shows varying results on the relationship between environmental accounting and firm performance. It can thus be hypothesized as follows:

H₀₁ : There is no significant relationship between green accounting reporting and return on equities of manufacturing firms quoted on the Nigerian Stock Exchange Markets.

Return on Assets

As one of the traditional accounting and profitability measures employed to measure financial performance, return on assets shows whether a company is able to generate an adequate return on the assets employed. In a study on environmental disclosure and financial performance of food and beverage companies in Nigeria by Ezeagba, John-Akamelu and Umeoduagu (2017), it was revealed that there is a significant relationship between environmental accounting disclosure and return on assets. Thus the second hypothesis can be stated as follows:

H₀₂. There is no significant relationship between green accounting reporting and return on assets of listed manufacturing firms on the Nigerian Stock Exchange Market.

Share Price

Share price is the value attached to a unit of a share which can be nominal or market value. It is on this share price movement that the investors expect their returns in the form of dividend representing the proportion of residual income attributable to investors as returns on their investment. Studies have shown that dividend payment influences value of firms (Habumugisha & Mulyungi, 2018; Akinkoye & Akinadewo, 2018; Yustisiana, 2017). In line with the VDT theory, it has been argued that firms would make higher and more objective environmental or green accounting and social disclosures, in order to benefit from higher share prices despite the associated proprietary costs (Verrecchia, 1983, 2001). However, in another study by Adediran and Alade (2013) to ascertain if there is any significant relationship between environmental accounting disclosure and financial performance in Nigeria using earnings per share as proxy for performance, the result showed a significant negative relationship between environmental accounting disclosures and earnings per share.

Based on the preceding argument, the third hypothesis would be:

H₀₃: Green accounting disclosure does not have a positive and significant effect on share price of manufacturing firms.

Theoretical Framework

The theoretical foundation of this work rests on the 'stakeholders' theory' which holds that organizations should take into account, the interest of the society and environment while pursuing their primary economic objective of profitability. The stakeholders' theory was gleaned from two theories and opines that there is a correlation ship between corporate environmental performance and corporate financial performance. The instrumental theory is an economic theory that predicts and establishes a linearity effect as a consequence of management decision (Jones, 1998). The ethical or descriptive theory proposes that managers should put the interest of the stakeholders first than increasing the value of the firm. The aim of this paper is to investigate the effect of green accounting disclosure indicator or environmental disclosure and financial performance using return on asset, return on equity and share price of manufacturing firms in Nigeria. ‘

Empirical Review

Ogoun and Ekpulu (2020) conducted an investigation on how environmental reporting by firms operating within the manufacturing sector in Nigeria affects their operational performance. The study employed the panel research design and the Hausman test to select the appropriate model for the ten years study, covering 2009 to 2018. The result showed the existence of a positive effect between environmental reporting and firms' operational or financial performance.

Yang and Yi Li (2020) carried out a study on the impact of environmental information disclosure on the firm value of listed manufacturing firms in China between 2006 and 2016. The dataset were analysed using the difference-in-differences (DID) model and the propensity score matching method (PSM) and the result showed that Environmental Information Disclosure Measure for Trial Implementation (EIDMT) exerts a significant impact on the listed manufacturing firms' value

Solomon (2020) carried out a literature review on environmental disclosure and financial performance of listed oil and gas companies in Nigeria. Performance was proxied by return on asset, return on equity, earnings per share, cash flow and profit margin. The findings revealed a mixed outcome of a negative and positive relationship.

Okafor (2018) conducted a study on oil and gas companies quoted in Nigerian stock Exchange to ascertain the effect of environmental cost on firm performance from 2006 to 2015. Return on asset was used as a measure of performance and regression analysis was used with the aid of special package for social sciences (SPSS) to carry out the statistical analysis. The result showed that better environmental performance influences organizations positively.

Egbunike and Okoro (2018) carried out an investigation on whether green accounting matters to the profitability of Nigerian firms or not. Secondary data were extracted from the annual reports and accounts of non-consumer goods firms listed on the Nigeria Stock Exchange from 2012 to 2016. The data were analysed using canonical correlation and the result revealed green accounting has significant effect on profitability among non-consumer goods firms.

Nnamani, Onyekwelu and Ugwu (2017), used the brewery sector to conduct a study on the effect of sustainability accounting on the financial performance of listed manufacturing firms in Nigeria. Secondary data for the study were obtained from the annual reports and accounts of three brewery firms quoted on the Nigerian Stock Exchange for the total asset, return on equity, the total personnel cost to turnover and return on assets. The data set obtained was analyzed by using the ordinary least square estimation technique. The result showed that green accounting disclosure or environmental disclosure has a positive and significant effect on the firms' performance financial.

Jero and Okoro (2016) evaluated the effect of environmental and dismantling costs on a firm's performance among selected firms in the oil and gas companies. The result of the application of the ordinary least square in the data analysis showed that environmental and dismantling costs show a positive influence on the financial performance of the firm. The control variable and the firm's size were found to have a negative and significant effect on the performance of the firm.

III. METHODOLOGY

This paper explored the effect of green accounting on the financial performance of manufacturing firms in Nigeria. In a bid to achieve this, the expo-facto research design was employed on the condition that the data already exist and the researcher has no control as to manipulate the variables. A sample size of forty manufacturing firms were purposively chosen out of a population of sixty-six listed manufacturing firms in Nigerian stock Exchange as at 31st December, 2019 (NSE Fact Book, 2020). The figures for return on assets, return on equity, share price, leverage and firm size, being proxies for financial performance and control variables were calculated from the data extracted from the Annual Reports and Financial Statements (2010-2019) of the companies under investigation. Data on environmental disclosure were obtained using the content analysis disclosure index approach with a focus on environmental policies; raw materials, conservation and recycling; environmental protection program; awards of environmental protection and support for public/private action designed to protect the environment.

Model Specification

The model used a single independent variable, green accounting disclosure or environmental disclosure and three dependent variables; return on asset, return on equity and share price as proxies for financial performance while firm size and leverage were introduced as control variables. The models examine the effect of environmental disclosure on corporate financial performance and are presented below;

$$CFP_{it} = f(ENV_{it}) \dots\dots\dots (i)$$

The linear form specification is presented below where corporate financial performance is measured using return on assets (ROA), Return on equity (ROE) and share price as shown below.

$$ROE_{it} = \beta_0_{it} + \beta_1 ENV_{it} + \beta_2 FSIZE_{it} + LEV_{3it} + \mu_{it} \dots\dots\dots (ii)$$

$$ROA_{it} = \beta_{0it} + \beta_1 ENV_{it} + \beta_2 FSIZE_{it} + LEV_{3it} + \mu_{it} \text{----- (iii)}$$

$$SP_{it} = \beta_{0it} + \beta_1 ENV_{it} + \beta_2 FSIZE_{it} + LEV_{3it} + \mu_{it} \text{----- (iv)}$$

Where: ROE = Return on equity; ROA= Return on asset; SP= Share price; ENV= Environmental accounting disclosure; FSIZE= Firm size; LEV= LEVERAGE; β_{0it} = Intercept; β_{01-3} = Coefficients; μ_{it} = Error term

Results and Discussion of Findings

Table 1: Descriptive Statistics

| | Mean | Max | Min | Std. Dev. | Jarque-Bera | Prob |
|-------|----------|---------|-------|-----------|-------------|-------|
| SP | 34.48802 | 1555.99 | 0.5 | 115.0286 | 183895.3 | 0.000 |
| ENVD | 0.181373 | 1 | 0 | 0.385642 | 292.7556 | 0.000 |
| LEV | 0.586373 | 2.03 | 0 | 0.236074 | 492.81 | 0.000 |
| FSIZE | 7.059722 | 9.22 | 5.09 | 0.781306 | 7.541791 | 0.023 |
| ROE | 0.239651 | 2.5496 | 0.04 | 0.283278 | 2265.714 | 0.000 |
| ROA | 0.493801 | 2.966 | 0.006 | 0.302815 | 1856.99 | 0.000 |

Source: Researcher’s compilation (2020) using Eviews 10.0.

Table 1 shows the descriptive statistics for the variables and is observed as follows: the mean for the share price is 34.124, with a standard deviation of 126.20, an indication of the presence of volatility in the share price behaviour of the distribution of companies. The price of the shares ranges from the minimum of 0.5 to a maximum of 1555.99. The maximum and minimum values stood between 2.549 and 0. The mean for environmental disclosure is 0.1813 which implies that a very small number of firms about 18.13% in the distribution disclose on environmental related matters in their annual reports. The mean for ROE is 0.2396 with a standard deviation of 0.282. The mean for firm size (FSIZE) as measured using the log of total assets is 7.057, with a standard deviation of 0.781. The average value for leverage is 0.586, with a standard deviation of 0.236.

Table 2: Pearson Correlation

| | ENVD | ROE | ROA | SP | LEV | FSIZE |
|---------|----------|----------|----------|----------|---------|-------|
| ENVD | 1 | | | | | |
| ROE | 0.0418 | 1 | | | | |
| p-value | 0.2979 | | | | | |
| ROA | -0.04775 | -0.0396 | 1 | | | |
| p-value | 0.2352 | 0.324 | | | | |
| SP | 0.2761* | -0.1212* | -0.00536 | 1 | | |
| p-value | 0.000 | 0.0025 | 0.8941 | | | |
| LEV | 0.0061 | -0.0178 | -0.01167 | 0.073505 | 1 | |
| p-value | 0.8781 | 0.6581 | 0.7719 | 0.0674 | | |
| FSIZE | 0.2279* | -0.157* | 0.050545 | 0.3331* | 0.1053* | 1 |
| p-value | 0.000 | 0.0001 | 0.2088 | 0.000 | 0.0087 | |

Source: Researcher’s compilation (2020) using Eviews 10.0

The Pearson correlation result examines the relationship between CSR dimensions and corporate financial performance measures and shows that ENVD is positively correlated with ROE (r= 0.0418) though not significant at 5% (p=0.2979), negatively correlated with ROA (r=-0.04775) though not significant at 5% (p=0.2352). ENVD is positively correlated with SP (r=0.2761) and significant at 5% (p=0.000) and negatively correlated with EPS (-0.0288) though not significant at 5% (p=0.4746). The correlation analysis provides insight into the direction and degree of the relationship between the variables. However, it is limited in its inferential capacity as it does not necessarily imply functional dependence between the variables. Regression estimations are more suited for this purpose.

Table 3: Variance Inflation Factor Test

| Variable | VIF |
|----------|----------|
| ENVD | 2.207941 |
| FSIZE | 2.144613 |
| LEV | 1.619738 |

Source: Researcher's compilation (2020)

The variance inflation factor (VIF) explains how much of the variance of a coefficient estimate of a regressor has been inflated, as a result of collinearity with the other regressors. Essentially, VIFs above 10 are seen as a cause of concern. As observed, none of the variables have VIF's values more than 10 and hence none gave serious indication of multicollinearity.

Regression Analysis

The regression analysis was conducted to identify the relationship between the dependent and independent variables and to provide the relevant statistics for assessing the performance of the specified model in the previous chapter and for the testing of the hypotheses raised in the study.

The panel regression estimation is employed in this study and the fixed and random effects estimates are presented and based on the hausman test, the suitable estimates was selected and utilized in the inferential analysis. The Arellano and Bond (1991) GMM estimator which controls for potential endogeneity problem is also employed and thus providing a more robust estimation parameter.

Table 4: Environmental Disclosure and Share Price Results

| Variable | Aprori Sign | FE Estimates | RE Estimates | Arrelano and Bond GMM Estimates |
|-----------------------------------|-------------|--------------------------------|---------------------------------|-----------------------------------|
| <i>C</i> | | -178.47* (9.699) {0.000} | -255.59* (46.590) {0.000} | -127.0343 (19.486) {0.000} |
| <i>ENVD</i> | + | 2.1591 (0.5609) {0.000} | 3.7832 (8.4226) {0.6535} | 17.5513* (9.2354) {0.0080} |
| <i>LEV</i> | + | 4.7501* (0.7864) {0.000} | 5.6542 (13.0538) {0.6651} | 21.1603* (10.2831) {0.0402} |
| <i>FSIZE</i> | + | 29.907* (1.3218) {0.000} | 37.9588* (5.9718) {0.000} | 18.41752* (2.3896) {0.0000} |
| <i>Model Parameters</i> | | | | |
| R^2 | | 0.6424 | 0.0739 | 0.2976 |
| Adjusted R^2 | | 0.6111 | 0.066 | 0.2896 |
| F-statistic | | 26.862 | 9.929 | |
| Prob(F-stat) | | 0.000 | 0.00 | |
| Durbin-Watson | | 1.7 | 1.926 | |
| <i>Model Diagnostics</i> | | | | |
| Hausman | | 0.042 | | |
| Ramsey Reset test | | 0.425 | | |
| Period Hetero.Test | | 0.209 | | |
| Cross-section Hetero.Test | | 0.120 | | |
| Pesaran CD for serial correlation | | 0.106 | | |
| Instrument Rank | | | | 10 |
| j-statistics | | | | 5.8395 |
| Prob-j-stat | | | | 0.21146 |
| AR(1) | | | | 0.0491 |
| AR(2) | | | | 0.8165 |

Source: Researcher's compilation (2020). * sig @ 5%, **sig@10%

Table 4. Shows the regression results examining the impact of environmental disclosures on SP. The Hausman test statistic p -value = 0.042 indicates that the FE is the preferred model to the random effects and hence the FE estimation results are reported for the analysis in the study. The white adjusted standard errors were employed to control for potential heteroskedasticity in the estimation and hence the estimation results are free from heteroskedasticity. Both panel period heteroskedasticity [$p=0.209$] and cross-sectional heteroskedasticity [$p=0.120$] was examined and the estimations were found to be free from such. The Pesaran cross-dependence test [$p=0.106$] was employed to confirm the threat of the serial correlation in the errors and the statistic reveals the absence of cross-section dependence in the residuals. The FE estimates shows that R^2 is 0.6424 with a degree of freedom adjusted the R^2 of 61.1%. The F-stat is 26.862 (p -value = 0.00) is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model.

The analysis of coefficients reveals ENVD has a positive (2.1591) effect on SP and statistically significant at 5% ($p=0.000$). Looking at the control variables, FSIZE has a positive beta (29.907) and statistically significant ($p=0.000$) and LEV also shows a positive coefficient (4.7501) and significant at 5%. . The Arellano and bond estimation results show that the coefficient for ENVD is higher (17.5513) significant effect ($p=0.058$) on SP at 5%, One point to be emphasised for the GMM estimation results is the J-stat test of over-identifying restrictions and the Arellano-Bond test for autocorrelation error. The J-tests yield all p -values above 0.10, which means that a null hypothesis could not be rejected. Hence, over identification restrictions are valid. The AR (1) tests indicate that the residuals in first differences are correlated as expected, while the AR(2) tests give p -values above 0.10, which means that a null hypothesis of no second-order serial correlation could not be rejected. Therefore, all results of the GMM model are valid. The Ramsey Reset Test for model specification confirms the absence of misspecification errors [$p=0.425$].

Table 5: ENVD and ROA Results

| Variable | Aprori Sign | FE Estimates | RE Estimates | GMM Estimates |
|-----------------------------------|-------------|----------------------------------|----------------------------------|-----------------------------------|
| <i>C</i> | | 0.41592* (0.07241) {0.000} | 0.4566* (0.4536) {0.0023} | -0.80587* (0.09233) {0.000} |
| <i>ENVD</i> | + | 0.02516* (0.0112) {0.0051} | 0.0030 (0.0107) {0.7772} | -0.2769* (0.0416) {0.000} |
| <i>LEV</i> | + | -0.0105 (0.0065) {0.1063} | -0.01603 (0.0270) {0.5540} | -0.0026 (0.0333) {0.9378} |
| <i>FSIZE</i> | + | 0.0075 (0.0071) {0.2928} | -0.0039 (0.0177) {0.8263} | 0.0758* (0.0187) {0.0001} |
| <i>Model Parameters</i> | | | | |
| R^2 | | 0.6936 | 0.0734 | 0.358 |
| Adjusted R^2 | | 0.6901 | 0.066 | 0.112 |
| F-statistic | | 195.12 | 9.895 | |
| Prob(F-stat) | | 0.000 | 0.00 | 0.000 |
| Durbin-Watson | | 2.1 | 1.97 | 2.071 |
| <i>Model Diagnostics</i> | | | | |
| Hausman | | 0.006 | | |
| Ramsey Reset test | | 0.410 | | |
| Period Hetero.Test | | 0.81 | | |
| Cross-section Hetero.Test | | 0.431 | | |
| Pesaran CD for serial correlation | | 0.571 | | |
| Instrument Rank | | | | 8 |
| j-statistics | | | | 3.0344 |
| Prob-j-stat | | | | 0.2193 |
| AR(1) | | | | 0.0023 |
| AR(2) | | | | 0.274 |

Source: Researcher's compilation (2020) using Eviews 10.0. * sig @ 5%, **sig@10%

Table 5 shows the regression results examining the impact of CSR on Return on assets (ROA). From the Hausman test statistic p -value = 0.006, the FE is the preferred model estimates between the fixed and random effect estimations. Both panel period heteroskedasticity [$p=0.81$] and cross-sectional heteroskedasticity [$p=0.431$] was examined and the estimations were found to be free from such. The Peseran cross-dependence test [$p=0.571$] was employed to confirm the threat of the serial correlation in the errors and the statistic reveals the absence of cross-section dependence in the residuals. The FE estimates shows that R^2 is 0.6936 with a degree of freedom adjusted the R^2 of 0.6901 which explains the extent to which the explanatory variable are able to account for systematic variations in the dependent variables. The F-stat is 195.12 (p -value = 0.00) is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The analysis of coefficients reveals Environmental disclosures has a positive (0.0251) impact on ROA and also significant ($p=0.0051$) at 5%.

Looking at the control variables, none of FSIZE and LEV showed any statistical significance in their effects. Though the FE models mainly control for unobserved heterogeneity, they do not account for the endogeneity problem (Cameron & Trivedi 2005). To deal with this issue the Arellano and Bond (1991) GMM estimator controls for potential endogeneity problem. The arellano and bond estimation results show substantial difference from the FE estimations which stronger beta's and confirming that the arellano and bond estimations results after correcting for endogeneity are more impressive. The result reveals that ENVD has a positive impact (0.6625) on ROA which is significant ($p=0.00$) at 5% The J-stat test of over-identifying restrictions and the Arellano-Bond test for autocorrelation error are examined. The J-stat tests yield all p -values above 0.10, which means that a null hypothesis could not be rejected. Hence, over identification restrictions are valid. The AR(1) tests indicate that the residuals in first differences are correlated as expectation, while the AR(2) tests give p -values above 0.10, which means that a null hypothesis of no second-order serial correlation could not be rejected. Therefore, all results of the GMM model are valid.

Table 6: ENVD and ROE Results

| Variable | Aprori Sign | FE Estimates | RE Estimates | GMM Estimates |
|-----------------------------------|-------------|-----------------------------------|------------------------------------|----------------------------------|
| C | | 0.26889* (0.0173) {0.0000} | 0.5455* (0.1134) {0.000} | 0.33201* (0.1139) {0.0039} |
| ENVD | + | 0.02226* (0.0097) {0.0221} | 0.07414** (0.0408) {0.0696} | 0.1061* (0.0326) {0.0013} |
| LEV | + | -0.00486 (0.00354) {0.1706} | 0.00208 (0.02327) {0.9288} | 0.04811* (0.0433) {0.2682} |
| FSIZE | + | -0.0042* (0.00117) {0.0003} | -0.03699* (0.01360) {0.0067} | -0.0837* (0.008) {0.000} |
| AR(1) | + | 0.1273* (0.0467) {0.0066} | -0.0693 (0.0500) {0.1666} | 0.22573* (0.0282) {0.0000} |
| <i>Model Parameters</i> | | | | |
| R^2 | | 0.669 | 0.0238 | 0.537 |
| Adjusted R^2 | | 0.663 | 0.0159 | 0.5215 |
| F-statistic | | 161.852 | 3.0318 | |
| Prob(F-stat) | | 0.000 | 0.0103 | |
| Durbin-Watson | | 1.9 | 1.46 | |
| <i>Model Diagnostics</i> | | | | |
| Hausman | | 0.0119 | | |
| Ramsey Reset test | | 0.04 | | |
| Period Hetero.Test | | 0.738 | | |
| Cross-section Hetero.Test | | 0.265 | | |
| Pesaran CD for serial correlation | | 0.381 | | |
| Instrument Rank | | | | 8 |

| | | | | |
|--------------|--|--|--|--------|
| j-statistics | | | | 4.4427 |
| Prob-j-stat | | | | 0.731 |
| AR(1) | | | | 0.392 |
| AR(2) | | | | 0.681 |

Source: Researcher's compilation (2020) using Eviews 10.0 * sig @ 5%, **sig@10%

Table 4.6 show the regression results examining the impact of CSR on Return on equity (ROE). From the Hausman test statistic p -value = 0.0119, the FE is the preferred model estimates between the fixed and random effect estimations. Both panel period heteroskedasticity [$p=0.738$] and cross-sectional heteroskedasticity [$p=0.265$] was examined and the estimations were found to be free from such. The Peseran cross-dependence test [$p=0.381$] was employed to confirm the threat of the serial correlation in the errors and the statistic reveals the absence of cross-section dependence in the residuals. The FE estimates shows that R^2 is 0.669 with a degree of freedom adjusted the R^2 of 0.663 which explains the extent to which the explanatory variable are able to account for systematic variations in the dependent variables. The F-stat is 161.852 (p -value = 0.00) is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The analysis of coefficients reveals EVD has a positive (0.0251) impact on ROE and also significant ($p=0.0221$) at 5%. Looking at the control variables, FSIZE showed statistical significance. The arrelano and bond estimation results show that ENVD has a positive beta (0.1061) and significant ($p=0.000$) at 5%. The J-stat test for over-identifying restrictions and the Arellano-Bond test for autocorrelation error are examined. The J-stat tests yield all p -values above 0.10, which means that a null hypothesis could not be rejected. Hence, over identification restrictions are valid. The AR (1) tests indicate that the residuals in first differences are correlated as expectation, while the AR(2) tests give p -values above 0.10, which means that a null hypothesis of no second-order serial correlation could not be rejected. Therefore, all results of the GMM model are valid.

Hypotheses Testing

From the results in table 4, the analysis of coefficients reveals Environmental disclosure impact on SP is not significant at 5% though with a negative (-1.5786) coefficient. Furthermore, the Arrelano and bond estimation results reveals that the coefficient for ENVD is higher (17.5513) significant effect ($p=0.058$) on SP at 5%. Consequently, on the basis of the arrelano and bond GMM estimation, the null hypothesis that environmental disclosure has no significant effect on share price rejected.

Table 5 shows the regression results examining the impact of environmental disclosures on Return on assets (ROA). The analysis of Fixed effects coefficients reveals that Environmental disclosures has a positive (0.0251) impact on ROA and significant ($p=0.0251$) at 5%. The analysis of the coefficients reveals Environmental disclosure has a negative beta (-0.2769) and significant ($p=0.000$) at 5%. Consequently, on the basis of the arrelano and bond GMM estimation, the null hypothesis that environmental disclosures has no significant effect on Return on assets (ROA) is rejected.

Finally, Table 6 shows the regression results examining the effect environmental disclosure has a positive (0.0251) impact on ROE and also significant ($p=0.0221$) at 5%. The arrelano and bond GMM estimation results show reveals Environmental disclosure has a positive beta (0.1061) and significant ($p=0.000$) at 5%. Consequently, the null hypothesis that Environmental disclosure has no significant effect on Return on Equity (ROE) is rejected.

Discussion of Findings

This study examined the effect of green accounting disclosure on the financial performance of manufacturing firms in Nigeria. The study analysis revealed that green accounting was found to have a positive regressor for ROA and ROE respectively. These findings agree with the study of Ekpulu and Ogoun (2020); Yang and Yi Li (2020) who examined the impact of environmental information disclosure on the firm value of listed manufacturing firms in Nigeria and China respectively and found a positive relationship. However, the study findings is not in tandem with the findings of Solomon (2020) who examined the effect of environmental disclosure on financial performance of listed oil and gas companies in Nigeria and found a negative relationship. The inconsistency in findings is attributed to the different sectors under which the studies were conducted.

Conclusion and Recommendations

In the recent times, green accounting report was not popular among firms which may be attributed to the low level of awareness of its advantage to the firms and the host communities' docility towards the neighbourhood effect being orchestrated by the activities of the firms. However, findings from this study show a positive correlation ship between green accounting and financial performance of firms because of their engagement in environmental activities. According to the Global initiative (2011), there has been a paradigm shift in financial reporting of firms by the integration of green accounting to balance their reportage. Green accounting is known to have developed rather voluntarily in the recent past and this implies that a firm can

decide what to report or may decide not to. This practice calls for a reporting benchmark so that decision makers and other users of financial statements of firms would be able to make valid decisions.

Based on our findings, we recommend that manufacturing firms in Nigeria should increase the extent of their green accounting activities and that there should be need for effective regulation of green accounting practices in Nigeria to obviate the system of skewed spirit of free-market individualism. Government can enforce uniformity in green accounting reporting by making GRI a mandatory requirement for firms wishing to go public.

For further studies, researchers should adopt the modern performance methods such as economic value added, market value added and tobins q ratio as proxy for performance.

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