

# Sustainability Disclosure and Financial Performance of Quoted Industrial Goods Firms In Nigeria

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**ABSTRACT:** This study examined the effect of sustainability disclosure on the financial performance of quoted industrial goods firms in Nigeria. Motivated by the increasing global emphasis on corporate transparency and accountability, the research investigated how non-financial information covering economic, environmental, social, and corporate governance dimensions affects firms' financial outcomes. The study adopted an ex-post facto research design using secondary data obtained from the annual reports and financial statements of thirteen (13) industrial goods firms listed on the Nigerian Exchange Group (NEG) Plc from 2013 to 2023. Panel data regression analysis was employed to evaluate the impact of sustainability disclosure indices on financial performance measured by Return on Assets (ROA), while firm size and financial leverage were included as control variables. The results revealed that social performance disclosure has a significant positive effect on financial performance, whereas economic, environmental, and corporate governance disclosures exhibit positive but statistically insignificant effects. The findings supported the stakeholder theory, suggesting that firms' responsiveness to social expectations enhances reputation, stakeholder trust, and, ultimately, profitability. The study concluded that greater commitment to sustainability reporting, particularly in the social dimension, contributes to improved firm performance. It recommended that regulatory authorities strengthen reporting standards and encourage full integration of sustainability practices within industrial goods firms to promote long-term corporate sustainability and stakeholder confidence.

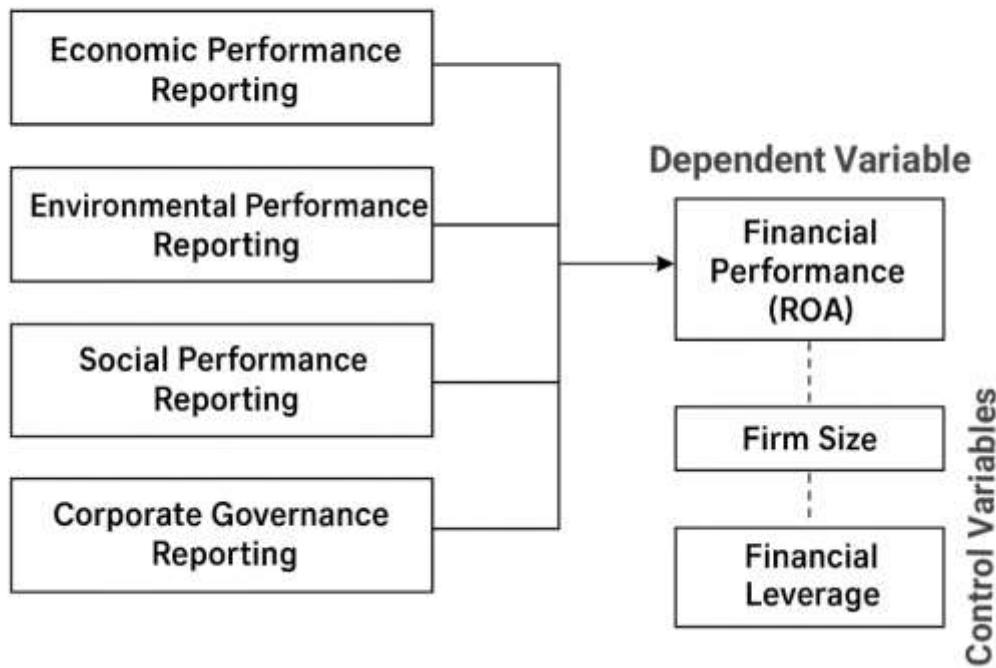
**Keywords:** Sustainability Disclosure, Economic, Environmental, Social, Corporate Governance Dimensions, Financial Performance

## 1. Introduction

One of the most common assertions within the accounting domain is that accounting is considered as the only unified language that businesses all over the world understand. Meanwhile, a firm's financial statement is the tool with which preparers of accounting information translate such language to different stakeholders related either directly or indirectly to such businesses. Usually, these financial statements are based on financial information. However, as the business world progresses, the need for firms to be more transparent in all their dealings became imminent since financial information disclosures only report financial activities, and for businesses to remain relevant, and continue as a going concern, they must incorporate non-financial reporting items into their financial reports (Atube & Okolie, 2022; Oburota & Ebiaghan, 2023).

Seiyaibo and Ebiaghan (2022) argued that the reason behind the growing need for non-financial disclosures is borne out of the desire for clearer, more transparent, comparable, and comprehensive accounting information that fully satisfies the information requirements. Therefore, it became expedient for businesses to have a report that accounts for the intangible value of the business, captures sustainable strategies of the business, and at the same time accounts for long-term shareholders' value. Nurim et al (2020) added that the major reason for implementing non-financial disclosure is to address the most pressing economic, environmental, social, and corporate governance issues that affect a firm with the view to equity provider on how a firm can create value as time progresses. In other words, financial disclosure is useful for all stakeholders who are interested in the ability of an organization to create value from time to time, including the employee, supplier, customer, business partners, local community, regulator, legislator, and policy maker (Omebere & Frank, 2022). However, laws have established various financial reporting guidelines over the years and many companies' stakeholders still do not consider such information as the basis for investment decision, hence leading to poor attention on firm's Non-financial disclosure. Justifiably, as it stands, there exists no formidable framework for Non-financial disclosure apart from the ongoing plans to align the country with the international integrated reporting standards (IIRS). Still, this has not gained prominence because there exist no framework that mandates firms to report under a non-financial reporting framework unlike in South Africa which has the King Code of Governance, which necessitates Non-financial disclosure (Okolie & Jero, 2022). Also, most educational institutions have failed to update their curricula to reflect the need for integrated reporting(sustainability disclosure) in the process of training prospective accountants (Otiedhe, & Jero, 2022; Ikponmwosa & Bamidele, 2023). However, as time evolves and the pace of globalization increases, integrated reporting (sustainability disclosure) will gain dominance in financial reporting systems (Iyoha et al, 2017).

## Independent Variables



**Figure 1: Conceptual Model of the Study**

**Source: Conceptualized by the Researcher (2025)**

The study anchored on the stakeholder theory developed by Freeman (1984). This theory argues that a firm's success is dependent on its ability to manage relationships with multiple stakeholders and not just shareholders. The stakeholders include but not limited to employees, customers, suppliers, investors, regulatory bodies, government, and the broader community. The theory asserts that these groups have a legitimate interest in the organization's operations and outcomes, and that their needs and concerns should be integrated into corporate decision-making processes. By disclosing such non-financial information, firms respond to stakeholder expectations, which can lead to enhanced reputation, stakeholder trust, and ultimately improved financial performance (Ebiaghan, 2018). Hence, it is pertinent to ask; will non-financial information reporting improve firm performance better than traditional reporting style? More worrisome is the fact that existing studies have generated mixed discoveries as regard the effect of sustainability disclosure on financial performance as there are pieces of evidence of mixed results (positive and negative) while some discovered insignificant effects (Suttipun et al, 2025).

Based on the above identified issues, the following research questions were raised:

- i. To what extent does economic performance reporting affect the return on assets of listed industrial goods firms in Nigeria?
- ii. To what extent does environmental performance reporting affect the return on assets of listed industrial goods firms in Nigeria?
- iii. What level does social performance reporting affects the return on assets of listed industrial goods firms in Nigeria?
- iv. What extent does corporate governance reporting affect the return on assets of listed industrial goods firms in Nigeria?

## 2. METHODOLOGY

The study adopted the *ex-post facto* research design since the target variables were secondary in nature, verifiable, not manipulative, and has existed in retrospect, hence cannot be manipulated. The population of this study consisted of thirteen (13) publicly listed industrial goods firms on the Nigerian Exchange Group (NEG) Plc as of 31<sup>st</sup> December 2023, for the period of eleven years resulting to a total observation of 143. Due to the purposes of availability and consistency in datasets, the study sampled all thirteen (13) publicly quoted industrial good firms listed on the floor of the NEG Plc as of 31<sup>st</sup> December 2023. The essence of using all thirteen (13) firms is based on the limited numbers of industry goods firms on the floor of the NEG. Data for the study were sourced from the sampled industrial goods firms' websites, Nigeria Exchange Group Plc fact book, Annual reports and accounts of the sampled companies, and the Securities and Exchange Commission from 2013-2023.

The study adopted panel data regression. Hausman specification test was carried out on the data to determine the suitability between the fixed effect model and the random effect model. While the null hypothesis of the Hausman test benchmarked at greater than 5% significant level supports the random effect model, alternative hypothesis of the Hausman test benchmarked at less than 5% significant level supports the fixed effect model.

More so, study was subjected to some conventional analysis which includes descriptive statistics (mean, standard deviation, minimum value, maximum value, skewness, kurtosis, and Pearson correlation), regression diagnostics (variance inflation factor, Breusch-Pagan and Cook-Weisberg, Ramsey Reset & Hausman specification tests), and inferential statistics (fixed and random effect panel regression). The hypotheses of the study were validated using the results obtained from the fixed and random effects model

In order to test for the relevance of the hypotheses regarding the impact of sustainability disclosure on financial performance of quoted industrial goods firms in Nigeria, a multiple regression model was employed. This study however deviates from the models proposed in the study above by inclusion of other independent and control variables. Our empirical model differs from prior studies by introducing corporate governance reporting alongside two (2) control variable which are firm size and financial leverage.

The model for this study is specified as follows:

$$ROA = f(enpr, ecpr, sopr, cogr, fisz, flev) \quad \text{Eqn 1}$$

$$ROA_{it} = \beta_0 + \beta_1 ecpr_{it} + \beta_2 enpr_{it} + \beta_3 sopr_{it} + \beta_4 cogr_{it} + \beta_5 fisz_{it} + \beta_6 flev_{it} + \eta_{it} \quad \text{Eqn 2}$$

ECPR = Economic Performance Reporting; ENPR = Environmental Performance Reporting;

SOPR = Social Performance Reporting;

COGR = Corporate Governance Reporting;

FISZ = Firm Size;

FLEV = Financial Leverage;

$\beta_0$  = Constant Value;

$\beta_1$ – $\beta_6$  = Parameter Estimates.

**Table 1: Operationalization of Variables**

S/N	Variable(s)	Nature of Variable(s)	Denotation	Apriori Expectation
1.	Financial Performance (Return on Asset –ROA)	Dependent	Net Profit to Total Assets	Nil
2.	Economic Performance Reporting (ECPR)	Independent	Average of Procurement and Employee Training Disclosures	Positive
3.	Environmental Performance Reporting (ENPR)	Independent	Average of Environmental Restoration, Water and Energy Disclosures	Positive
4.	Social Performance Reporting (SOPR)	Independent	Average Number of Employment Disclosures	Positive
5.	Corporate Governance Reporting (COGR)	Independent	Average of Governance Score Cards Benchmarked against Global Reporting Index	Positive
6.	Firm Size (FIZE)	Control	Natural Logarithm of Total Assets	Positive
7.	Financial Leverage (FLEV)	Control	Ratio of Debt to Equity	Positive

Source: Compiled by the Researcher (2025)

### 3. RESULTS AND DISCUSSION

Prior to running the analysis, the model was pre-tested using summary statistics and correlation analyses. The outputs are presented in Table 2 and 3:

**Table 2: Summary Statistics**

Statistics	ROA	ENPR	ECPR	SOPR	COGR	FIZE	FLEV
Mean	37.284	0.2804	0.7897	0.7832	0.6059	7.0460	7.3202
Std. Dev.	93.624	0.1286	0.1987	0.3226	0.0994	0.6054	0.9449
Max. Value	0.6800	0	0	0	0.3400	5.9700	5.2400

Min. Value	54898	4.5641	1	1	0.9600	1.0830	-0.189
Skewness	3.9565	4.5641	-0.9718	-1.1956	-0.3587	1.0830	-0.189
Kurtosis	18.253	22.424	5.8931	3.2505	3.3283	4.7537	2.5033

**Source: STATA 13.0**

Table 2 reported that economic performance (ECPR) has the highest mean with a value of 0.7897 (in terms of non-financial reporting variable) and this was followed by social performance (SOPR) with a value of 0.7832. The mean values are clear indications that the listed industrial goods firms in Nigeria were more often engaged in reporting economic and social performance. SOPR has the highest dispersion with standard deviation value of 0.3226 while governance performance has the least dispersion with a standard deviation value of 0.0994.

The standard deviation revealed that listed industrial goods firms' non-financial performance disclosure are similar; an indication of relative change in the non-financial performance disclosure and financial performance (return on asset – ROA). Also, environmental performance (ENPR), governance performance (COGR), firm size (FIZE), and financial leverage (Flev) recorded means of 0.2804, 0.6059, 7.0460 and 7.3202 respectively; the high mean value for ROA which is 37.284 is expected since it is expressed as a ratio of net profits to total assets.

Furthermore, the minimum values for ENPR, ECPR, and SOPR were zero (0); indications that not all the publicly listed industrial goods firms were engaged in the disclosure of non-financial information while the minimum values for COGR is 0.3400. On the other hand, the maximum values for ECPR, and SOPR were one (1); an indication that there were numbers of publicly listed industrial goods firms that were often engaged in ECPR, and SOPR. Also, the minimum and maximum values for FIZE and FLEV were 5.9700, 5.2400, 1.0830, and -0.189 respectively.

The skewness values for ECPR (-0.9718), SOPR (-1.1956) COGR (-0.3587), and FLEV (-0.189) were negative; indicating that they moved in opposite direction from ROA while ENPR (4.5641) and FIZE (1.0830) had positive skewness values, indicating that ENPR and FIZE moved in the same direction with ROA. The kurtosis values for FLEV is less than 3 (mesokurtic – a standard normal distribution), implying that financial leverage would result to increased tremendous positive events (ROA) while ENPR, ECPR, COGR, and FIZE were greater than 3 (leptokurtic), suggesting that these variables would result in a greater chance of extreme negative events (ROA) for the listed industrial goods firms in Nigeria.

**Table 3: Pearson Correlation**

Statistics	ROA	ENPR	ECPR	SOPR	COGR	FIZE	FLEV
ROA	1.0000						
ENPR	-0.0691	1.0000					
ECPR	0.1393	0.1134	1.0000				
SOPR	0.2049	-0.1920	0.2024	1.0000			
COGR	0.1341	-0.0400	0.2120	0.6513	1.0000		
FIZE	-0.0648	0.0866	0.0278	0.2790	0.2941	1.0000	
FLEV	-0.0586	-0.0820	-0.2220	-0.3645	-0.4037	0.0439	1.0000

**Source: STATA 13.0 2025**

The results revealed among others that ECPR, SOPR, and COGR were positively correlated with ROA except ENPR, FISZE, and FLEV that were negatively correlated. This implies that there is a positive relationship between economic, social, governance performance disclosures and financial performance while a negative relationship exists between environmental, firm size, financial leverage and financial performance of publicly listed industrial goods firms in Nigeria.

Having performed the preliminary test, the model was further subjected to post estimation tests. The outcomes are presented n Table 4 to 7:

**Table 4: Variance Inflation Factor (VIF) Results**

Variables	VIF	1/VIF
SOPR	1.48	0.6746
FLEV	1.23	0.8130
FIZE	1.16	0.8610
ECPR	1.14	0.8782
ENPR	1.11	0.8992

COGR	1.03	0.9707
<b>Mean VIF</b>	<b>1.19</b>	

**Source: STATA 13.0**

The mean VIF is = 1.19, which is less than accepted mean VIF of 10.0, an indication that there is non-existence of multicollinearity in the empirical models of sustainability disclosure and financial performance of the listed industrial goods firms in Nigeria. Hence, the panel dataset is exceptionally reliable for conducting statistical inferences for Nigeria.

**Table 5: Heteroskedasticity Results**

Variables	Fitted Values of ROA
Chi2(1)	45.05
Prob. > Chi2	0.0000

**Source: STATA 13.0**

The Breusch-Pagan/Cook Weisberg chi2(1) is = 45.05, Prob. chi2 is = 0.0000 and is less than 0.05 percent significance level indicating the non-existence of heteroskedasticity in the empirical model. It implies that the sample used in the panel regression does not contain unequal variance and as such, there is evidence that the results are valid.

**Table 6: Ramsey RESET Test**

F(3, 132)	<b>7.20</b>
Prob. >F	0.0002

## Source: STATA 13.0

The result revealed that F(3, 132) is = 7.20 and Prob. F is = 0.0002, indicating that the alternate hypothesis was rejected while the null hypothesis was accepted, suggesting that the powers of the fitted values have no relationship which serves to explain the response variables (i.e. the model has no omitted variable), thus sustainability disclosure, firm size, financial leverage and financial performance models do not suffer from an omitted variable problem or functional form misspecification.

**Table 7: Cameron & Trivedi's Decomposition of IM-Test**

Sources	Chi2	df	p
Heteroskedascity	38.90	26	0.0498
Skewness	11.79	6	0.0668
Kurtosis	5.63	1	0.0177
<b>Total</b>	<b>56.32</b>	<b>33</b>	<b>0.0069</b>

## Source: STATA 13.0

The overall result is (Chi2 = 56.63; p-value = 0.0068) is statistically significant, indicating that the null hypothesis was rejected while the alternative hypothesis was accepted that our empirical models do not violate any of the assumptions of panel data regression.

**Results**

In line with the findings of study, industrial goods firms listed on the Nigerian Exchange Group showed increased levels of non-financial accounting information when it comes to economic disclosure. Table 8 presents the panel regression estimates:

**Table 8: Panel Regression Estimate**

Estimator(s)	Variable(s)	Fixed Effect (FE)		Random Effect (RE)	
		Coefficient	Prob.	Coefficient	Prob.
ENPR		-6.5181 (-0.10)	0.923	0.2232 (0.10)	0.997
		10.4286 (0.53)	0.600	11.1439 (0.60)	0.546
ECPR		83.333 (2.67)	0.008	80.733 (2.69)	0.007
		5.5627 (0.20)	0.846	5.5627 (0.20)	0.846
SOPR		-19.109 (-1.33)	0.187	3.5009 (-1.33)	0.187
		3.5009		3.5009	
COGR					
FIZE					
FLEV					

	(0.37)	0.715	(0.37)	0.715
F-value	(6, 125)= 1.50			
F-Probability	0.1842			
R-Squared (Overall)	0.0619		0.0624	
Wald Ch2(6)			8.99	
Prob. Ch2			0.1740	
Hausman Test	Chi2(2) = 0.72		Prob>Chi2= 0.9940	

**Source: STATA 13.0**

Overall R<sup>2</sup> results were 0.0619 and 0.0624 for FE and RE respectively; this implied that all the non-financial information disclosures, firm size and financial leverage measures jointly explained about 6% variation in return on assets. The result of the Hausman test (Prob>Chi2= 0.9940 > 0.05) suggests that RE is more efficient than FE hence, RE revealed that the subjects from which measurements were drawn are random and that the differences between firms in Nigeria, are therefore not of interest, thus the subjects and their variances are identical. Meanwhile, the Wald Ch2 (RE) is 8.99 (p-value = 0.1740 >0.05) and is jointly statistically insignificant, providing evidence that measures of non-financial information disclosures, firm size, and financial leverage have joint insignificant effects on financial performance (return on assets) in Nigeria.

The study found that economic performance reporting level and governance performance level have positive insignificant effect on ROA. This result is consistent with the research conducted by Albetairi et al (2018) who found negative significant influence of economic performance reporting on financial performance. On the other hand, this result contradicts the findings of Pratama et al (2021), who found that economic performance reporting positively significantly impacts on financial performance. Also, the study aligns with the studies of Nurim et al (2020) who found insignificant influence of governance performance reporting on financial performance. On the other hand, this result contradicts the findings of Peng et al (2023) who found that governance performance reporting significantly impacts on financial performance.

However, environmental performance reporting level has adverse marginal effect on ROA. This result is consistent with the research conducted by Adegboyegun et al (2020) who found negative influence of environmental performance reporting on financial performance. On the other hand, this result contradicts the findings of Munjal, and Malarvizhi (2021), who found that environmental performance reporting positively significantly impacts on financial performance. Lastly, social performance reporting level has positive significant effect on ROA. This result is consistent with the research conducted by Kaura, Bello and Sani (2021) who found significant influence of social performance reporting on financial performance.

#### 4. CONCLUDING REMARKS

Disclosure of information especially voluntary information enhances firms' reputation before stakeholders. Investors should be able to make more valuable investment decisions via information disclosed by firms, such as their duty towards social, environmental, economic, and governance aspects on the long run. The study postulate that while economic, environmental, and governance information disclosure do not influence the level of financial performance (return on assets), the study concludes that social information disclosure significantly influence financial performance of the listed industrial goods firms in Nigeria. Hence, the study implies that among the non-accounting information disclosures, social information disclosures appears to significantly and positively influence the level of financial performance of industrial goods firms in Nigeria. On the basis of the findings, the following recommendations were proffered:

- i. Environmental disclosures currently exhibit limited direct influence on return on assets, firms should not necessarily reduce or eliminate such disclosures. Instead, firms should focus on improving the quality and strategic relevance of environmental reporting.
- ii. Management of publicly listed industrial goods firms should strengthen or reinforce governance structure and improved disclosure of governance activities as this would positively affect financial performance
- iii. Management should attract investors willing to invest in their firms and offer more efforts to add vital economic metrics aimed at increasing investors' confidence.
- iv. listed industrial goods firms should consider increasing disclosure of social responsibility.

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