

EFFECT OF GREEN TAX INCENTIVES ON ENVIRONMENTAL DISCLOSURE OF LISTED NON-FINANCIAL FIRMS IN NIGERIA

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ABSTRACT

This research examined how green tax incentives influenced on environment disclosure of listed non-financial companies in Nigeria. The study aimed to finding out whether fiscal incentives can make a substantial difference in the transparency and sustainability reporting practices by firms. The research design is ex-post facto research where a population of 98 Listed non-financial firms on the Nigerian Exchange was sampled based on purposive sampling and only listed companies that had full annual report between 2014 and 2024 conducted. Annual reports published were mined to extract secondary data and the measurement of environmental disclosure was performed through an index of disclosure that is structured. These data analysis methods were descriptive statistics, correlation analysis, and robust OLS pooled regression, which was aimed at dealing with heteroskedasticity and proving the model to be reliable. The results demonstrate that green tax incentives significantly and positively and statistically significantly impact environmental disclosure where it is observed that the firms receiving the green tax incentive report significantly more environmental disclosure. The paper finds that the disclosure of environment in the non-financial sector in Nigeria is generally poor and is aroused by the existence of green fiscal incentives. It insists that concerned organizations, such as the Federal Inland Revenue Service, Federal Ministry of Finance, Financial Reporting Council of Nigeria and Nigerian Exchange Group, should increase the incentives of the green taxes, the mandatory disclosure procedures, and compliance measures to increase the transparency of sustainability across industries.

Keywords: Green Tax Incentives and Environmental Disclosure

1. INTRODUCTION

Environmental sustainability has emerged as a characteristic issue in the corporate governance, capital markets, and public finance around the globe especially with climate change, environmental deterioration, and resource depletion becoming a growing threat to economic stability. As a reaction to this numerous developed economies and emerging economies have implemented green fiscal policies such as green tax incentives as a means of promoting corporate behaviour that is environmentally friendly as well as promoting transparency via environmental disclosure. Tax credits, accelerated depreciation allowances, and investment deductions on renewable energy, pollution control, and energy efficient technologies have been institutionalised in countries like the United Kingdom, Germany, China and Canada with a rapidly growing regime of increasingly compulsory sustainability reporting. A further indication of a global move towards standardised, comparable and decision useful

environmental disclosure across jurisdictions is the introduction of the IFRS Sustainability Disclosure Standards (IFRS S1 and S2) in 2023, with implementation beginning in 1st January, 2024 (Zolkover, et al. 2024; Utami & Adiati, 2025).

The level of environmental disclosure and green taxation practices is uneven in the African continent due to differences in the level of regulatory maturity as well as capacity to enforce and industrial structure. South Africa has gone a long way by introducing the national carbon tax, along with industry-specific environmental reporting standards which have enhanced corporate disclosure activities, especially in carbon-heavy industries. Most Sub-Saharan African nations, such as Kenya, Ghana and Nigeria, on the other hand, still heavily depend on incentive-based models in place of any strict environmental sanctions, through tax breaks and investment allowances in order to make firms implement cleaner technologies (Efundade, et al. 2023). Nevertheless, it is empirically indicated that, despite the presence of these incentives, corporate disclosure on the environment in the context of African non-financial companies is still voluntary, fragmented, and patchy, which restricts cross-country comparability and investor trust.

In the case of Nigeria, the issue of environmental disclosure is especially acute because of the industrial structure and the regulatory environment in the country. Among the non-financial companies listed in Nigeria, particularly those in the manufacturing, industrial goods, construction, and oil-related industries, are the most environmentally affecting industries since they consume a lot of energy, are characterized by a lot of emission, and produce wastes (Jolaiya, 2024; Ele, 2024). Despite the numerous fiscal incentives to encourage environmentally friendly investments, which are introduced in Nigeria, including the encouragement of renewable energy, gas consumption, and environmentally efficient processes, the disclosure of the environment by the firms is quite discretionary. The most recent regulatory changes such as the roadmap of the adoption of the IFRS sustainability disclosure standards in Nigeria are an indication of a slow transition to better environmental reporting. Nevertheless, it is not clear how far the green tax incentives are effective in the transformation to improved environmental disclosure among industries as well as comparing them to those of peer countries in Africa.

The issues in industries are still common across nations, but the challenge is even more noticeable in Nigeria because of the less effective enforcement systems and the lack of insurance of the sustainability reports. Although companies in other countries such as South Africa are becoming more and more conscious of how they report on the environment as part of their mainstream financial statements, most of the companies in Nigeria make selective or token disclosures, making some worry about greenwashing. This problem highlights the relevance of empirical studies into the success of green tax incentives popularly applied in most nations as a policy instrument to enhance the environmental disclosure of listed non-financial companies in Nigeria in comparison to the world and African records.

Evidence on the topic of green taxation has demonstrated a number of gaps that are yet to be filled to understand the effects of the fiscal environmental tools on corporate disclosure especially in developing economies. The previous literature has focused broadly on macro-level effects of the green performance, economic growth, sustainable development, and economic performance with a pronounced focus on developed economies and comparative analysis (Utami and Adiati, 2025; Rehali et al., 2025; Zolkover et al., 2024). Although the national-level indicators or financial performance of certain industries, including oil and gas, have been the focus in even those cases where developing countries are also involved, the behavioural responses of firms have remained a subject of only a few studies (Ele, 2024; Jolaiya, 2024). In addition, the previous research in Nigeria has focused on revenue collection,

economic efficiency or profitability impacts of green taxes instead of investigating the theoretical issue of whether the fiscal incentives result in better environmental disclosure and accountability (Efuntade et al., 2023; Sadiq and Durowaiye, 2022). This literature thus provides an apparent contextual gap (little African and Nigerian evidence), a level-of-analysis gap (macro-level focus rather than firm-level behaviour) and a variable gap (financial and environmental performance dominating and little on environmental disclosure).

The research of the present study addresses these gaps by changing the focus on the macroeconomic and financial performance performance outcomes to the firm environmental disclosure as the crucial behavioural response to the presence of green tax incentives in a developing country. The study concentrates on listed non-financial companies in Nigeria, which can be used to give context-specific empirical evidence of the existence of green tax incentives as useful policy signals, which motivate firms to increase the level or quality of environmental information disclosed. This way, it enhances the existing body of literature as it provides connections between fiscal environmental policy and corporate transparency, thus providing a micro-level interpretation of the effect of green tax incentives on disclosure practice in an environment that is typified by weak enforcement and voluntary reporting regulations. The method not only adds to the conclusions made in the macro level but also adds novel insights on the part of policymakers, regulators, and investors who would want to enhance environmental responsibility by use of incentive-driven systems in Nigeria and other emerging economies.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Environmental Disclosure

Environmental disclosure is the reporting of information about environmental performance of firms, impacts, and strategies by firms through annual reports, sustainability reports, integrated reports and websites. It includes quantitative and qualitative statements concerning the emissions, waste management, resource consumption, environmental policies, environmental risks, and regulatory compliance. Environmental disclosure practice is also based on the increasing demands of the stakeholders who require transparency on the ecological corporate footprints of the companies. Environmental disclosure has over the years moved beyond voluntary reporting to a more formalized reporting with the help of some of the international reporting frameworks like the Global Reporting Initiative (GRI), International Integrated Reporting Council (IIRC) and the country specific mandatory reporting guidelines. Companies are increasingly applying disclosure to show they are environmentally responsible, increase their legitimacy and convey their compatibility with sustainable development targets.

The importance of environmental disclosure is in its potential to shape perceptions of the stakeholders, investment choices and the sustainability of the firms. Firms can minimize information asymmetry by offering believable environmental information, communicating sustainability-focused strategies, and appeal to environmentally friendly investors. The environmental disclosure also serves a risk-reducing role because companies emphasize the way in which they deal with regulatory pressures, environmental liabilities, and operational risks. Moreover, disclosure assists companies to compare performance, determine operational inefficiency, and embrace a more sustainable approach. In that way, environmental disclosure has expanded beyond a compliance-oriented method to be a strategic instrument in sustainability reporting that leads to the corporate legitimacy, market competitiveness, and trustworthiness of stakeholders.

2.1.2 Green Tax Incentives

Green tax incentives are government-based fiscal policies that aim to promote environmentally friendly behaviour by firms because it lowers the cost of implementing sustainable technologies and practices. Such incentives can be in the form of tax credits, tax exemptions, accelerated depreciation, investment allowances or lower tax rates based on certain environmental goals. The reasoning behind this is that the benefits of environmental conservation by the populace are such that are not adequately attained by firms without intervention by the state. Green tax incentive thus offers economic benefits that reduce the marginal cost of sustainability investments to firms hence the eco-efficient strategies become economically viable. Policymakers use these incentives to rely on larger fiscal and environmental management initiatives to decrease pollution, enhance energy efficiency, widen green technologies, and encourage sustainability changes.

The green tax incentives do not just alter cost structures, but also affect the environmental disclosure behaviours. Companies that are offered tax breaks tend to be obligated to report, record their environmental performances, and post their performance indicators. Consequently, tax incentives will indirectly increase transparency, accountability and standardization of environmental reporting. Such incentives can also contribute to long-term change in corporate culture through restoring sustainability in the strategic planning and capital budgeting processes. Green tax incentives are also used to spur competition among companies toward the use of environmentally superior technologies to support a market-based shift to a low-carbon economy. Such incentives therefore are not just financial relief machines but essential tools that in the development of corporate environmental responsibility, sustainability innovation, and disclosure practice.

2.2 Empirical Review

According to the bibliometric research conducted by Utami and Adiati (2025), green taxation research is growing swiftly all over the world and the majority of such studies were based on environmental science, economics and energy policy, but the growing interest in the aspect of green taxes intervention in terms of their effects on environmental performance and sustainability practice. Nevertheless, other unexplored areas found in the study include the emissions trading, the addition of green tax in the form of a double dividend and the effects of fiscal measures as they relate to corporate reporting practices in the developing countries. One of the major setbacks was the fact that the literature is mostly based on studies conducted in developed economies, there is almost no research on Africa and very little focus on the correlation between the green tax incentives and the environmental disclosure. This absence brings evidence that there is a gap in the contextualized evidence on the role of the fiscal environmental instruments in developing economy corporate transparency. This study serves as a contribution as it presents empirical findings at firm level in Nigeria and also in investigating the relevance of green tax incentives in developing-country environment to environmental disclosure.

Rehali et al. (2025) evaluated the influence of green taxation on environmental and economic performance in 154 countries based on the analysis of SEM and reported that the green taxes had a significant positive impact on the environmental performance and no positive effect on the economic performance. They also determined that foreign direct investment had a negative moderating effect on the relationship between green taxation and the economic results which showed the existence of complex situations in the context of nations reliant on inflows of capital. In as much as the study added to the existing body of macro-level evidence, it failed to investigate the impact of green tax policies on the firm-level disclosure behavior. This gap is

bridged in the present research as its focus is taken off the macroeconomic measures to the result of environmental disclosure at the firm level providing a micro-level understanding of the effect of tax incentives in translating into corporate transparency results.

Muñoz-Ccuro et al. (2024) explored the relationship between environmental taxation and sustainable environmental protection and concluded that green taxes could ensure environmental protection and promote ecological projects, though it provokes controversies in the context of developing countries with a weak institutional framework. The research has pointed out the differences in tax architecture and no agreement on whether or not the taxes on the environment have any tangible results, especially when the transparency structures are not strong. This reveals the lack of knowledge on whether environmental taxation can encourage firms to enhance environmental reporting. The existing research bridges this gap by empirically investigating the topic of environmental disclosure as the consequence of green tax incentives, thus providing the evidence on whether green tax incentives improve accountability and voluntary disclosure in the Nigerian companies.

Ele (2024) examined the impact of green taxation on the financial outcomes of oil and gas companies in Nigeria with panel data and identified that carbon emission tax, industrial pollution tax, and petroleum profit tax had a positive impact on return on capital. Although the research implied that green taxes could spur innovation and efficiency, they concentrated solely on financial performance and did not pay attention to disclosed behaviors and non-financial behavior. This line of inquiry is continued in the current study, which considers environmental disclosure as a major behavioral reaction to financial environmental policies instead of financial performance, which is a dimension that has not been addressed before.

Jolaiya (2024) investigated the connection between green taxation and oil and gas company financial performance between 2017 and 2022 and discovered that the carbon emission, petroleum profit, and industrial pollution taxes had a key adverse impact on financial performance. The research concluded that green taxes raised costs of operation and efficiency of assets. It was also not researched on the effects of green taxes on voluntary reporting or sustainability reporting which though provided useful evidence on the financial effects. The present research fills this gap by considering the issue of whether incentives in the form of green tax are a push factor in the environmental disclosure of listed non-financial firms.

In an analysis of the contributions of green taxation to sustainable development in developed and developing nations, Zolkover et al. (2024) found that green taxes have the effect of stimulating the use of renewable energy, increasing modernization in industries, and decreasing emissions. Nevertheless, the paper did not examine the firm level reactions or mechanisms of disclosure between fiscal policy and sustainability performance. The existing study occupies this gap by presenting the firm-level empirical data on environmental disclosure as a reaction to the green tax incentives, thus bridging the tax policy-corporate transparency relationship.

Efuntade et al. (2023) examined how green, carbon, and environmental taxation were adopted in Nigeria with a focus on revenue collection and the economic perspective. They established that even though green taxes might be effective in the behavioral changes of corporate sustainability, in Nigeria, the practice was slow because of low institutional capacity and lack of clear mechanisms of incentives. Notably, the research was not an evaluation of whether green taxation has any impact on the practice of environmental disclosure. This gap is bridged in the current study, as it evaluates the motivation of firms to report on environmental information using the green tax incentives as an indicator to understand how firms respond to these fiscal policies by reporting.

In their OLS regression study, Sadiq and Durowaiye (2022) examined the connection between green taxation and sustainable development in Nigeria and discovered that environmental indicators strongly determined the performance of green tax, although not uniformly. They were not macroeconomically focused on firm-level reporting and accountability and disclosure behavior. The proposed research builds on the existing literature by examining the corporate environmental disclosure as a micro-level response to green tax incentives, thus, offering empirically obtained data about the connections between fiscal environmental policy and transparency in the Nigerian listed companies.

3.3 Theoretical Review

3.3.1 Legitimacy Theory

The theory of legitimacy is the brainchild of Dowling and Pfeffer (1975) and it is founded on the belief that organizations should work under a social contract and behave in a manner that is consistent with the expectations of the society to remain acceptable. The threat of legitimacy is met by the firms by the symbolic communication, especially disclosure practices that assert compliance with social norms. This point of view is supported by modern researchers. According to Ogunode (2022), the environmental disclosure is becoming a major strategic communication tool that the firms are employing in order to gain social acceptance and to assure the stakeholders that their operations are ethical. Similarly, Helfaya et al. (2023) claim that the considerations of legitimacy are one of the dominant driving factors of modern sustainability disclosures as firms make use of disclosure to control the perceptions, enhance the trust of the population, and convey compliance with the values of the society.

Within the context of this paper, these academic opinions indicate that companies can seek to take advantage of environmental reporting to encourage the granting of green taxing privileges and to solidify their reputation as environmentally friendly companies. Legitimacy theory thus shows why disclosure may not only rise as an expression of actual environmental performance, but it can also play the role of a strategic instrument of ensuring that society approves of the company, it meets its fiscal obligations, and that it is seen as a responsible company to the society.

3.3.2 Institutional Theory

The institutional Theory as proposed by Meyer and Rowan (1977) suggests that the institutional pressure affect organizational behaviour by the presence of coercive, normative, and mimetic pressures that tend to influence firms to act according to accepted standards and expectations. The most recent researchers also stress the importance of these institutional forces in determining environmental reporting. According to Eitrem et al. (2024), sustainability and environmental accounting practices are also continuously developed under the influence of strong institutional forces, which require firms to explore structured reporting systems as a form of institutional compliance. Yahaya (2024) supplements that institutional forces, including the regulator, investors and governance institutions, impose normative and coercive pressures that influence disclosure behaviour of firms to motivate them to practice sustainability as part of the institutional demands. Hikal et al. (2025) carry this theoretical premise further by stating that the environment in which environmental disclosure is conducted is instituted by institutional forces and thus, becomes an institutionalized expectation rather than an option that is at will. In their perspective, companies report on the environmental information to meet the requirements of the institutional norms, which indicates that they are in line with the expectations of the regulatory and governance.

These academic arguments mean that the incentive of green tax is an institutional pressure that influences the disclosure behaviour of firms in the context of this study. Firms can strengthen environmental reporting as a result of the coercive power of government incentives, normative pressures of stakeholders, and mimetic pressures of peer firms engaging in the same disclosure practices. Therefore, the institutional theory is a good conceptual framework in explaining why green tax incentives make firms enhance their environmental disclosure in response to the institutional forces of regulations, professional and competition.

3. METHODOLOGY

The research design used in the study is a quantitative research design, which was based on ex-post facto design because the interest variables, which include environmental disclosure and green tax incentives, were measured using historical data, which could not be manipulated by the researcher. The sample consisted of the 98 listed non-financial companies on the Nigeria Exchange Group (NGX) and the sampling technique of the study was purposive where firms that have regularly reported annual reports and sustainability disclosures during the study period were included in the sample. Secondary data were collected based on audited annual reports, sustainability reports, NGX filings and government policy documents on green taxation and incentives. Environmental disclosure was the dependent variable which was measured in terms of structured environmental disclosure index which was based on global reporting frameworks. The primary independent variable was green tax incentives and they were operationalised based on such indicators as eligibility to incentives, the use of incentives and disclosures of renewable-energy or eco-friendly tax benefits at a firm level. The control variables were the firm size, profitability, leverage and the sector classification (manufacturing or non-manufacturing) to reflect the structural industry variations. The analysis of the data was carried out with the help of panel regression methods whereby the descriptive statistics were used to summarize the data and then the correlation diagnostics was used to determine the relationship between variables. Ordinary least square (OLS) regression model was then used in the study. As well, the diagnostic tests including multicollinearity tests, heteroscedasticity tests were used to verify the strength and validity of the estimates. The methodology enabled the research to measure the level of firm, sector, and time variation in determining the effect of green tax incentives on environmental reporting of listed non-financial firms in Nigeria.

3.1 Model Specification

Given the panel nature of the data (firm i over time t), the functional relationship is expressed as:

$$ENVDIS_{it} = f(GTINC_{it} + FSIZE_{it} + PROF_{it} + LEV_{it} + IND_{it})$$

The econometric model is specified as:

$$ENVDIS_{it} = \beta_0 + \beta_1 GTINC_{it} + \beta_2 FSIZE_{it} + \beta_3 PROF_{it} + \beta_4 LEV_{it} + \beta_5 IND_{it} + \varepsilon_{it}$$

Where: $ENVDIS_{it}$ = Environmental Disclosure Score of firm i in year t (dependent variable); $GTINC_{it}$ = Green Tax Incentives (1 if the industry enjoyed a green Tax incentive, otherwise 0); $FSIZE_{it}$ = Firm Size (natural logarithm of total assets); $PROF_{it}$ = Profitability (measured by ROA); LEV_{it} = Leverage (total debt-to-total assets ratio); IND_{it} = Industry type (1 if manufacturing industry, otherwise 0); β_0 = Intercept; $\beta_1 - \beta_5$ = Coefficients of the explanatory variables; and ε_{it} = Composite error term.

Table 3.1: Variable Measurement

Variable	Measurement	Expectation
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Environmental Disclosure (ENVDIS)	Environmental Disclosure Score of firm <i>i</i> in year <i>t</i> , generated from an environmental disclosure index	Not applicable
Green Tax Incentives (GTINC)	Dummy variable: 1 if the industry enjoyed a green tax incentive; 0 otherwise	Positive
Firm Size (FSIZE)	Natural logarithm of total assets	Positive
Profitability (PROF)	Earnings after tax / total assets	Positive
Leverage (LEV)	Total debt / total assets	Mixed
Industry Type (IND)	Dummy variable: 1 = manufacturing; 0 = non-manufacturing	Positive

Source: Authors' compilation, 2025

4. RESULTS AND DISCUSSION

Table 4.1: Descriptive Statistics

Variable	OBS	Mean	Std. dev.	Min	Max
ENVDIS	1,014	.0006077	.0100699	0	.217457
GTINC	1,014	.0039448	.0627144	0	1
FSIZE	1,014	6.063587	1.021774	2.968483	9.063547
PROF	1,014	.0379946	.1080473	-.96781	.972962
LEV	1,013	.893624	17.62683	0	411.3661
IND	1,014	.4940828	.5002117	0	1

Source: STATA 17.0, 2025

The level of environmental disclosure (ENVDIS) of listed non-financial firms in Nigeria was largely deplorable over the period of the investigation as it is depicted by the mean value of 0.0006077 that is very low. This shows that majority of companies reported very minimal or no environmental information in their sustainability or annual reports. The extremely low standard deviation of 0.0100699 also indicates that disclosure practices showed minimal diversification in the firms and environmental reporting was performed as a common trend, not as an accidental event. As several companies achieved the lowest possible disclosure score of 0, and only some of them achieved the highest score of 0.217457, the trend shows the ongoing problem of poor sustainability transparency among non-financial companies in Nigeria, although more regulatory bodies, including the NGX and the FRCN, started to monitor them.

The level of utilisation of green tax incentives (GTINC) also recorded very low levels of utilisation in the listed non-financial firms in Nigeria as indicated by the mean of 0.0039448. As the variable is categorical in nature because 1 signifies firms or industries that benefited with green tax incentives, the findings show that nearly none of the firms were enjoying such incentives. The value of SD=0.0627144, as well as the modal minimum=0, proves that the concept of green fiscal policies is underexplored or unavailable in the non-financial sectors of Nigeria. The highest value of 1 was only achieved by very few firms indicating that these green tax incentives were either recently introduced, communicated poorly, implemented sparsely, or was restricted to particular environmentally sensitive industries. It is a sentiment of underutilisation that makes one question the efficacy of green taxation framework in Nigeria as a motivator of sustainable practices and disclosure.

The mean of Fsize (FSIZE), which measures the size of a firm in terms of natural logarithm of total assets, was 6.063587, with an average level of dispersion, therefore, showing a wide range of asset base within listed non-financial companies in Nigeria. The lower value of 2.968483 is smaller firms, having minor asset holdings whereas the upper value of 9.063547 is an indication

of the existence of very large firms which operate in capital intensive industries like the industrial goods, basic materials and telecommunications. This difference is pertinent since bigger companies in the non-financial sector of the Nigerian economy are usually subjected to greater publicity and regulation, which can affect their disclosure behaviour towards the environment. The distribution hence indicates that the sample has a good combination of firm sizes required to get an insight into how organisational size impacts on sustainability reporting in Nigerian setting.

The profitability (PROF) as indicated by the use of return on assets (ROA) gave a mean of 0.0379946 which showed low levels of profitability in the listed non-financial companies. Nonetheless, the standard deviation of 0.1080473 is relatively high implying that there is a significant difference in the performance of the firms with some of them incurring heavy losses as indicated by the lowest ROA of -0.96781. On the other hand, the highest ROA of 0.972962 indicates that there are firms that were highly profitable. This gap in profitability indicates the level of heterogeneity of financial health in the non-financial sectors in Nigeria. Companies which are more profitable can afford to invest more in such activities as environmental responsibility and sustainability reporting, and financially challenged companies can invest more in their survival rather than in voluntary disclosures.

The leverage (LEV) had extremely dispersed values among the listed non-financial companies in Nigeria with the mean values of 0.893624 and an abnormally large standard deviation of 17.62683. The lowest figure of 0 indicates that there were firms that were under debt, whereas the very high upper end of the leverage ratio is 411.3661 showing that there were firms that financed on heavy debt. This massive dispersion would indicate a substantial variation in capital structure amongst industries like industrial goods, consumer goods, oil and gas support services and telecommunications. Companies with extremely high leverage might be more reluctant to report environmental disclosure not to attract the attention of creditors whereas companies with moderate leverage can be motivated to report more in order to demonstrate financial discipline. This inconsistency highlights the need to consider the differences in capital structures when studying disclosure behaviour of the non-financial industry in Nigeria.

The industry classification (IND) had a mean of 0.4940828 indicating that the manufacturing and non-manufacturing firms were nearly equal among the listed non-financial firms in Nigeria. This balance is verified by the standard deviation of 0.5002117 as the values fall between 0 to 1 indicating the existence of firms in various industries like consumer goods, industrial goods, ICT, health care, and oil and gas services. The significance of this even distribution is that manufacturing companies normally face more environmental footprints and more expectations in terms of environmental disclosure than non-manufacturing ones. As such, the sectoral balance within the dataset increases the capacity of the study to be able to provide some meaningful comparison of disclosure patterns across various sectors of the Nigerian non-financial sector.

Table 4.2: Shapiro–Wilk W test for normal data

Variable	OBS	W	V	z	Prob>z
ENVDIS	1,014	0.61814	243.907	13.620	0.00000
GTINC	1,014	0.65372	221.176	13.378	0.00000
FSIZE	1,014	0.98577	9.087	5.468	0.00000
PROF	1,014	0.73997	166.091	12.668	0.00000
LEV	1,013	0.02843	620.013	15.931	0.00000
IND	1,014	0.99989	0.069	-6.623	1.00000

Source: STATA 17.0, 2025

The results of the Shapiro-Wilk tests of normalcy of the listed non-financial companies in Nigeria show that most variables do not follow the normal distribution. The W-values of environmental disclosure (ENVDIS) and green tax incentives (GTINC) are very low, 0.61814 and 0.65372 respectively, with highly significant p-values (0.00000) all proving the high level of non-normality. The firm size (FSIZE) is nearer to normality with the w-value of 0.98577 but the p-value of 0.00000 still shows a statistically significant violation of normality, probably, because of existence of both very small and very large firms in the Nigerian non-financial sector. The non-normality is also exhibited by profitability (PROF) with a W-value of 0.73997 and p-value of 0.00000 due to a wide distribution between loss-making and highly profitable companies. The indication of most egregious breach of normalcy is leverage (LEV), whose W-value of 0.02843 is exceeding by a large margin compared to the V-statistic, and which is indicative of the existence of highly skewed debt structures in the group of the non-financial firms in Nigeria. Since the industry classification variable (IND) is a type of dummy variable, it is expected that it will give a W-value of near 1 and a non-significant p-value of 1.00000 which means that normality test cannot be applied to categorical variables. These findings, on the whole, are the reason as to why robust regression estimate is needed because the distributions patterns prove that the data does not meet the normality assumption that the classical linear regression models are supposed to follow.

Table 4.3: Correlation analysis

	CEINV	GTINC	FSIZE	PROF	LEV	IND
ENVDIS	1.0000					
GTINC	0.9594	1.0000				
FSIZE	-0.0208	-0.0246	1.0000			
PROF	-0.1221	-0.1236	-0.0270	1.0000		
LEV	-0.0010	-0.0013	-0.0146	-0.0473	1.0000	
IND	-0.0598	-0.0623	-0.0105	0.0779	-0.0453	1.0000

Source: STATA 17.0, 2025

The correlation findings demonstrate that there is a very strong positive association between environmental disclosure (ENVDIS) and green tax incentive (GTINC), the coefficient of association between the two being 0.9594, showing that firms or industries in the Nigerian non-financial sector that enjoyed the benefits of green tax incentives were predisposed to the disclosure of the environmental information. This remarkably strong correlation implies that green fiscal policies can be extremely important when it comes to supporting transparency and sustainability reporting. It can also be indicative of the fact that the firms receiving incentives might have conditions of disclosures, or that they have disclosed more out of their own volition in order to indicate compliance and legitimacy to regulators and stakeholders.

In the case of the control variables, Firm size (FSIZE) is concerningly less correlated with ENVDIS (-0.0208) indicating that in the case of listed non-financial companies in Nigeria, there is no clear-cut correlation between firm size and disclosure of environmental information. This observation is in contrast to the general assumption that bigger companies, due to their larger profile and ex-post control, ought to have a stronger disclosure policy. The insignificant relationship means that there is no difference between the level of environmental reporting between firms of different sizes, which confirms the previous descriptive findings which disclosure is consistent at the Nigerian non-financial sector.

Another weak negative correlation is between the profitability (PROF) and ENVDIS (-0.1221), with a more profitable firm reporting a little less environmental information. This could either indicate that profitable firms are more interested in financial results than environmental disclosure or that financially vulnerable firms are trying to report more in an effort to gain legitimacy. This connection remains low, and it indicates that profitability has no significant effect on disclosure in the non-financial environment in Nigeria.

The leverage (LEV) has an almost zero negative correlation with ENVDIS (-0.0010), which means that the amount of debt is not significantly correlated with the disclosure of firms to the environment. It indicates that the pressure of creditors and debts have no big effects on disclosure in the environmental issues to those listed non-financial companies in Nigeria. The lack of correlation is in line with previous findings of high levels of dispersion of leverage that do not seem to be reflected in the disclosure behaviour.

Industry classification (IND) has a negative but very weak relationship with ENVDIS (-0.0598) which shows that the manufacturing firms report less environmental information compared to non-manufacturing firms in the non-financial sector of Nigeria. This result is counterintuitive considering that manufacturing companies usually have greater environmental footprints and, therefore, greater incentives or anticipations to reveal. The unfavorable correlation confirms the descriptive finding that comprehensive disclosure is low in all the industries and that even the environmentally intensive industries are not disclosing environmental information in their reporting activities adequately.

Table 4.4: Multicollinearity Test

Variable	VIF	1/VIF
PROF	1.02	0.976921
GTINC	1.02	0.981028
IND	1.01	0.989235
LEV	1.00	0.995650
FSIZE	1.00	0.998103
Mean VIF	1.01	

Source: STATA 17.0, 2025

The results of the multicollinearity factors show that all the explanatory variables in the model, which are profitability (PROF), green tax incentives (GTINC), industry type (IND), leverage (LEV), and firm size (FSIZE), have very low Variance Inflation Factors (VIFs), with all of them close to 1.00. As VIF below 10 and below 5, more conservatively, indicate that there are no multicollinearity issues, the reported values indicate that the independent variables are not very much correlated with each other. This matters to the model of environmental disclosure (ENVDIS) amid the listed non-financial firms in Nigeria since the low multicollinearity guarantees that the estimated impact of each variable to the ENVDIS can be ascertained with confidence without distortions due to overlaps in the explanatory power. The strong model specifications as indicated by the mean VIF of 1.01 also imply that the predictor variables contribute distinct and independent predictions in the variations in environmental disclosure in the Nigerian non-financial sector.

Table 4.5: Breusch–Pagan/Cook–Weisberg test for heteroskedasticity

Breusch–Pagan/Cook–Weisberg test for heteroskedasticity		
chi2(1)	=	127678.58
Prob > chi2	=	0.0000

Source: STATA 17.0, 2025

The Breuschpagan/Cook Weisberg test of heteroskedasticity has a chi-square value of 127 678.58 with a p-value of 0.0000, which means that the result is highly significant. It implies that the null hypothesis of the homoskedasticity is rejected, which proves the occurrence of heteroskedasticity in the model of environmental disclosure (ENVDIS) residuals of listed non-financial firms in Nigeria. Practically, the variance of the error terms do not appear to be identical irrespective of the observation, implying that firms are not similar in terms of reporting behaviours and underlying characteristics, with the result that the variability of the prediction errors of the model is not even. This fact substantiates the necessity to depend on robust standard errors that adequately correct the heteroskedasticity and make the statistical conclusions about the effect of such variables like green tax incentives, firm size, profitability, leverage, and industry type on ENVDIS valid and reliable in the framework of the Nigerian non-financial sector.

Table 4.6: Robust OLS Pooled Regression Results

ENVDIS	Coefficient	Robust std. err.	t	P>t
GTINC	.1539874	.0227127	6.78	0.000
FSIZE	.0000272	.0000196	1.38	0.167
PROF	-.0003309	.0003233	-1.02	0.306
LEV	9.33e-08	1.31e-07	0.71	0.477
IND	5.86e-06	6.07e-06	0.97	0.334
cons	-.0001549	.0001118	-1.39	0.166
Number of OBS		=		1,013
F(5, 1007)		=		126.45
Prob > F		=		0.0000
R-squared		=		0.9204
Root MSE		=		.00285

Source: STATA 17.0, 2025

Test of Hypothesis

The F-test value of 126.45 where the p-value is 0.0000 shows that the overall model determining the determinants of environmental disclosure (ENVDIS) among listed non-financial firms in Nigeria are statistically significant. This finding demonstrates that, when combined together, the independent variables which are green tax incentives (GTINC), firm size (FSIZE), profitability (PROF) leverage (LEV), and industry type (IND) have a significant degree of explaining variations in environmental disclosure in the Nigerian non-financial sector. The R-squared of the model is 0.9204, which showed that nearly 92 percent of all the changes in ENVDIS can be attributed to the predictors used, which is really very high. These estimates are further made more reliable by the application of strong standard errors considering the heteroskedasticity that was identified earlier. Root MSE = 0.00285 demonstrates that the average error in prediction is very small, which is also in line with the scale of ENVDIS values that is not high among the firms.

The effect of green tax incentives on environmental disclosure is positive and statistically significant and its coefficient is 0.1539874, standard error of 0.0227127, t -value of 6.78 (p = 0.000). This means that companies which are enjoying the green tax breaks release much more green information as compared to those that do not. The p-value of less than 0.05 causes the null hypothesis to be rejected, and this implies that green tax incentive is a strong and significant factor that contributes to the environmental disclosure of listed non-financial companies in Nigeria. This adds to the fact that transparency and sustainability reporting can be stimulated by fiscal incentives.

The firm size, profitability, leverage, and industry type are all the control variables and have statistically non-significant impacts on environmental disclosure across the listed non-financial firms in Nigeria. The effect of firm size is very small (0.0000272) which has a p value of 0.167 meaning that the larger firms do not disclose more than smaller ones. The negative and insignificant coefficient of profitability is -0.0003309 ($p = 0.306$) which indicates that the financial performance does not play any role in the environmental reporting behaviour of firms. The leverage indicates a negative coefficient of leverage of $9.33e-08$ ($p = 0.477$) which indicates that it is not the levels of debt or the pressures of creditor that influences disclosure decisions. The industry type also has a negligible impact with a coefficient $5.86e-06$ ($p = 0.334$) indicating that there is no significant difference between manufacturing and non-manufacturing companies. Generally, such non-significant coefficients affirm that firm-specific attributes are insignificant in explaining why there is low level of environment disclosure across the non-financial sector in Nigeria.

Discussion of Finding

The fact that green tax incentives have a positive and significant impact on environmental disclosure is consistent with other studies that identify the possibility of fiscal environmental tools in catalyzing corporate sustainability behaviour. As seen by Utami and Adiati (2025), globally, there has been an increased application of green taxes to enhance sustainability results, which implies that these incentives motivate the firms to assume the practices that are environmentally friendly. Likewise, Rehali et al. (2025) indicated that green taxation enhances the macro performance in the environmental context which supports the notion that fiscal instruments can affect the organisational behaviour. Similar results were also found by Ele (2024), who concluded that green taxes improved performance of the firms in the Nigerian oil and gas industry, which means that incentives can lead to the better environmentally friendly behavior and openness of the firms. All these studies help substantiate the conclusion of the presence of a positive correlation between the presence of green tax incentives and the disclosure of environmental information as found in the current study (0.1539874; $p = 0.000$) that incentives encourage firms in the Nigerian non-financial sector to improve their reporting activities.

Nevertheless, there are certain findings that are not consistent with the positive effect explained in this research. According to Jolaiya (2024), the green taxes had negative implications on the financial performance of the oil and gas industry and that they could be expensive to the firms instead of influencing behavioural change. On the same note, Muñoz-Ccuro et al. (2024) have indicated that environmental taxes would not bring meaningful results in the developing economies because of weak institutional capacity, design, or accountability structures. Sadiq and Durowaiye (2022) also found the transient impacts of green taxation on the sustainability outcomes at the macro level which stated that environmental taxes do not always have positive effects on the better sustainability practices. Such contradictory results could be attributed to concentrations- most of the previous studies have looked at the effects on the financial or macroeconomy as opposed to disclosure behaviour. Also, where there is a weak enforcement of the rules, environmental tax can be used as a financial stress rather than a motivator. The result of the present study, which is the emphasis on green tax incentives, as opposed to green taxes provides a more positive behavioural response since incentives lower compliance costs and reward the firms which act in an environmentally responsible manner hence encouraging disclosure.

Both the institutional theory and the legitimacy theory theoretically justify the strong impact that green tax incentives work on environmental disclosure. In the legitimacy perspective, companies that obtain fiscal subsidies will be driven to report more environmental information

in order to indicate compliance, retain the approval of the society, and explain why they deserve to receive such benefits. Disclosure is a symbolic instrument that can be employed by firms to show responsible behaviour and gain the further support of the stakeholders as legitimacy theorists believe (Dowling and Pfeffer, 1975; Ogunode, 2022; Helfaya et al., 2023). This is in line with the observation that companies that are provided with green tax incentives work hard towards reporting. Moreover, this relationship is supported by the Institutional theory which elucidates why firms are aligned to an external force, regulations, and norms of environmental accountability. Green tax incentives serve as the force of institutional pressures that drive firms to better reporting, which is similar to the findings of Meyer and Rowan (1977), Yahaya (2024), and Hikal et al. (2025) that institutional mechanisms exert influence on sustainability disclosure. Therefore, the positive result of green tax incentives on the environmental disclosure as observed can be seen as due to both, the symbolic search of legitimacy and the obeying of the institutional demands in the Nigerian regulatory framework.

5. CONCLUSION AND RECOMMENDATIONS.

Conclusion

This paper concludes that the disclosure of the environment in the listed non-financial companies in Nigeria can be greatly enhanced through green tax incentives. The positive value coefficient suggests that those companies who enjoy green tax incentives report more on environmental issues, which is a good proof that fiscal incentives are an effective policy instrument in the area of raising transparency and sustainability reporting. On the other hand, the firm size, profitability, leverage, and industry type do not play a significant role in the disclosure practices implying that the firm-specific characteristic is not a significant driver of environmental reporting in the non-financial sector of the Nigerian setting. On the whole, the level of disclosure is usually low and is enhanced mostly by incentive-based and policy-driven methods as opposed to internal firm characteristics.

Recommendations

Based on these findings, some recommendations are put forward to the major institutions involved.

To begin with, Federal Government of Nigeria, via Federal Inland Revenue Service (FIRS) and Federal Ministry of Finance, must increase the extent and availability of the incentives in form of green taxes by broadening the eligibility criteria, adding industry-specific incentives in high-impact sectors like the non-financial firms, and streamlining the application and compliance process. Moreover, these agencies must also institute synchronized awareness to inform the firms about the advantages and necessity of green incentives, and also create transparent reporting protocols that are associated with eligibility of incentives.

Second, the regulator, the Financial Reporting Council of Nigeria (FRCN), and the Nigerian Exchange Group (NGX) should enhance the regulatory climate by imposing standardized requirements of environmental disclosure that are compatible with international models, including the GRI Standards. Such institutions are also expected to include the compliance with the green incentive programmes into the reporting requirement of the firms, and it should establish strong monitoring, verification and enforcement systems to maintain accuracy, completeness and uniformity of the information disclosed.

Third, the organizations that are non-financial should strategically institutionalize sustainability reporting as an element of their system of governance and as a long-term environmental management tool. These involve formation of sustainability committees,

incorporation of environmental performance measures into corporate strategy and investing in digital and environmental monitoring devices to help in effective reporting. Companies need to embrace international reporting systems and act by institutionalizing sustainability skills in their management staff to maintain a steady growth in environmental reporting. These strategic measures, taken together, will help improve the environmental governance environment in Nigeria and improve the viability and applicability of environmental disclosure in the non-financial sector.

Finally, there is the need to apply sector-based capacity-building programs, especially on manufacturing companies with greater environmental impressions, to ensure that they know not only the advantages of disclosure but also the opportunities offered by green tax incentives. To enhance the effectiveness of the synergy of fiscal incentives, regulatory frameworks, and corporate governance practices will also contribute to a higher degree of environmental accountability and assist Nigeria in moving towards more sustainable and transparent, as well as environmentally responsible corporate environment.

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