The Effect of Green Taxation on Financial Performance of Selected Oil and Gas Firms in Nigeria.

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ABSTRACT

This study investigated the effect of green taxation on financial performance of selected oil and gas firms in Nigeria for the period 2017-2022. The specific objectives were to investigate the effect of carbon emission taxes; to find out the effect of petroleum profit tax; and to investigate the effect of industrial pollution tax on financial performance of selected oil and gas firms in Nigeria for the period 2017-2022. The model included the total assets of the oil and gas firms as dependent variable. The study adopted *ex post facto* research and employed times series data sourced from the annual financial records of the oil and gas firms, and the Federal Inland Revenue Service (FIRS). Evidence of longrun relationship was found among the model variables through the Johansen test, and a fast speed of adjustment at 32.01% annually. The major findings of the study are: carbon emission taxes had significant negative effect on financial performance of oil and gas firms in Nigeria; petroleum profit tax has significant negative effect on financial performance of oil and gas firms in Nigeria; and industrial pollution tax has significant negative effect on financial performance of oil and gas firms in Nigeria. Based on the findings, the study concluded that green taxation had significant negative effect on the financial performance of oil and gas firms in Nigeria. The study recommended that: the policymakers should design a strategy toward reviewing the carbon emission taxes due to evidence of negative shock on the oil and gas firms; the petroleum profit tax should also be reviewed down in order to mitigate risks arising from their operation which affect their performance; the government should further increase the industrial pollution tax rate, this will deter industries from indiscriminate pollution of the environment, restore investor confident and stabilize stock market in Nigeria.

Keywords: Environment, Tax, Oil and Gas

INTRODUCTION

In implementing the various components of sustainable economic growth which is ensuring environmentally safe and friendly economic activities (exploitation of mineral resources); governments all over the world are using the tax approach. This has given birth to what is known as green taxation. It is called green tax, eco tax or environmental tax; hence irrespective of any of these names it takes, the goal remains the same (to ensure that firms which engage in the exploitation of mineral resources take responsibility to keep their operations environmentally friendly and harmless). Accorinf to OECD (2021) green taxation refers to policies, methods and administration of environmentally related taxes. These are compulsory payments made by economic agents on environmentally related tax-bases or carbon and energy related activities which are observed to be of particular environmental relevance. When the introduction of a green tax is accompanied by reductions of other taxes or distortions in the economic system, usually in the form of taxes on labour or social security, it is often referred to as green, ecological or environmental tax. The reason for the imposition of green tax is to change market signal for firms which engage in energy and carbon related activities to factor environmental costs into their production function.

Increasing financial performance (especially in terms of the return on assets of firms) has become a weighty

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management issue for the oil and gas sector firms in the wake of environmentally related taxes. This also relates to what is now called fiscal targeting of energy firms. The fiscal targeting relates to the taxation of energy related and oil and gas firms and investments. Such tax policies directed at petroleum profits, carbon emissions, and the environmental pollution activities of energy firms and energy investments are what is referred to as Green Taxation. The available literature on green taxation such as Kling, Volz, Victor Murinde and Ayas (2021) and European Systemic Risk Board (2020)holds that such tax policies targeted at carbon emission is aimed at remediating the effect of carbon emission on the environment.

The financial performance of oil and gas firms may be affected by a number of factors acting together, therefore a composite consideration of some of these factors is desirable. For instance, upward movement in the tax rate on petroleum profits, carbon emission and environmental activity taxes can drive the general price level because of its effect on the cost of production, and this instability may result in reduced funds to the firms, and this may lead to variations in trading activities and ultimately fluctuations in prices and hence the financial performance of the firms. Some studies have examined the nexus between environmental tax factors and the performance of energy and carbo related firms such as oil and gas, for example (Ayopo, Isola & Olukayode, 2016; Haider, Hashmi & Ahmed, 2017; Adjasi, 2009; Abdullahi & Fakunmoju, 2019; Diebold & Yilmaz, 2008; Baroian, 2014; Wang, 2010; Hashmi & Ahmed, 2017; Oseni & Nwosa, 2011; Liljeblom & Sterius, 1997); and they find negative relationship between green taxation and firms' performance.

The performance of the stock of listed oil and gas companies has grown 21% per year over the last three years according to NSE (2023). Revenues for these companies have been growing by about 20% per year. This means that more sales are being generated by these companies overall, and subsequently their profits are increasing too. The gains have been driven by the positive earnings from some oil exploration and related activities. Also the performance was partly attributed to gains recorded by the blue chip companies across the sub-sectors. Another stock market gauge, the NGX All Share Index, ASI has also recorded significant growth, closing the second quarter of 2023 at 60,968.27 points (NSE, 2023). Analysts are of the opinion that increased bargain-hunting activities would be seen in the stock market following expected spillover of government green tax policies relating to industrial pollution control, carbon emission taxing and petroleum profit tax. These changes expected in the performance of the oil and gas market could also be attributed to the prevailing mixed economic data, and contractionary policy commitments of the Central Bank of Nigeria.

Theoretical and empirical linkage on the effect of green taxation on oil and gas firms has been provided by prior studies. Models have been developed to assess the effect of green taxation on energy related firms. The models projects the financial performance of the firms (in terms of total assets) as a function of green or environmental taxation variables such as petroleum profit tax, carbon emission taxes, and industrial pollution tax, and solid mineral mining taxes. The performance of the firms were observed to react inversely to the green tax policy schemes (Carattini &Sen, 2019). When the environmental tax rates are increased, high carbon emitters such as oil and gas firms and even utility companies would see their share prices drop relative to low carbon emitters. But if the government introduces a low carbon tax today that increases over time the price reaction is moderate and not too extreme. A high carbon tax scheme pulls down the share prices of carbon intensive companies. Hence, investing in carbon intensive companies will appear like a wrong investment. Hence there is need to investigate the effect of green taxation on financial performance of oil and gas firms in Nigeria.

The financial and stock market performance of oil and gas firms in Nigeria is considered to be extremely volatile and poor (NGX, 2022). In addition, they are likely to be worst hit by the negative impact of tax rates on environmentally related activities especially in oil prospecting, exploration and related activities. (Feyen, Utz,.,Huertas , Bogdan & Moon, 2020). Consequently, this will hinder the ability of the firms through the stock market to play their role of providing strategic partnership that enhances the achievements of

sustainable economic growth, poverty reduction and the process of attaining sustainable development goals.

High taxes on environmentally and high carbon firms such as oil and gas activities and even energy and utility companies have been projected to see their share prices drop. Such drop in prices will further heighten investors growing concern regarding the overall economy. Energy companies in Nigeria have been on the decrease due to unsustainable tax scheme which hampers business performance and consequently produce significant impacts on their stock market performance. Some oil and gas firms avoid or evade tax. These companies that avoid or evade tax argue that the green taxation schemes such as petroleum profit tax industrial pollution rates have a huge impact on their profitability due to the high tax rate charged on assess able profit. Ilaboya and Ofia for (2020), opines that the increase in tax evasion by oil and carbon related firms is anchored on their argument that the taxes hampers their performance. Hence, the goal of this study is to investigate the effect of green taxation on the financial performance of oil and gas firms in Nigeria. The broad objective of the study is to determine the effect of green taxation on financial performance of oil and gas firms in Nigeria. The specific objectives are:

1. To assess the effect of petroleum profit taxon financial performance of oil and gas firms in Nigeria?
2. To evaluate the effect of carbon emission tax on financial performance of oil and gas firms in Nigeria?
3. To examine the effect of industrial pollution tax on financial performance of oil and gas firms in Nigeria?

REVIEW OF RELATED LITERATURE

Green Taxation

Carattini (2017) defined green taxes as excise taxes on environmental contaminants or on goods and services whose use contributes to pollution. Green taxes, also known as environmental, pollution, eco and carbon taxes, are meant to advance the environment. Environmental taxation is of great importance in environmental policies. The taxation is used mainly to discourage negative impact on the environment which occurs from the activities of businesses. Due to the dangers of global warming, corporations, governments, and consumers among other stakeholders are becoming aware of the impact of business activities on the environment.

Lako(2018) defined green taxation as an accounting system which considers the environmental impact of economic activities by placing tax on the activities of firms engaged in carbon emission and environmental exploitation. Hence, it could be described as a way of measuring and reporting the economic and environmental performance of a business or organization. It is also referred to as environmental accounting – the process through which companies disclose information relating environmental performance to show their evidence of accountability.It is a growing field in Accounting which identifies resource use measures and communicates costs of an organization or national economy actual or potential impact on the environment (Osemene, 2010). Also, Smulders (2008) defined green accounting as a type of accounting that attempts to factor environmental costs into the financial results of operation.

Numerous environmental groups have been established to pressurize all stakeholders to act sustainably. Since 1990s, environmental taxation has been applied in changing the burden of taxation from growth-oriented factors to help in reducing the depletion of natural resources and pollution (Andreoni, 2019). Businesses play a noteworthy role in the economic growth of a country. However, they are also leading contributors to the negative impact on the environment. As governments are looking to protect the environment, they have established some green taxation policies that are aimed at increasing the cost of natural resources as inputs to decrease their use in production and manufacturing. Green taxation has been implemented in many countries although it is yet to attain its intended purpose (Siebers et al., 2019). As

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governments seek to lessen the negative effect on the environment, there is a need to build support tools to enable firms to be sustainable at still make profits.

Carbon Emission Taxes

Carbon emissions refer to the release of CO2 from burning oil, coal, natural gas and waste materials for energy use. Carbon dioxide also enters the atmosphere from deforestation and from some industrial processes such as cement production. Carbon emission taxes refer to taxes levied on coal, oil products, and natural gas in proportion to their carbon content. The carbon tax is a major instrument for curbing greenhouse gas emissions that cause global warming. They are collected from fuel suppliers who in turn pass on the tax in the form of higher prices for electricity, gasoline, heating oil, etc, as well as for the products and services that depend on them. This provides incentives for producers and consumers alike to reduce energy use and shift to lower-carbon fuels or renewable energy sources through investment or behavior. While addressing climate change by reducing greenhouse gases, carbon taxes can also generate more immediate environmental and health benefits, particularly by reducing deaths that result from local air pollution. They can also raise significant revenue for governments, revenue they can use to counteract economic harm caused by higher fuel prices. For example, governments could use carbon tax revenue to ease the burden of taxation on workers by lowering personal income and payroll taxes.

Industrial Pollution Tax

Industrial pollution taxes are a wide range of legislative charges on businesses and private individuals, aimed at reducing practices which cause damage to the environment. Industrial companies are often responsible for producing a significant amount of pollution but are not the sole sufferers of the pollution (the surrounding area and local environment suffer, instead), taxes must be placed on the amount of harmful emissions they produce. There are many forms of industrial pollution tax, some of which are aimed at penalizing those who emit harmful chemicals and some of which are aimed to rewarding those who employ environmentally-friendly practices. Though there is a wide variety of this type of tax, all are aimed at helping Nigeria reach its goal of cutting harmful emissions by 80% by the year 2030 (following the sustainable development goals), and garnering more energy from sustainable, green means.

Petroleum Profit Tax

The Petroleum Profits Tax Act requires all companies engaged in the extraction and transportation of petroleum products to pay tax. It is particularly related to rents, royalties, margins, and profit-sharing elements associated with oil mining, prospecting, and exploration leases. Oil-producing companies are liable to tax under the Petroleum Profit Tax Act CAP P13 LFN 2004 at the following rates: Joint Venture Contracts, Risks Service Contracts and Sales Risk Operations – First Five years 65.75 percent; subsequently 85 percent; production Sharing Contract (PSCs) – 50 percent of chargeable profit (mainly for deep off-shore exploration and production).

Petroleum Profit Tax involves the charging of tax on the incomes accruing from petroleum operations (Nwezeaku, 2005). It was further noted that the importance of petroleum to the Nigerian economy gave rise to the enactment of a different law regulating the taxation of incomes from petroleum operations. The petroleum profit tax is charged, assessed and payable upon the profits of each accounting period of any company engaged in petroleum operations during any such accounting period, usually one year; January to December (Anyanwu, 1993).

Empirical Review

Faisal, Baban, Duong and Taylor (2022) investigated the relationship between green taxes and financial

distress Utilizing a sample of the top 300 Australian Securities Exchange (ASX)-listed non-financial firms over the period 2008–2019 and ordinary least squares (OLS) regression analysis with fixed effects, the authors found that higher levels of climate change tax policies are related to lower levels of financial distress. Additionally, the significant association between green tax and financial distress is manifested in firms with low litigation risk. Additional tests that mitigate self selection and endogeneity, such as propensity score matching (PSM) and the system generalized method of moments (GMM), show that the findings to be robust.

Uhunwangho (2022) examine the volatility of African Stock Markets and the factors influencing it in Africa. The Genera lised Auto regressive Conditional Heteroscedasticity (GARCH) was used to generate the volatility, and the Generalised Method of Moments was applied on dynamic panel model to examine the factors that account for volatility in Africa. Sixteen (16) African Stock Markets were covered for the period 2013 to 2019. Data was sourced from African Securities Exchanges Association, Bank for International Settlements and World bank development Indicators databases. The study found that macroeconomic instability and financial liquidity variables determine stock market volatility in Africa. Specifically, macroeconomic instability has positive and significant effect on volatility, while stock market liquidity, diaspora remittances, growth in money supply negatively influence stock market volatility. This study recommends that the monetary authorities, particularly Central Banks should inculcate stock market volatility as part of its financial stability goal and apply financial liquidity tools like diaspora remittances, money supply, and stock market liquidity to mitigate it, while ensuring stability in the macro-economy.

Bolton and Kacperczyk (2021) examined the effect of firms' carbon emissions on the cross-sectional pattern of stock returns of oil firms. The study used the ordinary least square regression analysis (OLS) to estimate the model using time series data. The study found that stock market all share index responded negatively to carbon emission taxes and solid mineral mining taxes but responded positively to the green bond variable. The study recommended a balanced climate change mitigation action by government in area of reviewing the extant carbon tax laws.

Muffee (2021) examined the effect of environmental taxation on corporate performance using environmental liability, cost, profit, and corporate resources as measurement variables. The area of study was development and management mission for industrial zones.The study adopted survey research method which it sampled the opinions of 40 respondents from 6 organizations. The Pearson correlation analysisused in the study revealed that there is significant positive relationship between environmental accounting and corporate performance. The study recommended that oil and gas firms should adopt accounting standards that will reveal the balance sheet effect of environmental taxes and devise strategies to make it cost effective. The study by Muffee differs from the current study by methodology and modeling. Muffee employed qualitative analysis while the current study employed quantitative analysis, this allows to properly measure and quantify the effects.

Theoretical Framework

Political Economy Theory

The theoretical framework adopted for this study is the political economy theory. This theory was propounded by Jevons in 1871. Political economy is the study of production and trades and how it is influence by law, custom and government; and political economy theory has been the most widely used theory to explain why organizations seem to yield to government or public pressure for the disclosure of information about the impact of their operations within and without the communities in which they operate (Liu & Anbumozhi, 2009; Deegan, 2002; Cormier & Gordon, 2001; Gutherie & Parker, 1990; Dowling & Pfeffer, 1975). Political economy theory has been used to explain the disclosure of social and environmental information by corporate organizations (Deegan & Unerman, 2006).

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DATA, METHODOLOGY AND MODEL

The research design adopted for this study is the *ex post facto*. This choice of this design is due to its suitability in forecasting time series variables. In this design, the use of past values to explain future outcomes is made possible. The processes to be followed will begin with the unit root test of stationarity, followed by the test for co-integration using the Johansen approach and then the ordinary least squares analysis. The data used for the study were sourced from the CBN statistical bulletin, the Nigerian Stock Exchange annual reports, and the Nigeria extractive industry transparency initiative (NEITI) reports. The data are time series data on carbon emission taxes (proxy by petroleum profit taxes) solid mineral mining taxes, and the federal government green bond. The data covers the period 2017-2022.

Model Specification

The following model is developed to assess the effect of green taxation on the financial performance of oil and gas firms in Nigeria for the period 2017-2022. The model projects performance of the firms in terms of total assets as a function of green taxation variables such as petroleum profit tax, carbon emission taxes and industrial pollution tax; the model is specified below:

TAS = (PPT, CET, IPT) … 1

Where: TAS = total assets, PPT = petroleum profit tax, CET = carbon emission tax, IPT = industrial pollution tax. The linearized (econometric) model is specified thus

$TAS_t = \beta 0 + \beta_1 PPT_t + \beta_2 CET_t + \beta_3 IPT_t + + Ut$ …2

Where β1, β2, and β3 are the estimated coefficients of the green taxation variables of carbon emission, petroleum profit tax, and industrial pollution tax

RESULTS

Descriptive Statistics

The summary of the selected descriptive statistics from the data set is presented in table 1. From the table, average return on assets across the firms (ROA) is about 60.05% for the period under review while that of the green taxation variables (carbon emission tax – CET, industrial pollution tax- IPT, and petroleum profit tax – PPT) are 625088.6 billion naira, 634582.7 billion naira and 521948.0 billion naira respectively. These averages (mean values) shows that there is high level of influence of explanatory variables on the explained variable

Table 1: Selected descriptive Statistics

	ROA	**CET**	**IPT**	**PPT**
Mean	60.05952	625088.6	634582.7	521948.0
Std. Dev.	3289509.	224992.6	219920.4	257768.1
Skewness	5.199469	-0.741856	-0.222690	0.187071
Kurtosis	28.03448	2.640346	1.776521	1.549754
Observations	30	30	30	30

Source: Author's computation 2024 (Eviews 10)

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Further up in the analysis, the researcher considered the value of the skew ness and kurtos is of all the variables used. Skewness defines the extent to which a distribution differs from a normal distribution, the closer the values are to zero, the more normal the data sample is said to be; the descriptive result above shows that all the variable data have a normal distribution. By closely inspecting the result, some fascinating information regarding the kurtosis also turns up. Kurtosis is a measure of the combined weight of the two tails relative to the rest of the distribution; to accept a normal weighted sample, the Kurtosis value must be equal to 3. The study variables have values approximately equal to 3 for which case it supposes a normal weighted distribution. The implication is that the data employed for this study has satisfied the expectation of normalcy of distribution and fit for use in policy decision making.

Correlation test

Correlation test was used to ascertain the strength and magnitude of the relationship between the dependent and independent variables. The result of the correlation test is presented in table 3 below:

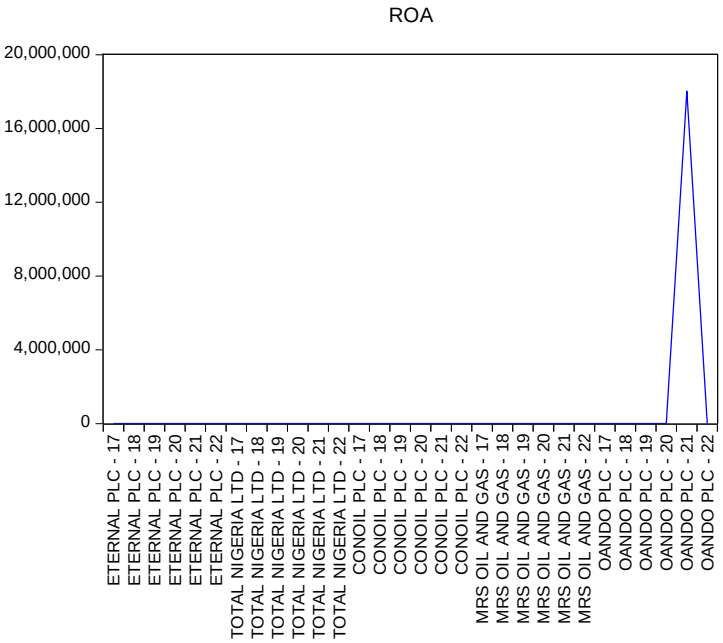
Table 3: Correlation Matrix

	ROA	CET	IPT	PPT
ROA	1.000000	-0.016066	-0.188494	0.193460
CET	-0.016066	1.000000	0.172737	0.002095
IPT	-0.188494	0.172737	1.000000	0.458600
PPT	0.193460	0.002095	0.458600	1.000000

Source: Author's Computation 2023 (E views 10)

The correlation test result in table 3 above shows the correlation between the dependent variable (financial performance of the oil and gas firms – ROA) and the independent variables (carbon emission tax – CET, industrial pollution tax- IPT, and petroleum profit tax – PPT). The relationship appeared to be inverse negative. The petroleum profit tax variable turned up to be negatively correlated with the financial performance of the firms, while the carbon emission tax and the industrial pollution tax variable werealso negatively correlated with the return on assets.

Graphical trend of the Dependent Variable (ROA)



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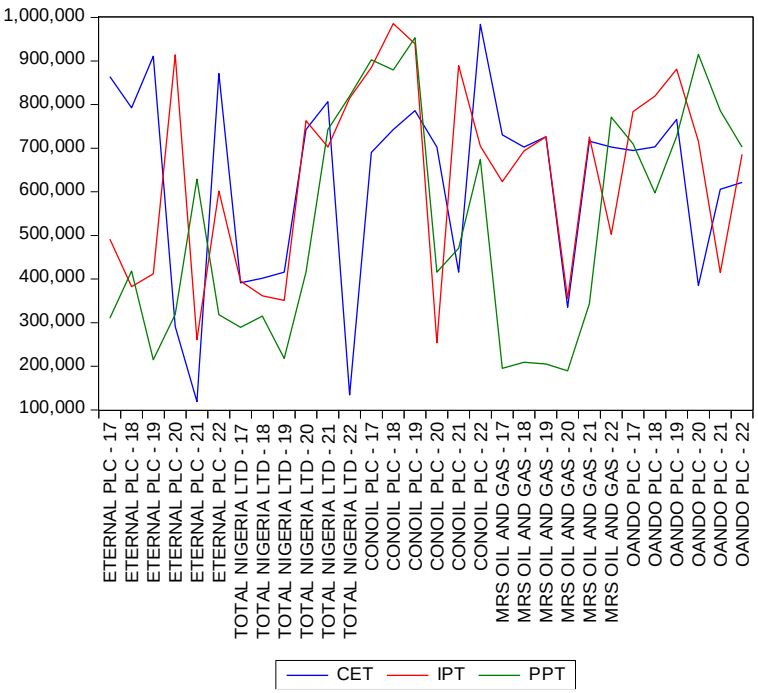
The graphical trend on the return on asset (ROA) showed somewhat level path. This could have different implications depending on business environment surrounding the firms aside the tax obligation. The trough of the inverted path pointed to OANDO for the year 2020, 2021 and 2022 respectively. This could imply the highest performing year based on their return on asset or the worst. For the other oil and gas firms, there was a level up crest in the path of the curve for return on asset. This could imply that the firms face these same tax constraints. What may differ however is their immediate business environment.

Graphical Trend of the Environmental tax variables



The trend was erratic for all this tax variables. The revelation may imply a greater uneven tax demand patterns which consequently mean a negative influence of the environmental tax on the firms.

Regression Analysis

Since the study adopted a panel data analysis. The researcher performed the pooled regressions. Table 3 below presents the panel least squares regression results using.

Table 3: Baseline Panel Regression Results

Dependent Variable: ROA				
Method: Panel Least Squares				
Date: 01/26/24 Time: 03:49				
Sample: 2017 2022				
Periods included: 6				
Cross-sections included: 5				
Total panel (balanced) observations: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CET	-1.511217	2.132101	-2.708793	0.0045
IPT	-4.708414	2.784647	-2.690848	0.0024
PPT	-4.920886	2.507226	-2.962681	0.0101

R-squared	0.627944	Mean dependent var	600595.2
Adjusted R-squared	0.593347	S.D. dependent var	3289509.
S.E. of regression	3.183613	Akaike info criterion	32.87957
Sum squared resid	2.74E+14	Schwarz criterion	33.01969
Log likelihood	-490.1936	Hannan-Quinn criter.	32.92440
Durbin-Watson stat	2.627037		

Sources: Researcher's computation 2023 (E-views)

On table 3, the study considered the pooled panel least squares regression result. Observing this result, the study pools all 30 observations together and ran the regression model, neglecting the cross section and time series nature of the data. It was found that the R-squared value for the pooled regression model is 0.627944 indicating that 62.79% of the total variation in the financial performance of the oil and gas firms (return on asset – ROA) is explained by the explanatory variables (environmental tax variables). More so, all the variables were found to significantly influence the return on assets. This is confirmed by their P-values [CET = 0.0045], [IPT = 0.0024] and [PPT = 0.0101].

From the results obtained, the estimated coefficient value for carbon emission tax (CET) is -1.511217, with p-value of 0.0045. This implied that carbon emission taxes have significant negative effect on financial performance of oil and gas firms in Nigeria. The findings agrees with empirical studies that green taxes have important implication to the oil and gas firms, Policymakers, investors, and other market participants. The result matches the findings by Kling, Volz, Victor Murinde and Ayas (2021), and also Wu, Xiao, Liu and Zhang (2020) and For example, Bolton and Kacperczyk (2021) which examined the effect of firms' carbon emissions on the cross-sectional pattern of stock returns and report that stock markets correctly price a discount firm with high carbon emissions. Also Nwaiwu and Oluka (2018) found that oil firms' environmental cost (carbon emission tax) exerted negative significant effect on the stock market translating into high volatility of market performance and outcome.. This connects with Utile, Tarbo, and Ikya (2017); and Obida, Owolabi, Enyi, and Akintoye (2019).

This study found petroleum profit tax to be negatively significant on the total assets (financial performance) of oil and gas firms in Nigeria, as indicated by the coefficient (-4.920886, and p-value, 0.0101). The financial crisis and global recession of the year 2008 has made a number of governments to raise taxes or to consider ways to raise tax revenue from the petroleum mining firms and related businesses. The corporate income tax makes up only a part of the overall tax costs under consideration by investors. In general, the international trend is an increase in the overall tax burden on mining companies because governments view mining companies as quite profitable in the light of increased mineral prices. The subsurface contract miner is not permitted to offset costs of one mining contract against income of another contract or activity. The imposition of mining royalties can be at the national/federal level or provincial/state level of government.

Stock prices react positively to market-wide industrial sector favorable news but they do not react negatively to unfavorable news such as tax holidays or reduction in rates. The estimated coefficient value for industrial pollution tax (IPT) is -4.708414 with a p-value of 0.0024 which imply that industrial pollution tax has significant negative effect on financial performance of oil and gas firms in Nigeria. The results are robust to different model specifications and across equity markets. Industrial pollution is an urgent issue confronted by developing countries due to their industrialization and urbanization process, and increasing fossil fuels consumption in the past decades. The bad environmental quality due to industrial pollution would increase mortality and morbidity, reduce agricultural production, and damage ecological environment, and part from health problems; it also produces adverse impacts on economic activities

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study investigated the effect of green taxation on the financial performance of selected oil and gas firms in Nigeria. The financial performance being the dependent variable was proxy by the total assets of the firms (TAS), while the green taxation policy was proxy by carbon emission taxes (CET), petroleum profit tax (PPT) and industrial pollution tax (IPT). The study reviewed relevant literature and found gaps in terms of topic, geography, time and model specification of previous studies. The study adopted *ex post facto* research design and the panel least squares regression technique to estimate the regression coefficients.

From the results of the analysis, the model test of stationarity showed all the variables to be stationary at level and integrated of order 1(1). The descriptive and normality test indicated that the data was normal and fit for the intended analysis. The study found evidence of long run relationship among the model variables based on the Johansen test for cointegration. The vector error correction indicated a fast speed of adjustment from the short run to the longrun at about 32.04% annually. From the system equation regression, the major findings of the study are: carbon emission taxes had significant negative effect on financial performance of oil and gas firms in Nigeria, (coefficient – CET=-1.511217, p-value 0.0045); petroleum profit tax has significant negative effect on financial performance of oil and gas firms in Nigeria, (coefficient – PPT = -4.920886, p-value = 0.0101); and industrial pollution tax has significant negative effect on financial performance of oil and gas firms in Nigeria. (Coefficient – IPT = -4.708414, p-value of 0.0024).Based on the findings, the study concluded that green taxation had significant negative effect on financial performance of oil and gas firms in Nigeria. Based on the findings from this research conducted on the effect of green taxation on financial performance of oil and gas firms in Nigeria, the study made the following recommendation: the policymakers should design a strategy toward reviewing the carbon emission taxes due to evidence of negative shock on the oil and gas firms; the petroleum profit tax should also be reviewed down in order to mitigate risks arising from their operation which affect their performance.; and the government should further increase the industrial pollution tax rate, this will deter industries from indiscriminate pollution of the environment, restore investor confident and stabilize stock market in Nigeria.

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APPENDIX

Data For Regression Analysis

YEAR	COMPANY	ID	CET	IPT	PPT	ROA
2017	ETERNAL PLC	1	864100	491500	310300	11.8291

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2018	ETERNAL PLC	1	792540	382400	418400	10.219
2019	ETERNAL PLC	1	911000	412000	214800	12.66772
2020	ETERNAL PLC	1	291000	914000	318900	21.2563
2021	ETERNAL PLC	1	119000	261000	629200	9.401735
2022	ETERNAL PLC	1	871000	602000	318300	14.69594
2017	TOTAL NIGERIA LTD	2	391300	395300	289500	11.6128
2018	TOTAL NIGERIA LTD	2	401800	361500	315200	19.00124
2019	TOTAL NIGERIA LTD	2	415790	351000	217790	20.66772
2020	TOTAL NIGERIA LTD	2	742980	762900	415700	14.2563
2021	TOTAL NIGERIA LTD	2	806620	702630	742980	23.40735
2022	TOTAL NIGERIA LTD	2	134530	814800	819600	11.69194
2017	CONOIL PLC	3	690500	885100	902400	13.401791
2018	CONOIL PLC	3	742700	985800	879500	18.911203
2019	CONOIL PLC	3	785980	939400	953520	20.40438
2020	CONOIL PLC	3	702690	253800	415790	20.66772
2021	CONOIL PLC	3	415790	889400	470350	21.25163
2022	CONOIL PLC	3	984040	704700	673900	13.40735
2017	MRS OIL AND GAS	4	730700	623500	195100	13.1002
2018	MRS OIL AND GAS	4	702600	693800	209400	12.99101
2019	MRS OIL AND GAS	4	726094	726150	205430	14.12694
2020	MRS OIL AND GAS	4	335120	355100	189720	20.30732
2021	MRS OIL AND GAS	4	715950	725800	343620	17.45261
2022	MRS OIL AND GAS	4	702690	502600	771250	10.81638
2017	OANDO PLC	5	694500	784100	709800	11.00172
2018	OANDO PLC	5	702800	819300	597400	12.94001
2019	OANDO PLC	5	766094	881300	726900	13.20054
2020	OANDO PLC	5	385150	715600	915100	22.06703
2021	OANDO PLC	5	605950	415100	785980	18017398
2022	OANDO PLC	5	621650	685900	702610	21.19988

Source: Firs Annual Reports, The Annual Financial Statements Of The Firms For Various Years

Correlation Test

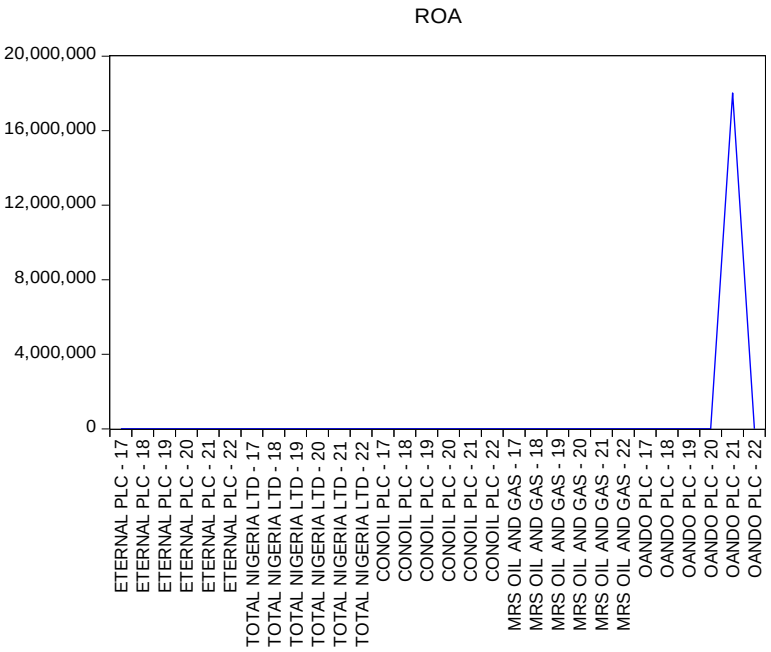
	ROA	CET	IPT	PPT
ROA	1.000000	-0.016066	-0.188494	0.193460
CET	-0.016066	1.000000	0.172737	0.002095
IPT	-0.188494	0.172737	1.000000	0.458600
PPT	0.193460	0.002095	0.458600	1.000000

Descriptive Stats

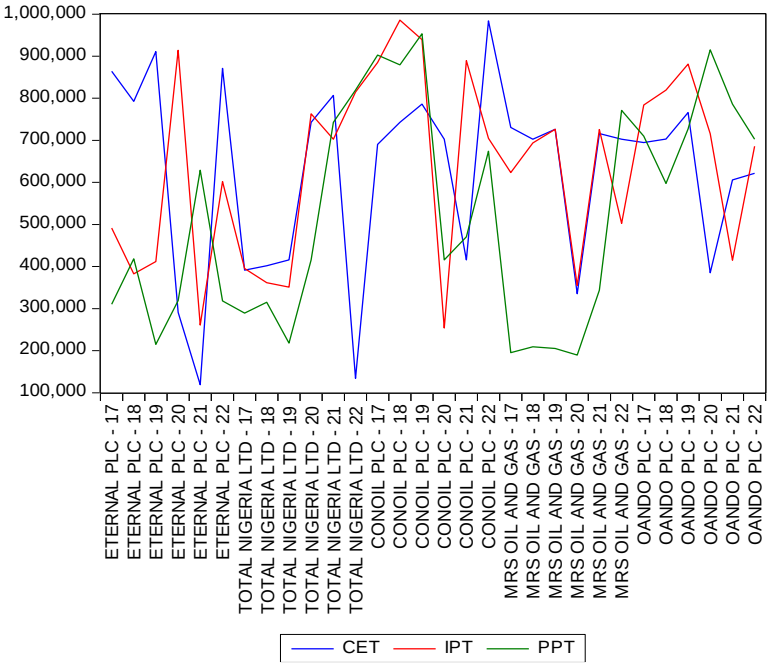
	ROA	CET	IPT	PPT
Mean	600595.2	625088.6	634582.7	521948.0
Median	14.19162	702690.0	698215.0	444375.0

Maximum	18017398	984040.0	985800.0	953520.0
Minimum	9.401735	119000.0	253800.0	189720.0
Std. Dev.	3289509.	224992.6	219920.4	257768.1
Skewness	5.199469	-0.741856	-0.222690	0.187071
Kurtosis	28.03448	2.640346	1.776521	1.549754
Jarque-Bera	918.5791	2.913437	2.119079	2.803994
Probability	0.000000	0.233000	0.346615	0.246105
Sum	18017856	18752658	19037480	15658440
Sum Sq. Dev.	3.14E+14	1.47E+12	1.40E+12	1.93E+12
Observations	30	30	30	30

Graphical Trend



CET, IPT PPT



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Panel Regression Result

Dependent Variable: ROA				
Method: Panel Least Squares				
Date: 01/26/24 Time: 03:49				
Sample: 2017 2022				
Periods included: 6				
Cross-sections included: 5				
Total panel (balanced) observations: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CET	-1.511217	2.132101	-2.708793	0.0045
IPT	-4.708414	2.784647	-2.690848	0.0024
PPT	-4.920886	2.507226	-2.962681	0.0101
R-squared	0.627944	Mean dependent var		600595.2
Adjusted R-squared	0.593347	S.D. dependent var		3289509.
S.E. of regression	3.183613	Akaike info criterion		32.87957
Sum squared resid	2.74E+14	Schwarz criterion		33.01969
Log likelihood	-490.1936	Hannan-Quinn criter.		32.92440
Durbin-Watson stat	2.627037			