Indo-Asian Journal of Finance and Accounting
Vol. 5, No. 2, 2024, pp. 173-200
https://DOI:10.47509/IAJFA.2024.v05i02.04

ARF INDIA
Academic Open Access Publishing
www.arfjournals.com

The Green Taxation and Financial Performance of Selected oil and Gas Firms in Nigeria (2010 - 2023)

Ele, Linus Egwu

Department of Banking and Finance, University of Uyo, Uyo, Akwa Ibom State.
E-mail: egwulines@gmail.com / linusele@uniuyo.edu.ng

Received: 10 September 2024; Revised: 13 October 2024;
Accepted 19 October 2024; Publication: 29 December 2024

Abstract: The study was conducted to analyse the effect of green taxation on the financial performance of selected oil and gas firms in Nigeria. It specifically examined the effects of industrial pollution tax, carbon emission tax and petroleum profit tax on return on capital of the selected oil and gas firms in Nigeria. Five (5) companies were selected in the study. The ex post factor research design was adopted and secondary data covering the period between 2010-2023 were sourced from the audited annual financial statements of the selected firms and Federal Inland Revenue Services (IFRS) annual reports. The data formed a pool of fifty (50) observations and were analysed using the Panel Least Square (PLS) multiple linear regression technique. The results demonstrated that carbon emission tax (with the coefficient of 421.2105 and p-value 0.0022), industrial pollution tax (with the coefficient of 2.018446 and p-value 0.0000) and petroleum profit tax (with the coefficient of 80.40683 and p-value 0.0056) all had positive and significant effects on return on capital of the selected oil and gas firms in Nigeria. It was concluded that that green taxation components have significant positive effect on the financial performance of selected oil and gas firms in Nigeria. Based on the findings, it was recommended among others that oil and gas firms should incorporate Green tax practices as a significant component of their management process, this is because it helps to innovate on production and improve the financial performance of the firms.

Keyword: Financial Performance, *Industrial Pollution Tax, Carbon Emission Tax, Petroleum Profit Tax, Return on Capital*

To cite this paper:
Ele, Linus Egwu (2024). The Green Taxation and Financial Performance of Selected oil and Gas Firms in Nigeria (2010-2023). *Indo-Asian Journal of Finance and Accountings*. 5(2), 173-200. *https://DOI:10.47509/IAJFA.2024.v05i02.04*

1. INTRODUCTION

1.1. Background to the Study

In Today's World where intensive material consumption depletes natural resources and causes negative environmental impacts, there is growing call from different quarters for environmental conservation and sustainable practices by firms especially those in the oil and gas sector. The introduction of green taxes serves as effective means for achieving environmental goals and addressing climate change by shifting economic incentives towards more environmentally friendly and/or sustainable practices.

Green taxes are also known as environmental, pollution, ecological, and carbon taxes and are used to shift the burden of taxation from growth-oriented factors to help in reducing depletion of natural resources and pollution. They are excise taxes levied by the government on products and services whose production and/or use contributes to environmental pollution (Fayzieva, 2023; Al-Alaw and Nobanee, 2020). Governments of various countries have implemented the green tax system in an effort to discourage some business activities that can have a negative effect on the environment.

Proponents of green taxes argue that along with their crucial role in controlling environmental pollution, they also enable the correction of market failures, reduce the distortionary effects of other taxes, and ensure that the costs of externalities are institutionalized in the price of a product. However, critics of green taxes argue that contrary to the expected outcome of reducing the distortionary impact of other taxes, green taxes may increase the distortions of the whole tax system or over-shift the tax burden to the final consumers (Mpofu, 2022; Ekpe, Emmanuel and Josiah, 2021; Nerudová and Dobranschi, 2016). Therefore, the economic and environmental outcomes of green taxes have remained a topic of debate among scholars. It was in this vein that Mpofu (2022) asserted that there are so many intricacies surrounding the claims that the green taxes correct market failures.

Kuralbayeva (2019) cited in Fayzieva (2023) argued that in developing countries, governments implement the green taxation not only as a mean of ensuring environmental safety but also as an avenue through which some other important socio-economic objectives such as generating adequate revenue, provision of basic infrastructural facilities, reduction in unemployment, among others, can be achieved. Therefore, the use of green taxes to control greenhouse gas (GHG) emissions and to effectively control pollution, have the potential

to attract many significant advantages to any nation. These advantages include the ability to raise public revenue, transparency, environmental effectiveness and economic efficiency (Rotimi, 2021).

Jolaiya (2024) deduced that the implementation of the green taxation policies in Nigeria, is government's conscious effort aimed at informing firms who engage in energy or carbon related activities to factor into their production cost functions, the environmental cost implications of their business operations. As such, green taxes are targeted at carbon emission firmed with the sole aim of ameliorating the negative effects of carbon emission on the environment. However, on the side of the firms whom these taxes are levied on, the green taxes constitute a burden, as these firms constantly seek way to cut operational costs in order to increase their financial performance (Jolaiya, 2024). Therefore, to oil and gas firms, green taxes is perceived as additional cost elements which have the potential to significantly drive up the overall cost of production.

The implementation of the green taxation policy across countries have the potential to encourage sustainable environmental practices by firms and also act as an avenue to boost government revenue. However, there is a growing concern on the potential effect of these taxes on the performance of the affected firms and the possible ripple effect it might have on the overall economy of the nation.

Furthermore, it has been observed that the imposition of green taxes on oil and gas firms raises concerns about the potential adverse implications on their financial performance. High taxes may lead to reduced profitability, decreased investor confidence, and diminished competitiveness, ultimately threatening the viability of these companies. Also, the increased tax burden may force firms to divert resources from investments in exploration, production, and innovation to tax payments, potentially stunting industry growth and development. The imposition of green taxes on oil and gas firms may also result to the issue of "dead weight loss" of the tax system, where potential revenue generated from the taxes may be inadequate to offset the potential negative economic consequences emanating from such taxes.

Moreover, theoretical evidence has linked increase in green taxes to reduced financial performance of oil and gas firms in Nigeria. However, there is dearth of empirical evidence to this effect. It was this lack of comprehensive empirical literature on the direction and magnitude of effect of green taxes on the financial performance of oil and gas firms that necessitated the researcher to embark on this study which aims to empirically investigate the effect of green taxation on the financial performance of selected oil and gas firms in Nigeria.

The main objective of this study is to examine the effect of green taxation on the financial performance of selected oil and gas firms in Nigeria. The specific objectives includes: investigate the effect of industrial pollution tax on financial performance of selected oil and gas firms in Nigeria; assess the effect of carbon emission tax on the financial performance of selected oil and gas firms in Nigeria; examine the effect of petroleum profit tax on the financial performance of selected oil and gas firms in Nigeria.

2. REVIEW OF RELATED LITERATURE

2.1. Conceptual Review

2.1.1. The Concept of Green Taxation

Green taxation refers to a range of fiscal instruments and policies aimed at reducing environmental harm and promoting sustainable development in the oil and gas sector. This includes taxes, fees, and other economic incentives that encourage companies to adopt environmentally friendly practices, reduce pollution, and invest in clean energy technologies. Bala *et al*. (2023) noted that green taxes consistent of different components such as carbon taxes, transportation, resource taxes and energy taxes.

According to Heine (2012), green taxation is a way for governments to influence corporate behaviour by levying taxes against practices or product which harm the environment such as greenhouse gas emitters gasoline, products that contain toxic chemicals like batteries, industrial use of agricultural pesticides, among others. Green taxes are needed to provide incentives to lessen environmental degradation and preserve the environment. Olatunji (2015) argued that the revenue generated from green taxes can be used for environmental preservation projects. The authors noted that the major goal of environment taxation is environmental protection, which ultimately aims to curb practices that harm the environment.

In Nigeria, several environmental and protection laws have been enacted by the Federal Government in order to ensure that firms comply with the environment related matters and that the same is reported in their annual reports and accounts. The reporting of these environment cost constitute what is termed as green accounting and it has its root in green taxation. Accordingly, Egbunike and Okoro (2018) defined green accounting as the practice of providing accurate information (in firms' annual reports and accounts) on the probable social costs emanating from production externalities upon the

environment and how many deliberate intervention costs have been incurred in order to bridge the gap between marginal social and private costs.

Further confirming the link between green taxation and green accounting, 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.

2.1.2. The Implementation of Green Taxation

Over the last decade, nations and international organizations have fought to come up with a system of universal governance that will help them tackle climate change and environmental degradation (Kuralbayeva, 2019). The common policy has been the implementation of green taxation, which despite its familiarity, has not been fully accepted in many countries. Moreover, while only a few countries chose green taxes, most nations want to implement soft policies such as subsidies for renewable energy which in most instances are not only regressive but also very expensive. Carattini *et al.* (2017) argued that the implementation of green taxation has proved difficult in many nations. However, learning from past failures, it is important for nations to increase popularity and broaden the implementation of green tax reforms. Green taxation policies, like other taxation reforms, has faced opposition in many countries. However, governments that have been strict on these reforms have seen an increase in green tax revenue and compliance.

Almansoori *et al.* (2019) argued that corporate sustainability reporting is one of the methods organizations are using to disclose their sustainable activities. Such reporting can be used by governments in determining the appropriate green taxation policies to use. In the Europe for instance, there was increased green tax revenue with 5 out of 25 countries experiencing a positive advancement in a sustainable system. In other countries, economic growth

and structural variations impact have been the key driver of green tax revenue disparities. Therefore, most nations are not doing enough to implement the green tax reforms and to shift it from labor to the environment (Andreoni, 2019).

In Nigeria, the implementation of green taxation has been a gradual process. The Nigerian government announced the launch of a Carbon Tax policy in February 2023 to reduce carbon or greenhouse gas emissions and raise revenue (Federal Government of Nigeria, 2023). The policy was in line with the Energy Transition Plan, which was approved by then President Buhari in accordance with the Climate Change Act 2021. The National Council on Climate Change (NCCC) was saddled with the responsibility of developing a framework for a carbon tax system in Nigeria.

The NCCC was to work in collaboration with the Federal Inland Revenue Service (FIRS) to develop a mechanism for carbon tax in Nigeria. The proceeds from the carbon tax was to be used to fund the Climate Change Fund proposed by Climate Change Act 2021. The implementation of green taxation in Nigeria was seen as a significant step towards promoting sustainable development and reducing carbon emissions. As noted by the World Bank (2019), green taxation can be an effective tool for reducing carbon emissions and promoting sustainable development.

2.1.3. Industrial Pollution Tax

The concept of an industrial pollution tax, also known as a pollution levy or environmental tax, is a fiscal policy tool aimed at reducing environmental degradation by imposing financial costs on polluting activities. This approach is grounded in the "polluter pays" principle, which asserts that those who generate pollution should bear the costs associated with its impact on the environment (Heine, Norregaard and Parry, 2018). By internalizing the external costs of pollution, such taxes incentivize firms to adopt cleaner technologies and reduce their emissions.

Economic theory suggests that pollution taxes can be an effective means of addressing environmental externalities. According to Pigou (1920), taxing pollution at a rate equivalent to the marginal social cost of the damage caused can lead to an optimal level of pollution where social welfare is maximized. This idea has been further developed and supported by recent empirical studies, which demonstrate that well-designed environmental taxes can lead to significant reductions in emissions (Siegmeier *et al.*, 2018).

One of the major advantages of pollution taxes is their potential to generate government revenue that can be used for environmental and social programs. Studies have shown that revenues from carbon taxes, for example, can be substantial and can be used to fund renewable energy projects or to reduce other distortionary taxes, thereby enhancing overall economic efficiency (Parry and Wingender, 2020). However, the success of such policies depends on the political will and public acceptance, which can vary significantly across regions (Baranzini, Bergh and Carattini, 2020).

Critics of pollution taxes argue that they can be regressive, disproportionately affecting low-income households who spend a larger share of their income on energy and other taxed goods (Fullerton, Leicester, & Smith, 2018). To mitigate this, some countries have implemented compensatory measures such as rebates or exemptions for vulnerable groups. Additionally, there is a risk of "carbon leakage," where firms relocate to countries with less stringent environmental regulations, thereby undermining the effectiveness of the tax (Branger and Quirion, 2020).

Recent advancements in environmental economics emphasize the importance of combining pollution taxes with other regulatory measures. For instance, a hybrid approach that includes both taxes and tradable permits can address the limitations of each instrument individually and enhance overall environmental outcomes (Goulder and Schein, 2019). Moreover, integrating pollution taxes with broader sustainability policies can create synergies that promote green innovation and sustainable economic development (Marron and Morris, 2022).

2.1.4. Carbon Emission Tax

A carbon emission tax, also known as a carbon tax, is a policy instrument designed to reduce greenhouse gas emissions by imposing a fee on the carbon content of fossil fuels. This economic approach is based on the principle that polluters should bear the costs of the environmental damage they cause, thereby internalizing the externalities associated with carbon emissions (Parry, Mylonas, & Vernon, 2021). The primary goal of a carbon tax is to provide a financial incentive for businesses and individuals to reduce their carbon footprint by adopting cleaner technologies and practices.

The theoretical foundation of a carbon tax is grounded in the concept of Pigouvian taxes, which aim to correct market failures caused by negative externalities (Pigou, 1920). By setting a price on carbon, the tax encourages

emitters to consider the social costs of their actions, leading to a more efficient allocation of resources. Empirical studies have shown that carbon taxes can effectively reduce emissions when appropriately designed and implemented. For instance, a study by Andersson (2019) demonstrated that Sweden's carbon tax significantly decreased the country's carbon emissions while maintaining economic growth.

The implementation of carbon taxes varies across different jurisdictions, reflecting diverse economic and political contexts. For example, the European Union has implemented a carbon pricing mechanism through the EU Emissions Trading System (ETS), which complements national carbon taxes (European Commission, 2020). Similarly, British Columbia in Canada has successfully implemented a carbon tax that has led to reductions in greenhouse gas emissions without harming the economy (Murray & Rivers, 2015). These examples highlight the importance of tailoring carbon tax policies to specific regional circumstances.

One of the main advantages of a carbon tax is its potential to generate substantial government revenue. These funds can be used to finance renewable energy projects, energy efficiency programs, or to reduce other distortionary taxes, thereby improving overall economic efficiency (Carl and Fedor, 2016). Additionally, revenues can be redistributed to households through rebates or dividends, which can help mitigate the regressive impact of the tax on low-income populations (Metcalf, 2019). This approach not only addresses environmental concerns but also promotes social equity.

Despite its potential benefits, the implementation of a carbon tax faces several challenges. One significant concern is the impact on industrial competitiveness, as higher energy costs could lead to "carbon leakage," where businesses relocate to countries with less stringent environmental regulations (Branger and Quirion, 2020). To address this issue, some policymakers propose border carbon adjustments, which impose tariffs on imported goods from countries without equivalent carbon pricing mechanisms (Cosbey *et al.*, 2019). Such measures aim to level the playing field and prevent the undermining of domestic carbon policies.

Public acceptance is another critical factor influencing the success of carbon tax policies. Resistance can arise from concerns about increased living costs and economic burden on households (Carattini, Baranzini and Lalive, 2018). Effective communication and the transparent use of tax revenues are essential to gain public support. For example, public opinion research suggests

that earmarking carbon tax revenues for environmental and social programs can significantly enhance acceptance (Klenert *et al.*, 2018). Policymakers must engage in robust stakeholder consultations and provide clear explanations of the benefits to build trust and support.

2.1.5. Petroleum Profit Tax

Petroleum Profit Tax (PPT) is a tax levied on the profits of companies involved in petroleum operations. The essence of this tax is to ensure that the government of the host country derives substantial revenue from the exploitation of its natural resources. In Nigeria, PPT is governed by the Petroleum Profit Tax Act (PPTA), which stipulates the framework for assessing and collecting tax from companies engaged in petroleum activities, including exploration, drilling, extraction, and sale of crude oil (Adediran *et al.*, 2020).

The PPT was introduced in Nigeria to replace the previous royalty and rent-based system, which was deemed inadequate for capturing the economic rents generated by petroleum operations. Since its introduction, the tax has been a significant source of revenue for the Nigerian government. According to Eniola and Eyinla (2018), petroleum profit tax accounts for a considerable portion of Nigeria's total tax revenue, reflecting the central role of the oil sector in the country's economy.

The assessment of PPT in Nigeria involves determining the chargeable profit, which is the difference between the gross revenue from petroleum operations and the allowable deductions specified under the PPTA. Allowable deductions include exploration costs, operational expenses, capital allowances, and other costs directly related to the production of oil. This mechanism ensures that only the net profit from petroleum operations is taxed (Udo and Igbinovia, 2019).

The PPTA stipulates different tax rates depending on the nature of the contract between the government and the petroleum company. For example, the tax rate for joint venture agreements is generally higher than that for production sharing contracts. Additionally, the Nigerian government has implemented various fiscal incentives to attract investment in the petroleum sector, such as tax holidays and reduced tax rates for marginal field operations (Oladele and Abubakar, 2021).

Despite its significance, the administration of PPT in Nigeria faces several challenges. One major issue is the complexity of the tax system, which can lead to disputes between the government and oil companies over tax liabilities.

Additionally, the volatility of global oil prices affects the predictability of revenue from PPT. As Afolayan and Ojo (2022) note, these challenges necessitate continuous reforms to ensure the efficiency and fairness of the tax system.

Recent reforms in the Nigerian petroleum sector aim to address these challenges and enhance the effectiveness of PPT. The Petroleum Industry Act (PIA) of 2021 introduced significant changes, including the restructuring of the Nigerian National Petroleum Corporation (NNPC) and the creation of a more transparent regulatory framework. According to Ogbuigwe (2022), these reforms are expected to streamline tax administration and improve revenue collection from petroleum operations.

The effective administration of PPT has a profound impact on Nigeria's economy. It not only provides essential revenue for government expenditure but also influences the level of investment in the petroleum sector. Efficient tax policies can attract foreign investment, stimulate local industry growth, and contribute to overall economic development. Research by Okafor *et al*. (2019) indicates that a well-structured PPT system can enhance economic stability and foster sustainable development in resource-rich countries like Nigeria.

2.1.6. Financial Performance and Its Measures

There is need to understand the construct "performance" before considering financial performance. Performance is a difficult concept, in terms of both definition and measurement. It has been defined as the result of activity, and the appropriate measure selected to assess corporate performance is considered to depend on the type of organization to be evaluated, and the objectives to be achieved through that evaluation. In this study, the definition of Horsfall (2022) was adopted. According to the author, performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage. There are two kinds of performance, financial performance and non-financial performance. Financial performance emphasizes on variables related directly to financial report. Company's performance is evaluated in three dimensions. The first dimension is company's productivity, or processing inputs into outputs efficiently. The second is profitability dimension, or the level of which company's earnings are bigger than its costs. The third dimension is market premium, or the level of which company's market value is exceeding its book value (Horsfall, 2022).

Orgil (2024) defined financial performance as a complete evaluation of how well a company can use its assets from its primary mode of business and generate revenues. It measures a firm's overall financial health over a given period and is used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Orgil, 2024). Key components of financial performance include:

- **Revenue**: The income a business earns from its normal business activities (typically from the sale of goods and services to customers)
- **Profitability**: The company's ability to generate profit from its operations, and what percentage of sales this profit represents.
- **Cost structure:** Operating costs, including fixed and variable costs.
- **Assets**: Financial resources the company owns that have the potential for future economic benefits (e.g., cash, inventory, property).
- **Liabilities**: Obligations or debts a company owes to external parties (e.g., loans, accounts payable).
- **Cash flow**: The amount of money coming into and going out of a company during a given time period.
- **Solvency**: The company's ability to meet its long-term debts and financial obligations.
- **Liquidity**: Its ability to quickly convert assets into cash to meet short-term obligations.

There are several ratios that are used to measure the company performance. Spira (2013) mentioned accounting-based performance using three indicators: return on assets (ROA), the return on total equity (ROE) and return on investment (ROI). These are widely used to assess the performance of firms. Even though more sophisticated methods such as IRR, CFROI and DCF modelling have come along; ROE has proven as a good technique. It focuses on return to the shareholders of the company but on the other hand it can obscure a lot of potential problems. Companies can use financial strategies in order to artificially maintain healthy ROE and thus hide deteriorating performance in business fundamentals. On the other hand, ROA avoids the potential distortions created by misleading financial strategies. Another ratio used to represent firm financial performance is so called Tobin's Q ratio. It is calculated as a market value of the company divided by the replacement value of the firm's assets. For the purpose of this study, return on asset (ROA) shall form the proxy of financial performance.

2.1.9. Return on Assets (ROA)

Return on Assets (ROA) determines an organization's efficiency in the ability to make use of its assets. Return on Assets (ROA) is described to be the sum of a company's fixed assets and current assets as recorded in the company's statement of financial position. It is also, described as the sum of all cash, investments, PPE (property, plant and equipment), equipment, receivables, intangibles, and any other piece of value a business entity owns (Horsfall, 2022).

The return on assets ratio evaluates the financial performance of an organization in terms of its investment in total assets or net assets. The fund employed in net assets is known as capital employed. Net assets equal net fixed assets plus current assets minus current liability, excluding bank loans. Alternatively, capital employed is equal to net worth plus total debt. The formula for calculating it is:

$$\textbf{ROA} = \frac{\textbf{Net Profit After Tax + Interest}}{\textbf{Total Assets}}$$

The total assets have been financed from funds supplied by creditors and owners. In measuring the return on assets, the intention is to judge the effectiveness of using the total funds supplied. The return on assets is a useful measure of the profitability of all financial resources invested in the firm's assets. It evaluates the use of total funds without any regard to the sources of funds (Nwanyanwu, 2013). Many analysts consider the return on total assets ratio to be a better measure of management's ability to effectively utilize assets independent of how the assets were financed. Under the return on assets, also referred to as return on total investment ratio, investment is the number of resources provided by both owners and creditors (Horsfall, 2022).

2.2. Theoretical Review

2.2.1. Polluter Pays Principle

The Polluter Pays Principle (PPP) was first introduced in 1972 by the Organization for Economic Corporation (OECD). The principle believes that, the polluter should be held responsible for pollution. Specifically, the principle imposes liability on persons who pollutes the environment as well as compensate for the damage caused to the health of humans and the environment to its original state (Gaur *et al.*, 2022). The PPP is therefore a foundation principle of environmental policy that guides sustainable development. The main idea of the theory is that, each polluter is expected to achieve both production and

pollution. This implies that, the polluter should not only benefit from the activity causing the pollution, but also bear the consequences of the harms imposed on others or the environment as a result of his activities. Therefore, in adopting the PPP, the strategy is to ensure that those who produce waste are responsible for recycling and disposing the waste.

Over the years, the PPP is believed to have helped to some extent in mitigating the damage caused to the environment. Despite the efficacy of the principle, it has some set back especially in developing nations. Firstly, most of the developing nations are yet to sign the principle as a main environmental policy guideline (Gaur *et al.*, 2022). Secondly, there is persistent ambiguity in identifying the actual polluter who is expected to bear the cost. Thirdly, the polluter may be poor household, an informal sector firm or a mid-size formal sector firms, hence, it will be difficult to impose the liability on such category of polluters. Despite the aforementioned lapses of the principle, it is nowadays used as a strong administrative, legal and economic tool for restraining pollution problems. It is also used as tool for preventing and remedying the environmental damages as well as protects the species and natural habitats including the soil and water. Hence, the polluter pays principle is part of a set of broader principles to guide sustainable development worldwide.

2.3. Empirical Review

Jolaiya (2024) investigated the effect of green taxation on financial performance of selected oil and gas firms in Nigeria for the period 2017-2022. 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). Panel Least Squares (PLS) regression technique was used to analyze the data. 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 and recommended that policymakers should design a strategy toward reviewing the carbon emission taxes due to evidence of negative shock on the oil and gas firms.

Bala *et al.* (2023) explored environmental taxes' impact on Nigerian oil and gas companies' disclosure of environmental accounting information. The study

used auxiliary data by generating information on the outcome variable and the explanatory variable from the "Organization for Economic Cooperation and Development" (OECD) and yearly reports of the oil and gas corporations in Nigeria. The analysis included thirteen (13) companies as of December 31, 2021. Fixed-effects regression using Estimation using Driscoll and Kraay standard errors (DKSE) was used in the study. The study revealed that an increase in total green taxes or transportation taxes will stimulate the disclosure of environmental accounting information by the oil and gas corporations in Nigeria.

Uddin, Rahman and Saha (2023) examined the impact of green tax and energy efficiency on sustainability in the context of Bangladeshi manufacturing companies. Three hundred eighty-three responses were collected from manufacturing companies in Bangladesh, and partial least squares structural equation modeling(PLS-SEM) was used to analyze the data. The results show that green tax significantly positively affects environmental and social sustainability but not economic sustainability. Energy efficiency has a positive impact on all three dimensions of sustainability. Furthermore, energy efficiency mediates the relationship between green tax and economic, environmental, and social sustainability. The findings suggest that energy efficiency should be promoted as an effective means of achieving sustainability in manufacturing companies and that green tax policies can be enhanced by incorporating energy efficiency measures.

Efutade *et al*. (2023) conceptually analyze the current situation and development of green tax system in Nigeria. The study noticed uncertainty about the public acceptance of green taxes and the difficulty in predicting the rate at which pollution will fail if environmental taxes are implemented. Despite the difficulties, the study affirms that environmental tax is gaining momentum in Nigeria. Accordingly, the study suggested that Nigeria should introduce and develop the scope of taxation as well as adopt the method of green tax to cultivate taxpayers' green awareness. The government should come up with a systematic policy framework for the successful design and implementation of environmental taxes. Therefore, it is high time for a system of green tax to be popularized in order to keep up with the global standards of environmental protection.

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.

Mpofu (2022) explored the challenges and opportunities associated with green taxes in respect of revenue mobilization, protection of the environment and delivery of the Sustainable Development Goals (SDG). The study used a qualitative approach by adopting a comprehensive review of literature to find out possible research and policy gaps in relation to green taxes, environmental protection and the fruition of the SDGs. The study found that green taxes are pivotal to dealing with environmental challenges. These taxes can also be used to address climate change concerns and ensure environmental sustainability. However, care should be taken to ensure that environmental taxes are effectively assessed to avoid driving businesses out of environmentally taxing jurisdictions to non-taxing ones or those with lower tax rates.

A similar study was conducted by Muhammad *et al.* (2021) using thematic analysis on 60 articles. The objective of the study was to systematically review the empirical studies using Reporting Standard for Systematic Evidence Syntheses (ROSES). Based on the review, the study found that most citizens will support environmental taxation policy if they are well informed about the content and effectiveness of the policy particularly as it relates to revenue increase for the government. The study also found that Nigerian citizens perceive the environment taxation policy as a fair policy in terms of costs distribution and social sharing. They are also concern about how the policy will address climate change issues and how it will protect the environment.

3. METHODOLOGY

3.1. Research design

The study adopted ex-post facto research design also known as "after-the-fact" research, is used when the researcher is trying to ascertain the cause and effect of the relationship that exist between two variables(independent and dependent variable), which looks into how an independent variable affects a dependable variable by using data which are already in existence. Thus it is

the most preferable research design when analyzing casual relationship in this design. It is aimed to know the effect of green accounting in terms of a firm's profitability measured as.

3.2. Area of the Study

The study is limited to five (5) selected oil and gas firms in Nigeria: Eterna plc, Total Nigeria Limited, Conoil Plc, Mrs Oil and Gas, Oando PLC. These were studied for assessment of data on the effect of green accounting on their financial performance proxy by their total assets.

3.3. Population of the Study

There are many listed oil and gas firms in Nigeria. However, for want of required data this work will be making use of 5 of listed oil and gas firms operating in Akwa Ibom State. The firms are as listed in section 3.2 above

3.4. Source of Data

This research will be making use of secondary data. The relevant data were sourced from the annual reports and accounts of companies available on their website and from Nigerian stock exchange. The data collected from the period (2010-2023). The annual reports includes: annual financial statement, annual reports of global tax payment to nations by quoted oil and gas firms, annual returns submitted at Nigerian stock exchange for the years under study.

3.5. Model Specification

The model for this study of the effect of green accounting on the financial performance of selected oil and gas firms in Nigeria is specified as follows:

ROC =f (CET, IPT, PPT)……Equation 1

The econometric form of the model for estimation is given thus:

ROC= $\beta 0 + \beta 1 CET + \beta 2 PPT + \beta 3 IPT + \mu$……Equation 2

Where:

ROC = Financial performance proxied by Return on capital

CET = Carbon emission tax

PPT = Petroleum profit tax

IPT = Industrial pollution tax

$\beta 1$ to $\beta 3$ = The parameters to be estimated

μ = Error term

3.6. Description of Research Variables

Carbon emission tax (CET): Carbon emission tax is a type of penalty that businesses must pay for excessive greenhouse gas emissions. The tax is usually levied per ton of greenhouse gas emissions emitted. Carbon taxes, levied on coal, oil products, and natural gas in proportion to their carbon content, can be collected from fuel suppliers

Industrial Pollution Tax (IPT): these 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.

3.7. Analytical Technique

The analytical techniques employed in the study include, the Augmented Dickey Fuller Unit Root test, the Bounds test of long-run relationship and the autoregressive distributed lag model (ARDL) estimation or the system equation estimation of the vector error correction estimates (depending on the outcome of the pre estimation tests), the Breusch-Godfrey test of serial correlation, the CUSUM test of model parameter stability, the Jacque Bera normality test, and the Granger causality test – all using the E-views 10.0 environment.

The study carried further tests using E-views statistical software in order to establish the reliability and robustness of the thesis findings. Some of these tests carried out will be presented subsequently. The model variables were tested for stationarity using the Augmented Dickey-Fuller Unit root approach which will support the evasion of analysing inconsistent and spurious relationships. Time series variables are stochastic in nature, or simply wander around at random, and exhibit non-stationary tendency, which make future forecasting complex (Mailafia 2014). The concept of stationarity is exposed by Hall (1994) who perceives stationarity of a series from the perspective of constant return to a given value irrespective of the starting point, which entails that in the long-run, it has tendency to attain that value. A non-stationary series could be made stationary by differencing once or twice to produce an integrated series. It could be integrated of order 0 which is often denoted as 1(0), order 1 represented as 1(2) or order 2 represented as 1(2) or even mixed order. The stationary linear combination of the variables under consideration is called cointegration equation (Engle and Granger, 1991).

The co-integration test was also be carried out (using the Johansen or Bounds approach), in order to establish the long run reliability of the model, the cointegration test is a test for the estimation of long run relationship, which in this context is between the government infrastructure spending, and the explanatory variables. For variables to be cointegrated, it implies that they share a long-run relationship and will move closely together over time. This could also mean that the differences between such variables are stable over time, and there is a degree of convergence in the long-run. The normality test shall be treated using the Jarque-Bera statistics derived from Eviews version 10, and followed by another stability test using the cumulative sum of the residuals (CUSUM) test; this is aimed at ascertaining whether or not there exists any parameter instability in the model.

3.8. Test of Research Hypotheses and Decision Rules

In this study, the decision making on the statistical significance of the results obtained for each of the research hypotheses rests on the probability values and the level/ direction of the coefficient. Thus, in testing the first, second, third, fourth and fifth hypotheses, the P-values of the population parameters (t-statistics) will be used. The hypotheses will be tested based on the result of the autoregressive distributed lag (ARDL) result. The test of hypothesis will follow three (3) steps (restatement of the null hypothesis, decision rule, and decision).

Step 1: Restatement of the null Research Hypothesis

The null hypothesis is restated into the alternative hypothesis to be accepted in the event the null hypothesis is rejected, and vice versa.

Step 2: Decision Rules

- **Decision Rule 1:** Accept the alternate hypothesis and reject the null hypothesis if the P-value is less than the chosen level of significance (0.05). It implies that the estimated variable has significant impact on the dependent variable.
- **Decision Rule 2**: Accept the null hypothesis and reject the alternate hypothesis if theP-value is greater than the chosen level of significance (0.05). It implies that the estimated variable has insignificant impact on the dependent variable.

Step 3: Decision

Decision is hereby taken depending on the outcomes following step 2 above

Presentation of Results

The following analysis was based on the panel data with a cross section of 5 selected oil firms for the period 2010-2023 and total of 50 observations. The selected listed oil and gas firms are: Total E&P Plc, Conoil Plc, Eterna Plc, MRS oil and Gas Plc and Oando Plc. The goal of the analysis is aimed at previewing the characteristics of the dependent and independent variables and estimating the quantitative value of the independent variables. The tests include the unit root test, the correlations test and Panel least squares regression.

4.1. Unit Root Test

Stationarity is an important concept in panel and time series analysis. It usually implies that the statistical properties of a series (or rather the process generating it) do not change over time. Stationarity is important because many useful analytical tools and statistical tests and models rely on it. Moreover, economic and finance theory often suggests the existence of long-run equilibrium relationships among non-stationary series. Hence, in order to ensure the policy and forecasting reliability of the data employed in this, it was subjected to unit root diagnostic test and the summary of the result is presented below:

Table 1: Unit root test result

Variable	*ADF-Fisher @level*	*P-value*	*Cross section*	*Observation*	*Order*	
Remark						
ROC	34.3519	0.0002	5	50	1(0)	stationary
CET	25.6640	0.0097	5	50	1(0)	stationary
IPT	47.42297	0.0000	5	50	1(0)	stationary
PPT	34.3237	0.0015	5	50	1(0)	stationary

Source: Author's computation 2023 (E-views)

The result in table 1 above shows that the model variables (return on capital – ROC, carbon emission tax – CET, industrial pollution tax – IPT and petroleum profit tax – PPT) were stationary (@ level as the unit root test confirms. Hence, they are integrated of order 1(0). The conclusion of stationarity is based on the fact that following the rule for unit root testing, p-value of the individual (ADF-Chi-square test statistic) of the variables is less than the 5% significance level.

The implication of stationary process or series is that the model employed can be relied upon for policy analysis and decision making.

4.2. 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.

Table 2: Correlation Matrix

	ROC	*CET*	*IPT*	*PPT*
ROC	1.000000			
CET	0.708822	1.000000		
IPT	0.684432	0.074077	1.000000	
PPT	0.816462	-0.273463	0.147051	1.000000

Source: Author's Computation 2023 (Eviews)

The correlation test result in table 3 above shows the correlation movements of the dependent variable (return on capital – ROC) and the independent variables (carbon emission tax, industrial pollution tax and petroleum profit tax). The relationship was positive between the return on capital and the explanatory variables. This implies that there is a direct positive relationship between the green accounting components actions of the firms and their financial performance.

4.3. Panel Regression Result

Table 3 below presents the panel regression results

Table 3: Regression Result

Dependent Variable: ROC
Method: Panel Least Squares
Date: 08/24/24 Time: 09:41
Sample: 2010 2023
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
CET	421.2105	26.75752	2.574176	0.0022
IPT	2.018446	0.406901	3.045333	0.0000
PPT	80.40683	5.156268	2.959400	0.0056
R-squared	0.682746			

Source: author's computation 2023 (Eviews)

Observing this result (table 3 above), the study pooled all 50 observations together in the regression model, not taking cognizance of features such as the cross section and time series nature of the data. The coefficient of determination (R-squared value) for the regression model is 0.682746 indicating that about 68.28% of total variation in the financial performance of the selected oil and gas firms is explained by the green accounting components variables (emission control cost, pollution control cost and the renewable energy). Following the regression estimates, all the green accounting variables turned up positive and significant. This is confirmed by the population parameter (t-stat) and the p-value of the coefficients [carbon emission tax, CET - t-stat = 2.574176, p-value = 0.0022], [industrial pollution tax, IPT- t-stat = 3.045333, p-value = 0.0000], and [petroleum profit tax - PPT t-stat =2.959400, p-value = 0.0056]. Hence, the green tax components of the oil and gas firms have significant impact on their financial performance.

4.4. Test of Research Hypotheses

In this study, the decision making on the statistical significance of the results obtained for each of the research hypotheses rests on the probability values and the level/ direction of the coefficient. Thus, in testing the first, second and third hypotheses, the P-value of the population parameters (t-statistics) in table 3 were used and provide the basis for the decision rule.

4.4.1. Test of Hypothesis One

Step 1: Restatement of the null Research Hypothesis

$\mathbf{H_{01}}$: Carbon emission tax has no significant effect on the financial performance of selected oil and gas firms in Nigeria

Step 2: Decision Rules

Decision Rule 1**:** Accept the alternate hypothesis and reject the null hypothesis if the P-value is less than the chosen level of significance (0.05). It implies that the estimated variable has significant impact on the dependent variable.

Decision Rule 2: Accept the null hypothesis and reject the alternate hypothesis if the p-value is greater than the chosen level of significance (0.05). It implies that the estimated variable has insignificant impact on the dependent variable.

Step 3: Decision

Based on the regression result presented in table 3, the coefficient of carbon emission tax parameter is positive and significant in determining financial performance of the firms. This statement is based on its p-value. Since 5% (0.05) level of significance is greater than the P-value [0.05 > 0.0022], the null hypothesis is rejected, the study, accordingly accepts the alternate hypothesis and the study concludes that carbon emission tax has positive significant effect on the financial performance of selected oil and gas firms in Nigeria.

4.4.2. Test of Hypothesis Two

Step 1: Restatement of the null Research Hypothesis

H_{02}: Petroleum profit tax has no significant impact on the financial performance of selected oil and gas firms in Nigeria

Step 2: Decision Rules

Decision Rule 1: Accept the alternate hypothesis and reject the null hypothesis if the P-value is less than the chosen level of significance (0.05). It implies that the estimated variable has significant impact on the dependent variable.

Decision Rule 2: Accept the null hypothesis and reject the alternate hypothesis if the p-value is greater than the chosen level of significance (0.05). It implies that the estimated variable has insignificant impact on the dependent variable.

Step 3: Decision

Based on the regression result presented, the coefficient of petroleum profit tax (PPT) is 0.008085 whereas its p-value is [0.0056]. The parameter has significant positive effect on the return on capital of the oil and gas firms. Following the decision rule, the study rejects the null hypothesis. The alternative hypothesis that petroleum profit tax has significant positive impact on the financial performance of selected oil and gas firms in Nigeria is hereby accepted.

4.4.3. Test of Hypothesis Three

Step 1: Restatement of the null Research Hypothesis

H_{03}: Industrial pollution tax has no significantly impact on the financial performance of selected oil and gas firms in Nigeria

Step 2: Decision Rules

Decision Rule 1: Accept the alternate hypothesis and reject the null hypothesis if the P-value is less than the chosen level of significance (0.05). It implies that the estimated variable has significant impact on the dependent variable.

Decision Rule 2: Accept the null hypothesis and reject the alternate hypothesis if the p-value is greater than the chosen level of significance (0.05). It implies that the estimated variable has insignificant impact on the dependent variable.

Step 3: Decision

Based on the regression result presented, the coefficient of industrial pollution tax (IPT) is 2.018446 whereas its p-value is [0.0000]. Following the decision rule, the study rejects the null hypothesis. The alternative hypothesis that industrial pollution tax has positive significant impact on the financial performance of selected oil and gas firms in Nigeria is hereby accepted.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of Findings

The study examined the effects of Green taxation components on financial performance of selected oil and gas firms in Nigeria for the period 2010 to 2023. The summary of the findings is based on the results obtained from the panel least squares econometric regression techniques and the tests of hypotheses carried out in the study. Below is the summary of the major research findings:

- The study found that carbon emission tax with coefficient (421.2105) and p-value (0.0022) has significant positive effect on the return on capital of selected listed oil and gas firms in Nigeria.
- The study found that the industrial pollution tax has positive significant effect on the return on capital of selected listed oil and gas firms in Nigeria. (coefficient =2.018446, p-value = 0.0000)
- The study also found that petroleum profit tax with coefficient (80.40683) and p-value (0.0056) has significant positive effect on the return on capital of selected listed oil and gas firms in Nigeria.

5.2. Conclusion

The study examined the effects of Green taxation components on financial performance of selected oil and gas firms in Nigeria for the period 2010 to

2023 using panel data generated from 5 selected listed oil and gas firms in Nigeria. Based on findings from the empirical results, the study concludes that Green accounting components has significant positive effect on the financial performance of selected oil and gas firms in Nigeria.

5.3. Policy Recommendations

Based on the findings of the study, the following recommendations are put forward:

- The oil and gas firms should incorporate Green tax practices as a significant component of their management process, this is because it helps to innovate on production and improve the financial performance of the firms.
- The firms should adopt a management practice where the carbon emission control tax is also a significant variable; the emission control as a green accounting variable contributes to the financial performance of the firms.
- The firms should also adopt the pollution cost and renewable energy accounting in their production accounting model as it helps the firms to leverage its external economies of scale and improve financial performance.

References

Adediran, S., Eniola, A. O., & Oyinlade, F. O. (2020). Petroleum Profit Tax administration in Nigeria: Challenges and prospects. *Journal of Energy and Environmental Economics*, 12(2), 145-163.

Afolayan, A. A., & Ojo, B. O. (2022). Challenges in the administration of Petroleum Profit Tax in Nigeria. *Nigerian Journal of Oil and Gas Law,* 18(1), 75-89.

Al-Alaw, K., & Nobanee, H. (2020). Green taxes and sustainable development. *Journal of Environmental Economics,* 45(2), 345-360.

Almansoori, T., Khan, S. A., & Hussain, M. (2019). Corporate sustainability reporting and its impact on environmental policies. *Journal of Corporate Social Responsibility*, 12(4), 289-310.

Andersson, J. J. (2019). Carbon taxes and CO2 emissions: Sweden as a case study. *American Economic Journal: Economic Policy,* 11(4), 1-30.

Andreoni, V. (2019). Environmental taxes: Drivers behind the revenue collected. *Journal of cleaner production*, 221(1), 17-26.

Bala, H., Al-Absy, M. S. M., Ya'u, A., Abdullahi, M., Sani, A. A., Khatoon, G., Mustapha, U. A., & Miss, B. (2024). The Effect of Environmental Taxes on

Environmental Accounting Disclosure of Nigerian Oil and Gas Companies. *International Journal of Energy Economics and Policy*, 14(2), 477-483.

Baranzini, A., Bergh, J. C. J. M. van den, & Carattini, S. (2020). A carbon tax for climate change mitigation: A review of key concepts. Wiley Interdisciplinary Reviews: Climate Change, 11(4), e620.

Branger, F., & Quirion, P. (2020). Carbon leakage and competitiveness of cement and steel industries under the EU ETS: Much ado about nothing. *Energy Journal*, 41(2), 261-283.

Carattini, S., Baranzini, A., & Lalive, R. (2018). Is taxing carbon regressive? Evidence from the Swiss carbon tax. *Environmental and Resource Economics,* 71(2), 207-242.

Carl, J., & Fedor, D. (2016). Revenue potential from global carbon pricing. *Climate Policy*, 16(6), 709-729.

Cosbey, A., Droege, S., Fischer, C., & Munnings, C. (2019). Developing guidance for implementing border carbon adjustments: Lessons, cautions, and research needs from the literature. *Review of Environmental Economics and Policy,* 13(1), 3-22.

Deegan, C., & Unerman, J. (2006). *Financial Accounting Theory: European edition.* McGraw-Hill Education.

Efunade, O. T., Lawal, S. A., & Alabi, S. M. (2023). The Pigouvian tax theory: Its relevance and applications in modern environmental policies. *Environmental Economics and Policy Studies,* 10(3), 233-245.

Egbunike, C. F., & Okoro, G. (2018). Green accounting: A tool for achieving sustainable development. *International Journal of Accounting and Taxation,* 6(1), 44-58.

Ekpe, H., Emmanuel, A., & Josiah, O. (2021). The impact of green taxes on market distortions. *International Journal of Environmental Economics*, 27(3), 193-210.

Eniola, A. O., & Eyinla, B. (2018). Petroleum Profit Tax and its impact on Nigeria's economic development. *International Journal of Energy Economics and Policy*, 8(3), 245-251.

European Commission. (2020). EU Emissions Trading System (ETS). European Commission Official Report, 2020, pp. 32-45.

Faisal, J. Baban, A. & Taylor, B. (2022). Examining industrial structure changes and corresponding carbon emission reduction effect by combining input-output analysis and social network analysis. *Journal of Cleaner Production,* (162), 61-70

Fayzieva, N. (2023). The role of green taxation in environmental protection. *Journal of Environmental Policy and Planning,* 22(4), 511-529.

Federal Government of Nigeria. (2023). Announcement of the Carbon Tax Policy. Official Gazette of the Federal Republic of Nigeria, February 2023, pp. 12-15.

Fullerton, D., Leicester, A., & Smith, S. (2018). Environmental taxes. In Dimensions of Tax Design: The Mirrlees Review (pp. 423-470). Oxford University Press.

Gaur, S., Gupta, N., & Singh, R. (2022). The Polluter Pays Principle (PPP): Evolution, application, and challenges in sustainable development. *Environmental Policy and Law*, 52(5), 356-369.

Goulder, L. H., & Schein, A. R. (2019). Carbon taxes versus cap and trade: A critical review. *Climate Change Economics,* 10(1), 1950002.

Heine, D., Norregaard, J., & Parry, I. (2018). Environmental tax reform: Principles from theory and practice to date. International Monetary Fund Working Paper, WP/18/42.

Horsfall, K. A. (2022). Overview of Financial Performance Concept in Organisations. *BW Academic Journal,* 1(1), 5. Retrieved from https://www.bwjournal.org/index.php/bsjournal/article/view/782

Jevons, W. S. (1871). *The Theory of Political Economy*. Macmillan and Co.

Jolaiya, O. F. (2024). The Effect of Green Taxation on Financial Performance of Selected Oil and Gas Firms in Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 8(3), 2620-2634. https://dx.doi.org/10.47772/IJRISS.2024.803182

Klenert, D., Mattauch, L., Combet, E., Edenhofer, O., Hepburn, C., Rafaty, R., & Stern, N. (2018). Making carbon pricing work for citizens. *Nature Climate Change*, 8(8), 669-677.

Kuralbayeva, K. (2019). The welfare and unemployment outcomes of environmental tax reforms in developing countries. *Environmental Economics and Policy Studies*, 21(3), 451-478.

Lako, C. (2018). Green taxation: Economic impact and environmental benefits. *Journal of Environmental Economics*, 10(3), 22-34.

Marron, D. B., & Morris, A. C. (2022). Designing a carbon tax to reduce U.S. greenhouse gas emissions. Urban-Brookings Tax Policy Center Working Paper, 2022, pp. 1-28.

Metcalf, G. E. (2019). On the economics of a carbon tax for the United States. *Journal of Economic Perspectives,* 33(4), 3-27.

Mpofu, T. (2022). Green taxes and market failure correction: A critical review. *African Journal of Environmental Economics and Management*, 15(2), 125-142.

Muffee, S. (2021). The effect of environmental taxation on corporate performance. *Journal of Industrial Development and Management,* 12(4), 134-152.

Muhammad, A., Adewale, K. A., & Ibrahim, T. (2021). Environmental taxation policy in Nigeria: Public perception and policy implications. *Journal of Environmental Policy & Planning,* 23(2), 198-213.

Nerudová, D., & Dobranschi, M. (2016). Green taxation and its implications for economic efficiency. *Journal of Sustainable Development,* 9(2), 104-118.

Nwanyanwu, L. A. (2013). Financial reporting and organizational liquidity in Nigeria: the accounting bases perspective. *Research Journal of Finance and Accounting*, 4(16), 79-89.

Ogbuigwe, A. (2022). Petroleum Industry Act 2021 and its impact on tax administration in Nigeria. *Journal of African Law,* 66(3), 379-397.

Okafor, C., Adegbite, T. A., & Maduekwe, O. (2019). Petroleum Profit Tax and economic growth in Nigeria: An empirical analysis. *Journal of Taxation and Economic Development*, 18(1), 27-44.

Oladele, O., & Abubakar, A. (2021). Fiscal incentives and the Petroleum Profit Tax regime in Nigeria. *International Journal of Energy Sector Management,* 15(3), 567-586.

Olatunji, T. (2015). The advantages and disadvantages of green taxation: A critical analysis. *Journal of Environmental Economics,* 10(3), 223-237.

Orgil, E. (2024). Financial Performance. Dealhub. Retrieved from https://dealhub.io/glossary/financial-performance

Osemene, O. F. (2010). Environmental accounting: A tool for sustainability. *Journal of Accounting and Business*, 5(2), 70-83.

Parry, I. W. H., & Wingender, P. (2020). The case for carbon taxation in developing countries. International Monetary Fund Working Paper, WP/20/98.

Pigou, A. C. (1920). *The Economics of Welfare*. Macmillan and Co.

Rotimi, O. (2021). Environmental Tax and Pollution Control in Nigeria. *KIU Interdisciplinary Journal of Humanities and Social Sciences*, 2(1), 280-301

Siegmeier, J., Fehr, M., Held, H., & Kriegler, E. (2018). Climate change mitigation taxation: A survey of the literature. *Journal of Environmental Economics and Management*, 91, 103-126.

Smulders, S. (2008). Green accounting: Integrating environmental costs into financial accounting. *Environmental and Resource Economics,* 41(2), 179-195.

Spira, L. F. (2013). Ceremonies of governance: Perspectives on the role of the audit committee. *Journal of Management and Governance*, 1(3), 31-260.

Uddin, S. M., Rahman, M. A., & Saha, R. (2023). Impact of green tax and energy efficiency on sustainability: Evidence from Bangladeshi manufacturing companies. *Journal of Cleaner Production,* 386, 135763.

Udo, F., & Igbinovia, E. (2019). Evaluating the efficiency of Petroleum Profit Tax administration in Nigeria. *Journal of Fiscal Studies,* 17(2), 121-139.

World Bank. (2019). The role of green taxation in promoting sustainable development. World Bank Report on Climate Change and Development, 2019, pp. 45-62.