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## **Taxation and Economic Growth in Nigeria: Evidence from Autoregressive Distributed Lag Analysis**

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### **Abstract**

*This study examines the effect of taxation on economic growth in Nigeria using quarterly data spanning 2011Q1–2024Q4, with emphasis on tax composition rather than aggregate tax revenue. Specifically, the study investigates the growth effects of Petroleum Profit Tax, Company Income Tax, and non-import Value Added Tax, while real gross domestic product is employed as the proxy for economic growth. A quantitative research design is adopted, and the Autoregressive Distributed Lag (ARDL) framework is utilised to analyse short-run dynamics and test for the existence of a long-run relationship. The ARDL bounds test indicates the absence of cointegration, suggesting that taxation and economic growth do not exhibit a stable long-run equilibrium relationship over the study period. Short-run estimates from the selected ARDL(5,0,0,0) model reveal that economic growth is predominantly driven by its own lagged dynamics, reflecting strong persistence. Petroleum Profit Tax and Company Income Tax exert negative but statistically insignificant short-run effects on growth, whereas non-import Value Added Tax exhibits a statistically significant negative effect. These findings indicate that the growth effects of taxation in Nigeria are short-run and structure-dependent, underscoring the importance of improving tax efficiency, enhancing productive revenue utilisation, and promoting fiscal diversification to support sustainable economic growth.*

**Keywords:** taxation; economic growth; petroleum profit tax, company income tax, non-import Value Added Tax, quarterly data

### **1.0 INTRODUCTION**

Economic growth represents the sustained expansion in the productive capacity of an economy over time and remains a central objective of macroeconomic policy, particularly in developing countries. It is commonly measured using real gross domestic product (RGDP), which reflects the inflation-adjusted value of goods and services produced within an economy. Sustained economic growth improves employment creation, income levels, living standards, and the



fiscal capacity of governments to finance infrastructure and social welfare. Conversely, weak growth constrains investment, increases unemployment, and limits developmental progress (Aghion et al., 2019; World Bank, 2023). In Nigeria, achieving stable economic growth remains a major challenge due to structural bottlenecks, fiscal volatility, inflationary pressures, exchange-rate instability, and external sector shocks (IMF, 2022).

Among the macroeconomic factors that influence economic growth, taxation remains one of the most important instruments of fiscal policy. Taxation enables governments to mobilise domestic revenue, influence resource allocation, redistribute income, and finance public expenditure required for long-term development. Through an efficient tax system, governments can invest in infrastructure, healthcare, education, and institutional reforms that enhance productivity and competitiveness. However, distortionary or poorly administered taxes may discourage private investment, weaken entrepreneurship, reduce household purchasing power, and slow economic activity. Consequently, the relationship between taxation and economic growth depends not only on the volume of revenue collected, but also on the composition, efficiency, and utilisation of tax proceeds (Arnold et al., 2017; Baiardi et al., 2019).

In this study, taxation is proxied by Petroleum Profit Tax (PPT), Company Income Tax (CIT), and Non-import Value Added Tax (NIVAT). These variables were selected because they capture key dimensions of Nigeria's tax structure. Petroleum Profit Tax reflects resource-based taxation from the oil sector, Company Income Tax measures direct taxation on corporate profits, while Non-import Value Added Tax captures domestic consumption-based taxation excluding import-related VAT. Collectively, these proxies provide a broader and more policy-relevant measure of taxation than aggregate tax revenue because they reveal how different tax instruments influence economic growth through separate fiscal channels.

Petroleum Profit Tax has historically remained a major source of government revenue in Nigeria. Higher petroleum tax revenue may stimulate economic growth when efficiently channelled into infrastructure development, industrial expansion, and macroeconomic stabilisation. However, overdependence on petroleum taxation may expose the economy to oil price volatility, fiscal uncertainty, and weak diversification incentives. Studies on resource-dependent economies show that oil revenues often generate unstable growth outcomes where institutions and fiscal governance are weak (Badeeb et al., 2017; IMF, 2022). Thus, the nexus between Petroleum Profit Tax and economic growth may be either positive or negative depending on revenue management efficiency.

On the other hand, Company Income Tax represents an important non-oil source of public revenue imposed on corporate profits. It directly affects firms' retained earnings, investment decisions, and expansion capacity. While Company Income Tax can promote growth when revenue is productively utilised to finance public goods and improve the business environment, excessive tax burdens may discourage entrepreneurship, reduce capital formation, and encourage tax avoidance. Empirical evidence suggests that the growth effect of corporate taxation depends largely on tax administration quality and expenditure efficiency (Gemmell et al., 2019; Baiardi et al., 2019). Therefore, the nexus between Company Income Tax and economic growth remains theoretically inconclusive.

Non-import Value Added Tax refers to VAT generated from domestic transactions excluding VAT collected on imports. As a broad-based consumption tax, it is regarded as a relatively



efficient source of internally generated revenue because it taxes value added across production and distribution stages. NIVAT may positively influence economic growth by broadening the revenue base, strengthening fiscal sustainability, and reducing dependence on oil receipts. However, higher VAT collections may also reduce household purchasing power, suppress domestic demand, and increase production costs, especially in lower-income economies. International evidence indicates that the growth effects of VAT depend strongly on tax design, compliance efficiency, and whether the revenue is channelled into productive expenditure (Acosta-Ormaechea & Yoo, 2019; Keen & Lockwood, 2010). Hence, the nexus between Non-import Value Added Tax and economic growth may be positive or negative.

Despite several tax reforms, taxation remains a persistent challenge in Nigeria. The country continues to record one of the lowest tax-to-GDP ratios globally, reflecting weak tax compliance, narrow tax bases, widespread informality, and administrative inefficiencies. In addition, dependence on petroleum-related taxes has historically exposed fiscal performance to fluctuations in international oil prices. Consequently, recent reforms have increasingly emphasised the expansion of non-oil taxes such as Company Income Tax and Value Added Tax to improve revenue diversification and fiscal sustainability (IMF, 2022; World Bank, 2023).

Nevertheless, empirical evidence on the effect of taxation on economic growth in Nigeria remains inconclusive. While some studies argue that taxation promotes growth through increased public expenditure and infrastructure financing, others report negative or insignificant effects due to distortionary tax structures, weak institutions, and inefficient utilisation of public funds (Baiardi et al., 2019; IMF, 2022). For example, Omodero (2022) found that disaggregated tax revenue components exerted varying effects on economic growth in Nigeria, with some taxes contributing positively while others showed weak or statistically insignificant relationships. These divergent findings suggest that the taxation-growth nexus in Nigeria is not yet fully resolved.

More importantly, many prior Nigerian studies relied predominantly on static estimation techniques such as ordinary least squares, multiple regression, and other conventional linear models that may not adequately capture the dynamic interactions between taxation and economic growth (Olaoye et al., 2019; Saidu & Aifuwa, 2020; Ibadin, 2021). Such methods often assume contemporaneous effects, ignore delayed fiscal transmission mechanisms, and do not clearly distinguish between short-run adjustments and long-run equilibrium relationships. In addition, macroeconomic variables frequently exhibit mixed orders of integration, making static models less appropriate.

Accordingly, this methodological limitation creates a gap in the literature. The Autoregressive Distributed Lag (ARDL) model is more suitable because it accommodates variables integrated of order I(0) and I(1), captures lagged responses, and simultaneously estimates short-run dynamics and long-run relationships within a unified framework (Pesaran et al., 2001). Therefore, this study bridges the existing methodological gap by applying the ARDL approach to re-examine the taxation-growth nexus in Nigeria. The study tests the following hypotheses:

Hypothesis 1 ( $H_0$ ): Petroleum Profit Tax has no significant short run effect on economic growth in Nigeria.



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Hypothesis 2 ( $H_0$ ): Company Income Tax has no significant short run effect on economic growth in Nigeria.

Hypothesis 3 ( $H_0$ ): Non-import Value Added Tax has no significant short run effect on economic growth in Nigeria.

Against this backdrop, this study examines the effect of taxation on economic growth in Nigeria using real gross domestic product as a proxy for growth, while Petroleum Profit Tax, Company Income Tax, and Non-import Value Added Tax serve as proxies for taxation.

## **2.0 LITERATURE FEVIEW**

### **2.1 Conceptual Review**

#### **2.1.1 Economic Growth**

Economic growth refers to the sustained increase in the productive capacity of an economy over a specific period, usually measured by the increase in Real Gross Domestic Product (RGDP). It reflects the ability of an economy to produce more goods and services, improve national income, reduce unemployment, and enhance the standard of living of the population. Economic growth remains one of the major macroeconomic objectives of developing economies because of its importance in promoting industrial expansion, poverty reduction, infrastructural development, and overall economic transformation (World Bank, 2023; IMF, 2022).

According to Adebayo and Betonkali (2021), economic growth represents a continuous expansion in economic activities driven by improvements in productivity, investment, technological advancement, and efficient resource allocation. Similarly, Matthew and Mordecai (2020) explain that economic growth reflects the overall performance of an economy and serves as a major indicator for evaluating national development and macroeconomic stability. They further argue that sustained economic growth depends significantly on the availability of adequate government revenue capable of financing productive public expenditure.

Recent studies have emphasized the role of taxation in stimulating economic growth through revenue mobilisation and fiscal sustainability. Adebisi et al. (2020) observe that efficient tax systems enhance economic growth by generating adequate revenue for infrastructural development, public investment, and social service delivery. Likewise, Egbunike et al. (2018) contend that tax revenue contributes positively to economic growth when properly managed and channelled toward productive sectors of the economy.

Economic growth is commonly measured using indicators such as Gross Domestic Product (GDP), Gross National Income (GNI), industrial output, per capita income, and employment level. However, Real Gross Domestic Product remains one of the most widely adopted proxies because it measures the inflation-adjusted value of goods and services produced within an economy over a given period. Real GDP provides a reliable measure of productive economic performance and allows for meaningful comparison of economic activities across different periods (CBN, 2024).

In Nigeria, economic growth remains essential due to persistent developmental challenges such as unemployment, inflation, infrastructural deficits, and overdependence on crude oil revenue.



Consequently, the Nigerian government increasingly relies on taxation as a major source of non-oil revenue capable of stimulating economic growth through public investment and macroeconomic stabilization. In this study, economic growth is conceptualised as the sustained increase in Nigeria's productive activities and economic performance, while Real Gross Domestic Product is adopted as a proxy for measuring economic growth.

### **2.1.2 Taxation**

Taxation refers to the compulsory levy imposed by government on individuals, companies, goods, services, and economic activities for the purpose of generating revenue required for public expenditure and national development. Taxation serves as one of the major fiscal policy instruments used by governments to regulate economic activities, redistribute income, control inflation, and finance infrastructural development. Through efficient tax administration, governments are able to mobilize domestic resources necessary for economic growth and sustainable development (OECD, 2021).

According to Onyekwelu and Ugwuanyi (2022), taxation is a compulsory financial contribution imposed on taxable individuals and corporate organizations by government to finance public expenditure and maintain economic stability. Similarly, Afolayan and Okoli (2021) define taxation as a strategic fiscal mechanism used to generate government revenue and influence economic performance through resource allocation and redistribution policies.

Recent empirical literature further indicates that taxation contributes significantly to economic growth by improving government revenue generation and supporting developmental expenditure. Ogbonna et al. (2021) observe that efficient tax administration enhances economic growth through increased infrastructural financing and improved public sector investment. Likewise, Adebisi et al. (2020) argue that taxes such as Company Income Tax, Petroleum Profit Tax, and Value Added Tax play critical roles in promoting economic growth in Nigeria through increased revenue mobilisation.

In Nigeria, taxation has become increasingly important due to fluctuations in global crude oil prices and the growing need for economic diversification. Government has intensified efforts toward strengthening tax administration and expanding the non-oil tax base through various forms of taxation, including Petroleum Profit Tax, Company Income Tax, and Value Added Tax. These taxes are expected to stimulate economic growth by generating revenue for developmental projects and improving fiscal sustainability. In this study, taxation is conceptualised as government-imposed compulsory levies designed to generate revenue capable of influencing economic growth in Nigeria.

### **2.1.3 Petroleum Profit Tax**

Petroleum Profit Tax (PPT) refers to the tax imposed on the profits generated by companies engaged in petroleum exploration and production activities. In Nigeria, Petroleum Profit Tax represents one of the major sources of government revenue because of the country's heavy dependence on the oil and gas sector. The tax is specifically charged on the chargeable profits of upstream petroleum companies operating within the Nigerian economy (FIRS, 2023).



According to Samuel and Simon (2018), Petroleum Profit Tax constitutes a major fiscal instrument through which the Nigerian government derives substantial revenue from crude oil operations. The authors explain that revenue generated from PPT contributes significantly to public expenditure financing and economic development. Similarly, Omodero and Ekwe (2020) argue that Petroleum Profit Tax plays an important role in economic growth through increased government revenue mobilisation and infrastructural financing.

Recent empirical studies have further established the relationship between Petroleum Profit Tax and economic growth in Nigeria. Eze et al. (2021) found that Petroleum Profit Tax exerts a positive and significant influence on Nigeria's economic growth due to its contribution to government revenue and capital expenditure. Likewise, Udeh and Anyahara (2022) observe that effective management of petroleum tax revenue can stimulate economic activities through improved public investment and macroeconomic stability.

Despite its importance, Petroleum Profit Tax revenue in Nigeria is often affected by oil price volatility, tax evasion, crude oil theft, and overdependence on the petroleum sector. These challenges have intensified concerns regarding the sustainability of petroleum revenue and the need for improved tax diversification policies. In this study, Petroleum Profit Tax is conceptualised as tax revenue generated from petroleum operations capable of influencing economic growth in Nigeria.

#### **2.1.4 Company Income Tax**

Company Income Tax (CIT) refers to the tax imposed on the profits earned by incorporated companies operating within an economy. It is one of the major direct taxes through which government generates revenue from corporate business activities. Company Income Tax is usually charged on the taxable profits of both domestic and foreign companies, excluding firms engaged in petroleum operations which are subject to Petroleum Profit Tax (FIRS, 2023).

According to Afolayan and Okoli (2021), Company Income Tax represents a compulsory levy imposed on corporate profits for the purpose of financing government expenditure and economic development programmes. Similarly, Egbunike et al. (2018) explain that Company Income Tax enhances government revenue generation and supports economic growth through public investment in infrastructure and social services.

Recent studies suggest that Company Income Tax can positively influence economic growth when tax revenues are efficiently utilised. Omodero et al. (2021) found that Company Income Tax contributes significantly to Nigeria's economic growth through increased government revenue mobilisation and improved fiscal performance. Likewise, Adebisi et al. (2020) argue that efficient corporate tax administration enhances investment activities, industrial productivity, and long-run economic growth.

In Nigeria, Company Income Tax has become increasingly important as government seeks to reduce excessive dependence on oil revenue and strengthen non-oil revenue generation. Revenue generated from corporate taxation is expected to support infrastructural development, industrial expansion, and economic diversification. In this study, Company Income Tax is conceptualised as tax revenue generated from corporate business profits capable of influencing economic growth in Nigeria.



### **2.1.5 Non-Import Value Added Tax**

Non-Import Value Added Tax refers to Value Added Tax generated from domestically produced goods and services excluding VAT collected on imported products. Value Added Tax is an indirect consumption tax imposed on the value added at different stages of production and distribution of goods and services. In Nigeria, VAT has become one of the fastest-growing sources of non-oil revenue because of its broad tax base and revenue-generating capacity (FIRS, 2023).

According to Ofoegbu et al. (2019), Value Added Tax is a consumption-based tax imposed on goods and services at each stage of production and distribution. The authors argue that VAT enhances government revenue generation while promoting fiscal sustainability and economic development. Similarly, Eze et al. (2021) explain that VAT contributes significantly to economic growth through increased public revenue available for infrastructural development and government expenditure.

Empirical studies in Nigeria have further demonstrated the importance of VAT in promoting economic growth. Aderibigbe and Zachariah (2020) found that Value Added Tax exerts a positive and significant effect on Nigeria's Real Gross Domestic Product due to its contribution to non-oil revenue generation. Likewise, Omodero and Ekwe (2020) observe that VAT revenue enhances fiscal stability and supports developmental programmes within the Nigerian economy.

The growing importance of Non-Import Value Added Tax in Nigeria has been linked to government efforts toward strengthening domestic revenue mobilisation and reducing dependence on crude oil earnings. However, challenges such as tax evasion, weak compliance, and administrative inefficiencies continue to affect VAT performance. In this study, Non-Import Value Added Tax is conceptualised as domestically generated VAT revenue capable of influencing economic growth in Nigeria.

## **2.2 Empirical Review**

### **2.2.1 Petroleum Profit Tax and Economic Growth**

Yahaya and Bakare (2018) investigated the effect of petroleum profit tax and company income tax on economic growth in Nigeria with emphasis on the contribution of federally collected taxes to gross domestic product. The study was conducted in Nigeria using annual time series data obtained mainly from the Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service publications. The population of the study comprised all federally generated tax revenues and macroeconomic indicators within the review period, while the sample covered selected years considered adequate for econometric estimation. The study adopted an ex post facto research design and employed ordinary least squares multiple regression technique for analysis after conducting preliminary diagnostic tests. Findings revealed that petroleum profit tax exerted a significant positive effect on economic growth. Company income tax was also reported to have a positive relationship with economic growth, although the magnitude of influence was comparatively weaker than petroleum profit tax because of fluctuations in corporate profitability and tax administration inefficiencies. Nevertheless, the reliance on ordinary least squares estimation without adequately addressing possible endogeneity, serial



correlation, and long-run equilibrium relationships may limit the robustness of the findings, particularly in a volatile economy characterized by structural breaks and oil price instability.

Furthermore, Inimino et al. (2020) examined the relationship between petroleum profit tax and economic growth in Nigeria with the objective of determining whether petroleum-based tax revenue significantly contributed to the nation's gross domestic product. The study was situated in Nigeria and concentrated on the petroleum sector as the major source of government revenue. Annual time series data on petroleum profit tax and gross domestic product were sourced from the Central Bank of Nigeria Statistical Bulletin and relevant government financial reports. The population included all annual petroleum tax revenue records and macroeconomic growth indicators, while the sample covered selected years deemed appropriate for econometric analysis. The researchers employed ex post facto design alongside econometric techniques such as unit root test, co-integration analysis, and ordinary least squares regression model to determine both short-run and long-run relationships among the variables. Findings showed that petroleum profit tax maintained a positive and statistically significant relationship with economic growth in Nigeria, implying that increases in petroleum tax revenue enhanced national income generation and government fiscal capacity. The study further revealed the existence of a long-run relationship between petroleum profit tax and economic growth, suggesting that oil sector taxation remained a strategic driver of macroeconomic expansion within the Nigerian context. However, the exclusive concentration on petroleum profit tax without integrating other major tax variables such as company income tax and value added tax may have restricted the comprehensiveness of the model in explaining broader fiscal influences on economic growth.

Likewise, Etim (2020) examined the effect of petroleum profit tax and company income tax on economic growth in Nigeria over the period 1980 to 2018. The study sought to determine the extent to which direct taxation mechanisms influenced macroeconomic growth performance in the Nigerian economy. The study was motivated by the need to evaluate the effectiveness of tax policy reforms introduced by successive Nigerian governments in diversifying revenue sources away from excessive dependence on crude oil exports. Conducted within the Nigerian economic environment, the research focused on the petroleum and corporate sectors as strategic sources of government revenue mobilization. Secondary annual time series data were obtained from the Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service reports. The population of the study comprised all federally collected direct tax revenues and macroeconomic indicators within the selected period, while the sample covered annual observations spanning thirty-eight years. The study employed ex post facto design and utilized econometric procedures including unit root tests, co-integration analysis, and ordinary least squares regression technique to estimate the impact of petroleum profit tax and company income tax on gross domestic product. Findings indicated that petroleum profit tax had a positive and significant effect on economic growth, reflecting the dominant role of oil revenue in Nigeria's fiscal structure. Company income tax was also found to positively influence economic growth. The study concluded that strengthening tax administration and broadening the tax base would enhance revenue generation and promote sustainable economic growth in Nigeria. However, the study needs to be updated to capture recent reality.



### **2.2.2 Company Income Tax and Economic Growth**

Ogwuche et al. (2019) examined the impact of company income tax on economic growth in Nigeria with the primary objective of determining whether company income tax revenue significantly contributed to gross domestic product growth. The study emerged from persistent debates surrounding the effectiveness of direct taxation in promoting macroeconomic stability and sustainable development within the Nigerian economy. The researchers specifically investigated the extent to which company income tax influenced economic growth using gross domestic product as a proxy for economic performance. The study was conducted in Nigeria and focused mainly on the corporate sector as a major contributor to federally generated revenue. Secondary data were obtained from the Central Bank of Nigeria Statistical Bulletin, Federal Inland Revenue Service publications, and other official government sources. The population of the study comprised all federally collected company income tax revenues and macroeconomic indicators within the selected period, while the sample consisted of annual observations considered adequate for empirical estimation. The researchers adopted an ex post facto research design and employed econometric techniques such as ordinary least squares regression analysis, descriptive statistics, and diagnostic tests to estimate the relationship between company income tax and economic growth. Findings revealed that company income tax exerted a positive and statistically significant effect on gross domestic product, indicating that improved corporate tax administration and increased tax compliance could enhance economic performance in Nigeria. The application of conventional regression technique without adequately accounting for long-run dynamics, structural instability among macroeconomic variables may reduce the reliability of the estimated relationships in the context of Nigeria's volatile economy.

Moreover, Ferde and Dahlby (2019) investigated the effect of corporate income tax rates on economic growth across the Canadian provinces with the objective of determining whether variations in provincial corporate tax rates influenced long-run economic performance. Conducted across the Canadian provincial economy, the research focused on provincial corporate tax systems and their implications for economic growth rates. The population of the study comprised all Canadian provinces, while panel data covering multiple years were utilized as the sample for empirical estimation. Secondary macroeconomic and fiscal data were sourced from government statistical agencies and public finance databases. The researchers employed panel econometric techniques, including fixed effects estimation and long-run growth models, to examine both short-run and long-run relationships between corporate income tax rates and economic growth. Findings indicated that higher corporate income tax rates negatively affected economic growth. The study further established that reductions in corporate income tax rates could stimulate long-run growth by encouraging business expansion and investment activities. Nevertheless, the study's concentration on developed provincial economies with advanced institutional structures may limit the applicability of its conclusions to developing countries such as Nigeria where fiscal dependence, tax compliance challenges, and infrastructural deficits differ substantially.

In the same vein, Adegbite and Azeez (2022) investigated the relationship between company income tax revenue and economic growth among Sub-Saharan African countries with emphasis on evaluating whether corporate taxation significantly influenced gross domestic product growth across the region. The study was prompted by growing concerns regarding the effectiveness of tax revenue mobilization in financing development and sustaining economic



expansion within African economies. Conducted across selected Sub-Saharan African countries, the research focused on corporate income tax revenue alongside other fiscal variables affecting economic growth. Secondary panel data were sourced from international financial databases, government fiscal reports, and regional economic publications. The population comprised all Sub-Saharan African economies, while the sample included selected countries with available and consistent macroeconomic data. The researchers employed panel econometric techniques including panel regression analysis, unit root tests, and co-integration procedures to determine both short-run and long-run relationships between company income tax revenue and economic growth. Findings revealed that corporate income tax demonstrated an insignificant effect on gross domestic product growth in several Sub-Saharan African countries, suggesting that weak tax administration, low industrial productivity, and poor fiscal management reduced the effectiveness of corporate taxation in stimulating economic development. Nonetheless, the aggregation of multiple African economies with varying institutional and fiscal characteristics into a single analytical framework may obscure country-specific realities and reduce the precision of policy implications for individual nations such as Nigeria.

Similarly, Prohorovs et al. (2016) examined the introduction of corporate income tax deferral as a factor influencing economic development in Latvia with particular reference to the Estonian tax model which postpones taxation until corporate profits are distributed. The objective of the study was to determine whether tax deferral policies could stimulate entrepreneurial activities, attract foreign direct investment, and improve national economic performance. The study was conducted within the Latvian economy while drawing comparative insights from Estonia's corporate tax system. Secondary macroeconomic and fiscal data were obtained from government publications, economic reports, and policy documents relating to corporate taxation and investment performance. The population consisted of corporate tax records and economic development indicators within the selected period, while the sample reflected available annual observations suitable for empirical analysis. The researchers adopted analytical and comparative research designs and utilized econometric simulations, descriptive statistics, and policy evaluation techniques to assess the likely economic implications of corporate tax deferral. Findings indicated that deferring corporate income taxation until profit distribution encouraged business reinvestment, enhanced entrepreneurial activity, and stimulated economic development through increased investment flows. The study concluded that flexible corporate tax structures could improve business competitiveness and support sustainable economic growth. However, the emphasis on tax deferral within relatively small European economies possessing stronger institutional environments may limit the relevance of the findings to developing economies where public revenue needs and tax enforcement challenges remain more pronounced. Hence the need for similar study in Nigeria.

### **2.2.3 Non Import Value Added Tax and Economic Growth**

Njogu (2015) examined the effect of Value Added Tax (VAT) on economic growth in Kenya with the primary objective of determining whether VAT revenue significantly contributed to the country's economic performance. The study was motivated by the increasing dependence of developing economies on indirect taxation as a major source of public revenue and financing for infrastructural development. Conducted within the Kenyan economy, the study focused on the relationship between VAT revenue and Gross Domestic Product (GDP) as a proxy for



economic growth. Secondary time-series data were sourced from the Kenya Revenue Authority, government fiscal publications, and national statistical databases. The study adopted a causal research design and employed econometric techniques, including regression and correlation analyses, to evaluate the relationship between VAT and economic growth. Findings revealed that VAT had a positive and statistically significant effect on economic growth in Kenya, suggesting that increased VAT revenue enhanced government capacity to finance public services and developmental projects. The study concluded that efficient VAT administration and improved compliance mechanisms are essential for sustaining fiscal stability and economic growth. However, the reliance on relatively basic regression techniques without adequately accounting for long-run equilibrium dynamics and macroeconomic shocks may weaken the robustness of the estimated causal relationship.

Likewise, Kolahi and Noor (2016) investigated the effect of Value Added Tax on economic growth across developing countries with the objective of assessing the extent to which VAT influences economic performance in emerging economies. The study was motivated by growing policy debates concerning the effectiveness of indirect taxation in promoting sustainable development and strengthening fiscal stability. Conducted across nineteen developing countries, the study examined the contribution of VAT to economic growth through government revenue mobilization, consumption patterns, and investment activities. The study population comprised developing economies operating VAT systems, while the sample consisted of nineteen countries selected based on similarities in fiscal structure and data availability. Secondary panel data were obtained from international economic databases, fiscal reports, and development indicators published by global institutions. A panel research design was adopted, and advanced econometric techniques, including panel regression and growth decomposition models, were employed for analysis. Findings indicated that VAT generally exerted a positive effect on economic growth by enhancing government revenue generation and fiscal sustainability. The study further revealed that the effectiveness of VAT depends significantly on administrative efficiency, tax compliance, and domestic consumption structure. The study concluded that well-designed VAT systems can stimulate economic development by strengthening fiscal capacity. Nevertheless, the aggregation of countries with diverse institutional and economic characteristics into a single analytical framework may limit the applicability of the findings to specific economies such as Nigeria.

Simionescu and Albu (2016) examined the impact of standard Value Added Tax rates on economic growth in Central and Eastern European countries with the objective of assessing how VAT policies influence macroeconomic performance within the region. The study focused on five Central and Eastern European economies and explored the relationship between VAT rates, tax revenue generation, and economic growth. Secondary macroeconomic panel data were obtained from European statistical agencies and fiscal policy databases. The study population consisted of economies implementing standard VAT systems, while the sample included selected countries and years with available data. A panel econometric research design was adopted, and analytical techniques such as econometric simulations, regression analysis, and policy modeling were employed to estimate the effects of VAT on economic growth. Findings revealed that standard VAT rates produced mixed effects on economic growth depending on levels of economic development, consumption structure, and trade integration. The study observed that moderate VAT rates supported fiscal sustainability and economic stability, whereas excessively high VAT burdens suppressed consumption and reduced aggregate demand. The study concluded that balanced VAT policies are necessary for



promoting sustainable economic growth and maintaining fiscal equilibrium. However, the emphasis on European economies with relatively efficient institutions and integrated markets may limit the relevance of the findings to developing countries such as Nigeria, where tax administration challenges and informal sector dominance remain significant.

## **2.3 Theoretical Framework**

### **2.3.1 Keynesian Theory**

Keynesian Theory was propounded by John Maynard Keynes (1936) in his seminal work titled *The General Theory of Employment, Interest and Money* to explain the relationship between government fiscal activities, aggregate demand, and economic growth. The theory posits that government intervention through fiscal policy instruments such as taxation and public expenditure plays a significant role in influencing economic performance, output growth, employment generation, and macroeconomic stability. According to the theory, changes in taxation affect disposable income, consumption patterns, investment decisions, and aggregate demand within an economy. Keynes argued that increases in taxes may reduce consumers' purchasing power and private sector spending, while reductions in taxation may stimulate consumption, investment, and overall economic activities. Consequently, taxation policies can either stimulate or constrain economic growth depending on their structure, implementation, and the efficiency of government expenditure financed through tax revenue.

The relevance of Keynesian Theory to taxation and economic growth lies in its explanation of how fiscal policy instruments influence aggregate demand and productive activities within the economy. Taxes such as petroleum profit tax, company income tax, and value added tax constitute important fiscal tools through which governments mobilise revenue for developmental expenditure and macroeconomic management. However, the theory explains that excessive taxation may reduce disposable income, discourage private investment, weaken consumption expenditure, and ultimately slow economic growth when fiscal resources are not efficiently utilised. Conversely, efficient tax administration and productive government spending financed through tax revenue may stimulate economic expansion by improving infrastructure, public services, and investment conditions. The theory therefore provides a suitable explanation for the relationship between taxation and economic growth in Nigeria.

In relation to petroleum profit tax, Keynesian Theory explains that taxation imposed on the petroleum sector may influence economic growth through its effects on investment activities, government revenue generation, and aggregate expenditure. Petroleum profit tax represents a major source of government revenue in Nigeria due to the country's dependence on crude oil exports and petroleum related activities. However, increases in petroleum taxation may discourage investment within the oil sector when tax burdens become excessive or when revenue generated is not effectively channelled into productive economic activities. The theory therefore suggests that the impact of petroleum profit tax on economic growth depends largely on the efficiency of fiscal management and the productive utilisation of oil tax revenue within the economy.

Company income tax is equally relevant under Keynesian Theory because taxation on corporate profits directly influences business investment decisions, production capacity, and employment generation. According to the theory, high corporate tax burdens may reduce retained earnings available for business expansion and discourage private investment activities,



thereby weakening economic growth. However, when company income tax revenue is efficiently utilised for infrastructural development and public investment, the adverse effects on private investment may be offset through improved economic productivity and enhanced business environments. The theory therefore explains the complex relationship between company income tax and economic growth within developing economies such as Nigeria where institutional and structural challenges affect fiscal policy effectiveness.

Non import value added tax is also consistent with Keynesian Theory because VAT directly affects household consumption expenditure and aggregate demand. Value added tax is imposed on goods and services consumed by individuals and businesses, thereby influencing purchasing power and spending behaviour within the economy. Keynesian Theory posits that increases in consumption taxes such as VAT may reduce disposable income and suppress aggregate demand, particularly in economies where household consumption constitutes a significant proportion of gross domestic product. Consequently, increases in non import value added tax may exert contractionary effects on economic growth in the short run through reduced consumption expenditure and weakened economic activities. Nevertheless, efficient utilisation of VAT revenue for productive public expenditure may generate long term developmental benefits capable of stimulating economic growth and macroeconomic stability.

The Nigerian economy provides a suitable environment for applying Keynesian Theory because the country has experienced persistent fiscal challenges, fluctuating oil revenues, inflationary pressures, weak infrastructural development, and structural inefficiencies affecting the transmission of fiscal policy to economic growth. Government reliance on petroleum profit tax, company income tax, and value added tax as major sources of public revenue demonstrates the importance of taxation within Nigeria's fiscal framework. However, challenges such as tax evasion, inefficient public expenditure management, corruption, and institutional weaknesses continue to influence the effectiveness of taxation in stimulating economic growth within the Nigerian economy.

Consequently, Keynesian Theory underpins this study by explaining that taxation influences economic growth through its effects on aggregate demand, consumption expenditure, private investment, and government developmental activities. The theory therefore provides a suitable framework for examining the effects of petroleum profit tax, company income tax, and non-import value added tax on economic growth in Nigeria.

### **3.0 METHODOLOGY**

This study employs a quantitative research design to examine the dynamic relationship between taxation and economic growth in Nigeria. A quantitative approach is appropriate as it enables rigorous hypothesis testing through econometric techniques and allows for objective measurement of relationships among macroeconomic variables. The study adopts a deductive research strategy, whereby hypotheses derived from fiscal policy and endogenous growth theories are empirically evaluated using quarterly time-series data. To capture the dynamic nature of the taxation-growth relationship, the analysis utilises a time-series econometric framework based on the Autoregressive Distributed Lag (ARDL) model proposed by Pesaran, Shin, and Smith (2001). The ARDL approach is particularly suitable because it permits the inclusion of variables integrated of order I(0) and I(1), but not I(2), and facilitates the estimation of both short-run dynamics and long-run relationships. This flexibility makes the ARDL model



well suited for analysing fiscal policy effects in the Nigerian economy, which is characterised by macroeconomic volatility and structural imbalances (Narayan & Smyth, 2019).

### 3.1 Design, Population, and Scope of the Study

The study adopts a quantitative research design and relies exclusively on secondary quarterly data covering the period 2011Q1 to 2024Q4. This timeframe was selected to capture the effects of recent tax reforms, fiscal policy adjustments, and macroeconomic fluctuations in Nigeria. The population of the study comprises the Nigerian economy, focusing specifically on the relationship between taxation and economic growth.

The dependent variable, economic growth, is proxied by real gross domestic product (RGDP) at constant market prices. Data for RGDP were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin (2024) and the National Bureau of Statistics (NBS). The independent variables reflect the major components of Nigeria’s tax system. Petroleum profit tax (PPT) captures oil-related tax revenues and represents the country’s resource-based taxation. Company income tax (CIT) measures direct corporate taxation and reflects fiscal extraction from business profits. Non-import value added tax (NIVAT) captures indirect consumption-based taxation within the domestic economy, excluding VAT derived from imports to better isolate internal economic activity.

Data for these tax variables were sourced from the Federal Inland Revenue Service (FIRS), the CBN Statistical Bulletin, and the Organisation for Economic Co-operation and Development (OECD) Revenue Statistics (2024). These institutions are recognized for providing reliable, consistent, and internationally comparable macroeconomic and fiscal data. To minimize heteroskedasticity, reduce the effects of scale differences, and linearize growth patterns, all variables were transformed into their natural logarithmic forms (lnRGDP, lnPPT, lnCIT, and lnNIVAT) prior to analysis.

**Table 1**  
*Description of Variables, Measurement, Data Sources, and Expected Signs*

Variable	Description	Measurement	Data Source	Expected Sign
lnRGDP	Economic growth	Natural logarithm of real gross domestic product at constant market prices (₦ billions)	CBN Statistical Bulletin (2024); NBS	
lnPPT	Petroleum profit tax	Natural logarithm of petroleum profit tax revenue (₦ billions, real terms)	FIRS; CBN Statistical Bulletin; OECD Revenue Statistics (2024)	-/+
lnCIT	Company income tax	Natural logarithm of company income tax revenue (₦ billions, real terms)	FIRS; CBN Statistical Bulletin	-/+
lnNIVAT	Non-import value added tax	Natural logarithm of VAT collected on domestically produced goods and services (₦ billions, real terms)	FIRS; CBN Statistical Bulletin; OECD (2024)	-/+

Source: Researchers, 2026



All variables were expressed in natural logarithmic form to stabilize variance, correct for scale differences, and allow estimated coefficients to be interpreted as elasticities. The expected signs are based on theoretical and empirical literature: petroleum profit tax may have either a positive or negative effect depending on the efficiency of oil revenue management; company income tax is expected to have a neutral or negative short-run effect due to potential investment disincentives; while non-import VAT may exert a negative short-run but positive long-run influence on economic growth.

### 3.2 Model Specification and Method of Analysis

#### Functional Relationship

The functional relationship of the model is expressed as:

$$RGDP = f(PPT, CIT, NIVAT)$$

where RGDP represents economic growth, PPT denotes petroleum profit tax, CIT denotes company income tax, and NIVAT represents non-import value added tax.

#### ARDL (Unrestricted) Model

To capture both short-run and long-run dynamics, the study employs the Autoregressive Distributed Lag (ARDL) model, expressed as:

$$\Delta \ln RGDP_t = \alpha_0 + \sum \beta_i \Delta \ln RGDP_{t-i} + \sum \gamma_j \Delta \ln PPT_{t-j} + \sum \delta_k \Delta \ln CIT_{t-k} + \sum \theta_1 \Delta \ln NIVAT_{t-1} + \varphi_1 \ln RGDP_{t-1} + \varphi_2 \ln PPT_{t-1} + \varphi_3 \ln CIT_{t-1} + \varphi_4 \ln NIVAT_{t-1} + \varepsilon_t$$

where  $\Delta$  denotes the first difference operator,  $\varphi_1$ – $\varphi_4$  are the long-run parameters, and  $\beta_i$ ,  $\gamma_j$ ,  $\delta_k$ , and  $\theta_1$  represent the short-run coefficients. When a long-run relationship is established, the error correction model (ECM) version of the ARDL is estimated to capture the speed of adjustment toward equilibrium.

#### ARDL (Restricted) Model

Accordingly, the ARDL model is specified in its restricted (short-run) form when there is no cointegration among the variables as:

$$\Delta \ln RGDP_t = \alpha_0 + \sum \beta_i \Delta \ln RGDP_{t-i} + \sum \gamma_j \Delta \ln PPT_{t-j} + \sum \delta_k \Delta \ln CIT_{t-k} + \sum \theta_1 \Delta \ln NIVAT_{t-1} + \varepsilon_t$$

Where  $\Delta$  denotes first differencing, and  $\beta_i$ ,  $\gamma_j$ ,  $\delta_k$ , and  $\theta_1$  are short-run dynamic coefficients representing the immediate effects of taxation components on economic growth.

### 3.3 Method of Analysis

The study employed the Autoregressive Distributed Lag (ARDL) approach to examine the short-run effects of taxation on economic growth in Nigeria. The analysis followed three key stages: pre-estimation testing, model estimation, and post-estimation diagnostics.

In the pre-estimation stage, the stationarity properties of the variables were examined using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests to ensure that none of the variables were integrated of order two, I(2). The Akaike Information Criterion (AIC) was used to determine the optimal lag length for each variable. The bounds cointegration test of Pesaran, Shin, and Smith (2001) was applied to assess the existence of a long-run



equilibrium relationship. If the results shows no evidence of cointegration; therefore, the analysis will focus on the short-run ARDL model in its differenced form.

The short-run ARDL model was estimated using the ordinary least squares (OLS) technique within the ARDL framework. This specification captured the immediate effects of petroleum profit tax, company income tax, and non-import value added tax on real gross domestic product.

Post-estimation diagnostic tests were conducted to confirm the reliability and robustness of the estimated model. These included the Durbin-Watson test for serial correlation, the Breusch-Pagan-Godfrey test for heteroskedasticity, and the Skewness/Kurtosis (Jarque-Bera) test for normality of residuals. Model specification was checked using the Ramsey RESET test, while parameter stability was examined through the Cumulative Sum (CUSUM) and Cumulative Sum of Squares (CUSUMSQ) tests as proposed by Brown, Durbin, and Evans (1975). All analyses were carried out using Stata 13 software. The model selection and diagnostic criteria were used to ensure statistical adequacy, reliability, and stability of the estimated parameters, forming the basis for interpretation in the results and discussion section.

#### 4.0 RESULTS AND DISCUSSION

##### 4.1 Summary Statistics

**Table 2**

*Summary Statistics*

Variable	Obs	Mean	Std. Dev.	Min	Max
lnRGDP	56	10.734	0.287	10.102	11.248
lnPPT	56	8.215	1.684	4.982	10.917
lnCIT	56	7.864	0.936	5.944	9.442
lnNIVAT	56	7.521	0.884	5.761	9.103

**Source:** Researcher’s Computation (2026).

Table 2 presents the descriptive statistics for the natural logged variables employed in this study, comprising economic growth proxied by Real Gross Domestic Product (lnRGDP) as the dependent variable, while Petroleum Profit Tax (lnPPT), Company Income Tax (lnCIT), and Non-Import Value Added Tax (lnNIVAT) represent the explanatory variables. The dataset consists of 56 quarterly observations covering the period from 2011Q1 to 2024Q4.

The mean value of Real Gross Domestic Product (lnRGDP) is 10.734, with a standard deviation of 0.287, a minimum value of 10.102, and a maximum value of 11.248. This indicates relatively stable growth in Nigeria’s economic activities during the study period. The low standard deviation suggests moderate fluctuations in economic growth, reflecting the gradual nature of changes in productive activities within the Nigerian economy. The variations in Real GDP may be associated with macroeconomic factors such as oil price movements, exchange rate instability, inflationary pressures, fiscal policy adjustments, and changes in aggregate economic performance. The relatively high maximum value further indicates periods of improved economic expansion and increased national output within the study period.

Petroleum Profit Tax (lnPPT) recorded a mean value of 8.215, with a standard deviation of 1.684, a minimum value of 4.982, and a maximum value of 10.917. This indicates substantial fluctuations in petroleum tax revenue throughout the study period. The relatively high standard



deviation reflects the volatile nature of Nigeria’s oil-dependent fiscal structure, which is often influenced by global crude oil price fluctuations, changes in oil production levels, exchange rate volatility, and disruptions within the petroleum sector. The wide gap between the minimum and maximum values further demonstrates the instability associated with petroleum revenue generation in Nigeria.

Company Income Tax (InCIT) recorded a mean value of 7.864, with a standard deviation of 0.936, a minimum value of 5.944, and a maximum value of 9.442. The result indicates progressive growth in corporate tax revenue over the study period. The observed variations in Company Income Tax may be attributed to changes in corporate profitability, business expansion, tax reforms, and improvements in tax administration within the Nigerian economy. The relatively moderate standard deviation suggests that Company Income Tax revenue experienced more stability compared to Petroleum Profit Tax, largely due to the broader non-oil tax base associated with corporate business activities.

Non-Import Value Added Tax (InNIVAT) recorded a mean value of 7.521, with a standard deviation of 0.884, a minimum value of 5.761, and a maximum value of 9.103. This indicates sustained growth in domestically generated Value Added Tax revenue during the study period. The increasing trend in Non-Import VAT reflects expansion in domestic consumption, growth in taxable economic activities, improvements in tax compliance, and government efforts toward strengthening non-oil revenue mobilisation. The moderate fluctuations observed in VAT revenue further suggest the influence of economic cycles, inflationary conditions, and aggregate demand variations on consumption-related tax performance within the Nigerian economy.

#### 4.2 Optimal Lag Selection

The optimal lag length for the ARDL model was determined using the Akaike Information Criterion (AIC), which provides an efficient balance between model fit and parsimony. An initial lag specification of ARDL(5, 2, 1, 2) was estimated to capture sufficient dynamic adjustments among the variables. However, based on the AIC selection criterion, Stata automatically reduced the model to ARDL(5, 0, 0, 0), indicating that additional lags for the explanatory variables were statistically insignificant and did not improve model performance.

The final ARDL(5, 0, 0, 0) model, which recorded the lowest AIC value among competing specifications, was therefore retained as the optimal lag configuration. This model efficiently captures the short-run dynamics of economic growth while maintaining model simplicity and robustness.

#### 4.3 Summary of Unit Root Test Results

**Table 3** Augmented Dickey-Fuller (ADF)

Variable	Level	!st Diff	5% Critical Value	I(d)
lnRGDP		3.769**	2.929	I(1)
lnPPT	2.973*		2.928	I(0)
lnCIT	5.556*		2.927	I(0)
lnNIVAT		5.389**	2.928	I(1)

Source: Author’s computation (2026) using Stata 13

Note: \*Significant at level, \*\*Significant at first difference.

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The results (see Table 1) showed a mixed order of integration at levels  $I(0)$  and first difference  $I(1)$ , confirming the suitability of the ARDL bounds testing approach (Pesaran, Shin, & Smith, 2001).  $\ln\text{RGDP}$ ,  $\ln\text{NIVAT}$  were not stationary at level but after 1<sup>st</sup> differenced. Only  $\ln\text{PPT}$  and  $\ln\text{VAT}$  were stationary at level. This means the model has a mixed order of integration, confirming the suitability of Autoregressive distributed lag model for this study.

#### 4.4 ARDL Bounds Test for Cointegration

**Table 4**

*Panel ARDL Bounds Test Results*

Test Statistic Value	5% Critical Value $I(0)$	5% Critical Value $I(1)$	Decision
F-statistic 2.510	3.23	4.35	No long-run relationship
t-statistic -1.999	-2.86	-3.78	No long-run relationship

Source: Author's computation (2026) using Stata 13

The ARDL bounds test following Pesaran, Shin, and Smith (2001) was conducted to determine the existence of a long-run relationship among real GDP ( $\ln\text{RGDP}$ ), petroleum profit tax ( $\ln\text{PPT}$ ), company income tax ( $\ln\text{CIT}$ ), and non-import VAT ( $\ln\text{NIVAT}$ ). The computed F-statistic (2.510) is below the lower critical bound ( $I(0) = 3.23$ ) at the 5% level, while the t-statistic (-1.999) is greater than the lower bound (-2.86). Consequently, the null hypothesis of no levels relationship cannot be rejected. This indicates that there is no cointegration among the variables, and hence, no stable long-run equilibrium relationship between taxation and economic growth in Nigeria during the study period (2012Q2-2024Q4).

#### 4.5 ARDL Short-Run Estimates

**Table 5**

*ARDL Short-Run Estimates (Dependent Variable:  $\Delta\ln\text{RGDP}$ )*

Variable	ARDL Model
$\ln\text{RGDP}_{(-1)}$	0.495*** (0.124)
$\ln\text{RGDP}_{(-2)}$	-0.026 (0.036)
$\ln\text{RGDP}_{(-3)}$	-0.070 (0.037)
$\ln\text{RGDP}_{(-4)}$	0.919*** (0.037)
$\ln\text{RGDP}_{(-5)}$	-0.959*** (0.120)
$\ln\text{PPT}$	-0.011* (0.006)
$\ln\text{CIT}$	-0.005 (0.005)
$\ln\text{NIVAT}$	-0.022** (0.009)
Constant	1.456** (0.674)
Observations	51
$R^2$	0.974
Adjusted $R^2$	0.971
F-statistic	202.77***

Source: Researcher's Computation using Stata 13.0 (2026).

Standard errors are in parentheses.

\*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .10$



#### 4.5 Test of Hypotheses and Discussions

The hypotheses were developed to examine the effects of petroleum profit tax (PPT), company income tax (CIT), and non-import value added tax (NIVAT) on economic growth in Nigeria. Based on the estimated ARDL (5,0,0,0) model, the independent tax variables entered contemporaneously (zero-lag), while real GDP was modeled with five lags to capture its dynamic quarterly adjustment. The bounds test indicated no long-run cointegrating relationship among the variables, implying the absence of long-run equilibrium. Consequently, interpretation focuses on short-run dynamics and contemporaneous effects.

##### **Hypothesis One ( $H_{01}$ ): Petroleum Profit Tax (PPT) has no significant short run effect on economic growth in Nigeria**

The ARDL estimation reveals that the contemporaneous coefficient of petroleum profit tax is negative ( $\beta = -0.0103$ ) and statistically insignificant at the 5 percent level ( $p = 0.093$ ), indicating that petroleum profit tax does not exert a robust short-run effect on economic growth. In elasticity terms, a one percent increase in petroleum profit tax revenue is associated with an approximate 0.01 percent reduction in real GDP in the short run, although this effect lacks sufficient statistical strength to establish a systematic growth impact. Consequently, the null hypothesis is not rejected at the conventional 5 percent significance level. This empirical outcome aligns with recent Nigerian studies that report an insignificant relationship between petroleum profit tax and economic growth when considered independently, a result often attributed to oil price volatility and weak fiscal transmission mechanisms that limit the translation of oil tax revenue into productive public investment (Fijabi et al., 2023). The finding is also theoretically consistent with the distortionary taxation framework, which posits that taxation of capital-intensive primary sectors may discourage investment without necessarily stimulating growth when revenue recycling into growth-enhancing expenditure is inefficient. The failure to reject the null hypothesis further reflects Nigeria's structural and institutional challenges in converting petroleum tax revenue into sustained economic output, a pattern documented in recent empirical evidence on resource-dependent economies (Fijabi et al., 2023; Lawa, 2025).

##### **Hypothesis Two ( $H_{02}$ ): Company Income Tax (CIT) has no significant short run effect on economic growth in Nigeria**

The coefficient of company income tax from the ARDL estimation is negative ( $\beta = -0.0049$ ) and statistically insignificant ( $p = 0.355$ ), indicating that company income tax does not exert a meaningful short-run effect on economic growth in Nigeria. In elasticity terms, a one percent increase in company income tax revenue is associated with an approximate 0.005 percent reduction in real GDP in the short run; however, this effect is not statistically significant. Consequently, the null hypothesis that company income tax has no significant effect on economic growth in Nigeria is not rejected. This finding aligns with recent Nigerian fiscal evidence reporting mixed or negligible short-run effects of company income tax on GDP growth, a pattern often attributed to weak tax administration, widespread exemptions, tax avoidance practices, and the predominance of informal sector activities that limit the growth-transmission capacity of formal corporate taxation (Onukelobi, 2025). From a theoretical perspective, the result is consistent with neoclassical growth theory, which posits that taxes on capital income can discourage private investment and capital accumulation when they are not efficiently channelled into productivity-enhancing public expenditure. The absence of a



significant short-run growth effect therefore reflects both administrative inefficiencies and structural characteristics of the Nigerian economy that weaken the effectiveness of company income tax as a short-term growth driver (Onukelobi, 2025).

### **Hypothesis Three (H<sub>03</sub>): Non-import Value Added Tax (NIVAT) has no significant short run effect on economic growth in Nigeria**

In contrast to the first two hypotheses, the contemporaneous coefficient of value added tax is negative and statistically significant ( $\beta = -0.0225$ ,  $p = 0.017$ ), indicating that NIVAT exerts a contractionary short-run effect on economic growth in Nigeria. This means a one percent increase in NIVAT revenue is associated with an approximate 0.02 percent reduction in real GDP in the short run; hence, the null hypothesis that NIVAT has no significant effect on economic growth is rejected at the 5 percent level. This result is consistent with cross-country evidence that increases in VAT rates can reduce aggregate consumption in both the short run and the long run, implying a demand-compressing channel through which NIVAT can dampen output when consumption is a major driver of economic activity (Acosta-Ormaechea & Yoo, 2019). Relatedly, quasi-experimental evidence from Germany shows that a temporary NIVAT rate cut increased GDP, reinforcing the interpretation that NIVAT rate changes can materially affect short-run output through household demand and price pass-through mechanisms (Funke, 2022). Importantly, the broader international literature also emphasises that the growth implications of NIVAT depend on policy design, with growth outcomes differing depending on whether additional NIVAT revenue is raised by increasing statutory rates versus improving NIVAT efficiency through base broadening and compliance (Acosta-Ormaechea & Yoo, 2019). Taken together, these global findings provide a coherent explanation for the negative and significant short-run NIVAT effect observed in Nigeria, especially in a setting where consumption is large relative to GDP and revenue recycling into productivity-enhancing public investment may be delayed.

On the other hand, the short-run coefficients of the lagged differences of real GDP ( $\Delta \ln \text{RGDP}$ ) are reveal how past economic performance influences current growth within the dynamic ARDL framework. The positive and statistically significant first lag of real GDP indicates short-run growth persistence, meaning that economic expansion in the previous quarter tends to carry over into the current period through momentum effects in consumption, investment, and production. The second and third lags are statistically insignificant, suggesting that not all past growth effects persist uniformly over time and that some shocks dissipate quickly without exerting sustained influence. In contrast, the fourth lag of real GDP is positive and highly significant, indicating delayed reinforcement effects whereby earlier growth impulses materialise after several quarters, likely reflecting the time required for public expenditure execution, private sector investment response, and institutional transmission mechanisms. The negative and statistically significant fifth lag points to cyclical correction behaviour, implying that periods of strong growth are eventually followed by moderation as the economy adjusts to capacity constraints, inflationary pressures, or macroeconomic policy tightening. Collectively, these lag patterns confirm that economic growth in Nigeria follows a non-linear and adjustment-driven process rather than an instantaneous response to policy changes. Within the ARDL model, the inclusion and significance of these lagged growth terms capture persistence and correction dynamics, improve model stability, and ensure that the estimated contemporaneous effects of taxation reflect genuine short-run fiscal impacts rather than unaccounted growth inertia.



#### **4.6 Post Diagnostic Test**

##### **Autocorrelation Test (Durbin-Watson Statistic)**

The Durbin-Watson statistic of 1.934 suggests that the residuals from the ARDL regression are not serially correlated, implying that the model is statistically sound and that the estimated coefficients are efficient and unbiased. This result confirms that the dynamic structure of the ARDL(5,0,0,0) model adequately captures the lagged relationships between taxation and economic growth in Nigeria without significant autocorrelation problems. Consequently, the short-run estimates obtained are reliable for policy inference.

##### **Normality Test**

The results of the Skewness/Kurtosis normality test ( $\chi^2(2) = 11.37, p = 0.0034$ ) reveal that the residuals from the ARDL(5,0,0,0) model are not normally distributed at the 5% significance level. While the skewness component ( $p = 0.0700$ ) indicates approximate symmetry, the kurtosis component ( $p = 0.0011$ ) suggests leptokurtic behavior, implying the presence of extreme values in the residuals. This outcome indicates that the residuals exhibit heavier tails than those of a normal distribution.

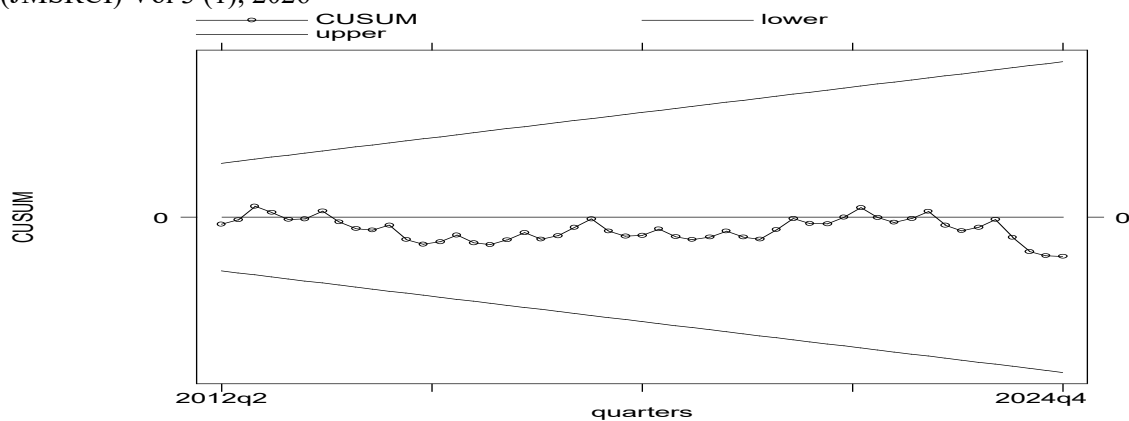
Despite this minor departure from normality, the Central Limit Theorem (CLT) implies that, given the moderate sample size ( $n = 51$ ), the estimated parameters of the ARDL model remain consistent and asymptotically valid. Furthermore, as noted by Pesaran, Shin, and Smith (2001) and Nkoro and Uko (2016), the ARDL framework is robust to moderate non-normality in residuals, particularly when diagnostic statistics such as the Durbin-Watson (1.93) and  $R^2$  (0.977) confirm that the model fits the data well.

##### **CUSUMSQ Stability Test**

The stability of the estimated parameters in the ARDL (5,0,0,0) model was examined using the CUSUM and CUSUM of Squares (CUSUMSQ) tests developed by Brown, Durbin, and Evans (1975). The CUSUM test evaluates the constancy of the model's coefficients over time, while the CUSUMSQ test examines the stability of the variance of the residuals. In both tests, if the cumulative sum lines remain within the 5% significance boundaries, the null hypothesis of parameter stability cannot be rejected.

As shown in the CUSUM plot, the cumulative sum of recursive residuals (red line) remained within the 5% critical bounds throughout the period from 2012Q2 to 2024Q4, indicating that the estimated coefficients are stable over time. Similarly, the results of the CUSUMSQ test revealed that the squared recursive residuals also remained within the 5% critical limits, confirming that the variance of the residuals is stable across the study period.

These findings jointly imply that the ARDL model is structurally stable and dynamically consistent, with no evidence of parameter drift or variance instability. Hence, the estimated short-run relationship between petroleum profit tax, company income tax, non-import VAT, and real GDP in Nigeria is statistically reliable and robust for policy interpretation.



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## 5.0 CONCLUSION AND RECOMMENDATIONS

This study examined the effect of taxation on economic growth in Nigeria using quarterly data spanning 2011Q1 to 2024Q4 within an Autoregressive Distributed Lag framework. The selected ARDL(5,0,0,0) model indicates that real GDP growth in Nigeria is largely driven by its own lagged dynamics, reflecting strong persistence and adjustment effects in economic activity. Petroleum Profit Tax, Company Income Tax, and Non-import Value Added Tax enter the model contemporaneously without lagged structures, highlighting their short-run fiscal effects. The ARDL bounds test reveals no evidence of a long-run cointegrating relationship, implying that taxation and economic growth do not move together in a stable long-run equilibrium over the study period. This suggests that the growth effects of taxation in Nigeria are predominantly short-run and transmission-based rather than long-run structural.

- i. Given that petroleum profit tax exhibits no statistically significant short-run effect on economic growth, fiscal authorities should strengthen the linkage between petroleum tax revenue and productive economic activities. Rather than prioritising recurrent expenditure, oil tax proceeds should be channelled toward infrastructure development, energy projects, and industrial diversification to enhance their growth relevance. The institutionalisation and effective utilisation of stabilisation mechanisms such as the Sovereign Wealth Fund would help smooth revenue volatility and support long-term investment. In addition, improving transparency and accountability in petroleum tax administration is essential to reduce revenue leakages and enhance fiscal credibility.
- ii. The absence of a significant short-run relationship between company income tax and economic growth suggests that corporate taxation in Nigeria does not currently function as an effective growth-stimulating instrument. Policy efforts should therefore focus on



improving tax administration rather than increasing statutory tax rates. Broadening the corporate tax base, simplifying compliance procedures, reducing discretionary exemptions, and strengthening enforcement mechanisms would improve revenue mobilisation while minimising adverse investment effects. Over time, a more predictable and business-friendly corporate tax environment can enhance private sector confidence and strengthen the contribution of company income tax to economic performance.

- iii. The finding that non-import value added tax (NIVAT) exerts a statistically significant negative short-run effect on economic growth indicates that increases in NIVAT revenue can be contractionary in the Nigerian context. This underscores the need for caution in relying on NIVAT rate adjustments as a short-term revenue strategy. Policymakers should prioritise improvements in NIVAT efficiency through digital tax administration, harmonisation across federal and state tax authorities, and reduction of compliance gaps. Expanding the NIVAT base by formalising informal economic activities would allow revenue mobilisation without placing excessive pressure on consumption. Moreover, NIVAT proceeds should be transparently recycled into productivity-enhancing public expenditure to mitigate short-run demand compression.

On a general note, given the dominance of lagged GDP effects in explaining current economic growth, fiscal authorities should adopt forward-looking and countercyclical fiscal policies that anticipate output fluctuations rather than respond with delay. Timely budget implementation, improved coordination between revenue mobilisation and expenditure execution, and stronger fiscal planning frameworks would help shorten the lag between tax collection and real economic impact. Investments in tax technology, expenditure tracking systems, and fiscal transparency frameworks are crucial to ensuring that public revenue supports sustainable and inclusive economic growth.

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