

Influence of Indirect Taxation on Nigeria's Economic Growth

Running title: Indirect Taxation and Nigeria's Economic Growth

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ABSTRACT

This research aims at determining the influence of indirect taxes on economic growth in Nigeria from 2003 to 2023. The sub-objectives are to evaluate the impact of excise duties, investigate the impact of stamp duties, identify the influence of custom duties, and analyze the influence of value added tax on real gross domestic product (RGDP) in Nigeria. Using an ex post facto research approach, the study employs the Autoregressive Distributed Lag (ARDL) technique for analysis. Findings indicate that excise duties and custom duties have a strong positive impact on RGDP. Stamp duties have a weak and negative impact, while value added tax has a large and negative impact on RGDP in Nigeria. The implication is that both stamp duties and value added tax are not being efficiently harnessed and utilized to spur the economic growth of Nigeria. The study recommends that government reviews and fine-tunes its fiscal policies to minimize the negative impact of some of its tax types on economic growth.

Keywords: Taxes; Indirect taxation; Economic Growth; Nigeria

Subject Categories: Public Finance; Taxation; Macroeconomics

1. INTRODUCTION

Taxation can be classified as direct and indirect taxation. Historically, indirect taxation has been a crucial means for enhancing public revenue. Indirect taxes are favored by many governments; in trying to boost revenue collection, governments usually rely on them due to their ease of collection (Bird & Zolt, 2018). Indirect tax collection is more prominent in developing nations, whereas direct tax collection is normally ineffective there. In contrast with some highly developed nations that collect more revenue from direct taxes like personal income tax, developing economies, small island states, and certain OECD countries such as Chile, Hungary, Mexico, Estonia, Turkey, Greece, and Latvia rely heavily on indirect taxes. No less than 40.5% of each of those countries' tax revenue came from consumption taxes in 2022 (Tax Foundation, 2025). In that same year, the OECD average for consumption taxes was around 31.6% of total tax revenue. Several developing nations in Africa, Latin America, and the Pacific Island countries also rely more on levies on goods and

services and corporate income taxes than on personal income taxes (Tax Foundation, 2025). In South Africa, virtually 33% of total federal tax collections emanate from indirect taxes, with VAT being the most important among them. Indirect taxes made up approximately 65% of Nigeria's total tax revenue in 2022 (Tax Foundation, 2025). Indirect taxes have implications for economic growth because, while boosting revenue greatly, they can also affect income distribution and economic growth. To mitigate their possible negative effects, many countries have introduced exemptions or lower rates for essential goods such as food and medicine (Keen, 2008).

The Nigerian government imposes various forms of indirect taxes, such as VAT, customs and excise duties, and stamp duties. One of the indirect taxation methods used most often worldwide is VAT. OECD (2018) reports that it has become a major part of the tax systems of more than 160 countries. Since its introduction by European Union (EU) member states in the mid-20th century, VAT has evolved as an essential instrument of public finance due to its wide tax base, low potential for evasion, and neutrality in terms of choices between production and consumption (Ebrill et al., 2001). Nigeria established value added taxation in 1993 as a substitute for its previous sales tax system. As of 2020, VAT accounted for almost 20% of Nigeria's total tax revenue (National Bureau of Statistics, 2021). However, Nigeria has been reluctant to raise its rates for fear that this would further deepen inflation and lower purchasing power (Ogbuabor & Malaolu, 2013). The collection of customs and excise duties in the country commenced in the colonial era, when British administrators relied on them to finance the administration of the colony as well as infrastructural works (Olukoju, 2009). Custom duties are imposed on imported goods, while excise duties are charged on goods produced locally, such as alcoholic beverages and tobacco. The Central Bank of Nigeria (2020) estimates that excise and customs taxes make up around 7% of total government revenue. However, customs revenues have been affected negatively by the devaluation of the naira and variations in the volume of international trade (Ekpo & Ndebbio, 2021). Excise taxes are employed as a means of controlling consumption as well as raising money; governments usually modify rates to check the production and consumption of specific goods. For instance, the Nigerian government raised excise taxes on alcohol and tobacco in 2018 in an attempt to raise money and decrease the consumption of harmful products (FIRS, 2018). Stamp duty is another type of indirect tax in Nigeria, levied on contracts, agreements, and real estate transactions. As part of initiatives to enhance tax compliance and increase government revenue, there has been a renewed emphasis in recent years on raising stamp duty revenues. Despite these efforts, stamp duties still make up only a small portion of Nigeria's total tax revenue compared to other types of levies.

Socialist Labour (2025) reports that Nigeria's economy has experienced periods of great growth for a long time, but this increase has been inefficient and inconsistent. For instance, the Nigerian economy has grown by nearly 20% in real terms (accounting for inflation) over the last 10 years, an average growth of 1.6% a year—comparable to the European Union and higher than Britain. In spite of high average growth rates for much of the period, the benefits have significantly failed to bring about widespread poverty reduction or job creation, owing to factors like reliance on oil, weak infrastructure, corruption, and a rapidly increasing population. Socialist Labour (2025) reports that the Nigerian economy has witnessed three phases since 2003: high growth (2003–2015), recession and slow recovery (2016–2020), and post-pandemic growth (2021–present).

1.1 Statement of the Problem

Ideally, VAT, stamp duties, and customs and excise duties are among the indirect taxes that should be efficient revenue-generating and economic-stimulating devices in nations like Nigeria. Even though the fraction of total revenue in Nigeria that comes from indirect taxes fluctuates rather than remaining static, sources highlight that Nigeria's total revenue has historically been dominated by oil, with revenue from indirect taxes being significantly and recurrently lower than it could be. Extant studies also show that their contribution is not as large in Nigeria as in more diversified economies, due to factors like a weak tax system, a large informal sector, and heavy reliance on oil. Because these taxes put government revenue on a continuous flow, they should make a significant impact on RGDP. Yet, Nigeria's system of indirect taxation faces numerous

problems. Inefficiencies, including high evasion rates, smuggling, and weak administrative structures, constrain the contribution that customs and excise duties make to RGDP (Olaoye & Ayeni, 2020). These inefficiencies have profound implications: they undermine the government's ability to fund public works, worsen fiscal deficits, and threaten long-term economic development when they fail to contribute meaningfully to RGDP growth.

A gap exists in the literature on this topic concerning the period covered and the location of previous works. This underlines the necessity of extending the scope of research to cover more recent periods. The study is pertinent as it offers valuable information on the effect of major types of indirect taxes on Nigeria's real gross domestic product (RGDP) over a period of 21 years. Policymakers who desire to increase tax collection and spur economic growth must be adequately knowledgeable about the relationship between these taxes and GDP. In addition, understanding how these taxes shape the economy can foster greater public awareness and encourage citizen participation in advocating for fair and effective tax policies that promote inclusive growth. The broad objective of the study is, therefore, to determine the impact that indirect taxation has on economic growth in Nigeria from 2003 to 2023. Specifically, the objectives are to evaluate the effect of excise duties (ED), investigate the effect of stamp duties (SD), evaluate the effect of custom duties (CD), and analyze the impact of value added tax (VAT) on RGDP in Nigeria from 2003 to 2023.

The remainder of this study is organized as follows: Section 2 contains the review of related literature. The methodology is presented in Section 3. Section 4 is reserved for data analysis and findings, while Section 5 concludes the research.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Tax

Scholars have provided various definitions of taxes, bringing out their functions, characteristics, and implications. Tax refers to a levy imposed by a public authority on persons, companies, or other bodies to mobilize revenue for public expenditures, maintain economic stability, and promote social equity (Musgrave & Musgrave, 2019).

2.1.2 Indirect Taxes

Indirect taxes are taxes paid by taxpayers based on the expenses they incur rather than their wealth or income (Dalton, 2021). Usually, taxes in this group are paid by producers or suppliers who subsequently add them to the cost of goods or services they provide to consumers. Excise taxes and VAT are examples of indirect taxes since they form part of the price of the goods purchased.

2.1.3 Excise Duties

Excise taxes are levies imposed by government on domestically produced goods, usually at the locations where they are produced or sold (Bhatia, 2021). Bhatia highlights that goods such as alcohol, tobacco, petroleum products, and luxury goods are generally charged excise duties. Excise duties greatly increase government revenues while acting as a regulatory tool to deter consumption of goods perceived to be harmful or unnecessary. Because excise duties are levied on specific goods rather than all consumer spending, Musgrave and Musgrave (2019) note that they differ from more wide-ranging consumption taxes like VAT.

2.1.4 Stamp Duties

Lymer and Oats (2019) consider stamp duties to be transaction fees imposed on documents used to complete legal agreements, especially property conveyances, mortgages, and leases. They are a type of tax employed by governments both to authenticate certain legal documents, instruments, or transactions and to mobilize government revenue. This is notably

crucial in emerging nations where the black economy predominates (Bird & Slack, 2021). Cheeseman and Griffiths (2020) define stamp duties as instruments of tax policy used not just to generate revenue but to influence market behavior. Stamp duties are inextricably linked to property transactions, where they form an integral part of validly transferring ownership. In addition, by discouraging unenforceable or unspoken agreements, their use ensures that financial transactions remain transparent.

2.1.5 Custom Duties

Hinkle (2020) considers custom duties as taxes imposed on imports and exports to control the movement of goods across borders and to raise funds for the public authority. They are levies that governments impose on goods entering or exiting a nation. Krugman and Obstfeld (2018) refer to them as tools employed by governments to modify the terms of trade and influence the relative prices of local and imported goods. Custom duties result in an artificial price advantage for locally produced goods by making imports more costly (Krugman & Obstfeld, 2018). According to Johnson and Naito (2021), custom duties are the backbone of trade policy and directly affect the movement of goods and services across borders. For Bovenschen (2020), they are essential tools in a country's economic diplomacy, because they help governments negotiate trade agreements and access to foreign markets.

2.1.6 Value Added Tax

Keen (2019) defines VAT as a tax levied on the value added to goods and services as they flow through the production or distribution process, which ultimately makes the final consumer bear the tax, notwithstanding that it is collected in stages along the supply chain. It is one of the most common taxation regimes in the modern world since it provides governments with a continuous source of revenue with minimal distortion relative to most other types of taxes. VAT has become one of the major tools of modern fiscal policy, contributing significantly to the revenues of developed and developing nations.

2.1.7 Economic Growth

Todaro and Smith (2020) define economic growth as the sustained boost in the productive capacity of an economy, which in turn leads to an increase in the quantity of goods and services produced. In his seminal work on growth theory, Solow (2022) conceived of growth as an increase in output spurred by technological progress, capital accumulation, and labor force growth. Economic growth is one factor that reflects the health of a country's economy and overall development; it is typically measured in terms of GDP or GNP, RGDP, and income per capita.

Gross Domestic Product (GDP) is the complete monetary worth of all services and products produced within a nation's jurisdiction over a specified period, such as a year or quarter (Samuelson & Nordhaus, 2010). Real GDP (RGDP), meanwhile, is a measure of a nation's economic performance that removes the effect of price changes, thereby providing a better representation of the size and growth of an economy over time. It is not without its deficiencies; for instance, Daly (2015) faults it for failing to include social and environmental costs.

2.2 Theoretical Framework

The research is founded on the assumptions of optimal taxation theory. The theory, first proposed by John Stuart Mill in the 19th century and further developed by Frank Ramsey in 1927, presents a framework for structuring taxes to maximize social welfare under the constraints of practicality. This means that taxation should be equitable in a way that all taxpayers share the burden based on their ability to pay. The theory also identifies the utilization of taxation in regulating the economy, particularly addressing the issues posed by the informal sector.

2.3 Empirical Review

Joseph et al. (2025) determined the effect of indirect taxes, such as value-added tax and customs and excise duties, on the growth of the Nigerian economy. They employed exploratory and ex-post facto designs to conduct the study for 2009 to 2018. The secondary data used were obtained from the CBN statistical bulletin database, while the ordinary least squares method was employed. The results showed that indirect taxes have a significant influence on economic growth in Nigeria.

Fakunmoju (2022) examined the effect of indirect taxes on macroeconomic stability in Nigeria between 1995 and 2020 using RGDP data. The ARDL technique was employed for empirical evaluation. Fakunmoju found that, in the short run, the interest rate (INT), exchange rate (EXR), and customs and excise duty (CED) were the most important causes of economic expansion in the country. However, long-run estimates revealed that even though EXR negatively affects macroeconomic stability, VAT, CED, and INT have positive impacts on RGDP.

Odu (2022) examined the effect of Value Added Tax on revenue generation and economic expansion in Nigeria from 1994 to 2018, using historical data for estimation. Results showed that VAT significantly affected total tax income with a two-year lag and gradually began to account for alterations in total tax income. The study concluded that VAT strongly and negatively influences GDP with a lag of one year.

Emudainohwo and Ndu (2022) employed the ARDL bounds test and cointegration method to investigate the impact of tax revenue on economic expansion in Nigeria, using CBN quarterly secondary tax data grouped into two periods: before electronic taxation (2011–2015) and after (2015–2020). It was found that capital gains and value-added taxes did not alter considerably across the two periods; VAT, PPT, and CGT had little long-term effect on growth in the post-electronic tax era, while CIT, ETF, and SD had a modest long-term influence.

Smith and Brown (2019) analyzed the effect of excise taxes on economic behavior for 1970 to 2015, using the United States as a case study. A time-series econometric technique was employed for regression analysis. It was found that excise taxes contributed little to economic growth but were often offset by inefficiencies in tax administration and compliance costs.

Chen et al. (2020) investigated the influence of indirect taxes on China's economic growth for 1995 to 2018, with evidence from excise duties. Granger causality tests and a VECM were utilized to examine the dynamic correlation between excise taxes and economic performance. Sector-specific effects, such as tobacco, alcohol, and luxury item taxes, were also examined. The research established a one-way causality from excise taxes to RGDP, suggesting that excise taxes, if utilized effectively, would be a good tool for economic growth.

Kusi and Addo (2021) investigated the effect of excise taxation on Ghana's economic development for 2000 to 2020, focusing on the manufacturing and services industries. Cointegration techniques and OLS regression were applied to estimate long-term causal relationships between economic expansion and excise taxes. The study observed a high positive association between excise taxes and RGDP, particularly when tax revenue was invested in infrastructure and social services.

Patel and Singh (2022) evaluated the influence of excise taxes on economic expansion in emerging economies using India as a reference point. Panel data on state-level excise tax collections and GDP from 2005 to 2020 were employed, with a Fixed Effects Model and panel data regression used to correct for heterogeneity among states. Using sensitivity analysis to test the impact of temporal variations in excise tax policies, it was found that states with higher excise tax revenues experienced faster economic growth, so long as tax burdens did not disproportionately burden the poor.

Brown and White (2018) evaluated the role of stamp duties in economic stability using the United Kingdom as a case study, analyzing national-level data on stamp duty land tax revenues and GDP for 1990 to 2017. A time-series econometric model incorporating impulse response functions and variance decomposition was employed to determine the macroeconomic

effects of stamp duty revenues. The study found that stamp duties significantly contributed to fiscal stability by providing a steady revenue stream; however, high rates negatively impacted the real estate sector, leading to reduced investment.

Osei and Amankwah (2020) analyzed the effect of stamp duty income on economic expansion in Ghana for 1995 to 2019, and found that stamp duties contributed modestly to Ghana's economic growth, particularly when revenues were reinvested in public infrastructure.

Eze and Udeh (2018) analyzed the effect of customs revenue on economic performance, with evidence from Sub-Saharan Africa, using data on customs duty revenue, trade volumes, and RGDP from 1985 to 2015. Panel cointegration techniques and Fully Modified OLS were employed to estimate the connection between customs revenue and economic performance. The findings showed a positive relationship between customs duties and RGDP in countries with efficient customs administration, while diminished contributions of customs duties to economic growth were observed in countries with significant corruption and smuggling activities.

Ikeokwu and Leyira (2019) analyzed the influence of indirect taxes on Nigeria's economic expansion, using historical data obtained from the databases of FIRS and the CBN Statistical Bulletin, tested using OLS regression. It was found that indirect taxes have a significant influence on Nigeria's economic expansion.

Ukpabi (2019) evaluated the influence of indirect taxation on the expansion of the Nigerian economy using dynamic econometric evaluation, and found that VAT affected economic growth positively, while customs and excise taxes showed a weak negative connection with economic expansion.

Orisanaiye et al. (2022) explored how indirect tax income affects infrastructure development in Nigeria, employing descriptive and inferential statistics as well as the ARDL model for 1994 to 2018. Results indicated that the development of Nigeria's infrastructure depends, to a very great extent, on determinants like total capital expenditure, customs and excise tariffs, inflation rate, and exchange rate, and that indirect tax income influences the development of Nigeria's infrastructure.

3. METHODOLOGY

3.1 Research Design

This study uses the ex-post facto design to determine the impact of different types of indirect tax on the economy of Nigeria. Secondary data for the relevant years were obtained from the websites of the FIRS, the NBS, and the CBN Statistical Bulletins.

The study used the ARDL bounds testing method to analyze the short-run estimates between the selected tax instruments and RGDP, in order to determine whether the existing tax system is consistent with theoretical expectations that taxation should support economic growth by increasing public revenue. The general ARDL model is specified as:

$$\Delta \text{RGDP}_t = a + \sum_{i=1}^p \beta_i \Delta \text{RGDP}_{t-i} + \sum_{j=1}^q \gamma_j \Delta \text{ED}_{t-j} + \sum_{k=1}^q \delta_k \Delta \text{SD}_{t-k} + \sum_{l=1}^q \phi_l \Delta \text{CD}_{t-l} + \sum_{m=1}^q \psi_m \Delta \text{VAT}_{t-m} + \lambda_1 \text{RGDP}_{t-1} + \lambda_2 \text{ED}_{t-1} + \lambda_3 \text{SD}_{t-1} + \lambda_4 \text{CD}_{t-1} + \lambda_5 \text{VAT}_{t-1} + \varepsilon_t$$

Where Δ represents the first difference operator; α represents the intercept; β , γ , δ , ϕ , ψ stand for the short-run coefficients; and p , q_1 , q_2 , q_3 , q_4 represent the optimal lag length for the variables. The dependent variable is RGDP. The independent variables are excise duties (ED), stamp duties (SD), custom duties (CD), and VAT. The ARDL model assesses the hypotheses of the study by calculating the short- and long-term effects of each tax type on RGDP.

3.2 Estimation Techniques Employed

- (i) **Stationarity Testing:** The ADF test and Phillips-Perron (PP) test were used to determine whether the variables were stationary. These tests provide assurance that none of the variables is integrated of order 2, $I(2)$, as the ARDL model requires variables to be either $I(0)$ or $I(1)$.
- (ii) **Optimal Lag Selection:** The optimal lag length for the ARDL model was selected based on metrics such as the Schwarz Bayesian Criterion (SBC) and the Akaike Information Criterion (AIC).
- (iii) **ARDL Bounds Test:** The ARDL Bounds Test was employed to determine whether a long-term connection exists between the variables of the study. The null hypothesis of no cointegration ($H_0: \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = 0$) was tested against the alternative hypothesis of cointegration.
- (iv) **Long-Run and Short-Run Estimation:** The study estimated the model's long-run coefficients to determine whether a long-term association could be detected. An Error Correction Model (ECM) was employed to represent the short-run dynamics, defined as:

$$\Delta RGDP_t = \alpha + \sum_i \beta_i \Delta RGDP_{t-i} + \sum_j \gamma_j \Delta ED_{t-j} + \dots + \phi ECM_{t-1} + \varepsilon_t$$

Here, ϕ stands for the speed-of-adjustment parameter. The model was subjected to a series of diagnostic tests to guarantee that it is both robust and dependable: the Breusch-Godfrey LM Test for serial correlation, the Breusch-Pagan-Godfrey Test for heteroskedasticity, the Jarque-Bera Test for normality, and the CUSUM and CUSUMSQ Tests for model stability and structural breaks. The ARDL model was selected because it is adaptable to variables that are stationary at levels, $I(0)$, first difference, $I(1)$, or both. Another reason for selecting the ARDL model is that none of the variables was found to be integrated at second difference, $I(2)$, making the ARDL approach appropriate for the 2003–2023 data. All analyses were performed using EViews 14.0 statistical software, which supports ARDL modeling and related diagnostics.

4. DATA PRESENTATION AND ANALYSIS

The data for the study variables are presented in Appendix 1, while the graphical presentation is displayed in Appendix 2.

4.1 Descriptive Statistics

TABLE 1. Descriptive Summary of the Study Variables

STATISTIC	RGDP	EXCISE DUTIES	STAMP DUTIES	CUSTOM DUTIES	VALUE ADDED TAX
Mean	461.2375	189.9192	32.14599	1196.722	498453.0
Median	462.043	196.7150	13.37050	1007.405	1360.593
Maximum	574.16838	276.5800	120.1570	1980.270	5964294
Minimum	375.7457	76.20000	5.903000	785.3900	710.5551
Std. Dev.	52.98221	69.00030	38.49843	443.3511	1721294
Skewness	0.498148	-0.321577	1.435287	0.710644	3.015112
Kurtosis	3.056010	1.961754	3.582222	1.865762	10.09090
Jarque-Bera	0.497872	0.745800	4.289591	1.653279	43.32226
Probability	0.779630	0.688734	0.117092	0.437517	0.000000

Source: EViews 14.0 output.

Table 1 is the descriptive summary of the variables. It provides insight into the distribution and variability of RGDP and the tax revenue sources. The mean values indicate that VAT contributes the highest revenue, followed by customs duties and excise duties, while stamp duties generate relatively lower amounts. Standard deviations suggest moderate variability in RGDP and excise duties, while VAT and customs duties exhibit significant fluctuations, reflecting economic and policy-

driven changes. Most variables are slightly right-skewed, with VAT exhibiting extreme positive skewness, suggesting occasional high-value occurrences. Kurtosis values indicate that VAT has heavy tails (leptokurtic), while excise duties and customs duties display flatter distributions (platykurtic), implying differences in tax revenue stability. The Jarque-Bera values suggest that RGDP, excise duties, stamp duties, and customs duties follow a normal distribution; however, VAT deviates significantly from normality due to extreme values. These findings imply that while some tax sources remain relatively stable, VAT exhibits unpredictability, potentially affecting government revenue planning.

4.2 Unit Root and Correlation Analysis

TABLE 2. *ADF Unit Root Test*

MODEL	CONSTANT	CONSTANT AND TREND	NO CONSTANT AND NO TREND
RGDP	I(1) [-4.131293]*	I(1) [-5.031067]*	I(1) [-4.126856]*
Excise Duties	I(0) [-3.946633]*	I(1) [-4.211054]*	I(1) [-4.656861]*
Stamp Duties	I(1) [-3.784517]*	—	I(1) [-4.955980]*
Custom Duties	I(0) [-3.351635]*	—	I(1) [-3.893407]*
Value Added Tax	I(0) [-3.317614]*	I(0) [-4.500365]*	I(0) [-3.161410]*

Source: EVIEWS 14.0 output. Null hypothesis (H_0): the time series has a unit root (non-stationary). Alternative hypothesis (H_1): the time series is stationary (no unit root). * denotes significance at the 5% level.

Decision Rule: Using the ADF test statistic — if the ADF test statistic is more negative than the MacKinnon critical value at the 5% significance level, the null hypothesis (H_0) is rejected, and the series is concluded to be stationary.

The ADF unit root test results (Table 2) indicate the stationarity of the study variables under different model specifications (constant; constant and trend; no constant and no trend). RGDP is stationary at first difference, I(1), across the model specifications, suggesting that it follows a unit root process at levels but becomes stationary after differencing. Excise duties are mostly stationary at level, I(0), when a constant is included, but require first differencing, I(1), under other specifications, indicating mixed results that lean toward stationarity after differencing. Stamp duties are stationary at first difference, I(1), in the majority of cases, except for one instance where they are non-stationary at levels, implying that differencing is required for stability. Custom duties exhibit stationarity at level, I(0), under one specification but require first differencing, I(1), in others, showing an inconsistent pattern. VAT is stationary at level, I(0), under all specifications, meaning it does not require differencing for stationarity. Generally, the findings suggest that most variables require differencing to achieve stationarity, except for VAT and, to some extent, excise duties, which are naturally stationary at levels.

TABLE 3. *Correlation of the Study Variables*

	RGDP	STAMP DUTIES	VALUE ADDED TAX	EXCISE DUTIES	CUSTOM DUTIES
RGDP	1				
Stamp Duties	-0.0777	1			
Value Added Tax	0.1361	0.1213	1		
Excise Duties	0.5222	0.2895	0.3275	1	
Custom Duties	0.5526	-0.1719	0.4073	0.1180	1

Source: EVIEWS 14.0 output.

Table 3 is the correlation matrix, which reveals varying relationships between RGDP and the different tax revenue sources. Stamp duties (-0.0777) have a weak negative correlation with RGDP, indicating that economic growth has little or no direct impact on this revenue stream. Conversely, value-added tax (0.1361) shows a weak positive relationship with RGDP,

suggesting that while VAT revenue tends to rise with economic growth, the connection is not particularly strong. These results imply that stamp duties are influenced by factors other than overall economic performance, while VAT may see slight gains during periods of economic expansion. Excise duties (0.5222) and customs duties (0.5526), by contrast, have moderate positive correlations with RGDP, suggesting that these tax revenues are more responsive to economic growth. The strong association between RGDP and customs duties implies that increased trade activity, imports, and overall production expansion drive customs and excise tax revenues.

4.3 Bound Test

The Bound Test is a statistical process employed to check for the presence of a long-run connection among variables within a historical dataset. The test was first suggested by Pesaran et al. (2001) to check for cointegration within the framework of ARDL models. Cointegration implies that it is possible to make non-stationary variables stationary if they are linearly combined, which becomes a sign of a long-run equilibrium link between the variable sets.

TABLE 4. *ARDL Bound Test Result*

TEST STATISTIC	VALUE	I(0) LOWER BOUND	I(1) UPPER BOUND
F-Statistic	44.20866		
t-Statistic	-3.722494		
Significance: 10%		2.578	3.858
Significance: 5%		3.125	4.608

Source: EViews 14.0 output.

Table 4 shows that the ARDL Bound Test results reveal a significant F-statistic of 44.20866, which is well above the upper bound critical value of 4.608 at the 5% significance level. This leads to rejection of the null hypothesis of no cointegration, indicating that the variables in the model exhibit a long-run link. The F-statistic being significantly higher than the lower bound of 3.125 supports the conclusion that an equilibrium relationship exists among the variables. As these variables are cointegrated, they will move in tandem over the long term, allowing for more detailed analysis to estimate their long-run coefficients.

4.4 ARDL Regression

TABLE 5. *ARDL Regression Results*

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
Log (Custom Duties)	0.163020	0.067355	2.420325	0.0427
Log (Stamp Duties)	-0.025013	0.023830	-1.049749	0.3531
Log (Value Added Tax)	-0.029275	0.009217	-3.176182	0.0337
Log (Excise Duties)	0.174045	0.057143	3.045801	0.0382
COINTEQ	-0.510185	0.067112	-7.602009	0.0000
R-Square	0.799642			
F-Statistic	4.660718			
Prob (F-Statistic)	0.018135			

Source: EViews 14.0 output.

Table 5 presents the ARDL regression findings, which show the long-run impacts of the tax types on RGDP. With custom duties having a coefficient of 0.163020, the implication is that they have a favorable link with RGDP, where a one-unit

increase in custom duties brings about an estimated addition of 0.163 to RGDP. This influence is statistically significant, with a p-value of 0.0427. Stamp duties show an adverse coefficient of -0.025013 , but this is not statistically significant (p-value of 0.3531) and implies little effect on the growth of the Nigerian economy.

VAT has a coefficient of -0.029275 , indicating a statistically significant negative effect on GDP (p-value of 0.0337). This implies that increases in VAT could adversely affect economic activity. Conversely, excise duties have a positive coefficient of 0.174045, with a significant p-value of 0.0382, indicating that they contribute positively to RGDP. The model's goodness-of-fit is reflected in an R-squared value of 0.799642, meaning that approximately 80% of the variability in RGDP is explained by the independent variables. The COINTEQ value of -0.510185 and its p-value of 0.0000 indicate a strong long-run relationship among the variables, confirming stability in the model. Additionally, the F-statistic of 4.660718, with a p-value of 0.018135, shows that the overall model is statistically significant, highlighting the collective impact of the tax variables on RGDP.

4.5 Diagnostic Tests for ARDL Regression

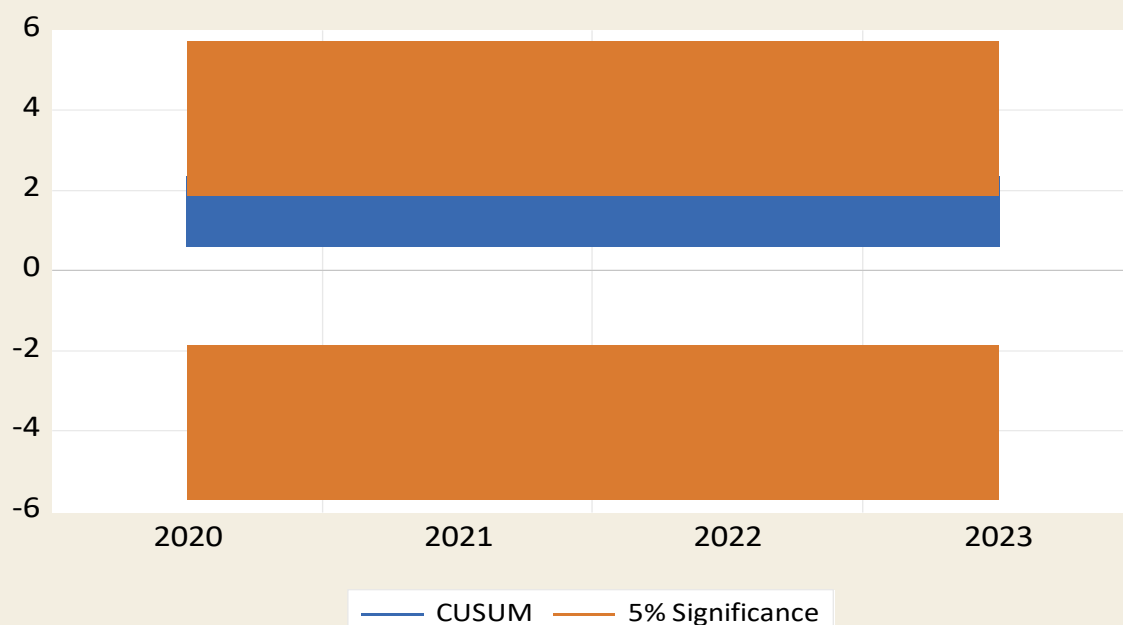
Diagnostic tests for the ARDL regression are essential for validating the assumptions of the model and ensuring that the results are reliable. For this reason, checks for autocorrelation, heteroskedasticity, and model stability were carried out using the appropriate and recommended tests, as shown below.

TABLE 6. *Diagnostic Tests for ARDL Regression*

TEST	STATISTIC	VALUE	DISTRIBUTION	PROB.
Breusch-Godfrey Serial Correlation LM (H_0 : no serial correlation up to 2 lags)	F-statistic	1.492947	F(2,2)	0.4011
	Obs*R-squared	6.58755	Chi-Square(2)	0.3710
Breusch-Pagan-Godfrey Heteroskedasticity (H_0 : homoskedasticity)	F-statistic	0.651277	F(6,4)	0.6962
	Obs*R-squared	5.435774	Chi-Square(6)	0.4893
	Scaled explained SS	0.823514	Chi-Square(6)	0.9140

Source: EViews 14.0 output.

Table 6 presents the Breusch-Godfrey Serial Correlation LM test results. The findings indicate little evidence of autocorrelation in the residuals of the model. The F-statistic of 1.492947, with a p-value of 0.4011, along with the Obs*R-squared value of 6.58755 and its corresponding p-value of 0.3710, suggest that the null hypothesis of no serial correlation cannot be rejected. Because the p-values are much higher than the conventional significance levels (0.05 or 0.01), the residuals appear to be distributed independently, supporting the validity of the regression model's assumptions. Similarly, the Breusch-Pagan-Godfrey test results indicate that heteroskedasticity does not exist in the residuals. The F-statistic of 0.651277, with a p-value of 0.6962, together with the Obs*R-squared statistic of 5.435774 and a p-value of 0.4893, indicate that the null hypothesis of homoskedasticity holds. As the p-values are not statistically significant, the model's residuals indicate constant variance, which strengthens the model's dependability for inference. These findings imply that the regression model is well-specified and has no major issues with autocorrelation or heteroskedasticity.

FIGURE 1. CUSUM Test for Model Stability

The CUSUM (Cumulative Sum) test examines the stability of the regression model over time. The cumulative total of recursive residuals remained within the two critical boundary lines at the 5% significance level throughout the study period, indicating that the estimated model is stable over time, with no structural break. This confirms the reliability of the regression coefficients for long-term interpretation and prediction.

4.6 Discussion of Findings

The study evaluated the influence of a number of indirect tax components on Nigeria's RGDP, with four hypotheses tested at the 5% level of significance. The findings reveal mixed effects across the different tax categories. Stamp duties and VAT appear to negatively affect Nigeria's RGDP, suggesting that these forms of taxation might be discouraging production and consumption in Nigeria and, thereby, slowing economic growth. Custom duties and excise duties, by contrast, significantly and positively influence RGDP, implying that trade-related taxation strongly supports economic activity, possibly through import regulation and revenue generation. The positive contribution of custom and excise duties highlights the potential of trade policies in fostering growth, while stamp duties exhibit a non-significant impact on RGDP, indicating their limited role in shaping economic performance. The negative effect of stamp duties and VAT suggests that policymakers should reshape their structures to minimize economic distortions. Given these insights, a balanced tax policy that optimizes revenue generation while minimizing adverse economic effects is necessary for lasting economic growth in Nigeria.

The finding that excise duties positively and significantly impact RGDP (coefficient of 0.174045, p-value of 0.0382) aligns with economic theory. The result aligns with those of Chen et al. (2020), who analyzed the impact of indirect taxes on China's economic growth between 1995 and 2018 using evidence from excise duties, as well as with the findings of Smith and Brown (2019), who studied the influence of excise taxes on economic performance in the United States, Kusi and Addo (2021), who explored the effect of excise taxes on economic development in Ghana, and Fakunmoju (2022), who explored the effect of indirect taxes on the stability of Nigeria's macroeconomy—all of whom found a significant and positive contribution of excise taxes to economic growth.

The regression results also indicate that customs duties have a large and positive impact on RGDP. This result aligns with that of Eze and Udeh (2018), who studied the effect of customs revenue on economic performance with evidence from Sub-Saharan Africa. However, it disagrees with Ukpabi (2019), who evaluated the impact of indirect taxes on economic growth and found that customs duties showed a weak negative correlation with economic growth.

The analysis, which indicates that stamp duties do not contribute positively to GDP—given the negative coefficient of -0.025013 and a non-significant p -value of 0.3531 —implies that alterations in stamp duties do not substantially influence economic output. A possible explanation is that stamp duties primarily target financial transactions and property transfers, which may have limited direct effect on overall economic performance. This result is in line with the findings of Brown and White (2018), who evaluated the contribution of stamp duties to economic stability in the United Kingdom, Sharma and Singh (2021), who investigated the impact of stamp duties on state-level economic growth in India, and Onwuka and Orji (2021), who evaluated the effect of stamp duty income on total federal tax revenue in Nigeria, and Aniefor (2022), who studied the impression of Nigerian stamp duty on economic performance—all of whom found an adverse effect of stamp duties on RGDP. It conflicts, however, with Onwuka and Orji (2021) and Ezejiofor and Apete (2024), who found a positive effect.

In addition, the study found that VAT has a coefficient of -0.029275 , indicating a statistically significant negative effect on RGDP (p -value of 0.0337). This suggests that a boost in VAT collection may have a negative effect on economic performance: high VAT rates can reduce consumer purchasing power and limit business investment, possibly retarding economic activity. In the case of Nigeria, the descriptive statistics indicate that VAT exhibited unpredictability during the study period, thereby affecting government revenue planning. This finding is in conformity with Odu (2022), who analyzed the impact of VAT on revenue collection and economic performance in Nigeria between 1994 and 2018 and concluded that VAT greatly and negatively affects gross domestic product with a lag of one year. However, it conflicts with Abomaye et al. (2018), who studied the effect of Nigeria's VAT and CED on economic growth, Johnson and Smith (2018), who studied the effect of VAT on economic growth in Sub-Saharan Africa, Osei and Mensah (2019), who evaluated the impact of VAT in boosting economic performance in Ghana, and Nmesirionye et al. (2019), who conducted an empirical investigation of the effect of indirect taxes on Nigeria's economic growth from 1994 to 2017 and found a strong positive link between VAT and GDP.

5. CONCLUSION

The research assessed the influence of indirect taxes—excise duties, stamp duty, custom duty, and value-added tax—on Nigeria's economic growth during 2003–2023. The findings showed that VAT has a disproportionately adverse effect on RGDP, while excise duties and custom duties have a positive impact on RGDP. The results also show that stamp duties have a weak, non-significant impact on RGDP. These findings underscore the need for policymakers in Nigeria to carefully consider the country's indirect tax environment and fine-tune it accordingly. Since VAT negatively affects Nigeria's real gross domestic product, this form of taxation may be discouraging production and consumption and, thereby, slowing economic performance. It is advisable for the Nigerian government to consider fine-tuning its indirect tax regimes to ensure that all tax types contribute significantly to boosting economic growth.

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Conflict of Interest: The authors declare no conflict of interest.

Ethics Approval: Not applicable — this study relies solely on publicly available secondary macroeconomic and fiscal data.

Consent to Participate: Not applicable.

Data Availability Statement: The data supporting the findings of this study were extracted from the websites of the Federal Inland Revenue Service (FIRS), the National Bureau of Statistics (NBS), and the Central Bank of Nigeria (CBN) Statistical Bulletins, and are available from the corresponding author upon reasonable request.

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APPENDIX

Appendix 1: Study Data (2003–2023)

TABLE A1. Study Data — Stamp Duties, Custom Duties, Excise Duties, VAT (₦'m unless noted) and RGDP (₦'b)

YEAR	STAMP DUTIES	CUSTOM DUTIES	EXCISE DUTIES	VAT	RGDP
2003	20.05	1853.51	49.01	728.546	446.89
2004	0.76	1112.50	224.28	2144.5968	463.33
2005	37.62	1735.24	116.87	2109.04	512.69
2006	8.58	1447.83	245.72	1180.0141	496.66
2007	33.10	1870.34	109.89	1531.1748	398.13
2008	52.29	1332.92	293.46	1091.9943	357.53
2009	58.28	1381.91	232.26	3714.6171	492.31
2010	20.70	992.98	133.56	3637.12	458.12
2011	49.83	917.25	51.50	139543.45	518.25
2012	7.3828	977.52	237.43	710.5551	463.971018
2013	7.6025	1037.29	185.73	802.6835	520.11718
2014	10.9436	1739.87	207.7	802.9647	574.183763
2015	7.0845	1818.77	276.58	5964293.921	493.026683
2016	5.903	799.71	85.44	828.1991	404.649125
2017	8.9335	955.38	76.2	1944.6968	375.745731
2018	15.7974	785.39	274.27	1108.04	421.739252
2019	18.192	1980.27	125.28	1190.0111	474.517491
2020	120.157	842.98	211.27	1531.1748	432.198898
2021	33.94	1534.59	163.63	2072.8948	440.838992
2022	53.5256	800.99	170.67	2511.5177	472.624597
2023	96.29	1087.9	264.83	3639.32	461.237521

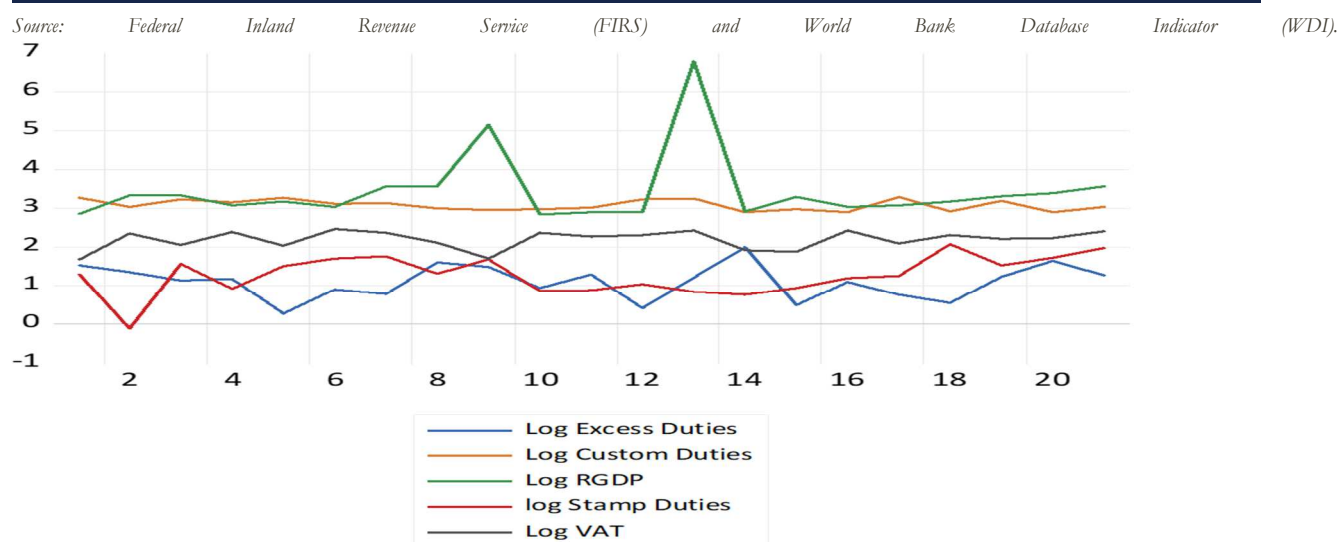


FIGURE 2. Stack Line Plot of the Study Variables (Logged)

Source: Authors' computation using EViews 14.0.