

Indirect Tax and Economic Development in Nigeria

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Abstract: *This study examined the effect of indirect taxation on Nigeria's economic development, specifically examining how value added tax (VAT) and customs and excise duties have affected real gross domestic product (RGDP), unemployment rate (UR), and human development index (HDI) in Nigeria. Using an ex-post facto research design, the study analyzed thirty years of secondary data (1994–2024) using the Autoregressive Distributed Lag (ARDL). The study found out that: there is a positive and significant effect of indirect tax (VAT, Custom and Excise duties) on real GDP in Nigeria, there is a positive (LVAT) / negative (LCED) and significant effect of indirect tax on unemployment rate in Nigeria; as well as a positive and significant effect of indirect tax (VAT, Custom and Excise duties) on human development index in Nigeria. The study concluded that indirect tax has significant effect on economic development in Nigeria as such effect extended across all the economic development indicators studied. Based on the results, the study recommended that government should strengthen the contribution of VAT and custom and excise duties to GDP growth through improvement of compliance, broadening of the tax base, reducing leakages, and enhancing the digitalize tax collection. Moreover, the study recommended that Nigerian government should introduce a policy that can enhance channeling of more VAT revenue towards employment generation. For more improved Nigeria's human development, government are recommended to maintain effective management and utilization of revenue from indirect taxes in enhancing Nigeria's healthcare facilities, education and quality standard of living in the country.*

Keywords: *Tax, indirect Tax, Gross Domestic Product (GDP), unemployment, Human Development Index.*

1. Introduction

1.1 Background

Globally, governments are confronted with rapidly expanding fiscal responsibilities, including the provision of quality education, healthcare services, robust infrastructure development, maintenance of law and order, and defense against internal and external threats. Meeting these extensive public obligations requires substantial and predictable financial resources. Consequently, the International Monetary Fund emphasizes that developing nations must prioritize domestic revenue mobilization strategies to finance long-term sustainable development rather than relying excessively on foreign aid and external borrowing. This position reinforces the central role of taxation as an indispensable instrument of fiscal policy and macroeconomic management. Defined as a compulsory levy imposed by the government on individuals and corporate entities to finance public expenditure, taxation in Nigeria operates primarily through two structural categories: direct taxation and indirect taxation. Direct taxes—such as Personal Income Tax, Company Income Tax, Petroleum Profit Tax, and Capital Gains Tax—are levied directly on the income or profits of taxpayers and cannot be shifted to third parties. Conversely, indirect taxes are levied on consumption, expenditures, goods, and services. Although collected by business entities and intermediaries during transactions, the economic burden of indirect taxation is ultimately transferred to the final consumer in the form of higher market prices.

Within the Nigerian tax system, indirect taxes serve as vital tools for broadening the revenue base and reducing the economy's historical vulnerability to crude oil price volatility. The prominent forms of indirect tax utilized in Nigeria include Value Added Tax (VAT), Customs Duties, and Excise Duties. Value Added Tax (VAT) is a multi-stage consumption tax charged on the value added to taxable goods and services at each point of production and distribution. Originally introduced in Nigeria through the Value Added Tax Decree No. 102 of 1993 and currently governed by the Value Added Tax Act (Cap V1, LFN 2004, as amended), VAT was initially set at a rate of 5% before being adjusted to 7.5% under the Finance Act of 2019 to enhance public revenue generation. Administered by the Federal Inland Revenue Service (FIRS), VAT applies across manufacturers, wholesalers, retailers, and service providers, while exempting basic necessities such as essential food items, basic medical services, and educational materials to mitigate social hardship. Complementing VAT are Customs Duties and Excise Duties, both administered by the Nigeria Customs Service (NCS). Customs duties, regulated under the Nigeria Customs Service Act of 2023, are imposed on imported and exported goods to generate government revenue, regulate trade

volumes, and protect local industries from foreign competition. Excise duties, governed by the Customs and Excise Management Act (CEMA), are levied on specific domestically manufactured items—particularly non-essential or luxury items and products associated with negative externalities, such as alcohol, tobacco, and petroleum products—utilizing specific and ad valorem tax rates to support both public health objectives and revenue targets.

Because indirect taxes are collected at the point of sale or production, the mechanism of remittance and compliance monitoring is critical to ensuring that tax revenues reach the public treasury. For VAT, registered businesses (vatable persons) act as government agents, collecting the tax from consumers and remitting it monthly to the FIRS through designated financial institutions and electronic tax platforms. For customs duties, enforcement occurs directly at points of entry, as importers must pay assessed duties prior to the release and clearance of goods. Excise duties are similarly assessed on production quantities before goods enter commercial distribution channels. To monitor compliance and prevent tax leakage, the government relies on administrative tools including periodic tax audits, forensic investigations, statutory financial penalties, and modern digital tax technologies such as e-filing systems, which enable real-time tracking and reduce administrative bottlenecks.

Ultimately, the overarching goal of optimizing indirect tax administration is to foster economic development across the nation. Economic development represents a multidimensional process through which a country enhances the structural living conditions of its citizens by raising income levels, expanding human capacity, and providing equitable access to infrastructure and social amenities. It is distinct from mere economic growth, which focuses strictly on quantitative increases in national output measured by Gross Domestic Product (GDP), without necessarily addressing wealth distribution, poverty reduction, or social welfare. In empirical literature, economic development is comprehensively evaluated using macroeconomic and social proxies such as Real Gross Domestic Product (Real GDP), the Unemployment Rate, and the Human Development Index (HDI). Real GDP measures total economic output adjusted for inflation, providing an accurate picture of actual productive activity without price distortions. The Unemployment Rate reflects the proportion of the active labor force seeking gainful employment, serving as an indicator of resource utilization and economic opportunity. The Human Development Index (HDI), developed by the United Nations Development Programme (UNDP), offers a composite view of human well-being by combining life expectancy, educational attainment, and income per capita. While indirect taxation offers a broad-based and efficient

revenue source to fund these developmental indicators, its primary drawback remains its regressive nature, as low-income households spend a larger share of their income on consumption. Therefore, balancing indirect tax policies through targeted exemptions, efficient tax collection systems, transparent financial management, and strategic public reinvestment remains crucial to achieving long-term, inclusive economic development.

1.2 Statement of the Problem

Despite the recognized importance of taxation as a key instrument for revenue generation and economic development, Nigeria has continued to experience challenges in effectively harnessing the full potential of its indirect tax system in stimulating the nation's economic development. Many people opined that the performance of indirect taxes in Nigeria such as value added tax, customs duties, and excise duties have not been optimal due to inefficiencies in tax administration, low compliance levels, and the dominance of the informal sector. Challenges such as policy inconsistencies, weak institutional frameworks, and lack of transparency in revenue utilization have also limited the effectiveness of indirect taxes in driving development outcomes.

Against all the challenges stated above, some empirical studies have shown that indirect taxes played a crucial role in economic development. For instance, research revealed that VAT had a strong positive relationship with Gross Domestic Product (GDP) and total government revenue in Nigeria, indicating its importance in driving economic growth and development (Iwegbe & Daddau, 2024). Furthermore, evidence from recent studies indicated that indirect taxes significantly influenced broader development indicators such as per capita income and Human Development Index (HDI). For example, indirect tax revenue, particularly VAT efficiency, had been found to positively affect per capita income and HDI in Nigeria. Omodero & Dandago, 2019; Nwachukwu, Nwoha & Inyama, 2022. This implied that indirect taxes, when effectively managed, could contribute meaningfully to improving living standards and overall economic development.

While existing studies have established a positive relationship between indirect taxes and economic growth and development, there is lack of empirical evidence on how these taxes affect broader indicators of economic development such as unemployment reduction and human development in Nigeria. Hence the need for this research is to fill the stated gap by utilizing broader indicators of economic development such as unemployment reduction and human development index in Nigeria in addition to Nigeria's real GDP, while determining the effect of indirect tax on economic development in Nigeria.

1.3 Aim and Objectives of the Study

The aim of this study is to evaluate the effect of indirect tax on economic development in Nigeria.

Objectives

- I. Examine the effect of indirect tax revenues on GDP in Nigeria.
- II. Evaluate the impact of indirect tax revenues on the Unemployment Rate in Nigeria.
- III. Investigate the influence of indirect tax revenues on the Human Development Index (HDI) in Nigeria.

1.4 Research Questions

To guide this investigation, the study seeks to answer the following research questions:

- I. What is the effect of indirect tax revenues on Real Gross Domestic Product (Real GDP) in Nigeria?
- II. How do indirect tax revenues affect the Unemployment Rate in Nigeria?
- III. To what extent do indirect tax revenues influence the Human Development Index (HDI) in Nigeria?

1.5 Research Hypotheses

- I. Indirect tax revenues have no significant effect on Real Gross GDP in Nigeria.
- II. Indirect tax revenues have no significant impact on the Unemployment Rate in Nigeria.
- III. Indirect tax revenues do not exert a significant influence on the Human Development Index (HDI) in Nigeria.

2. Conceptual Review

2.1 Taxation

Taxation is a compulsory financial contribution imposed by the government on individuals, organizations, and other entities to finance public expenditure and foster economic growth. It remains one of the most important sources of revenue globally and an essential tool for economic management (Anyanwu, 2017; Jhingan, 2014; Bhartia, 2019). The principal objectives of taxation encompass revenue generation for funding public goods, infrastructure, and government operations; income redistribution through progressive systems that reduce inequality; economic regulation that influences consumption, investment, and savings behaviour; and the promotion of macroeconomic stability by controlling

inflation and supporting sustainable growth. An effective tax system should be efficient, equitable, simple, and transparent (Hodge, 2015).

2.1.2 Indirect Taxation

Indirect taxation refers to taxes imposed on goods and services rather than directly on income or profits. These taxes are collected by intermediaries such as manufacturers, wholesalers, and retailers, yet the final burden is borne by consumers through higher prices. According to the International Monetary Fund (IMF, 2020), indirect taxes are particularly important in developing countries because of their broad base and relative ease of collection. They are less prone to evasion than direct taxes and can generate substantial revenue even in economies characterized by large informal sectors. A key advantage is their capacity to influence consumer behaviour; higher taxes on harmful goods such as tobacco and alcohol can discourage consumption and thereby promote public health. In Nigeria, indirect taxation has assumed greater prominence as the government seeks to diversify revenue sources away from oil dependence. Despite this potential, effectiveness is constrained by poor compliance, weak enforcement, and policy inconsistencies. The principal advantages of indirect taxes in the Nigerian context include robust revenue generation for development even within large informal sectors. Value Added Tax (VAT) and customs duties have become critical sources of non-oil revenue; research indicates that VAT in particular maintains a strong positive relationship with government revenue and economic growth (Onoja & Stephen, 2020; Adefolake, 2022). The proceeds support roads, schools, hospitals, and other public services that raise living standards. Indirect taxes also contribute to economic growth: VAT and excise duties have been shown to exert positive effects on GDP and income levels (Ikeokwu & Micah, 2017; Obayori, 2019). Their wide coverage and broad tax base ensure that virtually all consumers, including those in the informal sector, contribute to government revenue. In addition, they help control consumption by encouraging the purchase of locally produced goods through higher import duties and by reducing demand for harmful products. Finally, they are generally easier to administer and collect than direct taxes, rendering them a more reliable revenue source (Adefolake, 2022).

2.1.3 Value Added Tax (VAT)

Indirect taxes in Nigeria are classified mainly into Value Added Tax (VAT), customs duties, excise duties, stamp duties, and other consumption-based taxes. VAT is a multi-stage consumption tax levied on the value added to goods and services at each stage of production and distribution, ultimately borne by the final consumer. Introduced in 1994 to replace the sales-tax system and

broaden the tax base, VAT applies to most goods and services and constitutes a reliable source of government revenue (Omodero, 2020). It is described as a multi-stage tax that collects revenue at successive points in the production chain (Owino, 2019). Despite these strengths, VAT is criticised for its regressive character, affecting all consumers equally regardless of income (Kagan, 2019). Administrative challenges, including poor record-keeping and tax evasion, further limit its effectiveness. Recent rate increases reflect attempts to boost non-oil revenue, yet success depends on efficient administration and transparent utilisation of proceeds.

The principal challenges of VAT include its regressive impact on low-income earners, who spend a larger proportion of income on taxed consumption; administrative difficulties arising from inadequate record-keeping and deliberate under-reporting of sales; and the dependence of developmental outcomes on strong governance and transparent expenditure. Without proper investment of VAT revenue in infrastructure, healthcare, education, and social programmes, even substantial collections fail to translate into tangible economic development.

2.1.4 Customs Duties

Customs duties are taxes on imported and exported goods designed to generate revenue, regulate trade, and protect domestic industries. Excise duties are levied on specific domestically produced goods such as alcohol, tobacco, and petroleum products—often termed “sin taxes” because they discourage harmful consumption. Both are administered by the Nigeria Customs Service and have grown in importance amid declining oil revenues. Challenges confronting customs and excise duties include widespread smuggling and illegal trade that deprive the government of revenue and undercut local producers; corruption in administration that enables bribery, falsification of records, and tax evasion; and weak enforcement arising from outdated procedures, insufficient personnel, or inadequate technology. These problems reduce revenue, distort competition, and limit the capacity of the duties to support development.

2.2 Theoretical Framework

Several theories illuminate the relationship between taxation and economic development.

2.2.1 Ability to Pay Theory

The ability-to-pay theory, propounded by Arthur Cecil Pigou in 1920, holds that individuals should be taxed according to their capacity to bear the burden; those with higher incomes should contribute more, thereby promoting equity (Pigou,

1920). Although indirect taxes such as VAT are embedded in prices and not levied according to income, higher-income individuals typically spend more and therefore pay more tax in absolute terms. The theory thus helps explain how indirect taxation can still contribute to fairness and revenue generation.

2.2.2 Benefit Theory

The benefit theory, advanced by Eric Lindahl in 1919, asserts that taxpayers should contribute in proportion to the benefits they receive from government services. While difficult to apply precisely to pure public goods, the theory remains relevant because consumption-based taxes such as VAT link contributions to the volume of goods and services purchased, approximating the benefits derived from publicly financed infrastructure and services.

2.2.3 The Laffer Curve Theory

The Laffer Curve Theory, formulated by Arthur Laffer in 1974, posits a non-linear relationship between tax rates and tax revenue: an optimal rate maximises revenue, beyond which higher rates discourage economic activity and ultimately reduce collections (Laffer, 1974). Applied to Nigerian indirect taxes, the theory underscores the necessity of setting VAT and related rates at levels that sustain compliance and consumption rather than driving activity into informal markets.

2.2.4 Keynesian Theory

Keynesian theory of taxation, developed by John Maynard Keynes in 1936, treats taxation as a macroeconomic instrument that governments can adjust to stimulate growth, control inflation, and influence aggregate demand (Keynes, 1936). Indirect-tax revenue finances public expenditure on infrastructure, education, and healthcare, while rate changes affect consumption and thereby aggregate demand.

This study is anchored primarily on the Laffer Curve Theory because it supplies a clear framework for understanding how optimally designed and efficiently administered indirect taxes can maximise revenue without stifling economic activity, thereby supporting development. Keynesian insights complement this perspective by highlighting the role of tax-financed public spending in promoting growth and welfare.

2.3 Empirical Review

Empirical studies provide mixed but generally supportive evidence of the contribution of indirect taxes to economic performance in Nigeria and comparable settings. Abata, Osamor and Elluh (2023) examined the impact of

both direct and indirect taxes on Nigeria's economic growth using secondary data from the Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service reports. Applying multiple regression analysis based on the Ordinary Least Squares technique, they found that VAT exerts a positive and statistically significant effect on economic growth, whereas direct taxes display a negative impact.

Taufik et al. (2022) compared tax systems in developing and developed countries using secondary data drawn from published reports, tax statistics, and international databases. Their comparative analysis concluded that tax systems in developing economies often fail to support growth effectively, largely because of weak administration, low compliance, and policy inconsistencies that constrain both direct and indirect taxes.

Nwobodo et al. (2022) investigated the impact of indirect taxes focusing on VAT and customs duties on economic growth in Nigeria. Employing secondary data from Central Bank of Nigeria, Federal Inland Revenue Service, and other fiscal publications and applying Ordinary Least Squares regression, the authors established a positive long-term relationship between these taxes and growth, suggesting that consistent and efficient collection can sustain public investment and development projects.

Ayeni and Omodero (2022) analysed the effect of tax-revenue composition on economic growth, with particular attention to VAT and Company Income Tax. Using secondary data from the Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service reports and Ordinary Least Squares regression, they reported a positive association between VAT and GDP, reinforcing VAT's role as a growth driver, while Company Income Tax showed a negative association.

Ukpabi (2019) studied the effect of indirect taxation VAT, customs duties, and excise duties on economic growth in Nigeria with secondary data from Central Bank of Nigeria and Federal Inland Revenue Service sources and multiple regression via Ordinary Least Squares. VAT positively influenced growth, whereas customs and excise duties yielded mixed results contingent on policy implementation and enforcement. Asaolu et al. (2018) examined the impact of tax revenue, encompassing both direct and indirect taxes (VAT, customs duties, and Company Income Tax), on Nigerian economic growth. Secondary data from the Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service reports were analysed with Ordinary Least Squares regression. Both VAT

and customs duties positively affected GDP, while direct taxes, particularly Company Income Tax, exerted a negative influence.

Collectively these studies indicate that Indirect taxes remain crucial for revenue mobilisation that finances public investment in infrastructure, social services, and broader development initiatives.

3. Methodology

This study adopted an ex-post facto research design, which is appropriate for analyzing historical data. This design is suitable because the study examines the relationship between indirect taxes and economic development using already existing data.

The study relies on secondary data, which are quantitative in nature. Data are sourced from Central Bank of Nigeria (CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS) website, CBN website and United Nations Development Program website. Specifically, data on VAT, import and excise duties, 1994 - 2011 were sourced from the CBN Statistical Bulletin, while data on VAT, import and excise duties, 2012-2024 were extracted from the FIRS website. Similarly, data on real GDP in Nigeria are sourced from CBN website, while data on unemployment rate sourced from World Bank Indicator, and data on HDI sourced from United Nations Development Program website. The data covered the period 1994 to 2024 to ensure sufficient number of observations for meaningful analysis.

The population of the study comprises all available data relating to the studied taxation revenues.

3.2. Model Specification

To examine the effect of indirect taxes on economic development, the study specifies a functional relationship as follows:

1) Functional Model: $ED = f(VAT, CED)$

Where: ED = Economic Development

VAT = Value Added Tax

CED = Customs and excise duties

2) Econometric Model: $ED_t = B_0 + B_1VAT + B_2CED + U_t$

Where:

B_0 = Constant term

B_1, B_2, B_3 = Coefficients of independent variables

U_t = Error term

t = Time period

Table 3.3: Summary of the Description of Research Variables

Variable	Description	Unit of Measurement	Expected Sign
Real GDP / unemployment rate / HDI	Economic Development	#' Billions / % / index Respectively	Dependent
VAT	Value Added Tax Revenue in Nigeria, 1994 – 2024	Naira	Positive (+) with RGDP and HDI. Negative (-) with unemployment rate
CED	Customs and Excise Duties Revenue in Nigeria, 1994 – 2024	Naira	Positive (+) with RGDP and HDI. Negative (-) with unemployment rate

Source: Researcher's compilation (2026)

The study employed the Autoregressive distributed lag (ARDL) techniques for the main data analysis / test of hypotheses. This technique was preceded by the descriptive statistics to summarize data characteristics, unit root test (ADF test) to check for stationarity of the variables, ARDL bound co-integration test to determine the existence of long-run relationship. Series of diagnosis tests techniques were also used, namely, test for heteroskedasticity using ARCH test technique, serial correlation using Breusch-Godfrey LM test technique, Ramsey RESET test and Jarque-Bera normality test.

These techniques ensure reliable results.

4. Discussion

Nigeria's tax system has evolved as a deliberate response to over-reliance on oil revenue and the associated vulnerability to global price shocks. The introduction of Value Added Tax (VAT) in 1994 marked a pivotal shift from the earlier sales-tax regime, aiming to broaden the tax base and stabilise non-oil revenue. Customs and excise duties, administered by the Nigeria Customs Service since the late nineteenth century, continue to serve dual purposes of trade regulation and revenue mobilisation. The contemporary structure distinguishes direct taxes (personal and company income taxes) from indirect taxes (VAT, customs and excise duties). Recent policy emphasis has favoured the latter because of their broader base and comparatively lower administrative costs, yet persistent

challenges—tax evasion, corruption, weak enforcement and a large informal sector continue to constrain performance.

A SWOT analysis of the indirect-tax system highlights both potential and limitations. Strengths include a broad tax base, relative ease of administration, steady revenue generation and lower susceptibility to evasion compared with direct taxes. Weaknesses centre on the regressive incidence that disproportionately affects low-income households, weak enforcement, corruption, revenue leakages and inadequate administrative capacity. Opportunities lie in further revenue diversification away from oil, digitalisation of tax systems, compliance-enhancing reforms and expansion of the formal tax base. Threats include macroeconomic instability, the size of the informal economy, policy inconsistency and smuggling. Collectively, these factors indicate that while indirect taxes possess strong revenue potential, institutional and structural constraints limit their developmental impact.

Empirical analysis utilised annual data for 1994–2024 on VAT revenue, customs and excise duties (CED) revenue, real GDP, unemployment rate and the Human Development Index (HDI). All series were logarithmically transformed to linearise exponential trends, reduce skewness and stabilise variance. Descriptive statistics reveal marked variation. Logged VAT (LVAT) and logged CED (LCED) exhibit high means relative to medians, substantial standard deviations, pronounced positive skewness and kurtosis far exceeding three, indicating right-skewed distributions with heavy tails. Logged real GDP (LRGDP) and logged HDI (LHDI) display near-symmetric or mildly left-skewed distributions with lighter tails, while logged unemployment (LUR) is positively skewed and leptokurtic. Jarque–Bera tests confirm non-normality for LVAT, LCED and LUR, but normality cannot be rejected for LRGDP and LHDI.

Augmented Dickey–Fuller unit-root tests establish that LVAT, LCED and LRGDP are integrated of order one, $I(1)$, while LUR and LHDI are stationary at levels, $I(0)$. The mixture of orders of integration justifies the Autoregressive Distributed Lag (ARDL) framework. Vector autoregressive lag-order selection, guided by the Akaike Information Criterion and Final Prediction Error, consistently selects an optimal lag of two for all three model specifications. ARDL bounds tests at this lag length yield F-statistics that fall below the upper critical bounds at the 5 per cent level for each hypothesis. Consequently, long-run cointegration is not supported and estimation proceeds with the short-run ARDL specification.

Hypothesis One: Indirect tax and real GDP

The short-run ARDL estimates show positive but individually insignificant coefficients for LVAT(-2) (0.0163, $p = 0.4496$) and LCED(-2) (0.0024, $p = 0.8752$). The joint model, however, is highly significant ($F = 931.44$, $p = 0.0000$), with an R-squared of 0.997 and adjusted R-squared of 0.996. Approximately 99.7 per cent of the variation in LRGDP is accounted for by the lagged indirect-tax variables and the constant. The Durbin-Watson statistic of 2.11 indicates absence of first-order serial correlation. Diagnostic tests reinforce model adequacy: the ARCH test ($p = 0.7960$) rejects heteroskedasticity, the Breusch-Godfrey LM test ($p = 0.4722$) rejects serial correlation, the Ramsey RESET test ($p = 0.1959$) supports correct functional form, and the Jarque-Bera test ($p = 0.282$) confirms residual normality. CUSUM and CUSUM of squares plots remain within the 5 per cent critical bands throughout the sample, confirming parameter stability.

These results lead to rejection of the null hypothesis. Although the individual lag coefficients are insignificant, the joint significance of the model demonstrates that indirect-tax revenue, taken as a group, exerts a positive and statistically significant short-run effect on real GDP. The finding is consistent with the theoretical expectation that tax-financed public expenditure can raise aggregate demand and output, provided the revenue is productively deployed. Policy implication is clear: strengthening administration and compliance of VAT and customs/excise regimes can serve as a reliable fiscal instrument for supporting output growth and reducing oil dependence.

Hypothesis Two: Indirect tax and unemployment

The short-run estimates reveal a positive but insignificant coefficient on LVAT(-2) (0.0188, $p = 0.6582$) and a negative but insignificant coefficient on LCED(-2) (-0.0336, $p = 0.2663$). The overall model remains statistically significant ($F = 20.64$, $p = 0.0000$), explaining approximately 89.2 per cent of the variation in LUR (adjusted R-squared = 0.849). The Durbin-Watson statistic of 1.80 is consistent with absence of serious autocorrelation. Diagnostic results are mixed. Heteroskedasticity is rejected (ARCH $p = 0.9968$) and serial correlation is absent (Breusch-Godfrey $p = 0.3074$). However, the Ramsey RESET test ($p = 0.0015$) indicates functional-form misspecification, and the Jarque-Bera test ($p = 0.000$) rejects residual normality. Despite these limitations, CUSUM and CUSUM of squares statistics remain within the 5 per cent bands, suggesting parameter stability.

The joint significance of the model leads to rejection of the null hypothesis. Indirect taxes as a group significantly influence the unemployment rate, yet the direction of the effect differs by instrument: VAT revenue is associated with higher unemployment, while customs and excise duties are associated with lower unemployment. One plausible interpretation is that VAT revenue has not been sufficiently channelled into employment-generating public investment or social programmes, whereas customs and excise policies may have afforded a degree of protection or incentive to domestic industries, thereby supporting job creation. The policy implication is that fiscal authorities should redesign the utilisation of VAT proceeds toward labour-intensive infrastructure, skills development and enterprise support, while preserving the employment-friendly features of customs and excise administration.

Hypothesis Three: Indirect tax and human development

Estimates for the HDI model again show positive but individually insignificant coefficients for LVAT(-2) (0.0086, $p = 0.1400$) and LCED(-2) (0.0029, $p = 0.4270$). The joint model is highly significant ($F = 670.28$, $p = 0.0000$), with an R-squared of 0.996 and adjusted R-squared of 0.995. Nearly all of the variation in LHDI is accounted for by the lagged tax variables. The Durbin-Watson statistic of 2.14 indicates no serious autocorrelation. Diagnostic tests are largely favourable: serial correlation is absent (Breusch-Godfrey $p = 0.5841$), functional form is correct (RESET $p = 0.6035$) and residuals are normally distributed (Jarque-Bera $p = 0.588$). Mild evidence of heteroskedasticity appears (ARCH $p = 0.0464$), yet the CUSUM and CUSUM of squares plots remain within the critical bands, confirming overall parameter stability.

Rejection of the null hypothesis follows from the joint significance of the model. Indirect-tax revenue exerts a positive and statistically significant short-run effect on the human-development index. This result suggests that the resources mobilised through VAT and customs/excise duties have contributed, at least in part, to improvements in health, education and living standards. The policy implication is that continued and more efficient utilisation of indirect-tax proceeds for social-sector investment can further enhance human-development outcomes.

Overall Implications

Across the three objectives, the short-run ARDL evidence consistently demonstrates that indirect taxes, considered jointly, matter for macroeconomic performance and human development in Nigeria. The positive and significant

association with real GDP underscores their role as a stabilising and growth-supporting fiscal instrument. The mixed but jointly significant effect on unemployment highlights the need for more deliberate employment orientation in the allocation of VAT revenue. The positive link with HDI affirms the developmental potential of these taxes when revenues are directed toward health, education and social infrastructure.

Taken together, the findings reinforce the case for continued reform of the indirect-tax system: strengthening administration and compliance, reducing leakages, expanding the formal base through digitalisation, and ensuring that the resulting revenue is productively and equitably allocated. Such measures would enhance both the revenue yield and the developmental impact of VAT and customs/excise duties, thereby contributing to more sustainable non-oil growth, employment generation and human development in Nigeria.

5. Summary of Findings and Conclusions

5.1 Summary of Findings

The key findings of this study are summarized as follows:

1. there is a positive and significant effect of indirect tax (VAT, Custom and Excise duties) on real GDP in Nigeria
2. there is a positive (LVAT) / negative (LCED) and significant effect of indirect tax on unemployment rate in Nigeria.
3. there is a positive and significant effect of indirect tax (VAT, Custom and Excise duties) on human development index in Nigeria.

5.2 Conclusion

Economic development involves more broader view than just GDP growth. Hence, effect of indirect tax on economic development in Nigeria is determined in this study by having the holistic view of the effect of indirect tax on other development indicators in addition to GDP. In view of the findings of this study, we can conclude that indirect tax has significant effect on economic development in Nigeria as such effect extended across all the economic development indicators studied.

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