Taxation and Economic Development of Nigeria (2005-2024)

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Abstract: This study examines the effect of taxation on economic development in Nigeria from 2005 to 2024. The objectives are to: examine the effect of tax revenue on inflation; assess the effect of tax revenue on the Human Development Index (HDI); evaluate the effect of tax revenue on recurrent expenditure; determine the effect of tax revenue on infrastructure development; and ascertain the effect of tax revenue on unemployment. The research questions and research hypotheses are in line with the objectives. An *ex-post facto* research design was adopted, employing a quantitative approach with secondary data obtained from the Federal Inland Revenue Service (FIRS), Central Bank of Nigeria (CBN), and National Bureau of Statistics (NBS). Regression analysis was applied due to the longitudinal nature of the data. The findings reveal that tax revenue has a positive and statistically significant effect on inflation (β = 0.001026; p = 0.0001), HDI (β = 0.00000224; p = 0.0421), recurrent expenditure (β = 0.830636; p = 0.0000), and infrastructure development (β = 0.268726; p = 0.0000), but a negative and statistically non-significant effect on unemployment (β = -0.0000568; p = 0.1143). The results demonstrate that while tax revenue strengthens government capacity to fund social services and infrastructure, it also fuels inflationary pressures and sustains high recurrent spending. The study concludes that tax revenue plays a dual role in Nigeria, simultaneously supporting development outcomes and presenting macroeconomic challenges. It recommends prioritizing supply-side investments, curbing excessive recurrent expenditure, strengthening transparency in social spending, improving infrastructure governance, and channeling resources toward employment-generating sectors.

Introduction

Taxation remains a fundamental pillar of economic development, providing governments with the financial resources required to deliver essential public services, promote infrastructure development, reduce inequality, and maintain macroeconomic stability (World Bank, 2022; IMF, 2023). Beyond its traditional role as a revenue generating mechanism, taxation serves as a strategic policy tool through which governments

influence economic behaviour, encourage investment, and support broader developmental objectives (Bird and Zolt, 2015; OECD, 2022). Instruments such as tax incentives, progressive tax systems, and consumption taxes can stimulate economic activity in targeted sectors while discouraging harmful practices such as environmental degradation and excessive consumption of unhealthy goods (UNDP, 2021).

In developing economies like Nigeria, the importance of taxation has become increasingly pronounced, particularly in response to the volatility of oil revenues and the urgent need for fiscal diversification (Ariyo and Jerome, 2020; FIRS, 2023). Historically, Nigeria has relied heavily on oil exports as a major source of government income. However, fluctuations in global oil prices have repeatedly exposed the vulnerability of this dependence, undermining fiscal stability and long term economic planning (CBN, 2022). Consequently, the government has intensified efforts to strengthen domestic revenue mobilisation through tax reforms, improved compliance measures, and the expansion of the tax base (OECD, 2024; NBS, 2024). According to the Nigerian Bureau of Statistics, tax revenue accounted for over 58 percent of Nigeria's non oil income in 2023, reflecting a gradual shift toward a more sustainable fiscal framework (NBS, 2024).

Despite these efforts, Nigeria continues to face substantial challenges in achieving optimal tax performance. One of the most critical issues is the country's persistently low tax to GDP ratio, which remains far below the Sub Saharan African average. Recent estimates indicate that Nigeria's tax to GDP ratio stood at about 8.06 percent in 2024, compared to the regional average of approximately 16 percent (OECD and AfDB, 2024; ATAF, 2022). This gap reflects structural weaknesses such as a large informal sector, limited taxpayer awareness, weak administrative capacity, and widespread tax evasion (CIAT, 2023; IOTA, 2022). In addition, the complexity of the tax system, characterised by multiple and overlapping taxes across federal, state, and local government levels, creates inefficiencies and discourages voluntary compliance (Fjeldstad et al., 2020). Public mistrust, driven by perceived corruption and lack of transparency in the utilisationof tax revenues, further undermines citizens' willingness to fulfill their tax obligations (Transparency International, 2023; Uche and Oloruntoba, 2021).

Addressing these challenges requires comprehensive reforms aimed at strengthening tax administration, simplifying procedures, broadening the tax base, and enhancing accountability in public financial management (IMF, 2023; World Bank, 2022; Tax Justice Network Africa, 2022). Improving institutional capacity and leveraging digital technologies for tax collection are also essential for building a more efficient and transparent tax system. Such reforms are critical not only for increasing revenue but also for fostering a culture of compliance and trust between the government and citizens.

Economic development extends beyond increases in national income to encompass improvements in living standards, poverty reduction, employment generation, and

equitable distribution of resources (Todaro and Smith, 2020). It involves structural transformation, including the transition from agrarian based systems to more diversified industrial and service oriented economies, as well as the strengthening of institutions that support sustainable growth. According to the United Nations Development Programme, development is centred on expanding human capabilities through access to education, healthcare, and economic opportunities (UNDP, 2022). This highlights the multidimensional nature of development, which integrates economic, social, and environmental priorities.

A robust tax system plays a central role in achieving these development outcomes. It enables governments to invest in critical sectors such as education, healthcare, infrastructure, and social protection, which are essential for human capital development and economic productivity (IMF, 2023). For example, investments in education enhance skills and innovation, while improved healthcare contributes to a more productive workforce. These investments generate multiplier effects that stimulate broader economic growth and improve societal well being.

Furthermore, taxation serves as an important instrument for income redistribution. When designed progressively, tax policies can reduce income and wealth inequalities by ensuring that higher income groups contribute a fairer share of public revenue (Atkinson, 2019). This redistributive function is particularly significant in developing countries like Nigeria, where inequality remains a major barrier to inclusive growth and social stability. Through equitable taxation and effective public spending, governments can promote social justice and reduce economic disparities.

Taxation also strengthens the social contract between the state and its citizens. When taxpayers perceive that public revenues are used efficiently and transparently to deliver tangible benefits such as quality education, reliable infrastructure, and accessible healthcare, they are more likely to comply with tax obligations. This enhances trust in public institutions and encourages civic participation, thereby promoting accountability and democratic governance (UNDP, 2022; Moore et al., 2022).

However, the full potential of taxation as a driver of economic development in Nigeria is constrained by persistent issues such as policy inconsistency, corruption, and weak institutional frameworks (ICAN, 2021). These challenges limit the effectiveness of tax policies and reduce their impact on development outcomes. Addressing them requires sustained commitment to reform, transparency, and institutional strengthening.

In light of these considerations, this study examines taxation as a strategic instrument for promoting sustainable economic development in Nigeria. It seeks to explore how improvements in tax policy, administration, and compliance can enhance revenue generation, support inclusive growth, and contribute to long term national development.

Statement of Problem

Despite ongoing tax reforms and increased reliance on non oil revenue, taxation in Nigeria has not fully translated into meaningful developmental outcomes. Although tax revenue accounted for over 58 percent of non-oil income in 2023 (National Bureau of Statistics, 2024), expected improvements in economic growth, infrastructure, poverty reduction, and employment remain limited. This gap reflects underlying structural inefficiencies in the country's fiscal system.

One major issue is Nigeria's low tax to GDP ratio, estimated at about 8.06 percent in 2024, far below the Sub Saharan African average of 16 percent (OECD and AfDB, 2024). Compared to countries such as South Africa, Kenya, and Ghana, Nigeria's performance indicates weaknesses in tax administration, narrow tax base, widespread informality, and poor compliance (ICTD, 2023; OECD and AfDB, 2024). Corruption and low public trust further weaken revenue mobilisation efforts.

Additionally, the increasing reliance on presumptive and capital based taxation has placed a heavy burden on small and medium enterprises, which account for over 80 percent of employment in Nigeria (SMEDAN, 2023). Many of these businesses operate under harsh economic conditions, including inflation, high energy costs, and exchange rate instability. Tax policies that ignore actual profitability undermine equity, discourage business growth, and limit innovation (Okoye and Akenbor, 2022). In many cases, businesses either remain informal or shut down, reducing both economic activity and potential tax revenue.

Furthermore, excessive and poorly structured taxation discourages investment and weakens private sector development, contributing to capital flight and low productivity (World Bank, 2022). These challenges are compounded by broader macroeconomic issues, including slow economic growth, high unemployment, and inadequate infrastructure. Nigeria's low Human Development Index ranking also reflects persistent deficiencies in healthcare, education, and living standards (UNDP, 2023).

Given these challenges, there is a need to shift from short term revenue generation to a more development oriented tax system. This requires broadening the tax base, improving administration through digitalisation, simplifying compliance, and ensuring transparency in the use of tax revenues. Such reforms are essential for enhancing public trust, supporting economic growth, and achieving sustainable development in Nigeria.

Objective of the Study

The main of the study is to examine the effect of taxation on economic development of Nigeria between 2005- 2024. While the specific objectives are to:

I. Examine the effect of tax revenue on Inflation rate in Nigeria.

II. Assess the effect of tax revenue on the Human Development Index (HDI) in Nigeria.
III. Evaluate the effect of tax revenue on Recurrent Expenditure in Nigeria.
IV. Determine the effect of tax revenue on Infrastructure development in Nigeria.
V. Ascertain the effect of tax revenue on Unemployment rate in Nigeria.

Research Questions

I. What is the effect of tax revenue on Inflation rate in Nigeria?
II. How does tax revenue affect the Human Development Index (HDI) in Nigeria?
III. What is the effect of tax revenue on Recurrent Expenditure in Nigeria?
IV. What extent does tax revenue influence infrastructure development in Nigeria?
V. How does tax revenue impact Unemployment rate in Nigeria?

Research Hypotheses

I. Tax revenue has no significant effect on Inflation rate in Nigeria.
II. Tax revenue has no significant effect on the Human Development Index (HDI) in Nigeria.
III. Tax revenue has no significant effect on Recurrent Expenditure in Nigeria.
IV. Tax revenue has no significant effect on infrastructure development in Nigeria.
V. Tax revenue has no significant effect on Unemployment rate in Nigeria.

Scope of the Study

This study examines the impact of tax revenue on economic development in Nigeria over a twenty-year period, covering 2005 to 2024. This timeframe captures major fiscal reforms, policy shifts, and economic dynamics that have influenced the performance of Nigeria's tax system and its developmental outcomes. The focus is on assessing how tax revenue, as a fiscal tool, has contributed to five critical indicators of development: Inflation rate, Human Development Index (HDI), Recurrent Expenditure, infrastructure development, and Unemployment rate.

The study adopts a quantitative approach, treating tax revenue as the independent variable and the five development indicators as dependent variables. Inflation rate and employment figures represent overall economic performance; HDI reflects quality of life and human capital development; poverty statistics provide insight into income distribution and social welfare; while infrastructure development is considered a foundation for sustained economic productivity. To ensure reliability and consistency, the study relies exclusively on secondary data sourced from the Federal Inland Revenue Service (FIRS) and CBN statistical bulletin for annual tax revenue figures, and from the National Bureau of Statistics (NBS) CBN statistical bulletin for macroeconomic and socio-

economic indicators. These two national institutions provide authoritative data that underpin the empirical analysis and support evidence-based conclusions.

Literature Review

Conceptual Review

Tax Revenue: Tax revenue refers to income generated by the government through compulsory levies on individuals, businesses, and goods and services. It is a primary source of public finance and plays a vital role in economic governance, nation building, and sustainable development (Musgrave and Musgrave, 2019). Taxation supports the provision of essential services such as education, healthcare, infrastructure, and social welfare, thereby contributing to poverty reduction and improved living standards. It includes instruments such as personal income tax, corporate tax, value added tax, excise duties, and customs duties.

Beyond revenue generation, tax revenue serves as a policy tool for wealth redistribution, investment stimulation, and economic regulation. A well-structured tax system enhances macroeconomic stability and promotes efficient resource allocation (IMF, 2021). However, in developing countries like Nigeria, tax performance is constrained by a narrow tax base, a large informal sector, and widespread evasion (Bird and Zolt, 2020). Weak administrative systems and low public trust further reduce compliance (NBS, 2024). Strengthening tax administration, expanding the tax base, and improving transparency are therefore essential for enhancing revenue generation.

Inflation Rate: Inflation rate measures the percentage change in the general price level of goods and services over time and is a key indicator of economic stability and purchasing power (World Bank, 2023). It is commonly measured using the Consumer Price Index, Producer Price Index, and GDP deflator (OECD, 2022). Moderate inflation supports economic growth, while high inflation erodes purchasing power and distorts resource allocation.

Although widely used, inflation does not fully capture welfare, as it excludes factors such as income distribution and social wellbeing. Complementary indicators like the Human Development Index and Multidimensional Poverty Index provide broader insights (UNDP, 2021). In Nigeria, inflation is influenced by fiscal policy, exchange rates, and structural constraints. Effective tax systems can help stabilise prices by financing infrastructure and improving productivity, while weak systems may worsen inflationary pressures (NBS, 2024).

Human Development Index: The Human Development Index is a composite measure developed by the United Nations Development Programme to assess development beyond income levels. It incorporates health, education, and standard of living, measured through life expectancy, years of schooling, and Gross National Income per capita

(UNDP, 2021). It emphasises human capabilities and overall quality of life rather than economic growth alone.

While HDI provides a broad view of development, it does not capture inequality or environmental concerns, leading to the development of complementary indices such as the Inequality adjusted HDI and Gender Inequality Index. In Nigeria, HDI is useful in assessing how effectively tax revenue is translated into improvements in healthcare, education, and living standards (NBS, 2024). Thus, a strong tax system is essential for enhancing human development outcomes.

Recurrent Expenditure: Recurrent expenditure refers to the ongoing costs of running government operations, including salaries, pensions, maintenance, and administrative expenses (IMF, 2021). Unlike capital expenditure, it does not directly create assets but ensures the continuous delivery of public services.

Although traditionally viewed as consumption, certain recurrent spending such as education and healthcare contributes to human capital development and long term growth (World Bank, 2022). From an efficiency perspective, it should be managed to maximise service delivery, while from an equity perspective, it supports social inclusion (OECD, 2021; UNDP, 2023). However, excessive recurrent expenditure can crowd out capital investment and increase fiscal pressure, especially where inefficiencies and corruption persist (AfDB, 2022).

Infrastructure Development: Infrastructure development involves the provision and maintenance of essential facilities such as roads, power, water systems, and social services (World Bank, 2020). It is fundamental to economic growth, as it facilitates production, trade, and access to services.

Adequate infrastructure enhances productivity, attracts investment, and improves living standards (UN Habitat, 2021). It also supports job creation and long term competitiveness (OECD, 2021). However, infrastructure gaps remain a major constraint in Nigeria and across Sub Saharan Africa (AfDB, 2022). Effective development requires proper planning, funding, and transparent implementation.

Unemployment Rate: Unemployment rate measures the proportion of the labour force that is willing and able to work but unable to find employment (ILO, 2021). It is a key indicator of economic performance and social wellbeing. High unemployment is associated with poverty, inequality, and instability.

In Nigeria, structural unemployment is prevalent due to skill mismatches and limited job opportunities, particularly among youth (NBS, 2024). Although informal employment reduces visible unemployment, it often results in underemployment and low income

(World Bank, 2023). Governments address unemployment through policies such as skills development and investment in key sectors. Tax revenue plays a critical role in funding these initiatives and promoting job creation, making it essential for inclusive economic development.

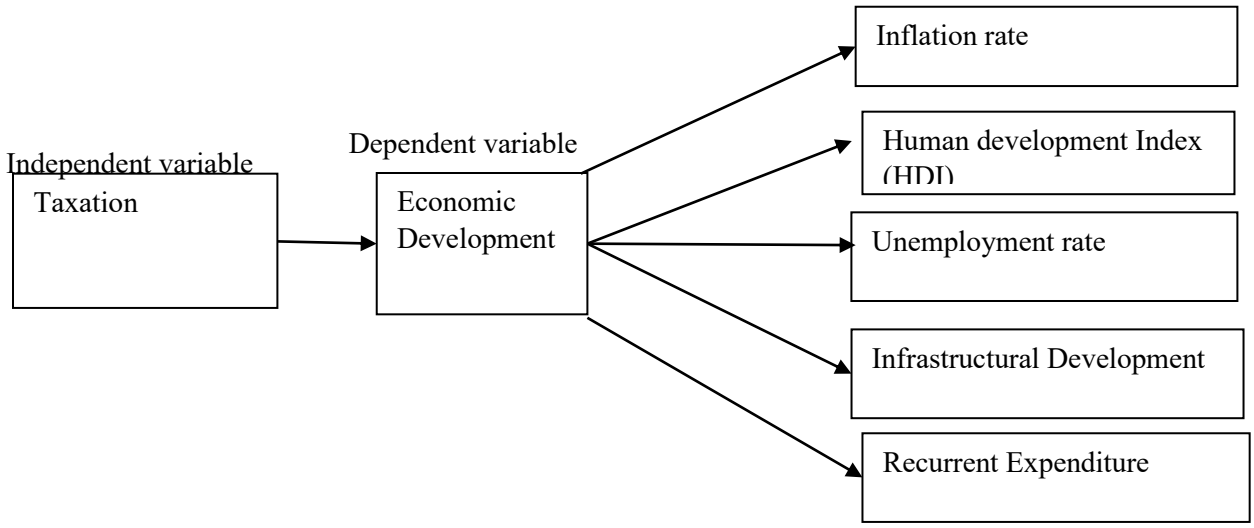

Fig 1. Conceptual framework, Source: Researcher, 2026

Theoretical Review

Ability to Pay Theory: The ability to pay theory, proposed by Adam Smith (1776) and refined by Seligman (1893), argues that taxes should be based on an individual's or entities financial capacity. It promotes vertical equity by requiring those with higher income or wealth to pay more, thereby ensuring fairness and social justice in taxation. In Nigeria, however, this principle is often weakly applied, as small and medium enterprises and informal sector participants tend to bear disproportionate tax burdens, while larger firms may exploit loopholes. Proper implementation of this theory would support a more progressive tax system, improve revenue mobilisation, and promote inclusive economic development.

Benefit Theory: The benefit theory, developed by Knut Wicksell (1896), holds that taxpayers should contribute in proportion to the benefits they receive from government services. It links taxation with public expenditure and promotes fairness, accountability, and citizen engagement. In Nigeria, the weak connection between tax payments and service delivery has reduced public trust and compliance. Many taxpayers do not perceive clear benefits from their contributions, leading to evasion. Strengthening transparency and improving service delivery would enhance the relevance of this theory and encourage voluntary compliance.

Endogenous Growth Theory: The endogenous growth theory, advanced by Romer (1986) and Lucas (1988), emphasises that economic growth is driven by internal factors

such as human capital, innovation, and knowledge. It highlights the role of government policies, including taxation and public investment, in sustaining long term growth. In Nigeria, tax revenue can support growth by financing education, healthcare, and infrastructure. However, low tax mobilisation and inefficient public spending limit this potential. The theory suggests that improving revenue generation and investing strategically in productive sectors is essential for sustainable development.

Social Contract Theory: The social contract theory, rooted in Rousseau (1762), views taxation as an agreement in which citizens pay taxes in exchange for public services and good governance. It emphasises trust, accountability, and mutual obligation between the state and citizens. In Nigeria, this relationship is weakened by poor service delivery, corruption, and lack of transparency, leading to tax evasion and low compliance. Many citizens do not see the benefits of taxation, which reduces trust in government. Rebuilding the social contract through accountability and visible public service delivery is essential for improving tax morale and using taxation as a tool for development.

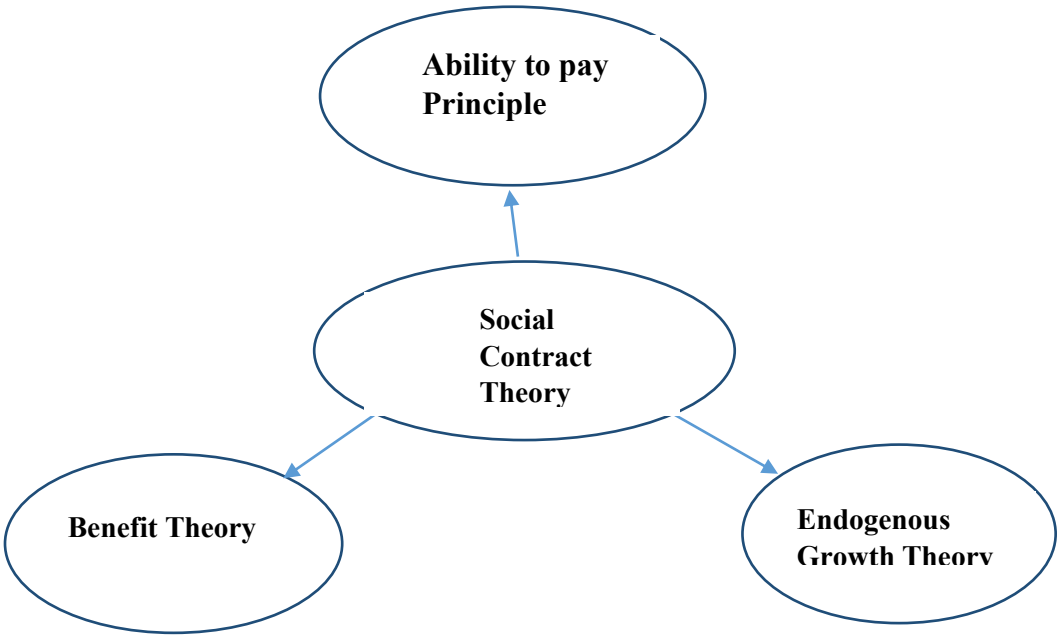

Fig 2. Theoretical Framework

Empirical Review

Tax Revenue and Inflation Rate

Buzugbe and Ohwofasa (2024) examined the nexus between tax revenue and the inflation rate in Nigeria from 1986 to 2022 using the autoregressive distributed lag (ARDL) model. Tax revenue was decomposed into Value Added Tax (VAT), Petroleum Profit Tax (PPT), Gas Income Tax, Company Income Tax (CIT), and Stamp Duty Tax. The model provided

both long-run and short-run dynamics through the unrestricted error correction mechanism. The results indicated evidence of a long-run equilibrium relationship between inflation and tax revenue. In the long run, Gas Income Tax, CIT, and PPT exerted negative but statistically insignificant effects on inflation, while VAT and Stamp Duty had positive yet insignificant effects. Conversely, in the short run, Gas Income Tax and CIT showed significant positive influences on inflation, while VAT, PPT, and Stamp Duty had significant negative effects. The study recommended that domestic petroleum price increases should be avoided, CIT rates for small and medium enterprises should remain low, and VAT on essential goods such as pharmaceuticals should be reduced to curb inflationary pressures.

Similarly, Okeke, Origin, and Doris (2023) investigated the effect of tax revenue on the inflation rate in Nigeria over the period 2011 to 2023. Relying on secondary data sourced from the Central Bank of Nigeria's Statistical Bulletin, the study focused on Petroleum Profit Tax (PPT), Company Income Tax (CIT), Value Added Tax (VAT), and Education Tax (ET) as explanatory variables, with inflation rate as the dependent variable. Employing the autoregressive distributed lag (ARDL) model, the findings revealed that tax revenue exerted a positive but statistically insignificant effect on inflation within the period under review. The results implied that although taxation influenced price levels, its impact was weak in determining inflationary outcomes. The study recommended a review of the structure and implementation of tax policies to improve their effectiveness in controlling inflation. Specifically, it suggested that PPT and VAT should be restructured to support supply-side sectors such as agriculture, manufacturing, and energy. Furthermore, stronger alignment between tax policy and monetary policy, coupled with improved tax administration and compliance mechanisms, was advocated as critical to mitigating inflationary pressures in Nigeria.

Tax Revenue and Human Development Index

Chukwuoma and Adebayo (2022) examined the effect of various categories of tax revenue, specifically Value Added Tax (VAT), Company Income Tax (CIT), and Petroleum Profit Tax (PPT), on the Human Development Index (HDI) in Nigeria over the period spanning 2000 to 2020. The researchers employed panel data regression techniques to analyse the relationship between tax revenue and key human development outcomes. Their methodological approach allowed for a comprehensive assessment of how tax inflows influence long-term investments in health, education, and living standards, which are the core dimensions of HDI.

The findings of the study revealed a strong and statistically significant positive correlation between total tax revenue and HDI. This implies that increased government revenue from taxes, when properly allocated and managed, can contribute meaningfully to improving the quality of life for citizens. In particular, the study highlighted that taxes like VAT and

CIT, which are relatively stable and broad based, have greater potential to support developmental objectives if reinvested in critical sectors such as healthcare infrastructure, education systems, and social welfare programmes.

Chukwuoma and Adebayo further argued that the effectiveness of tax revenue in promoting human development hinges not just on the amount collected but also on the transparency and efficiency of public spending. They stressed the importance of policy reforms aimed at plugging leakages in public finance and improving the accountability of government institutions responsible for service delivery. The study concluded that sustainable improvements in HDI require a synergy between sound tax policies and strategic expenditure planning that prioritises human capital development across all regions of the country.

Supporting this view, Salome *et al.,* (2014) conducted a comprehensive time series analysis aimed at examining how Company Income Tax (CIT), Value Added Tax (VAT), and Customs and Excise Duties impact the Human Development Index (HDI) in Nigeria over the period from 1995 to 2014. By applying econometric techniques to evaluate the long-term influence of tax variables on human development, the study offered valuable insights into the effectiveness of Nigeria's fiscal structure in promoting socio-economic well-being.

The results revealed a statistically significant and positive relationship between the selected tax categories and HDI, reinforcing the argument that taxation can serve as a powerful tool for advancing national development when revenue is efficiently mobilised and judiciously allocated. Salome et al. emphasised that a diversified tax base encompassing both direct and indirect taxes enhances the government's ability to generate stable income streams that support critical sectors such as healthcare, education, water supply, and sanitation.

Tax Revenue and Recurrent Expenditure

A growing body of empirical literature has examined the role of tax revenue and government expenditure, particularly recurrent spending, in influencing poverty reduction in Nigeria. Musa, Audu, and Charles (2024) investigated the impact of oil and non-oil tax revenue alongside recurrent and capital expenditures on poverty levels between 1981 and 2022. Employing an Autoregressive Distributed Lag (ARDL) model with data sourced from the Central Bank of Nigeria and the World Bank, their study offered a comprehensive assessment of how fiscal tools affect poverty alleviation in both the short and long term. Their findings revealed that increases in both oil and non-oil tax revenue significantly reduced poverty, especially when these revenues were complemented by sustained and well-targeted recurrent and capital spending. Specifically, recurrent expenditures directed toward social services such as education, health care, and welfare were found to have a direct poverty-reducing effect. Likewise, capital expenditure on

infrastructure and development projects helped enhance access to basic services and create employment opportunities. The study concluded that the synergy between increased tax collection and strategic public spending is essential for achieving tangible improvements in poverty reduction and advancing Nigeria's social development goals.

In a similar context, Fatoba and Otonne (2024) analyzed fiscal shocks using a Bayesian Vector Autoregression (BVAR) model to explore how tax revenue and government expenditure influence poverty levels in Nigeria. Drawing on data spanning several decades, their study aimed to capture the dynamic and time-sensitive nature of fiscal policy impacts. The findings revealed that both tax revenue and government expenditure exerted a delayed but statistically significant impact on poverty reduction. In particular, the effects were more pronounced in the medium to long term, highlighting the importance of policy consistency and patience in evaluating outcomes. The study emphasized that immediate results from fiscal measures may not always be visible, as structural changes, institutional capacity, and the nature of expenditure programs can influence the time lag before impacts materialize. Fatoba and Otonne concluded that for fiscal policy to meaningfully contribute to poverty alleviation, governments must maintain stable and well-coordinated tax and expenditure frameworks over extended periods, with a strong emphasis on social investment, transparency, and accountability.

Tax Revenue and Infrastructure Development

Igwe and Igwe (2024) conducted an empirical study on the relationship between tax revenues and gross fixed capital formation in Nigeria from 2010 to 2021, employing Ordinary Least Squares (OLS) regression and Granger causality techniques. Their findings indicated a positive relationship between overall tax revenue and capital formation, implying that higher tax collection may support increased investment in physical infrastructure. However, this relationship was not statistically significant, suggesting that the mere accumulation of tax revenue does not automatically lead to enhanced capital formation unless it is effectively allocated and utilised.

Interestingly, the study uncovered a notable dynamic between specific tax types: capital gains tax was found to Granger cause company income tax revenue. This suggests a causal linkage where changes in capital-related tax receipts can predict or influence changes in corporate tax performance. Such a finding points to a potentially underexplored interaction among various tax streams, where revenue patterns from one source may have predictive or reinforcing effects on others. The authors concluded that understanding these tax interdependencies is crucial for fiscal planning and for designing tax policies that not only generate revenue but also foster productive investment and long-term economic development.

Olunkwa and Nwaogwugwu (2025) applied the Autoregressive Distributed Lag (ARDL) bounds testing approach to assess the long-run and short-run dynamics between tax

revenue, infrastructure investment, and economic growth in Nigeria using national data from 1999 to 2023. The study found that both tax revenue and public infrastructure investment had statistically significant and positive impacts on economic growth in the short and long term. This indicates that government spending on infrastructure—when financed through sustained tax revenue—can serve as a strong engine of economic development.

The authors emphasized that tax-funded infrastructure projects, such as roads, energy, and public transportation, not only stimulate immediate employment and business activity but also lay the foundation for long-term productivity gains. Their results suggest a synergistic relationship whereby effective mobilisation and utilisation of tax revenue can unlock broader developmental benefits through targeted capital investments. They concluded that enhancing tax compliance and improving infrastructure governance are essential strategies for leveraging fiscal resources toward inclusive and sustained economic growth in Nigeria.

Tax Revenue and Unemployment Rate

Johnson *et al.,* (2019) analyzed the impact of non-oil tax revenue on wage employment and economic growth in Nigeria over the period 1981 to 2016 using the Ordinary Least Squares (OLS) regression technique. Their findings revealed a statistically significant and positive relationship between non-oil tax revenue and both employment generation and GDP growth. Specifically, the study demonstrated that increases in non-oil tax collections such as company income tax, value added tax (VAT), and personal income tax contributed meaningfully to the expansion of the labour market and overall economic performance. This suggests that when tax proceeds are effectively mobilized and strategically allocated to productive sectors such as infrastructure, education, and small business development, they can serve as a powerful tool for reducing unemployment and stimulating sustainable growth. The study underscores the critical role of tax policy in diversifying government revenue sources and promoting inclusive economic development beyond the oil sector.

Similarly, Agama and Onowu (2022) employed multiple regression analysis alongside the Toda–Yamamoto causality test to evaluate the effects of Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Company Income Tax (CIT) on employment trends in Nigeria from 2000 to 2020. Their empirical analysis revealed that tax revenue, particularly from VAT and PPT, exerted a statistically significant and positive influence on employment levels over the study period. The results suggest that increases in these tax revenues are associated with rising job opportunities, indicating that fiscal instruments such as VAT and PPT can serve as catalysts for employment generation when they are properly administered and supported by coherent macroeconomic policies. The study further emphasized that beyond revenue generation, a well-structured tax regime can

contribute to broader economic objectives, including labour market stability and poverty reduction. Thus, the findings reinforce the argument that sound tax policy, combined with effective macroeconomic management, plays a crucial role in stimulating economic activity and supporting job creation in developing economies like Nigeria.

Research Gap

To the best of the researcher's knowledge, existing studies have not comprehensively examined the multi-dimensional effect of tax revenue on key development indicators such as Inflation rate, Human Development Index (HDI), recurrent expenditure, infrastructure, and unemployment within a single empirical framework. While studies like Isaac et al. (2021) and Adeleke et al. (2024) focus on isolated indicators such as, GDP, HDI they overlook the broader fiscal and policy context.Similarly, research by Onoriode (2023) and Durojaiye and Solomon (2020) highlight issues such as poor fiscal governance and administrative inefficiencies, yet fail to integrate these with a holistic evaluation of tax revenue's developmental outcomes. Also, to my knowledge, no recent study has assessed these interrelated dimensions over an extended period (2005–2024), especially in the Nigerian context.

Methodology

Research Design

A research design is a structured plan or blueprint used to guide the process of collecting, analyzing, and interpreting data to answer specific research questions or test hypotheses (Creswell & Creswell, 2018). It ensures that the research is methodologically sound and that the findings are valid and reliable (Khanday and Khanam, 2023).

This study adopts an *ex-post facto* research design, which is used to investigate cause-and-effect relationships where the variables of interest have already occurred and cannot be manipulated by the researcher (Sharma, 2019). The ex-post facto design is particularly suitable for this study because it relies on historical data spanning a twenty-year period (2005–2024). This period captures key fiscal reforms and economic dynamics in Nigeria, allowing the researcher to assess how changes in tax revenue over time have influenced various developmental outcomes. A quantitative approach is employed, using secondary data sourced from reputable institutions: the Federal Inland Revenue Service (FIRS) for tax revenue figures and Central bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS) for macroeconomic and socio-economic indicators. This ensures objectivity, consistency, and accuracy in the empirical analysis.

Population of the Study

In research, the term population refers to the entire group of individuals, events or records that possess the characteristics the researcher wishes to study (Sekaran&Bougie,

2019). It provides the foundation for sampling and analysis by defining the scope of inquiry.

This study focuses on the economic and fiscal performance of Nigeria over a twenty-year period (2005–2024). Specifically, the population is based on the annual records related to tax revenue and indicators of economic development. The data are obtained from credible secondary sources, primarily the Federal Inland Revenue Service (FIRS), Central bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS). These institutions provide consistent and reliable datasets essential for examining long-term relationships between tax revenue and national development outcomes.

Sample Size

Sample size refers to the specific number of observations or data points selected from a population for the purpose of conducting a study. It plays a crucial role in ensuring that the findings are statistically valid, reliable, and generalizable to the larger population (Saunders, Lewis, & Thornhill, 2019). In this study, the sample consists of annual time-series data covering a twenty-year period from 2005-2024. The dataset includes yearly figures on tax revenue and five key development indicators: Inflation rate, Human Development Index (HDI), Recurrent Expenditure, Infrastructure Development and Unemployment Rate.

Source of Data

For this study, data were obtained from two authoritative government institutions in Nigeria. The Federal Inland Revenue Service (FIRS) provided annual figures on tax revenue, while the Central bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS) supplied data on key macroeconomic and socio-economic indicators including Inflation Rate, Human Development Index (HDI), Recurrent Expenditure, Infrastructure Development, and Unemployment Rates. These institutions maintain reliable and consistent datasets that are widely used in economic and policy research.

Sampling Method

Given the nature of this study, which relies on quantitative analysis of secondary data covering a twenty-year period (2005 - 2024), the sampling method adopted is purposive sampling. This nonprobability sampling technique is appropriate when the researcher intentionally selects data sources that are most relevant to the research objectives (Omid *et al.,* 2024). In this case, data were specifically drawn from two key institutions—Federal Inland Revenue Service FIRS for annual tax revenue and Central bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS) for macroeconomic indicators—based on their relevance, credibility, and consistency. The purposive approach ensured that only data reflecting the core variables of interest such as tax revenue, Inflation rate, HDI, recurrent expenditure, infrastructure, and unemployment

were included, thereby enhancing the precision and relevance of the analysis. This method aligns well with ex post facto research designs where the focus is on historical data rather than on randomly selected samples from a population.

Method of Data Analysis

This study employed time series regression analysis to evaluate the effect of tax revenue on economic development indicators in Nigeria over the period 2005-2024. Time series analysis is appropriate for this research because the data involve observations of variables collected annually over a continuous timeframe for a single country. It allows the researcher to detect trends, dynamic relationships, and long-run equilibrium among variables.

To begin with, descriptive statistics such as the mean, standard deviation, minimum and maximum values were computed to provide an overview of the dataset and identify patterns or anomalies. This was followed by unit root tests, particularly the Augmented Dickey-Fuller (ADF) test, to check for stationarity in the time series data. Ensuring that the data are stationary is critical to avoid spurious regression results.

For the main analysis, the study applied ordinary least squares (OLS) regression to estimate the effect of tax revenue (independent variable) on five key indicators of economic development: Inflation, Human Development Index (HDI), Recurrent Expenditure, Infrastructure Development, and Unemployment Rate (dependent variables). Each variable was analyzed separately to determine both the strength and direction of the relationship with tax revenue.

Additionally, diagnostic tests such as serial correlation (Breusch-Godfrey Serial Correlation LM Test), heteroskedasticity (Breusch-Pagan-Godfrey Heteroskedasticity Test), and stability tests (e.g., Ramsey RESET test) were conducted to validate the robustness and reliability of the model estimates.

Research Instruments

The research instrument employed in this study was secondary data, which served as the main source of empirical evidence for examining the impact of tax revenue on economic development in Nigeria. Given the ex-post facto and quantitative nature of the study, no primary tools such as questionnaires or interviews were required. Instead, the analysis relied on verified historical data obtained from credible and authoritative institutions.

Annual tax revenue data were sourced from the Federal Inland Revenue Service (FIRS) and CBN, while information on GDP growth, unemployment rate, infrastructure development, and other development indicators was collected from Central bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS). These datasets were compiled and structured for time series analysis using statistical software such as EViews.

Model Specification

In line with the objectives of this study, a multiple linear regression model is specified to assess the impact of tax revenue on various indicators of economic development in Nigeria. The model adopts a time series framework due to the nature of the data, which spans from 2005 to 2024. The dependent variables represent five dimensions of economic development: Inflation rate, Human Development Index (HDI), Recurrent Expenditure, Infrastructure Development, and Unemployment Rate, while the independent variable is tax revenue.

The model is adapted from existing empirical frameworks, particularly those by Adeleke et al. (2024), Olusegun and Onowu (2025), and Chukwuoma and Adebayo (2022), which explore the nexus between taxation and various aspects of national development.

Thus, the current model is not directly adopted, but rather adapted by integrating dimensions such as: Inflation rate, HDI, Recurrent expenditures, Infrastructural development, and unemployment rate to suit the unique fiscal dynamics and developmental priorities of Nigeria. This adaptation allows for a broader, more integrated analysis that captures the multi-dimensional nature of development.

The general functional form of the model is expressed as:

$\mathbf{Y}t = a + \beta_1 \mathbf{TR}t + \varepsilon_t$

Where:

$\mathbf{Y}t$ Represents each of the five economic development indicators at time t

a is the intercept (Constant term)

β_1 is the coefficient of tax revenue

$\mathbf{TR}t$ is tax revenue at time t

ε_t Error term representing unexplained variation

Based on the five specific objectives, the following econometric models are proposed:

1. Model 1: Inflation Rate Model
   $INFt = a_1 + \beta_1 TR_t + \varepsilon_t$
2. Model 2: Human Development Index Model
   $HDIt = a_2 + \beta_2 TR_t + \varepsilon_t$
3. Model 3: Recurrent Expenditure Model
   $REXPt = a_3 + \beta_3 TR_t + \varepsilon_t$
4. Model 4: Infrastructure Development Model
   $INFRAt = a_4 + \beta_4 TR_t + \varepsilon_t$
5. Model 5: Unemployment Rate Model
   $UNEMPt = a_5 + \beta_5 TR_t + \varepsilon_t$

Each model estimates the linear relationship between tax revenue and specific development indicators such as human capital, inclusive growth, or infrastructure. Before running the regression, the time series properties of the data were assessed using the Augmented Dickey-Fuller (ADF) test to check for stationarity. This step is essential to avoid spurious results that can occur when non-stationary data are used in regression analysis. Variables found to be non-stationary at level were differenced to achieve stationarity. Ensuring stationarity improves the reliability and validity of the regression results and helps accurately capture the true relationship between tax revenue and development outcomes.

Data Presentation and Analysis

Table 4.1: Presentation of data

YEAR	TR ₦'B	INF%	UNEMP %	HDI	REXP ₦'B	INFRA ₦'B
2005	5,547.5	17.863	3.734	0.484	1,321.30	519.47
2006	5,965.1	8.225	3.756	0.489	1,390.20	552.39
2007	5,727.5	5.388	3.799	0.492	1,589.27	759.28
2008	7,866.6	11.581	3.795	0.497	2,117.36	960.89
2009	4,844.6	12.538	3.766	0.499	2,127.97	1,152.80
2010	7,303.7	13.740	3.746	0.502	3,109.44	883.87
2011	11,116.8	10.826	3.77	0.508	3,314.51	918.55
2012	10,654.7	12.224	3.76	0.512	3,325.16	874.70
2013	9,759.8	8.496	3.711	0.517	3,689.10	1,108.39
2014	10,068.9	8.047	3.902	0.524	3,426.94	783.12
2015	6,912.5	9.009	4.135	0.53	3,831.95	818.35
2016	5,616.4	15.697	4.499	0.532	4,160.11	653.61
2017	7,444.8	16.502	4.828	0.534	4,779.99	1,242.30
2018	9,590.0	12.095	5.067	0.537	5,675.19	1,682.10
2019	9,826.5	11.396	5.206	0.544	6,994.77	2,289.00
2020	8,772.3	13.246	5.742	0.547	8,189.38	1,614.89
2021	10,467.1	16.953	5.45	0.554	9,145.15	2,522.47
2022	13,872.2	18.847	3.821	0.557	11,002.31	3,133.82
2023	19,251.1	24.660	3.074	0.56	14,287.56	4,486.21

2024	24,629.9	33.242	2.989	0.522	17,572.82	5,838.59

Source: FIRS, CBN statistical bulletin and National Bureau of Statistics (NBS)

Table 4.1 presents the dataset used for the analysis, covering the period 2005 to 2024. The independent variable is tax revenue (TR), expressed in billions of naira, representing government revenue generated from taxation. The dependent variables, which serve as indicators of economic development, include the inflation rate (INF), unemployment rate (UNEMP), Human Development Index (HDI), recurrent expenditure (REXP), and infrastructure development (INFRA), with monetary values expressed in billions of naira where applicable. These variables collectively provide a comprehensive measure of the fiscal and socio-economic performance of Nigeria over the study period. This dataset serves as the basis for assessing the effect of tax revenue on various dimensions of Nigeria's economic development. *(See Appendix ii for Log transformation of variables)*

4.2 Descriptive Statistics

This section presents the descriptive statistics of the variables used in the study for the period 2005–2024. The descriptive statistics provide insights into the central tendency, dispersion, and distribution of the dataset. The key indicators include the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, and Jarque-Bera probability for each variable.

Table 4.2: Descriptive Statistics

	TR	INF	HDI	REXP	INFRA	UNEMP
Mean	9761.900	14.02875	0.522050	5552.524	1639.740	4.127500
Median	9181.150	12.38100	0.523000	3760.525	1034.640	3.797000
Maximum	24629.90	33.24200	0.560000	17572.82	5838.590	5.742000
Minimum	4844.600	5.388000	0.484000	1321.300	519.4700	2.989000
Std. Dev.	4840.485	6.368395	0.023672	4450.500	1406.313	0.754109
Skewness	1.795242	1.478955	0.017683	1.397190	1.824538	0.737897
Kurtosis	5.961963	5.379045	1.818005	4.105844	5.510918	2.627647
Jarque-Bera	18.05401	12.00758	1.165303	7.526211	16.35039	1.930513
Probability	0.000120	0.002469	0.558416	0.023212	0.000282	0.380886
Sum	195238.0	280.5750	10.44100	111050.5	32794.80	82.55000
Sum Sq. Dev.	4.45E+08	770.5727	0.010647	3.76E+08	37576627	10.80493
Observations	20	20	20	20	20	20

Source: Researcher's computation, 2025.

The descriptive statistics for the variables over the period 2005–2024 show that tax revenue recorded an average value of ₦9,761.90 billion, with a median of ₦9,181.15 billion. The highest value of ₦24,629.90 billion occurred in 2024, while the lowest, ₦4,844.60 billion, was recorded in 2009. The standard deviation of ₦4,840.49 billion indicates significant fluctuations in tax revenue over the years. The distribution is positively skewed (1.80) and leptokurtic (5.96), and the Jarque-Bera probability of 0.0001 suggests non-normality.

The inflation rate averaged 14.03%, with a median of 12.38%, a maximum of 33.24%, and a minimum of 5.39%. The standard deviation of 6.37 shows moderate variability in inflation, while skewness (1.48) and kurtosis (5.38) indicate a positively skewed, peaked distribution. The Jarque-Bera probability of 0.0024 confirms that inflation is not normally distributed.

Human Development Index (HDI) values averaged 0.522, with a median of 0.523 and a range from 0.484 to 0.560. The standard deviation of 0.0237 implies minimal variation, consistent with the gradual nature of human development. Its skewness is near zero (0.018), and kurtosis is 1.82, suggesting an almost symmetric, flat distribution. The Jarque-Bera probability of 0.5584 indicates approximate normality.

Recurrent expenditure averaged ₦5,552.52 billion, ranging from ₦1,321.30 billion to ₦17,572.82 billion, with a standard deviation of ₦4,450.50 billion, showing considerable variability in government spending. The distribution is positively skewed (1.40) and leptokurtic (4.11), with a Jarque-Bera probability of 0.0232, rejecting normality at the 5% level.

Infrastructure development expenditure recorded an average of ₦1,639.74 billion, a median of ₦1,034.64 billion, and ranged between ₦519.47 billion and ₦5,838.59 billion. The high standard deviation of ₦1,406.31 billion reflects large variations in capital investment. Positive skewness (1.82) and high kurtosis (5.51) suggest occasional extreme values, while the Jarque-Bera probability of 0.0003 indicates non-normality.

The unemployment rate averaged 4.13%, with a minimum of 2.99% and a maximum of 5.74%. The standard deviation of 0.75% indicates moderate variability. Skewness (0.74) and kurtosis (2.63) suggest slight asymmetry and near-normal distribution, which is supported by the Jarque-Bera probability of 0.3809.

4.3 Unit Root Test

The researcher conducted the unit root test to test the stationarity of the collected data, as a first step in using time series data. Each of the six (6) variables were tested independently. This was done using E-view 9

Table 4.3 Augmented Dickey-Fuller (ADF) Unit Root Test

Variable	ADF Statistic	P-Value	Critical Value (5%)	Order of Integration	Inference
TR	-2.0383	0.0427	-1.9614	I(1)	Stationary after first difference
INF	-3.0961	0.004	-1.9614	I(1)	Stationary after first difference
HDI	-0.979	0.0407	-1.9614	I(1)	Stationary after first difference
REXP	0.8373	0.0332	-1.9614	I(1)	Stationary after first difference
INFRA	0.3039	0.0419	-1.9628	I(1)	Stationary after first difference
UNEM	-2.787	0.009	-1.9684	I(1)	Stationary after first difference

Source: Researcher's computation, 2025. *(See appendix 2 for full analysis)*

The stationarity of the variables was examined using the Augmented Dickey-Fuller (ADF) test in order to avoid spurious regression results. The test was conducted at levels and first differences where necessary, with the null hypothesis stating that each variable possesses a unit root.

The Augmented Dickey-Fuller (ADF) test was used to examine the stationarity properties of the variables. The results indicate that all variables become stationary after first differencing at a 5% level of significance. Tax revenue (TR) has an ADF statistic of -2.0383 with a p-value of 0.0427, which is significant at the 5% level compared to its critical value of -1.9614. Similarly, inflation (INF), recurrent expenditure (REXP), infrastructure development (INFRA), and unemployment (UNEMP) all have p-values below 0.05 after differencing, confirming stationarity at first difference. HDI also satisfies the stationarity requirement after first differencing.

These results imply that all the variables are integrated of order one, I(1), and are therefore suitable for regression analysis. The confirmation of stationarity suggests that the data series are stable over time and appropriate for the Ordinary Least Squares (OLS) estimation adopted in this study.

4.4 Correlation Analysis

In order to examine the degree of association among the variables, a correlation analysis was conducted using the Pearson correlation coefficient. This test helps to identify the strength and direction of the linear relationship between the independent variable (tax revenue) and the dependent variables (inflation rate, unemployment rate, Human Development Index, recurrent expenditure, and infrastructure development). The analysis also serves as a diagnostic tool for detecting potential multicollinearity problems, which could distort the reliability of regression estimates. The results of the correlation matrix are presented in Table 4.4.

Table 4.4:Correlation Analysis

	TR	INF	HDI	REXP	INFRA	UNEMP
TR	1.000000	0.779663	0.458367	0.903422	0.924947	-0.364307
INF	0.779663	1.000000	0.366859	0.834700	0.848726	-0.261695
HDI	0.458367	0.366859	1.000000	0.694105	0.551208	0.452742
REXP	0.903422	0.834700	0.694105	1.000000	0.969997	-0.066657
INFRA	0.924947	0.848726	0.551208	0.969997	1.000000	-0.210579
UNEMP	-0.364307	-0.261695	0.452742	-0.066657	-0.210579	1.000000

Source: Researcher's computation, 2025.

The correlation results reveal several important relationships among the variables. Tax revenue (TR) exhibits a strong positive correlation with recurrent expenditure (REXP) at 0.9034 and with infrastructure development (INFRA) at 0.9249. This suggests that higher tax revenue is associated with increased government spending on both recurrent obligations and infrastructure projects, which aligns with expectations since taxes fund these activities. TR also has a positive and strong correlation with inflation (INF) at 0.7797, indicating that higher tax revenue might be linked with rising inflation, possibly due to increased government spending stimulating demand.

The relationship between TR and the Human Development Index (HDI) is moderate and positive (0.4584), implying that while tax revenue contributes to human development, the effect is not as strong as its influence on expenditure or infrastructure. Conversely, TR has a negative correlation with unemployment (-0.3643), indicating that higher tax revenue could be associated with lower unemployment, possibly due to increased government investment in economic activities that create jobs.

Inflation (INF) shows strong positive correlations with REXP (0.8347) and INFRA (0.8487), suggesting that increased spending is linked with inflationary pressures. However, INF and UNEMP are negatively correlated (-0.2617), consistent with the Phillips Curve notion that higher inflation is often associated with lower unemployment.

HDI correlates positively with all variables, with the strongest association with REXP (0.6941) and a moderate link with INFRA (0.5512), indicating that government expenditure

and infrastructure development play a role in improving human development outcomes. Interestingly, HDI also has a positive relationship with unemployment (0.4527), which may reflect structural issues where improvements in education and health do not immediately translate into employment opportunities.

Finally, the correlation between REXP and INFRA is extremely strong at 0.9700, highlighting that recurrent and infrastructure expenditures tend to move together. UNEMP generally shows weak or negative correlations with fiscal variables, except for HDI, reinforcing the idea that unemployment dynamics are influenced by broader structural factors beyond government spending alone.

4.5 Test Of Hypothesis

4.5.1 Test of hypothesis one

Restatement of Hypothesis One

Null Hypothesis: Tax revenue has no significant effect on Inflation rate in Nigeria.

Alternative Hypothesis: Tax revenue has a significant effect on Inflation rate in Nigeria

Decision rule: The decision rule for hypothesis testing is based on a 5% significance level. If the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant relationship between Tax revenue and the Inflation rate. If the p-value is greater than 0.05, the null hypothesis is not rejected, suggesting non-significant effect.

Table 4.5 Ordinary Least Squares (OLS) Result for Model 1

Dependent Variable: INF				
Method: Least Squares				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TR	0.001026	0.000194	5.282397	0.0001
C	4.015326	2.105402	1.907154	0.0726
R-squared	0.607875	Mean dependent var		14.02875
Adjusted R-squared	0.586090	S.D. dependent var		6.368395
S.E. of regression	4.097160	Akaike info criterion		5.753105
Sum squared resid	302.1609	Schwarz criterion		5.852678
Log likelihood	-55.53105	Hannan-Quinn criter.		5.772542
F-statistic	27.90372	Durbin-Watson stat		1.168035
Prob(F-statistic)	0.000051			

SOURCE: Researcher's computation, 2025

The regression output presented in Table 4.6 examines the effect of tax revenue (TR) on Nigeria's inflation rate over the period 2005–2024. The coefficient of tax revenue is positive (0.001026), indicating that increases in tax revenue tend to raise inflation levels. This finding

suggests that higher tax revenue collection could increase government spending and liquidity in the economy, which may contribute to inflationary pressures. The result is statistically significant at the 1 percent level (p = 0.0001), implying that the effect of tax revenue on inflation during the study period is strong and reliable.

The constant term (4.0153) is positive but statistically insignificant at the 5 percent level (p = 0.0726), indicating that other underlying economic factors, beyond tax revenue, contribute to the baseline inflation rate when tax revenue is zero.

The R-squared value of 0.6079 indicates that about 60.8 percent of the variation in inflation is explained by tax revenue, which reflects a relatively strong explanatory power for a single-variable model. The adjusted R-squared (0.5861) confirms that the model remains robust after accounting for degrees of freedom. This suggests that tax revenue plays an important role in determining inflation levels in Nigeria.

The F-statistic of 27.9037 with a probability value of 0.000051 shows that the overall model is statistically significant at the 1 percent level, confirming that tax revenue has a meaningful explanatory effect on inflation. However, the Durbin-Watson statistic of 1.1680 indicates a possibility of positive autocorrelation, suggesting that additional diagnostic checks may be necessary.

Overall, the result shows that rising tax revenue significantly drives inflation in Nigeria, which has policy implications for balancing revenue mobilization with price stability objectives.

Decision: The null hypothesis is rejected since the p-value (0.0001) is less than 0.05, indicating a significant effect between tax revenue and inflation rate in Nigeria. This implies that changes in tax revenue have a strong and positive impact on inflation during the study period.

4.5.1.1 Post-Estimation Diagnostic Tests

To ensure the reliability and robustness of the estimated regression model, a series of post-estimation diagnostic tests were carried out. These include the Breusch-Godfrey Serial Correlation LM Test, the Breusch-Pagan-Godfrey Heteroskedasticity Test, and the Ramsey RESET stability test.

Table 4.5.1 Breusch-Godfrey Serial Correlation LM Test (Auto correlation test)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.856101	Prob. F(2,16)	0.0870
Obs*R-squared	5.261744	Prob. Chi-Square(2)	0.0720

SOURCE: Researcher's computation, 2025

The Breusch-Godfrey Serial Correlation LM Test yielded an F-statistic of 2.8561 with a probability value of 0.0870, and an Obs*R-squared value of 5.2617 with a probability of 0.0720. Since both probability values are greater than the 5 percent significance level, the null hypothesis of no serial correlation cannot be rejected. This implies that the residuals are free from autocorrelation, thereby validating the model estimates.

Table 4.5.2 Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.043796	Prob. F(1,18)	0.3205
Obs*R-squared	1.096206	Prob. Chi-Square(1)	0.2951
Scaled explained SS	0.545878	Prob. Chi-Square(1)	0.4600

SOURCE: Researcher's computation, 2025

The Breusch-Pagan-Godfrey Heteroskedasticity Test yielded an F-statistic of 1.0438 with a probability value of 0.3205, and an Obs*R-squared value of 1.0962 with a probability of 0.2951. Since both probability values are greater than the 5 percent significance level, the null hypothesis of homoskedasticity cannot be rejected. This implies that the residuals exhibit constant variance, confirming the absence of heteroskedasticity in the model.

Table 4.5.3 The Ramsey RESET Test (Stability Test)

Ramsey RESET Test				
Equation: UNTITLED				
Specification: INF TR C				
Omitted Variables: Squares of fitted values				
	Value	df	Probability	
t-statistic	2.576836	17	0.0696	
F-statistic	6.640082	(1, 17)	0.0696	
Likelihood ratio	6.594607	1	0.0602	

SOURCE: Researcher's computation, 2025

The Ramsey RESET Test produced a t-statistic of 2.5768 with a probability value of 0.0696, an F-statistic of 6.6401 with a probability of 0.0696, and a Likelihood Ratio of 6.5946 with a probability of 0.0602. Since all probability values are greater than the 5 percent significance level, the null hypothesis that the model is correctly specified cannot be rejected. This implies that there is no evidence of model misspecification, and the functional form of the model is appropriate.

4.5.2 Test of hypothesis two

Restatement of Hypothesis Two

Null Hypothesis: Tax revenue has no significant effect on Human Development Index (HDI) in Nigeria.

Alternative Hypothesis: Tax revenue has a significant effect on Human Development Index (HDI) in Nigeria

Decision rule: The decision rule for hypothesis testing is based on a 5% significance level. If the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant relationship between Tax revenue and Human Development Index (HDI). If the p-value is greater than 0.05, the null hypothesis is not rejected, suggesting non-significant effect.

Table 4.6 below shows the result of the regression analysis carried out for model 2

Table 4.6 Ordinary Least Squares (OLS) Result for Model 2

Dependent Variable: HDI				
Method: Least Squares				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TR	2.24E-06	1.02E-06	2.188080	0.0421
C	0.500168	0.011107	45.02991	0.0000
R-squared	0.210100	Mean dependent var		0.522050
Adjusted R-squared	0.166217	S.D. dependent var		0.023672
S.E. of regression	0.021615	Akaike info criterion		-4.736186
Sum squared resid	0.008410	Schwarz criterion		-4.636613
Log likelihood	49.36186	Hannan-Quinn criter.		-4.716748
F-statistic	4.787694	Durbin-Watson stat		0.371680
Prob(F-statistic)	0.042096			

SOURCE: Researcher's computation, 2025

The regression output presented in Table 4.6 examines the effect of POS transactions on Nigeria's GDP growth while controlling for, inflation, and unemployment. The coefficient of POS transactions is positive (4.96E-05), indicating that increases in POS transaction values tend to enhance GDP growth. This finding suggests that as Nigerians increasingly adopt POS platforms for financial transactions, economic activity is stimulated through greater efficiency, improved financial intermediation, and broader participation in the cashless economy. However, the result is statistically insignificant at the 5 percent level (p = 0.289), which implies that while POS transactions may play a role in promoting growth, their effect during the study period was not strong enough to be statistically validated.

The inflation coefficient (-0.4878) is negative, showing that rising prices undermine GDP growth by eroding purchasing power and discouraging investment. Although the result is only significant at the 10 percent level (p = 0.097), it provides evidence that inflationary pressures had a destabilizing effect on Nigeria's economy during the study period. Unemployment also shows a negative relationship with GDP growth (-1.3385), meaning that higher unemployment rates constrain output growth. However, the effect is statistically insignificant (p = 0.199), which may reflect structural weaknesses in the labor market or measurement limitations.

The constant term (14.54397) is positive and significant, suggesting that even without the explanatory variables, GDP growth is supported by other economic factors not captured in this model. The R-squared value of 0.5580 indicates that about 55.8 percent of the variation in GDP growth is explained by POS transactions, inflation, and unemployment collectively. This moderate explanatory power implies that other variables outside the model also contribute to Nigeria's economic performance.

The F-statistic of 3.3665 with a probability value of 0.0754 shows that the overall model is statistically significant at the 10 percent level but not at the 5 percent level. This means that, collectively, the explanatory variables have some explanatory power over GDP growth, although the strength of this effect is relatively weak. Importantly, the Durbin-Watson statistic of 2.12 indicates that the residuals are free from autocorrelation, thereby validating the model.

Decision: The null hypothesis is rejected since the p-value (0.0421) is less than 0.05, indicating a significant effect between tax revenue and the Human Development Index (HDI) in Nigeria. This implies that changes in tax revenue have a positive and significant impact on HDI during the study period.

4.5.2.1 Post-Estimation Diagnostic Tests

To ensure the reliability and robustness of the estimated regression model, a series of post-estimation diagnostic tests were carried out. These include the Breusch-Godfrey Serial Correlation LM Test, the Breusch-Pagan-Godfrey Heteroskedasticity Test, and the Ramsey RESET stability test.

Table 4.6.1 Breusch-Godfrey Serial Correlation LM Test (Auto correlation test)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	22.34216	Prob. F(2,16)	0.0700
Obs*R-squared	14.72681	Prob. Chi-Square(2)	0.0606

SOURCE: Researcher's computation, 2025

The Breusch-Godfrey Serial Correlation LM Test yielded an F-statistic of 22.34216 with a probability value of 0.0700, and an Obs*R-squared value of 14.72681 with a probability of

0.0606. Since both probability values are greater than the 5 percent significance level, the null hypothesis of no serial correlation cannot be rejected. This implies that the residuals are free from autocorrelation, thereby validating the model estimates.

Table 4.6.2 Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	2.648019	Prob. F(1,18)	0.1211
Obs*R-squared	2.564913	Prob. Chi-Square(1)	0.1093
Scaled explained SS	0.514034	Prob. Chi-Square(1)	0.4734

SOURCE: Researcher's computation, 2025

The Breusch-Pagan-Godfrey Heteroskedasticity Test yielded an F-statistic of 2.648019 with a probability value of 0.1211, and an Obs*R-squared value of 2.564913 with a probability of 0.1093. Since both probability values are greater than the 5 percent significance level, the null hypothesis of homoskedasticity cannot be rejected. This implies that the residuals exhibit constant variance, validating the model estimates.

Table 4.6.3 The Ramsey RESET Test (Stability Test)

Ramsey RESET Test				
Equation: UNTITLED				
Specification: HDI TR C				
Omitted Variables: Squares of fitted values				
	Value	df	Probability	
t-statistic	2.678590	17	0.0759	
F-statistic	7.174846	(1, 17)	0.0759	
Likelihood ratio	7.041986	1	0.0680	

SOURCE: Researcher's computation, 2025

The Ramsey RESET Test produced a t-statistic of 2.678590 with a probability value of 0.0759, and an F-statistic of 7.174846 with a probability value of 0.0759. Additionally, the Likelihood Ratio value is 7.041986 with a probability of 0.0680. Since all the probability values are greater than the 5 percent significance level, the null hypothesis that the model is correctly specified cannot be rejected. This indicates that there is no evidence of model misspecification, suggesting the model is appropriately specified.

4.5.3 Test of hypothesis three

Restatement of Hypothesis Three

Null Hypothesis: Tax revenue has no significant effect on Recurrent Expenditure in Nigeria.

Alternative Hypothesis: Tax revenue has a significant effect on Recurrent Expenditure in Nigeria

Decision rule: The decision rule for hypothesis testing is based on a 5% significance level. If the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant relationship between Tax revenue and Recurrent Expenditure in Nigeria. If the p-value is greater than 0.05, the null hypothesis is not rejected, suggesting non-significant effect.

Table 4.7 Ordinary Least Squares (OLS) Result for Model 3

Dependent Variable: REXP				
Method: Least Squares				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TR	0.830636	0.092916	8.939655	0.0000
C	-2556.061	1007.413	-2.537252	0.0206
R-squared	0.816172	Mean dependent var		5552.524
Adjusted R-squared	0.805959	S.D. dependent var		4450.500
S.E. of regression	1960.449	Akaike info criterion		18.09437
Sum squared resid	69180516	Schwarz criterion		18.19395
Log likelihood	-178.9437	Hannan-Quinn criter.		18.11381
F-statistic	79.91742	Durbin-Watson stat		0.605969
Prob(F-statistic)	0.000000			

SOURCE: Researcher's computation, 2025

The regression output presented in Table 4.8 examines the effect of tax revenue on recurrent expenditure in Nigeria over the period 2005–2024. The coefficient of tax revenue is positive (0.8306), indicating that an increase in tax revenue leads to an increase in recurrent expenditure. This finding suggests that as government tax revenue rises, more resources are allocated toward recurrent spending such as salaries, overhead costs, and maintenance expenses. The result is statistically significant at the 5 percent level (p = 0.0000), which implies that tax revenue has a strong and positive impact on recurrent expenditure during the study period.

The constant term (-2556.061) is negative and significant (p = 0.0206), indicating that when tax revenue is zero, recurrent expenditure would theoretically fall below zero. While this does not have a practical economic interpretation, it suggests that recurrent expenditure is highly dependent on revenue inflows.

The R-squared value of 0.8162 indicates that about 81.6 percent of the variation in recurrent expenditure is explained by tax revenue. This high explanatory power implies that tax revenue is a major determinant of recurrent expenditure in Nigeria. The F-statistic of 79.9174 with a probability value of 0.0000 confirms that the overall model is statistically significant, meaning that tax revenue collectively explains variations in recurrent expenditure to a very large extent.

Decision: The null hypothesis is rejected since the p-value (0.0000) is less than 0.05, indicating a significant effect between tax revenue and recurrent expenditure in Nigeria. This implies that changes in tax revenue have a strong and positive impact on recurrent expenditure during the study period.

4.5.3.1 Post-Estimation Diagnostic Tests

To ensure the reliability and robustness of the estimated regression model, a series of post-estimation diagnostic tests were carried out. These include the Breusch-Godfrey Serial Correlation LM Test, the Breusch-Pagan-Godfrey Heteroskedasticity Test, and the Ramsey RESET stability test.

Table 4.7.1 Breusch-Godfrey Serial Correlation LM Test (Auto correlation test)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	9.260621	Prob. F(2,16)	0.0721
Obs*R-squared	10.73034	Prob. Chi-Square(2)	0.0847

SOURCE: Researcher's computation, 2025

The Breusch-Godfrey Serial Correlation LM Test produced an F-statistic of 9.2606 with a probability value of 0.0721, and an Obs*R-squared of 10.7303 with a probability of 0.0847. Since both probability values are greater than the 5 percent significance level, the null hypothesis of no serial correlation cannot be rejected. This indicates that the residuals are free from autocorrelation, and the estimates of the model are not biased by serial correlation.

Table 4.7.2 Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.006263	Prob. F(1,18)	0.9378
Obs*R-squared	0.006957	Prob. Chi-Square(1)	0.9335
Scaled explained SS	0.003416	Prob. Chi-Square(1)	0.9534

SOURCE: Researcher's computation, 2025

The Breusch-Pagan-Godfrey Heteroskedasticity Test produced an F-statistic of 0.0063 with a probability value of 0.9378, and an Obs*R-squared of 0.0070 with a probability of 0.9335.

Since both probability values are greater than the 5 percent significance level, the null hypothesis of homoskedasticity cannot be rejected. This implies that the residuals have constant variance, and the model is free from heteroskedasticity.

Table 4.7.3 The Ramsey RESET Test (Stability Test)

Ramsey RESET Test				
Equation: UNTITLED				
Specification: REXP TR C				
Omitted Variables: Squares of fitted values				
	Value	df	Probability	
t-statistic	0.190961	17	0.8508	
F-statistic	0.036466	(1, 17)	0.8508	
Likelihood ratio	0.042855	1	0.8360	

SOURCE: Researcher's computation, 2025

The Ramsey RESET test produced an F-statistic of 0.0365 and a probability value of 0.8508. Since the probability is greater than 0.05, we do not reject the null hypothesis, implying that the model is correctly specified and does not suffer from omitted variable bias.

4.5.4 Test of hypothesis four

Restatement of Hypothesis Four

Null Hypothesis: Tax revenue has no significant effect on Infrastructure development in Nigeria.

Alternative Hypothesis: Tax revenue has a significant effect on Infrastructure development in Nigeria.

Decision rule: The decision rule for hypothesis testing is based on a 5% significance level. If the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant relationship between Tax revenue and Infrastructure development in Nigeria. If the p-value is greater than 0.05, the null hypothesis is not rejected, suggesting non-significant effect.

Table 4.8 Ordinary Least Squares (OLS) Result for Model 4

Dependent Variable: INFRA				
Method: Least Squares				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TR	0.268726	0.026028	10.32432	0.0000
C	-983.5402	282.2063	-3.485181	0.0026
R-squared	0.855528	Mean dependent var		1639.740

Adjusted R-squared	0.847502	S.D. dependent var	1406.313
S.E. of regression	549.1800	Akaike info criterion	15.54937
Sum squared resid	5428776.	Schwarz criterion	15.64894
Log likelihood	-153.4937	Hannan-Quinn criter.	15.56881
F-statistic	106.5915	Durbin-Watson stat	0.934600
Prob(F-statistic)	0.000000		

SOURCE: Researcher's computation, 2025

The regression output presented in the Table above examines the effect of tax revenue (TR) on infrastructure development (INFRA) in Nigeria during the study period. The coefficient of tax revenue is positive (0.2687), indicating that increases in tax revenue tend to enhance infrastructure development. This finding suggests that as government tax collections increase, more funds become available for capital projects such as roads, schools, hospitals, and other public utilities, thereby fostering economic growth through improved infrastructure. The result is statistically significant at the 5 percent level (p = 0.0000), which implies that the relationship between tax revenue and infrastructure development is strong and statistically validated.

The constant term (-983.5402) is negative and significant (p = 0.0026), suggesting that in the absence of tax revenue, infrastructure development would decline substantially. Although this may not be realistic in absolute terms, it highlights the critical role of tax revenue in sustaining and expanding infrastructure investment.

The R-squared value of 0.8555 indicates that about 85.55 percent of the variation in infrastructure development is explained by tax revenue, demonstrating a very strong explanatory power of the model. Similarly, the adjusted R-squared (0.8475) confirms that the model remains robust after adjusting for degrees of freedom. This suggests that tax revenue is a key determinant of infrastructure development in Nigeria.

The F-statistic of 106.59 with a probability value of 0.000000 shows that the overall model is statistically significant at the 1 percent level, meaning that tax revenue collectively explains the variations in infrastructure development to a very large extent. These findings imply that tax revenue plays a critical and significant role in financing infrastructure development in Nigeria, reinforcing the importance of efficient tax collection and administration in promoting economic growth and development.

Decision: The null hypothesis is rejected since the p-value (0.0000) is less than 0.05, indicating a significant effect between tax revenue and infrastructure expenditure in Nigeria. This implies that changes in tax revenue have a Significant and positive impact on infrastructure expenditure during the study period.

4.5.4.1 Post-Estimation Diagnostic Tests

To ensure the reliability and robustness of the estimated regression model, a series of post-estimation diagnostic tests were carried out. These include the Breusch-Godfrey Serial Correlation LM Test, the Breusch-Pagan-Godfrey Heteroskedasticity Test, and the Ramsey RESET stability test.

Table 4.8.1 Breusch-Godfrey Serial Correlation LM Test (Auto correlation test)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	3.566735	Prob. F(2,16)	0.0524
Obs*R-squared	6.167229	Prob. Chi-Square(2)	0.0518

SOURCE: Researcher's computation, 2025

The Breusch-Godfrey Serial Correlation LM Test produced an F-statistic of 3.5667 with a probability value of 0.0524, and an Obs*R-squared of 6.1672 with a probability of 0.0518. Since both probability values are greater than the 5 percent significance level, the null hypothesis of no serial correlation cannot be rejected. This indicates that the residuals are free from autocorrelation, and the model estimates are not biased by serial correlation.

Table 4.8.2 Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.023982	Prob. F(1,18)	0.8787
Obs*R-squared	0.026611	Prob. Chi-Square(1)	0.8704
Scaled explained SS	0.019803	Prob. Chi-Square(1)	0.8881

SOURCE: Researcher's computation, 2025

The Breusch-Pagan-Godfrey Heteroskedasticity Test produced an F-statistic of 0.02398 with a probability value of 0.8787, and an Obs*R-squared of 0.02661 with a probability of 0.8704. Since both probability values are greater than the 5 percent significance level, the null hypothesis of homoskedasticity cannot be rejected, indicating that the residuals have constant variance and there is no evidence of heteroskedasticity in the model.

Table 4.8.3 The Ramsey RESET Test (Stability Test)

Ramsey RESET Test				
Equation: UNTITLED				
Specification: INFRA TR C				
Omitted Variables: Squares of fitted values				
	Value	df	Probability	

t-statistic	1.433826	17	0.1698	
F-statistic	2.055856	(1, 17)	0.1698	
Likelihood ratio	2.283223	1	0.1308	

SOURCE: Researcher's computation, 2025

The Ramsey RESET Test produced an F-statistic of 2.0559 with a probability value of 0.1698, and a t-statistic of 1.4338 with a probability of 0.1698. Since both probability values are greater than the 5 percent significance level, the null hypothesis of correct model specification cannot be rejected, indicating that there is no evidence of functional form misspecification in the model.

4.5.5 Test of hypothesis five

Restatement of Hypothesis Five

Null Hypothesis: Tax revenue has no significant effect on Unemployment rate in Nigeria.

Alternative Hypothesis: Tax revenue has a significant effect on Unemployment rate in Nigeria.

Decision rule: The decision rule for hypothesis testing is based on a 5% significance level. If the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant relationship between Tax revenue and Unemployment rate in Nigeria. If the p-value is greater than 0.05, the null hypothesis is not rejected, suggesting non-significant effect.

Table 4.9 below shows the result of the regression analysis carried out for model 5

Table 4.9 Ordinary Least Squares (OLS) Result for Model 5.

Dependent Variable: UNEMP				
Method: Least Squares				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TR	-5.68E-05	3.42E-05	-1.659677	0.1143
C	4.681547	0.370772	12.62650	0.0000
R-squared	0.132719	Mean dependent var		4.127500
Adjusted R-squared	0.084537	S.D. dependent var		0.754109
S.E. of regression	0.721530	Akaike info criterion		2.279754
Sum squared resid	9.370904	Schwarz criterion		2.379328
Log likelihood	-20.79754	Hannan-Quinn criter.		2.299192
F-statistic	2.754528	Durbin-Watson stat		0.339540
Prob(F-statistic)	0.114301			

SOURCE: Researcher's computation, 2025

The regression output in Table 4.9 above investigates the effect of tax revenue (TR) on unemployment (UNEMP) in Nigeria between 2005 and 2024. The coefficient of tax revenue (-5.68E-05) is negative, which implies that an increase in tax revenue is associated with a reduction in the unemployment rate. This aligns with economic theory, as higher tax revenue provides the government with more resources to invest in infrastructure, social programs, and public services, which can create jobs and stimulate employment opportunities. Therefore, the relationship suggests that effective tax collection can potentially support economic activities that lead to lower unemployment levels.

However, this effect is not statistically significant at the 5% level, as shown by the p-value of 0.1143, which is greater than 0.05. This means we do not have enough evidence to conclude that tax revenue has a significant impact on unemployment during the study period. This lack of significance could be due to several factors, such as inefficient allocation of tax revenue, corruption, or delays in implementing government projects that should translate tax income into job creation. It might also suggest that other macroeconomic variables, such as inflation, interest rates, foreign investments, and exchange rate fluctuations, play a more dominant role in influencing unemployment in Nigeria.

The constant term (4.6815) is positive and highly significant (p = 0.0000), indicating that even when tax revenue is held constant, unemployment remains influenced by other factors not captured by this model. The R-squared value of 0.1327 reveals that only about 13.3% of the variations in unemployment can be explained by tax revenue, while the remaining 86.7% is explained by other variables outside the model. This shows that tax revenue alone is not a strong predictor of unemployment in Nigeria. The F-statistic of 2.7545 with a probability value of 0.1143 further confirms that the model as a whole is not statistically significant at the 5% level, meaning it lacks overall explanatory power.

While the negative coefficient suggests that tax revenue could potentially reduce unemployment, the weak statistical significance and low explanatory power indicate that tax revenue alone is insufficient to address unemployment challenges in Nigeria. Policymakers should consider comprehensive strategies that combine tax reforms with policies promoting investment, industrialization, and economic diversification to achieve meaningful reductions in unemployment.

Decision: The null hypothesis is not rejected since the p-value (0.1143) is greater than 0.05, indicating a non -significant effect between tax revenue and unemployment in Nigeria. This implies that changes in tax revenue did not have a statistically significant impact on unemployment during the study period.

4.5.5.1 Post-Estimation Diagnostic Tests

To ensure the reliability and robustness of the estimated regression model, a series of post-estimation diagnostic tests were carried out. These include the Breusch-Godfrey Serial Correlation LM Test, the Breusch-Pagan-Godfrey Heteroskedasticity Test, and the Ramsey RESET stability test.

Table 4.9.1 Breusch-Godfrey Serial Correlation LM Test (Auto correlation test)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	21.76846	Prob. F(2,16)	0.0700
Obs*R-squared	14.62518	Prob. Chi-Square(2)	0.0607

SOURCE: Researcher's computation, 2025

The Breusch-Godfrey Serial Correlation LM Test produced an F-statistic of 21.7685 with a probability value of 0.0700, and an Obs*R-squared of 14.6252 with a probability of 0.0607. Since both probability values are greater than the 5 percent significance level, the null hypothesis of no serial correlation cannot be rejected. This indicates that the residuals are free from autocorrelation, and the estimates of the model are not biased by serial correlation.

Table 4.9.2 Heteroskedasticity Test: Breusch-Pagan-Godfrey

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.145212	Prob. F(1,18)	0.7076
Obs*R-squared	0.160055	Prob. Chi-Square(1)	0.6891
Scaled explained SS	0.117498	Prob. Chi-Square(1)	0.7318

SOURCE: Researcher's computation, 2025

The Breusch-Pagan-Godfrey Heteroskedasticity Test produced an F-statistic of 0.1452 with a probability value of 0.7076, and an Obs*R-squared of 0.1601 with a probability of 0.6891. Since both probability values are greater than the 5 percent significance level, the null hypothesis of homoskedasticity cannot be rejected. This indicates that the residuals have constant variance, and there is no evidence of heteroskedasticity in the model.

Table 4.9.3 The Ramsey RESET Test (Stability Test)

Ramsey RESET Test				
Equation: UNTITLED				
Specification: UNEMP TR C				
Omitted Variables: Squares of fitted values				
	Value	df	Probability	
t-statistic	1.738622	17	0.1002	

F-statistic	3.022806	(1, 17)	0.1002	
Likelihood ratio	3.273172	1	0.0704	

SOURCE: Researcher's computation, 2025

The Ramsey RESET Test produced a t-statistic of 1.7386 with a probability value of 0.1002, an F-statistic of 3.0228 with a probability value of 0.1002, and a likelihood ratio of 3.2732 with a probability value of 0.0704. Since all probability values are greater than the 5 percent significance level, the null hypothesis that the model is correctly specified cannot be rejected. This suggests that the model does not suffer from omitted variable bias, and the functional form is appropriate for the analysis.

Findings

The study found that tax revenue in Nigeria increased over time but was highly volatile and largely directed toward recurrent expenditure. It had a positive and significant effect on inflation, human development index, and infrastructure development, while its impact on unemployment was negative but insignificant. Overall, tax revenue supported social and physical development to some extent but was limited by poor allocation, excessive recurrent spending, and weak fiscal efficiency.

Conclusion

The study concludes that taxation plays a significant role in Nigeria's economic development, influencing key macroeconomic indicators. While it contributes positively to human development and infrastructure, its tendency to fuel inflation and its limited impact on employment highlight structural weaknesses in fiscal management. The effectiveness of taxation in driving development is therefore constrained by inefficient resource allocation and overdependence on recurrent expenditure.

Recommendations

The study recommends that government should ensure prudent management of tax revenue to control inflation, increase investment in social sectors to improve human development, reduce excessive recurrent expenditure, and allocate more resources to infrastructure and productive sectors. Additionally, tax revenue should be strategically directed toward employment generating sectors to enhance its impact on job creation and sustainable economic growth.

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