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Convergence of Fiscal Policy and Economic Growth in Nigeria

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Abstract: This study investigates the convergence relationship between fiscal policy and economic growth in Nigeria over 38 years. Fiscal policy was captured with public expenditure, revenue, and debt, while economic growth was captured with gross domestic product. The study adopted an expo factor design and a quantitative research approach. Balanced secondary data from 1986 to 2023 were gathered through the National Bureau of Statistics and the Federal Inland Revenue Service. The collected data were subjected to statistical analysis using trend analysis, descriptive statistical analysis, and OLS regression analysis. The findings reveal that public spending significantly and positively impacts Nigeria's economic growth. Specifically, a 1% increase in government expenditure results in an 8.62% increase in GDP, with a coefficient of 8.62 and a probability value of 0.000 ($p < 0.05$). This underscores the autonomous capacity of government spending to drive economic growth. Conversely, tax revenue, while positively related to GDP, has a minimal and statistically insignificant effect on economic growth (coefficient = 2.99, probability = 0.4072, $p > 0.05$), indicating that a 1% rise in tax revenue corresponds to a 3% increase in GDP. Furthermore, the analysis reveals that public debt exerts a negative but statistically insignificant impact on GDP, with a coefficient of -0.617 and a probability value of 0.6565 ($p > 0.05$), implying that a 1% rise in public debt leads to a 0.6% decline in GDP. The study concludes that government spending plays a critical role in stimulating economic growth in Nigeria, while the current contributions of tax revenue and public debt remain limited. These findings provide valuable insights for policymakers, emphasizing the need for effective fiscal strategies that prioritize productive public spending to enhance long-term economic development in Nigeria.

Keywords: *Economic Growth, Tax income, Fiscal Policy, Gross Domestic Product, Public Debt*

1. Introduction

Nigeria's economic growth has experienced fluctuations in recent years due to internal and external challenges, including inflation, exchange rate instability, and global economic shocks (World Bank, 2023). While the country has seen growth driven by crude oil exports, agriculture, and services, structural issues such as unemployment, inadequate infrastructure, and weak industrialization continue to hinder sustainable development. Economic growth, which refers to a sustained increase in national income and productive capacity, is essential for poverty reduction and improved living standards (Todaro & Smith, 2022). However, achieving consistent growth requires sound macroeconomic policies, with fiscal policy playing a central role in driving investment, consumption, and production (IMF, 2023). Given Nigeria's current economic challenges, an effective fiscal policy framework is crucial for ensuring long-term stability and progress.

Fiscal policy involves government decisions on revenue generation and public spending to influence economic stability and growth (Akanbi, 2021). In Nigeria, it plays a critical role in addressing inflation, unemployment, and infrastructural deficits. Strategic government spending, efficient tax collection, and responsible debt management can create a favorable environment for business growth and economic expansion (CBN, 2023). Three key fiscal components—public expenditure, tax revenue, and public debt—directly impact Nigeria's economic performance. Public expenditure funds critical sectors such as infrastructure, education, and healthcare, which enhance productivity and human capital (Olawumi & Oladele, 2022). Tax revenue, derived from personal, corporate, and value-added taxes, provides the government with the financial resources needed for national development (Ekeocha, 2023). Public debt, including domestic and external borrowing, can finance development projects but if mismanaged, may lead to economic instability (Okonkwo & Uche, 2022). The convergence of fiscal policy and economic growth in Nigeria depends on how effectively these fiscal components are managed. When strategically implemented, they can stimulate economic expansion, reduce poverty, and enhance overall national development. However, challenges such as mismanagement of funds, tax evasion, and rising debt levels pose significant risks to economic stability.

Recent efforts by the Nigerian government, such as the passage of the Economic Stabilisation Bills, which include amendments to over 15 tax, fiscal, and establishment laws, demonstrate a clear commitment to fostering economic stability in response to rising inflation and other fiscal challenges (Oyadiran, 2024). These legislative reforms aim to create a favorable environment for industrialization and long-term development, underscoring the significance of fiscal measures in driving structural transformation and addressing the pressing needs of a developing economy. Nigeria's economic indicators have undergone significant changes in recent years, reflecting both ongoing challenges and potential growth opportunities. As of 2023, the country's Gross Domestic Product (GDP) grew at a modest rate of 2.9%. Projections by the Central Bank of Nigeria (CBN) indicate that GDP growth could reach 4.17% by 2025, driven by continued economic reforms and efforts to stabilize inflation. This optimistic outlook is supported by the government's renewed focus on structural changes, such as diversifying revenue streams and improving infrastructure (Reuters, 2025). However, inflation remains a persistent issue, peaking at 34.8% in 2024 due to the removal of the petrol subsidy and the devaluation of the naira, both of which significantly impacted consumer prices. The CBN expects inflation rates to decline in the coming years as the effects of these reforms begin to stabilize (Reuters, 2025).

Another pressing concern is Nigeria's rising public debt burden. In response, the government has shifted its focus from excessive borrowing to encouraging private-sector investment as a means of stimulating economic growth. This strategic pivot is intended to address the challenges of subdued growth, persistent inflation, and unsustainable debt levels (Reuters, 2025). According to the World Bank, Nigeria's unemployment rate was reported at 3.1% in 2023, based on modeled estimates from the International Labour Organisation (ILO). However, this figure likely underrepresents the realities of underemployment and the large informal sector that characterizes the Nigerian labor market (World Bank, 2023). Despite these challenges, the government's commitment to structural reforms, private sector promotion, and revenue diversification offers some optimism for future stability and growth. Sustained efforts in fiscal discipline, job creation, and inflation control will be essential for Nigeria to achieve its long-term economic goals.

This study seeks to examine the convergence relationship between fiscal policy and economic growth in Nigeria, providing critical insights for policymakers tasked with stabilizing the economy and promoting sustainable development. By examining the impacts of government spending, tax revenue, and public debt on economic growth over an extended period, this research contributes meaningfully to the ongoing discourse on the role of fiscal policy in fostering growth in developing economies. The findings aim to refine fiscal strategies and help Nigeria harness its full economic potential amidst the complexities of an evolving global economy.

2. Literature Review

Conceptual Issues

Fiscal Policy: Fiscal policy refers to the government's use of public revenue and expenditure to influence economic activities. According to Adebayo and Olayemi (2021), fiscal policy encompasses taxation, government spending, and borrowing strategies aimed at achieving macroeconomic stability. Oladipo (2022) defines it as a tool used by the government to regulate economic fluctuations, control inflation, and stimulate growth. Similarly, Eze and Okonkwo (2023) describe fiscal policy as a mechanism for resource allocation that ensures economic sustainability through effective management of revenue and expenditure. In the view of Yusuf (2024), fiscal policy plays a crucial role in shaping economic performance by addressing issues such as unemployment, inflation, and income distribution. These definitions emphasize the significance of fiscal policy in Nigeria's economic framework, highlighting its role in promoting national development.

Fiscal policy contributes to economic growth by influencing key macroeconomic variables such as investment, consumption, and employment. Through increased public expenditure, the government can invest in infrastructure, education, and healthcare, which enhances productivity and national output (Akinlo & Lawal, 2022). Effective tax policies generate revenue while ensuring that businesses and individuals are not overburdened, thereby promoting private sector growth (Obafemi, 2023). Additionally, responsible public debt management ensures that borrowed funds are used for productive investments rather than unsustainable recurrent expenses (Olowu & Adekunle, 2023). In Nigeria, fiscal policy has been instrumental in addressing economic challenges, including inflation control, poverty reduction, and industrial growth. However, inefficient

fiscal management, corruption, and excessive borrowing have sometimes weakened its impact, leading to economic instability.

This study captures fiscal policy through three key components: public expenditure, tax revenue, and public debt. Public expenditure represents government spending on goods, services, and infrastructure, which drives economic activities and enhances development (Adebisi & Akinwale, 2023). Tax revenue refers to funds collected by the government through various taxes, which are essential for funding public services and projects (Eze, 2024). Public debt, on the other hand, involves government borrowing from domestic and international sources to finance fiscal deficits (Okonjo & Bello, 2024). Understanding the relationship between these components and economic growth is essential for formulating effective policies that ensure Nigeria's long-term economic stability and prosperity.

Economic Growth: Economic growth refers to the sustained increase in a country's productive capacity, leading to higher income levels and improved living standards. According to Adebayo and Oladimeji (2022), economic growth is the long-term expansion of a nation's real output, measured by the increase in Gross Domestic Product (GDP). Eze and Okonkwo (2023) define it as the process through which a country enhances its capacity to produce goods and services, leading to higher employment and wealth creation. Yusuf (2024) describes economic growth as the continuous improvement in economic indicators such as investment, consumption, and industrial productivity. Similarly, Obafemi (2023) emphasizes that economic growth is driven by factors such as capital accumulation, technological advancement, and efficient resource allocation. These definitions highlight the importance of economic growth in national development and poverty reduction.

In Nigeria, economic growth has been characterized by fluctuations due to external and internal challenges. While the country has experienced periods of growth driven by sectors such as agriculture, telecommunications, and oil and gas, issues such as inflation, unemployment, and weak infrastructure continue to hinder sustainable development (Olowu & Adekunle, 2023). Additionally, the impact of global economic shocks, exchange rate volatility, and policy inconsistencies has further constrained Nigeria's economic expansion (Akinlo & Lawal, 2022). To better understand economic growth, this study captures it through Gross Domestic Product (GDP), which serves as a key indicator of a nation's economic performance. By analyzing GDP alongside fiscal policy variables, this study aims to assess how government actions influence Nigeria's economic trajectory and overall stability.

Theoretical Review

Keynesian Theory of Fiscal Policy: The Keynesian Theory of Fiscal Policy was developed by British economist John Maynard Keynes in *The General Theory of Employment, Interest, and Money* (1936). Keynes argued that free-market economies are not always self-regulating and that government intervention is necessary to stabilize economic fluctuations. He emphasized that during periods of economic downturn, increased government spending and reduced taxation could boost aggregate demand, leading to higher employment and economic growth (Keynes, 1936). This theory became the foundation of modern fiscal policies, influencing governments worldwide, including Nigeria, where fiscal policy plays a crucial role in addressing economic instability and promoting growth (Blanchard & Johnson, 2022).

Keynesian theory is based on the assumption that aggregate demand drives economic output and employment, meaning government spending can help reduce unemployment and stimulate growth (Mankiw, 2020). It also assumes that prices and wages are sticky in the short run, preventing the economy from adjusting quickly to shocks necessitating fiscal intervention (Romer, 2019). However, the theory has faced criticisms, particularly from monetarists like Milton Friedman, who argue that controlling the money supply is more effective in managing economic stability than fiscal policy (Friedman, 1968). Additionally, the Ricardian Equivalence Theory suggests that government borrowing does not always stimulate growth, as people may save more in anticipation of future tax increases (Barro, 1974). Critics also caution that excessive government spending can lead to inflation and inefficiencies in resource allocation (Lucas, 1976).

Despite these criticisms, the Keynesian Theory remains relevant to understanding the relationship between fiscal policy and economic growth in Nigeria. The theory supports the view that increased public expenditure on infrastructure, healthcare, and education can enhance productivity and boost national output (CBN, 2023).

It also highlights the importance of tax policies in generating revenue for development while maintaining a balance that does not stifle economic activity (IMF, 2023). Given Nigeria's economic challenges, applying Keynesian principles can help policymakers design fiscal strategies that promote sustainable growth and economic resilience.

Ricardian Equivalence Theory: The Ricardian Equivalence Theory was first introduced by David Ricardo in *On the Principles of Political Economy and Taxation* (1817) and later expanded by Robert Barro (1974). The theory argues that government borrowing does not necessarily impact economic growth because rational individuals anticipate future tax burdens and adjust their savings accordingly. According to Barro (1974), when the government finances spending through debt rather than taxation, people recognize that the borrowed funds will eventually be repaid through higher taxes. As a result, households increase their savings to prepare for these future tax obligations, leading to no real change in aggregate demand or economic growth. This concept challenges the Keynesian belief that fiscal stimulus through deficit spending can boost economic activity. In Nigeria, where government borrowing is a significant component of fiscal policy, the theory provides insights into the potential limitations of public debt in driving long-term economic expansion.

The Ricardian Equivalence Theory is based on several key assumptions. First, it assumes that individuals are forward-looking and make rational financial decisions based on expectations of future tax liabilities (Barro, 1974). Second, it presumes that capital markets are perfect, allowing households to borrow and save freely without constraints (Romer, 2019). Third, it assumes that government debt is eventually repaid through taxation rather than inflation or default, making public borrowing a temporary measure. However, critics argue that these assumptions are often unrealistic. Keynesian economists contend that not all individuals behave rationally or have equal access to credit markets, meaning they may not save in response to government debt (Blanchard & Johnson, 2022). Additionally, some studies suggest that in economies with inefficient tax systems, high levels of debt can lead to economic distortions rather than neutral effects (Mankiw, 2020). Critics also highlight that if government borrowing is used for productive investments, such as infrastructure and education, it can generate long-term economic benefits despite future tax obligations (Snowdon & Vane, 2005).

Despite these criticisms, the Ricardian Equivalence Theory remains relevant to this study as it provides a framework for analyzing the effects of fiscal policy, particularly public debt, on Nigeria's economic growth. Given Nigeria's reliance on deficit financing, understanding whether households adjust their savings behavior in response to government borrowing is crucial in assessing the effectiveness of fiscal policies. If the theory holds, excessive reliance on debt financing may fail to stimulate economic growth as expected. However, if Nigeria's economy does not conform to Ricardian assumptions—due to credit constraints, low financial literacy, or inefficient tax administration—public debt could still have expansionary effects. Therefore, policymakers must carefully balance borrowing and taxation to ensure that fiscal policies contribute positively to long-term economic stability and growth.

Empirical Studies

Numerous studies have examined the relationship between fiscal policy and economic growth in Nigeria, yielding varying results depending on the element of fiscal policy. For example, Ukangwa et al. (2023) investigated the impact of fiscal policy on economic growth in Nigeria, employing an ex-post facto research design. The study revealed a linear relationship between Gross Domestic Product (GDP) and key fiscal variables, including public debt, tax revenue, and government expenditure. The findings indicated that public debt (PDBT) and tax revenue (TAX) were negatively correlated with GDP, while total government expenditure (TGE) exhibited a positive relationship with GDP. Specifically, public debt and tax revenue both had an inverse relationship with GDP, suggesting that increases in these variables have a detrimental effect on economic growth, leading to a reduction in GDP.

Jane (2023) assessed the Impact of fiscal policy on the economic growth of Nigeria. The study made use of the Johansen Cointegration Test analysis to determine the long-run relation between fiscal policy and the economic growth of Nigeria. The data was sourced from the CBN statistical bulletin from 1990 to 2021. The research findings revealed that there is a linear relationship between Gross Domestic Product and Public Debt, Tax revenue and Government Expenditure, Public debt and Tax Revenue were negatively related to GDP, while Total Government Expenditure is positively related to GDP; PDBT and Tax both have an inverse relationship

with GDP meaning that increases in both variables have a negative impact or lead to a reduction in GDP. Statistically, the t-statistics of the variables under consideration were significant, and the overall estimates of the regression were statistically adequate and, therefore, show the acceptance of the alternative hypothesis of no co-integration of the unstable long-run relationship between Fiscal Policy and Economic Growth. It was recommended, among others, that the Nigerian government increase expenditure on economically viable investments to improve individual income through employment and increased output.

Oruku et al. (2023) examined the effect of fiscal policy on the economic growth of Nigeria. The variables employed were the Exchange rate, Inflation rate, public capital expenditure, net export, and monetary policy rate. The study employed data from the period 1983- 2022, making a total period of 40 years, and analyzed data using the Ordinary Least Squares regression technique The empirical findings show that fiscal policy variables met the economic a-priori expectation in terms of its negative coefficients but do not significantly affect Gross Domestic Product within the period of study. Therefore, fiscal deficits do not contribute significantly to the overall economic performance of the economy in Nigeria. As such, the study recommended, among others, that deficit financing in Nigeria should be focused more on the productive sectors of the economy to herald the requisite growth effect.

Nwaiwu and Ugwu (2016) investigated the impact of government spending on economic growth and discovered a positive link. Their research indicates that increasing public spending in crucial sectors such as infrastructure, education, and healthcare can greatly boost economic growth. Similarly, Olarewaju and Ajayi (2018) examined the impact of budget deficits on economic growth. Their findings indicate that while fiscal deficits can provide short-term economic benefits, sustained deficits may lead to adverse outcomes, such as increased debt servicing costs and reduced investment in productive sectors, ultimately hindering long-term economic prosperity. This highlights the complex dynamics of fiscal policy, where the benefits of increased expenditure must be balanced against the risks of accumulating fiscal deficits.

Amadi and Adebisi (2017) investigated the role of tax revenue in economic growth, finding that tax revenue has a positive but insignificant impact on Nigeria's GDP. Their study attributes this to the narrow tax base and inefficiencies in the tax collection system, which fail to capture the full potential of revenue from economic activities. The significant informal sector, which remains largely untaxed, further limits the effectiveness of tax revenue in driving economic growth.

Egbunike et al. (2018) offered a contrasting view, suggesting that tax revenue can significantly contribute to economic growth if the tax system is reformed to expand the tax base and improve collection efficiency. Their study emphasizes the potential of tax revenue as a sustainable source of funding for public expenditure and economic development. Babalola (2015) examined the short- and long-term impact of fiscal policy on economic development in Nigeria from 1981 to 2013, utilizing secondary data sourced from government bulletins. The model was estimated using Pair-wise Correlation to determine the relationships between variables, followed by Cointegration and an Error Correction Mechanism (ECM) to assess both short- and long-run effects. The findings revealed that government recurrent expenditure and government investment had significant and positive impacts on economic development in both the short and long term during the period under review. Capital expenditure demonstrated a positive effect in the short run, but this did not extend into the long run. In contrast, tax revenue was found to have a significant inverse relationship with economic development in both time horizons. The speed of adjustment towards equilibrium was notably high, and the results were consistent with established theories and previous studies.

3. Research Method

The study focuses on Nigeria and adopts an ex-post facto research design, which involves analyzing existing data spanning the period 1986–2023. This design was chosen as it allows the examination of historical data to identify patterns, relationships, and trends without manipulating variables, making it well-suited for exploring the long-term effects of fiscal policy on economic growth. However, the design has inherent limitations, including its reliance on secondary data, which may be subject to inaccuracies or inconsistencies in documentation over time. The data were sourced from credible institutions, such as the National Bureau of Statistics and the Federal Inland Revenue Service. Key economic growth indicators collected include Gross

Domestic Product (GDP) growth rates, employment levels, inflation rates, and sectoral contributions to GDP. Additionally, data on institutional setups, fiscal rules, and governance structures related to fiscal policy formulation and implementation in Nigeria were incorporated.

While trend analysis was employed to identify changes and patterns over the study period, this approach has limitations. Specifically, trend analysis does not account for causality, as it is purely descriptive, and it may oversimplify complex interactions between variables. Additionally, the results may be influenced by outliers or abrupt policy changes, which may not reflect consistent long-term trends. These limitations highlight the need to interpret the findings cautiously and, where possible, complement them with other statistical methods to ensure robust conclusions. The models established by Olusegun (2023) to examine the impact of government revenue and expenditure on economic growth in Nigeria were adapted for this study. The study captured government revenue with non-oil revenue (NOREV), government expenditure with capital expenditure (CAPEX), and economic growth with gross domestic product (GDP). The functional and linear representations of the models are presented below:

$GDP = f(NOREV, CAPEX)$ ……. …… (1)

$GDP = \beta_0 + \beta_1 InNOREV + \beta_2 InCAPEX + \mu_t$ ……. …… (2)

However, some modifications were made to cut the stated objectives of the study. These modifications are as follows:

- Non-oil revenue was replaced with the total tax revenue
- Capital expenditure was replaced with total public expenditure
- Public debt was added to the predictors

Hence, the functional and linear representation of the new model is presented below:

$GDP = f(PUEXP, TXRV, PUBD)$ ……. …… (3)

$GDP = \beta_0 + \beta_1 InPUEXP + \beta_2 InTXRV + \beta_3 InPUBD + \mu_t$ ……. …… (4)

Where:

GDP = Gross Domestic Product

PUEXP = Public Expenditure

TXRV = Tax Revenue

PUBD = Public Debt

This study made use of descriptive statistics to unveil the unique characteristics of the variables under consideration for the period covered. Trend analysis was conducted to display the historical trends of the variables under consideration. Also, Pearson correlation analysis was conducted to ascertain the nature of the relationship existing between the pairs of variables. For the inferential statistics, an ordinary least squares analysis was conducted for the test of the hypothesis. To ascertain the originality of the findings made through OLS, some diagnostic tests were conducted, including the heteroscedasticity and normality tests.

4. Results and Discussion

Descriptive Statistics

Table 1: Descriptive Statistics Results

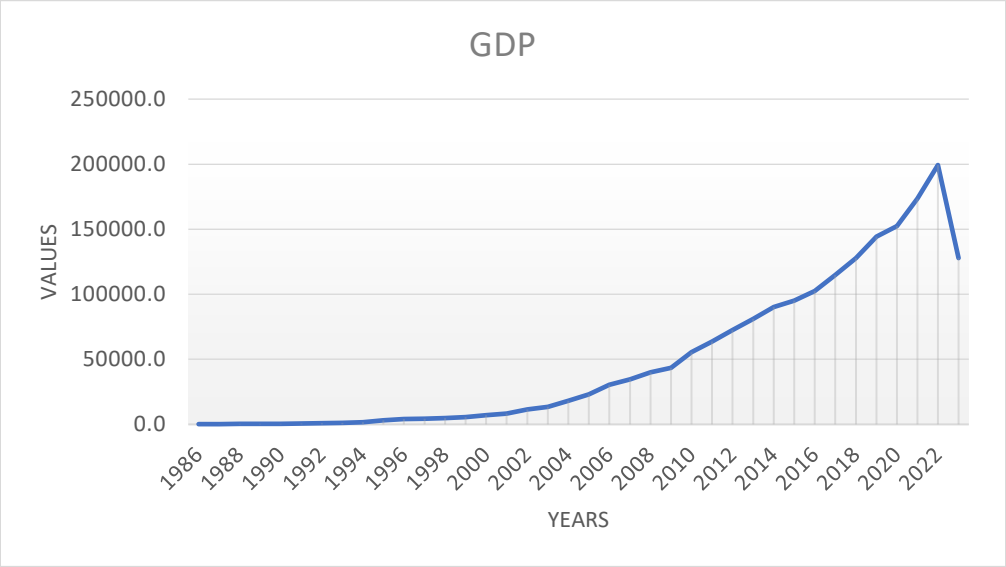
	GDP	PUEXP	TXRV	PUBD
Mean	48910.32	4398.124	2064.542	8795.276
Median	20623.00	1624.150	731.3000	4094.450
Std. Dev.	19936.0	2431.20	1638.80	5128.40
Maximum	198.1000	16.20000	4.500000	69.90000
Minimum	57530.49	6248.768	3235.207	12246.75
Skewness	1.036504	1.784597	2.809999	1.986229
Kurtosis	2.895272	5.206151	11.94550	6.290706
Observation	38	38	38	38

Source: Authors' Computation (2024)

Table 1 presents the descriptive analysis results for 38 years, the mean and standard deviation values of ₦48.9 and ₦19.9 billion were reported for gross domestic products, indicating that the GDP value is significantly influenced by high values, potentially from a few large economies. Also, the positive skewness (1.04) implies that while most economies have lower GDP values, a few very high GDPs skew the distribution to the right. For the public expenditure, the reported values for means (N4,398.124 billion) and standard deviation (N2,431 billion) indicated that public expenditure varies widely across years, with some spending significantly more than others. The positive skewness showed that a few years have much higher expenditure compared to the majority. The mean value and standard deviation values of tax revenue indicated that there is a wide variation in the tax revenue generated across the period under consideration. Also, it was evidenced that tax revenue distribution is highly skewed to the right, indicating that in a few years, substantial tax revenue was generated greater than in other years. Finally, for the public debt, it was evident that there is significant variability and skewness across all periods covered, suggesting unequal economic conditions among the observed economies.

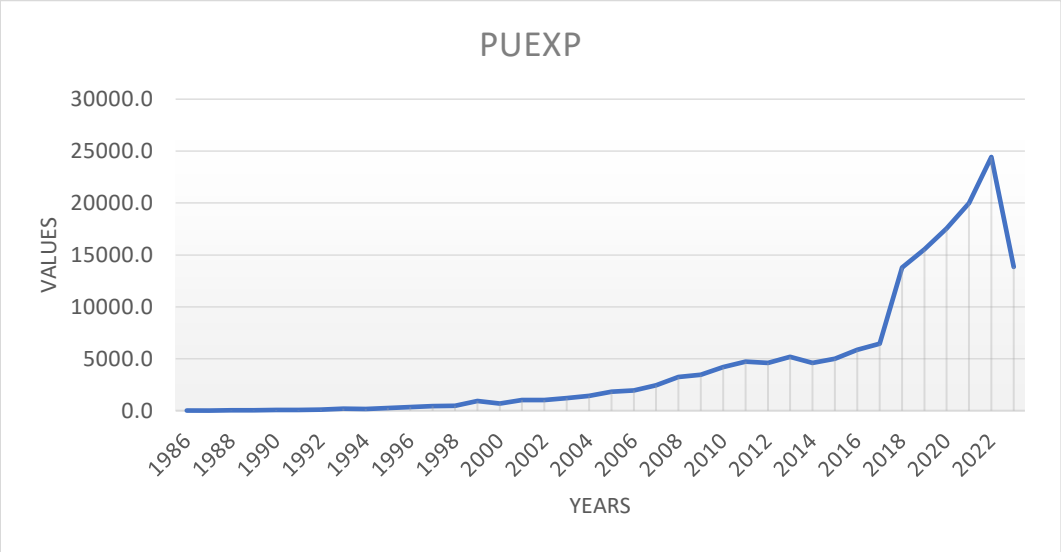
Trend Analysis

Figure 1: Trend Analysis of Gross Domestic Product from 1986 to 2023



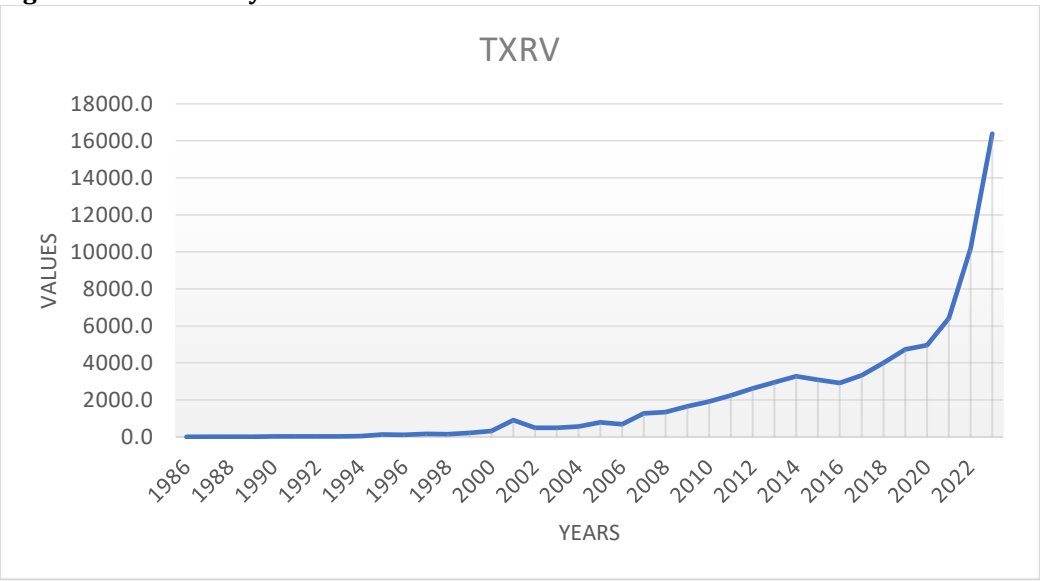
Depicted above is the trend of the Employment Rate from 1986 to 2023. From the base year 1986 to 2000, the GDP shows a relatively flat trend during this period, indicating slow economic growth. This stagnation can be attributed to political instability, military regimes, economic mismanagement, and the impact of structural adjustment programs imposed by the IMF and World Bank. Between 2000 and 2014, the GDP started to rise steadily. This could be because Nigeria returned to democratic rule in 1999, which led to more stable governance and economic policies. Also, there was a rise in global oil prices significantly boosted Nigeria's revenue, as the country is a major oil exporter. However, between mid-2015 and 2016, there was a slight fall in the GDP value due to the significant drop in global oil prices, adversely affecting Nigeria's economy, heavily reliant on oil exports. In 2017, the GDP began to recover and trended up to 2020. This shows the implication of the gradual recovery in global oil prices. In 2021, the GDP value trended up sharply till 2022, showing the implication of an increase in oil prices as global demand recovered. However, there was a sharp fall in 2023. This might be due to the economic slowdown impacting global trade and investment. Overall, the trend of Nigeria's GDP from 1986 to 2023 reflects the country's economic dependence on oil, the impact of political stability, global economic conditions, and efforts towards economic diversification.

Figure 2: Trend Analysis of Public Expenditure from 1986 to 2023



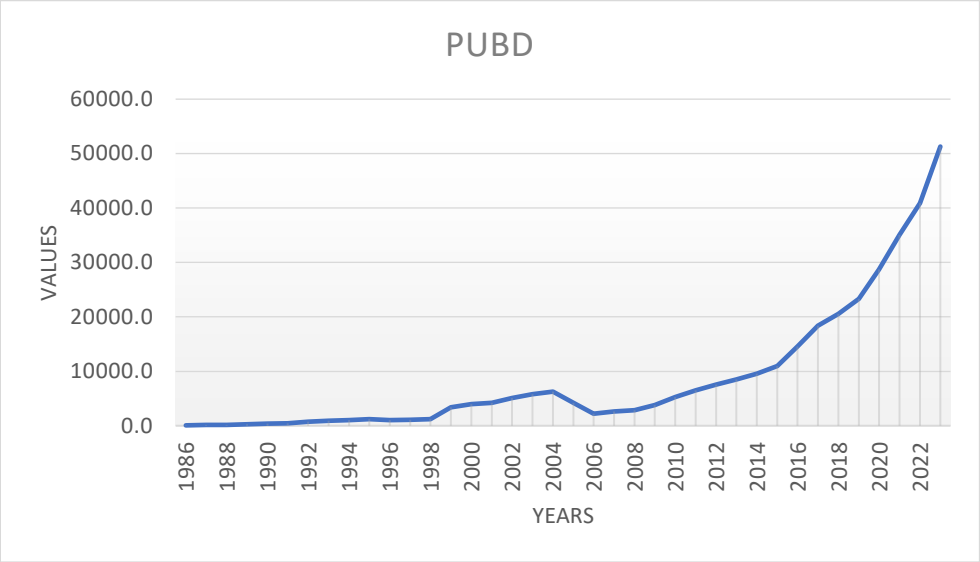
The trend analysis result displays Nigeria's public expenditure (PUEXP) trend from 1986 to 2023. From 1986 to 2000, the public expenditure shows a gradual increase with relatively low values. This period is marked by the implementation of Structural Adjustment Programs (SAPs), which involved austerity measures and reduced public spending. In 2000, there was a gradual increase in government expenditure until 2014. Democratic governance, starting in 1999, led to increased public spending on infrastructure and social programs. Despite economic challenges between 2015 and 2016, government expenditure continues to rise. This is because the government increased spending to stimulate the economy during the 2016 recession caused by low oil prices. A similar rise was experienced between 2017 and 2019. This is due to the post-recession recovery efforts, which led to increased public spending. In 2020, the government expenditure trended up sharply. This is related to the significant increase in health-related spending and economic stimulus packages to mitigate the impact of the COVID-19 pandemic. Also, between 2021 – 2023, there was a peak in public expenditure, reflecting the continued high spending to support the economic recovery from the pandemic. Overall, the trend of Nigeria's public expenditure from 1986 to 2023 reflects the country's economic conditions, political stability, oil revenue fluctuations, responses to crises, and efforts to stimulate economic growth through public investment. The peaks and troughs in expenditure are closely tied to both internal policies and external economic factors.

Figure 3: Trend Analysis of Tax Revenue from 1986 to 2023



Based on the provided graph depicting Nigeria's tax revenue trend from 1986 to 2023, distinct periods of growth and decline can be observed, each influenced by various economic, political, and global factors. From 1986 to 2000, Nigeria's tax revenue experienced a gradual increase but remained relatively low. This period was marked by the implementation of Structural Adjustment Programs (SAPs) aimed at diversifying the economy and improve tax collection mechanisms. Also, frequent changes in government and periods of military rule disrupted the consistent implementation of tax policies and hindered efficient tax collection. Between 2000 and 2010, there was a significant increase in tax revenue, driven by the return to democratic governance in 1999, which brought more stable and consistent economic policies, including comprehensive tax reforms. The upward trend in tax revenue continued from 2010 to 2015 as efforts to modernize tax administration and enhance compliance were ongoing. A slight decline or stagnation in tax revenue occurred during 2015-2016, attributable to the 2016 recession caused by falling oil prices, which led to reduced economic activity and lower tax collections. From 2017 to 2019, tax revenue showed signs of recovery and growth, influenced by efforts to recover from the recession led to increased taxable activities. In 2020, a sharp decline in tax revenue was evident, primarily due to the COVID-19 pandemic, which significantly reduced economic activities, affecting both corporate and individual tax revenues. During 2021 and 2022, tax revenue showed a noticeable rebound, reflecting the resumption of economic activities post-pandemic led to increased taxable activities. In 2023, the trend shows either stabilization or another slight decline, potentially due to the adjustments in tax policies and collection strategies post-recovery affecting tax revenue trends.

Figure 4: Trend Analysis of Public Debt from 1986 to 2023



Nigeria's public debt trend from 1986 to 2023 reveals a dynamic interplay of economic policies, global events, and political changes, leading to various phases of debt accumulation and reduction. During the late 1980s and 1990s, Nigeria experienced a steady rise in public debt. This period was marked by the implementation of Structural Adjustment Programs (SAPs) supported by the International Monetary Fund (IMF) and the World Bank, which encouraged borrowing to stabilize the economy. Frequent changes in government, including periods of military rule, contributed to inconsistent economic policies and increased borrowing. Additionally, economic challenges such as declining oil prices and mismanagement further exacerbated the debt situation as the government sought to finance deficits and development projects.

From 2000 to 2005, there was a sharp increase in Public Debt. With the return to democratic governance in 1999, Nigeria saw an initial surge in borrowing aimed at kick-starting economic and infrastructural development. The government continued to accumulate debt, relying on both external and internal sources to finance budget deficits and various projects. Despite rising oil prices temporarily boosting revenues, inconsistent fiscal policies led to further debt accumulation. However, from 2005 to 2007, the public debt trended down. This was because a significant turning point came in 2005 when Nigeria secured a major debt relief deal with the Paris Club, resulting in the cancellation of a substantial portion of its external debt. This

drastically reduced the overall public debt burden. There was a gradual increase from 2008 to 2014, which was attributed to the global financial crisis of 2008, which had a profound impact on Nigeria's economy, leading to decreased oil revenues and increased borrowing to maintain economic stability.

Similarly, there was a sharp trend between 2015 and 2023, indicating the implication of the significant collapse in oil prices around 2015, which severely affected government revenues, resulting in increased borrowing to cover budget shortfalls. The country entered a recession in 2016, further necessitating borrowing to stimulate the economy and fund critical projects. Also, the COVID-19 pandemic in 2020 led to a dramatic economic downturn, prompting emergency borrowing to fund healthcare responses, social safety nets, and economic stimulus packages. The pandemic also caused a severe reduction in both oil and non-oil revenues, necessitating additional borrowing to bridge the fiscal gap. Post-pandemic recovery efforts continued to drive borrowing to support economic stabilization and address ongoing fiscal challenges. Large-scale infrastructure projects aimed at driving long-term economic growth also required substantial financing. The overall trajectory of Nigeria's public debt from 1986 to 2023 highlights the challenges of managing debt in an economy heavily dependent on oil revenues. Periods of sharp increases in debt are often linked to economic crises, policy shifts, and global events, while occasional declines result from debt relief initiatives and improved economic management. The trend underscores the necessity for effective fiscal policies, diversified revenue sources, and robust debt management strategies to achieve long-term economic stability.

Table 2: Pearson Correlation Analysis

	GDP	PUEXP	TXRV	PUBD
GDP	1			
PUEXP	0.452	1		
TXRV	0.304	0.313	1	
PUBD	0.388	0.417	0.454	1

Source: Authors' Computation (2024)

Table 2 presents the correlation matrix. The Pearson correlation result indicated that all the predictors have a positive relationship with gross domestic product. This implies that an increase in the predictors (public expenditure, tax revenue, and public debt) would cause an increase in the gross domestic product.

Ordinary Least Squares Analysis

Table 3: Multiple Linear Regression Result

Var.	Coe.	St. E.	T-test	Prob
C	10258.91	3640.940	2.817654	0.0080
PUEXP	8.620339	1.390861	6.197843	0.0000
TXRV	2.985131	3.557276	0.839162	0.4072
PUBD	-0.616790	1.374708	-0.448670	0.6565

Source: Authors' Computation (2024)
R-sq. 0.91, Adj. R-Sq. 0.902, F-stat. 114.768, Prob (F-stat) 0.000

Table 3 presents the linear regression result, which revealed that the reported adj. R-squared showed that public debt, tax revenue, and expenditures could together explain 90% of the systematic variance in GDP, with other variables not included in this analysis accounting for the remaining 10%. With coefficient values of 8.62 and 2.99, respectively, the analysis's findings showed that tax income and public spending had a favorable impact on Nigeria's GDP. In contrast to the negligible positive impact of tax income, which has a probability value of 0.4072>0.05, the positive effect of public expenditure is considerable, with a p-value of 0.000<0.05. Additionally, evidence was shown that Nigeria's gross domestic product is negatively impacted by public debt by -0.617 (p=0.6565>0.05). Finally, the F-statistic of 114.768 with a probability value of 0.000 indicated that the model was fit.

Table 4: Diagnostic Tests

Null Hypotheses	Test Method	Chi-square stat	Probability
The error term is not normally distributed.	Shapiro-Wilk Normality test	1.805	0.0711
No issue of heteroscedasticity	Breusch-Pagan Godfrey Heteroscedasticity Test	1.37	0.268

Source: Authors' Computation (2024)

Table 4 shows the outcomes of the diagnostic tests. Statistically, the Chi-square statistics of 1.805 and 1.37, coupled with their corresponding p-values of 0.0711 and 0.268, indicate that the error term is normally distributed and that there is no heteroscedasticity in the estimated models' error term.

Discussion of Findings

The convergence of fiscal policy and economic growth in Nigeria over 38 years was the main subject of this study. The explanation below is based on the outcome of the ordinary least squares regression analysis. According to the analysis's findings, public spending in Nigeria significantly and positively affects GDP, with probability and coefficient values of 0.000<0.05 and 8.62, respectively. This suggested that a 1% increase in government spending would result in a large 8.62% boost in economic growth as measured by the GDP. This suggests that government spending can strongly affect Nigeria's economic growth on its own. Increased public spending boosts aggregate demand, which in turn propels economic growth, according to Keynesian economic theory. Government spending on public services such as infrastructure, healthcare, education, and other areas generates money jobs and stimulates investment and consumption, all of which raise GDP. This result is consistent with Karimi and Khosravi's (2010) finding that government spending has a major impact on economic growth.

Furthermore, it has been determined that tax income has a 2.99 (p=0.4072>0.05) positive but negligible impact on Nigeria's GDP. It follows that a mere 1% increase in tax revenue would result in a 3% rise in economic growth, although a negligible one. This could be explained by the fact that Nigeria's tax base is somewhat small and that the tax system may not be effectively collecting all of the money that could be collected from economic activity. A large component of the economy, the informal sector, is frequently either undertaxed or not taxed at all. This result supports the results of Amadi and Adebisi (2017), who concluded that tax collection has a negligible impact on Nigeria's economic growth. Egbunike, Emudainohwo, and Gunardi (2018), however, provided an opposing report.

Ultimately, it was discovered that Nigeria's gross domestic product is negatively impacted by public debt by -0.617 (p=0.6565>0.05). This indicates that there would be a negligible 0.6% drop in Nigeria's economic growth for every 1% increase in the country's debt. The way that borrowed money is used has a significant influence on how public debt affects GDP. The debt may have little or even no effect on economic growth if it is not used for worthwhile expenditures in infrastructure, healthcare, or education. Excessive amounts of public debt may result in high debt servicing expenses (principal and interest payments), which may take funds away from worthwhile ventures. The potential impact of this is to reduce economic growth. The conclusion drawn by Olarewaju and Ajayi (2018), who examined the impact of fiscal deficits on economic growth and found that persistent deficits may have unfavorable effects that impede long-term economic success, is supported empirically by this research.

5. Conclusion and Recommendations

The connection between fiscal policy and economic growth in Nigeria depends on how well fiscal tools are used and managed. Proper government spending, good tax collection, and careful debt control are important for a strong and growing economy. If Nigeria fixes inefficiencies and makes better use of these tools, the economy can become more stable and grow steadily. Hence, this study was established. From the analysis conducted, it was concluded that fiscal policy components (tax revenue, government expenditure, and public debt) have a statistically significant influence on the economic growth of Nigeria. Correspondingly, the following recommendations are raised:

- The government should prioritize capital expenditure over recurrent expenditure. Investments in infrastructure, technology, education, and healthcare can yield high returns in terms of economic growth and development.
- The government should ensure that public funds are used efficiently and transparently. Implementing robust monitoring and evaluation frameworks can help in tracking the impact of public expenditure and reducing wastage and corruption.
- There is a need for the government to implement measures to expand the tax base by incorporating the informal sector and ensuring that all economic activities are adequately taxed. This can include simplifying tax procedures and providing incentives for informal businesses to formalize.
- The tax administration should be strengthened through the adoption of modern technology and improved data management systems. This can help reduce tax evasion, enhance compliance, and increase overall tax collection efficiency.
- The government should implement a comprehensive debt management strategy that focuses on maintaining sustainable debt levels. This includes careful planning and monitoring of borrowing and ensuring that debt levels do not exceed the country's repayment capacity. The government should ensure that borrowed funds are directed towards productive investments that can stimulate economic growth. Priority should be given to projects with high economic returns, such as infrastructure, education, and healthcare.

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