The Interplay between Fiscal Policy, Inflation and Economic Growth in Nigeria: An ARDL Approach

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ABSTRACT

This study examined the impact of fiscal policy and inflation on economic growth in Nigeria using Auto Regressive Distributed Lag Model (ARDL). By analyzing data on key variables using time series from 1980-2023, the objective of the study is to find the impact of fiscal policy and inflation on economic growth in Nigeria. The finding revealed there is short run relationship between fiscal policy and inflation on economic growth in Nigeria. While that of fiscal policy is positive, the inflation is negative. Also, the long run relationship highlighted negative insignificant between fiscal policy and economic growth while inflation and economic growth showed positive insignificant relationship. The study concluded that fiscal policy and inflation play pivotal roles in shaping Nigeria's economic trajectory. Effective fiscal management fosters growth, but its success is often undermined by high inflation and external shocks. The study recommended allocating more resources to education, and infrastructure to support long-term productivity and growth. Furthermore, diversifying the economy can mitigate external shocks and stabilize fiscal revenues.

Key words: Fiscal policy, Inflation and Economic Growth.

INTRODUCTION

It's crucial to understand that fiscal policy, a fundamental component of a nation's economic strategy, is primarily focused on fostering economic stability and growth. This is typically achieved through adjustments to government spending and taxation. Fiscal policy, integral to a state's economic agenda, aims to stimulate economic growth primarily by altering the levels or composition of public expenditures and taxes (Bredino, Fiderikumo and Dikeogu, 2023).

Udo, Akpan, & Nsor (2023) argued that inflation introduces adverse effects on the economy by disrupting its efficiency. When inflation occurs, it can create uncertainty regarding the profitability of investment ventures, particularly when it coincides with heightened price fluctuations. Consequently, this uncertainty prompts businesses to adopt more cautious investment approaches, resulting in decreased levels of investment and economic expansion (Adole, Abraham, & Sunday, 2021). Additionally, inflation can diminish a nation's international competitiveness by elevating the relative cost of its exports, thereby affecting its balance of payments. Furthermore, inflation can combine with the tax structure to disrupt choices related to borrowing and lending. Companies might need to allocate additional resources to address the impacts of inflation, such as closely monitoring their competitors' pricing to discern whether price hikes result from broader economic inflation trends or industry-specific factors (Onifade, Savas, Simplice, & Festus, 2020).

In economic literature, proponents of the Classical perspective present studies demonstrating the detrimental impacts of inflation on economies. Specifically, rising inflation introduces substantial uncertainties for both producers and consumers, who are essential participants in economic activities (Igwe, Emmanuel, & Ukpere, 2015). Consequently, the Classical viewpoint contends that core economic functions are hindered by the challenges stemming from price volatility. Within this framework, maintaining price stability or fostering an environment with low inflation is viewed as essential for achieving sustainable economic growth (Alberto, 2020).

Within the Classical framework, the widely accepted argument revolves around the adverse correlation between inflation and economic growth. In this perspective, inflation detrimentally affects economic growth by fostering uncertainty within the economy. Maintaining stable prices holds significant sway over investment and consumption, facilitating consistent and sustainable growth. Conversely, inflation disrupts relative prices and introduces uncertainty into fundamental economic operations (Agu, Okwo, Ugwunta, 2015). Put differently, heightened inflation undermines the efficacy of price mechanisms in coordinating economic activities, consequently dampening the rate of economic growth. For instance, elevated inflation, which results in greater price fluctuations, can generate doubts regarding the profitability of future investment endeavors (Onifade, et. al., 2020). Additionally, uncertainty surrounding inflation significantly influences consumers' decision-making processes, as the value of future nominal payments and gains becomes unpredictable. Consequently, in inflationary settings, it becomes challenging to make informed decisions regarding prospective production and consumption activities. Therefore, the uncertainty induced by inflation negatively affects fundamental aspects of national income dynamics, such as consumption and investment (Adewale, 2018).

The Keynesian perspective directs attention to issues related to insufficient overall demand stemming from structural flaws within capitalist economies. Consequently, this viewpoint advocates for interventionist public policies aimed at boosting aggregate demand to foster sustained economic growth (Alexander, 2022). According to the Keynesian approach, the sole prerequisite for achieving sustainable growth is to enhance the total demand volume, without regard for potential implications on price stability. Moreover, while policies geared towards increasing aggregate demand may stimulate economic expansion, they can also contribute to inflation due to the inflationary pressures resulting from their implementation (Ebi and Ibe, 2019).

In contrast, the Keynesian perspective posits a favorable connection between inflation and economic growth. Within this viewpoint, economic growth hinges primarily on total demand within the context of a multiplier effect. Thus, the essential requirement for economic expansion is to enhance total demand. However, while demand-side policies spur economic growth, they can also result in an overabundance of demand for goods in the market (Friedman, Hercowitz, & Sidi, 2015). This phenomenon is perceived as a natural outcome of promoting economic growth rather than a macroeconomic concern. Economists supporting the Keynesian stance also propose that inflation can positively impact economic growth through various channels. For instance, in an inflationary setting, overall prices may rise, but producers might perceive (Obayori, 2019) that only their product prices have increased. Consequently, firms tend to increase production under the assumption that only their profits or prices have escalated. This leads to output growth as prices increase. Additionally, it is widely recognized that rising inflation diminishes the value of real money balances. To accumulate the desired wealth, economic agents may find it necessary to save more, thereby fostering faster output growth through increased capital accumulation. Moreover, inflation prompts economic agents to shift their investments from money into tangible assets. These arguments, supportive of the Keynesian perspective, suggest that achieving economic growth through high inflation is plausible (Adewale, 2018).

In the same vein, fiscal policy can be used as a tool to address socio-economic challenges and promote equitable development in Nigeria. Through targeted spending initiatives and social welfare programs, the government can address issues such as healthcare, education and social infrastructure, thereby improving the quality of life for its citizens and promoting economic growth (Alberto, 2020). Also, fiscal policy can be leveraged to achieve macroeconomic stability and mitigate the adverse effects economic downturn or external volatility, countercyclical fiscal policy measures, such as increased government spending or tax cuts, can help stimulate demand and support economic recovery (Doraisami, 2013). Conversely, during periods of inflationary pressures or overheating, fiscal restraint measures, such as reducing government expenditure or increasing taxes, can help curb inflationary pressures and ensure economic growth (Udo, et. al., 2023).

Despite the several fiscal policies by the Nigerian government authority, it was not able to achieve its predetermined aims and objectives over time. Both contractionary and expansionary fiscal policies put in place to curb the effect of inflation and enhancing economic growth prove abortive. Despite the consensus in body of literature regarding inflation-growth relationship, some economists are of the opinion that moderate inflation is healthy. However, the problem of fluctuating inflation rate has continued to hamper the sustainable growth in Nigeria, over the last decades, inflation rate has kept increasing and in 2016, Nigeria recorded an inflation rate of double digit (15.7%), despite this, growth rate in the economy continued to dwindle and Nigeria entered

recession in 2016. According to data released by the National Bureau of Statistics (NBS) on October 16th, 2023, the Consumer Price Index (CPI), which tracks changes in prices of goods and commodities, rose to 26.72% in September, up from 25.80% in the previous month. Year-on-year, food inflation increased to 30.64%, marking a 7.30% rise compared to September 2022 when it stood at 23.34%. Also, despite that the government had kept on increasing its expenditure which expected to translate and bring about growth of the economy whereas, opposite is the case owing to policy inconsistencies, high level of corruption, wasteful spending and political instability according to (Ebi and Ibe, 2019).

Fiscal policy in Nigeria may not be effectively contributing to economic growth due to several factors. One of the primary reasons is the efficiency and mismanagement of fiscal resources by the government (Babalola, 2015).. Despite significant public spending on infrastructure projects and social programs, there is often a lack of transparency, accountability, and proper oversight in the allocation and utilization of funds. This result in widespread corruption, wastage, and misallocation of resources, undermining the effectiveness of fiscal policy in stimulating economic growth.

Moreover, Nigeria's fiscal policy may be constrained by structural challenges and institutional weaknesses. Weak revenue generation capacity, overreliance on volatile oil revenues, and limited fiscal space restrict the government's ability to implement expansionary fiscal measures effectively. Fiscal deficits, high level of public debt, and unsustainable borrowing practices further constrain fiscal policy options and raise concerns about fiscal sustainability, hindering the government's ability to support economic growth through increased spending or tax cuts.

However, several researchers have contributed to providing a clear-cut solution to these challenges, but there has not been a consensus in the body of literature as to what impact inflation and fiscal policy has on the growth of the economy. Thus, the research wants to inquire into this. To the best of the researcher's knowledge, there is a lack of research covering the period from 1980 to 2023. Also, most of the works centered on fiscal policy on economic growth or inflation on economic growth. None of them combined the three phenomena together and the variables employed were not being used at a time together, in the light of this, the call for this research.

The organization of the research is structured as follows: chapter one introduces the subject being examined, and also includes problem statement, research questions, research objectives, and the scope of the study. Chapter two lays the theoretical, empirical and conceptual literature and chapter three clearly features the methodology and model specification which will be employed in this work. Chapter four sheds light on data analysis and interpretation of the result. The concluding chapter which is chapter five summarizes, draws conclusions, and recommends.

LITERATURE REVIEW

Concept of Economic Growth

Economic growth is a primary objective for every country, characterized by a favorable increase in national income or the output of goods and services within a specified timeframe. It is also defined as an increase in the per capita income or increase in the GDP. It is mainly derived through improvement in the production which includes producing more goods and services with the same input of labour, capital, energy and materials. Measurement of Economic Growth includes GDP, GNP and PCI etc. The factors or determinant of economic growth are land, labour, capital, human capital and technology (Agu, et. al., 2015).

Concept of Inflation

Johnson described inflation as a situation where the quantity of money grows more rapidly than the real national output. Alberto (2020) characterized it as a persistent rise in the overall price level, indicating a continual increase in the prices of goods and services in an economy over time. Inflation can also be defined as a decline in the purchasing power of money per unit. It is believed that inflation is caused by excessive money supply that is too much money in circulation which makes money to chase fewer goods in the economy. Alexander (2022),

inflation is the rise in the general level of prices. Peterson defined inflation as any increase in the general price level which is sustained and none seasoned in character.

Concept of Fiscal Policy

Fiscal policy serves as a macroeconomic tool employed by governments to regulate and stabilize the economy while pursuing various macroeconomic objectives such as price stability, full employment, poverty reduction, and sustainable economic growth. It involves government strategies for generating revenue through taxation and other means, as well as determining the allocation of expenditures.

Theoretical Review

Solow Growth Model

This is also known as the Solow-Swan growth model, is an economic model that describes how economic growth is determined by changes in labor, capital, and technological progress. Developed by economists Robert Solow and Trevor Swan in the 1950s, the model provides a framework for understanding long-term economic growth. The model uses a production function to represent the relationship between output (GDP), capital, and labor. The Solow-Swan model is applicable for examining the interplay among fiscal policy, inflation, and economic growth. The model provides insights into how changes in fiscal policy, such as government spending and taxation, can impact inflation and long-term economic growth. By understanding the relationships within the model, policymakers can evaluate the effects of fiscal policy decisions on inflation rates and the overall pace of economic growth. However, it is important to note that the model is a simplified representation of reality and should be considered alongside other economic theories and empirical evidence to develop a comprehensive understanding of these dynamics.

Keynesian Growth Model

In 1936, Keynesian theory was developed by British economist John Maynard Keynes, particularly in his book "The General Theory of Employment, Interest, and Money." This theory has had a profound influence on economic policy-making around the world, especially during times of economic downturn.

Keynesian theory advocates for active government intervention in the economy through fiscal measures like spending and taxation. Also, the government should increase spending and cut taxes during recessions to stimulate demand and employment. Conversely, it should reduce spending and increase taxes during booms to control inflation. Moreover, Fiscal policy can help manage overall demand in the economy to achieve full employment and stable prices.

Keynes assumed that markets can fail to adjust quickly enough on their own during economic downturns, leading to prolonged periods of unemployment and underutilization of resources. Also, wages and prices may not adjust quickly to changes in supply and demand, causing inefficiencies in the economy. In the same vein, Government spending can have a multiplied impact on the economy as it flows through various sectors, increasing demand and boosting economic activity.

Critics argue that Keynesian policies can lead to high levels of government debt and deficits, which can pose long-term risks to economic stability. Increased government spending may crowd out private investment if it leads to higher interest rates. There can be delays in implementing fiscal policy measures, which may cause them to be less effective or even counterproductive.

Nigeria's economy can benefit from targeted government spending on infrastructure and public services to stimulate demand and promote economic growth. Fiscal measures such as public works projects can help create jobs and reduce unemployment in Nigeria. While increased government spending can boost demand, careful management of fiscal policy is needed to prevent excessive inflation. Having discussed the theory related to the work, below shows the empirical review.

Bredino, Fiderikumo, and Dikeogu (2023) studied the impact of fiscal policy on inflation in Nigeria using time series data from 1981 to 2021 obtained from the Central Bank of Nigeria. The analysis used Ordinary Least Squares and Parsimonious Error Correction techniques. The results indicated that government expenditure and revenue positively affect inflation, although the effect of revenue was not significant. Additionally, there was a positive but insignificant relationship between inflation and GDP. Based on these findings, the researchers advised the Nigerian government to be cautious in using fiscal policy to avoid inflationary pressures and their negative effects on citizens' welfare.

Udo et al. (2023) investigated the relationship between government expenditure and economic growth in Nigeria from 1981 to 2018. They used data from the CBN Statistical Bulletin and World Bank Development Indicators, analyzing it with various tests including the Unit Root Test, Cointegration, Error Correction Model, and Autoregressive Distributed Lag (ARDL). Key variables examined included Real Gross Domestic Product (RGDP) and Total Government Expenditure (TGE). The study found that TGE and certain variables like inflation and labor force positively impact long-term economic growth, while money supply and domestic capital have a negative effect. The study recommends better management of public funds, dedicated leadership, the establishment of good governance, and a strong fight against corruption in Nigeria.

Bredino, Fiderikunmo, and Henry (2022) examined the relationship between public expenditure and economic growth in Nigeria using secondary data from the Central Bank of Nigeria's annual statistical bulletin. They analyzed data on real GDP, total capital expenditure, total recurrent expenditure, and public debt. The study utilized the Augmented Dickey-Fuller unit root test to assess data stationarity, followed by Johansen co-integration analysis and parsimonious error correction analysis. The results indicated a long-term relationship among the variables, with both total recurrent and capital expenditure having a negative and significant impact on real GDP. Public debt also negatively and significantly affected real GDP. The study recommends that the government strategically allocate its budget to sectors with strong economic growth potential and improve revenue collection and disbursement processes to enhance accountability and transparency in governance.

Yusri (2022) analyzed the impact of the Special Autonomy Fund (SAF) on poverty, health, and education in Indonesia from 2002 to 2018, using panel data from 30 provinces. The study found that SAF allocation reduced poverty rates and improved healthcare and education levels. The researchers recommended that the government focus on the efficient and judicious allocation of SAF to enhance the effectiveness of public expenditure.

In their study, Onifade et al. (2020) investigated how public expenditure affects economic growth in Nigeria, focusing on components such as capital and recurrent expenditure and fiscal expansions. They used time series data from 1981 to 2017 and applied the Perasan's Auto-regressive Distributed Lag (ARDL) method for analysis. The results showed a link between government spending and economic growth in Nigeria. Recurrent expenditure was found to have a significantly negative impact on economic growth, while capital expenditure had a positive, though statistically insignificant, effect. The Granger Causality test revealed that fiscal expansion through debt financing leads to increased public expenditure and domestic investment, with domestic investment in turn driving economic growth.

Njoku, Chris-Ejiogu, Ozurumba, and Akujuobi (2020) studied the impact of fiscal policy on reducing unemployment in Sub-Saharan Africa, focusing on Ghana and Nigeria, using secondary data from 1986 to 2017. The Johansen Cointegration test revealed a long-term relationship between fiscal policy and unemployment reduction in both countries. The researchers recommended that the governments of Nigeria and Ghana should direct spending towards the productive sector to help reduce unemployment rates. They also emphasized the need for stringent fiscal responsibility and discipline to minimize economic leakages.

Ebi and Ibe (2019) examined the relationship between government expenditure and unemployment in Nigeria from 1981 to 2017. They used secondary data from the Central Bank of Nigeria Statistical Bulletin and other reports. In their analysis, unemployment rate was the dependent variable, while government expenditure was divided into recurrent and capital expenditure as independent variables. Various tests, including the Unit Root test and Johansen Multivariate Cointegration technique, were employed. The study revealed that rather than reducing unemployment, government expenditure often exacerbates the unemployment rate because much of

the spending is unproductive and driven more by political interests than economic benefits. The researchers recommended reallocating capital expenditure to productive sectors rather than to non-essential areas.

Onuoha and Agbede (2019) explored the effect of disaggregated public expenditure on unemployment rates in selected African countries from 2000 to 2017. They analyzed panel data on real employment rates, health expenditure, and education from the World Development Indicators (WDI), focusing on unemployment rates, defense, and health expenditure. Using the Generalized Method of Moments (GMM) model, the study found that high unemployment rates in these African countries have led to the rise of militant groups, which pose security risks. The researchers recommended stricter measures against government fund mismanagement, increased focus on infrastructure development, and greater investment in the education and health sectors.

Adewale (2018) studied the effectiveness of monetary and fiscal policy instruments in stabilizing the economy in Nigeria using the Error Correction Mechanism (ECM). The results indicated a long-term equilibrium connection between monetary and fiscal policy and economic growth (GDP) in Nigeria. The ECM showed a negative coefficient, less than one, confirming a positive long-term relationship between money supply, government spending, and government revenue with economic growth. Conversely, interest rates and budget deficits were significantly negatively related to economic growth during the study period. The research recommended focusing on the productive use of money supply and government expenditure as key tools for monetary and fiscal policy to boost economic growth in Nigeria.

Onodugo, Obi, Anowor, Nwonye, and Ofoegbu (2016) evaluated the effect of public spending on unemployment in Nigeria. Using a regression model with annual data from 1990 to 2013, the study analyzed the impact of public sector expenditures and private sector investment—specifically capital expenditure (CEXP), recurrent expenditure (REXP), and private sector investment (PINV)—on unemployment (UNEMP). The results indicated that both capital expenditure and private sector investment effectively reduced unemployment in the long run, while recurrent expenditure did not have a significant impact. The researchers recommended increasing the proportion of capital expenditure in Nigeria's budget and reducing recurrent expenditure. They also suggested fostering competition among investors by removing structural and institutional barriers and designing clear policy incentives to encourage private sector investment.

Egbulonu and Amadi (2016) examined the relationship between fiscal policy and the unemployment rate in Nigeria from 1970 to 2013. They used data from the National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN) Statistical Bulletin, focusing on government expenditure, government debt stock (as a proxy for government borrowing), government tax revenue, and the unemployment rate. The data were tested for stationarity using the Augmented Dickey-Fuller (ADF) Unit Root test, which showed that all variables were stationary at their first difference. The study found a negative relationship between fiscal policy tools (government expenditure and government debt stock) and the unemployment rate, while government tax revenue had a positive relationship with unemployment, indicating that higher tax rates reduce employment. The researchers recommended that government borrowing should be invested in capital and physical goods to stimulate national income and create more jobs.

Obayori (2016) analyzed the impact of fiscal policy, specifically government capital and recurrent expenditure, on the unemployment rate in Nigeria. They used cointegration and Error Correction Mechanism tests with variables including unemployment rate (UEP), government capital expenditure (GCX), and government recurrent expenditure (GRX). The study found that government expenditure effectively reduces the unemployment rate. Consequently, the researchers recommended supporting expansionary fiscal policy to further address unemployment.

Danladi, Akomolafe, Olarinde, and Anyadiegwu (2015) examined the impact of government expenditure on Nigeria's economic growth, using the Keynesian aggregate expenditure framework to analyze the role of government spending. The Johansen cointegration test was used to identify long-term relationships between the variables, and the Granger causality test determined the direction of causation between government expenditure and economic growth. The Autoregressive Distributed Lag (ARDL) model was employed to explore these relationships. The findings showed that government spending significantly and positively affected economic growth. Among the components, both total government expenditure (TEXP) and its subcomponents—capital expenditure (CEXP) and recurrent expenditure (REXP) were positively linked to economic growth, with

recurrent expenditure having a more significant impact. The study recommended that the government should focus more on capital expenditure, which is more productive and can drive faster economic growth.

In line with the literature reviewed, the effect of fiscal policy and inflation on economic growth has been discussed by some researchers, fiscal policy and inflation have affected on most factors established in the writing to be factors of economic growth. To the best of the researcher's knowledge, there is a lack of research covering the period from 1980 to 2022. Also, most of the works centered on fiscal policy on economic growth or inflation on economic growth. None of them combined the three together and the variables employed were not being used at a time together. Hence, this study attained a new feat by combining the three variables together.

METHODOLOGY

The theoretical framework for this study is Solow-Swan Growth Model. The Solow-Swan model is applicable for examining the interplay among fiscal policy, inflation, and economic growth. The model provides insights into how changes in fiscal policy, such as government spending and taxation, can impact inflation and long-term economic growth. The model for this study was built in line with the work of Tasnia (2018) and the equation is as follows:

RGDP = (GOVEXP, INV, POP, TRADE, POL/STAB) …………………………… 1

The model was further augmented in order to achieve the objectives of the study and to fit to the context of the research.

$$GDP_t = F(CPI_{t,}CAP_t, LAB_t, GOVEXP_t, GOVREV_t)……………… \qquad 2$$

Econometric equation for model

$$GDP_t = \Phi + \beta_1 CPI_t + \beta_2 CAP_t + \beta_3 LAB_t + \beta_4 GOVEXP_t + \beta_5 GOVREV_t + \varepsilon_t ……………………………………………..………… 3$$

Where Φ is intercept, β_1 to β_5 are the coefficients of the independent variables and ε is stochastic error term

GDP = Gross domestic product (% of GDP), CPI= Inflation/Consumer Price Index (annual %)

CAP = Capital (% of GDP), LAB = Labor force participation rate, total (% of total population ages 15+) (national estimate), GOVEXP = Government expenditure (total government expenditure)

GOVREV = Government revenue (total government revenue)

Autoregressive Distributed Lag (ARDL) Bounds Test

The study utilized the ARDL Bounds test, a method developed by Pesaran et al. (2001). The advantages of the ARDL Bounds test are as follows: Firstly, it can analyze variables that are integrated of order one (I(1)) or order zero (I(0)). Secondly, it is appropriate for analyzing small sample sizes. Thirdly, it assumes all macroeconomic variables to be endogenous. Fourthly, it estimates both long-run and short-run parameters concurrently.

ARDL Model Specification

$$
\begin{aligned}
GDP_t = \ &\beta_0 + \sum_{i=1}^{k} \beta_1 \Delta CPI_{t-i} + \sum_{i=1}^{k} \beta_2 \Delta CAP_{t-i} + \sum_{i=1}^{k} \beta_3 \Delta LAB_{t-i} + \sum_{i=1}^{k} \beta_4 \Delta GOVEXP_{t-i} \\
&+ \sum_{i=1}^{k} \beta_5 \Delta GOVREV_{t-i} + \beta_6 CPI_{t-i} + \beta_7 CAP_{t-i} + \beta_8 LAB_{t-i} \\
&+ \beta_9 GOVEXP_{t-i} + \beta_{10} GOVREV_{t-i} + \gamma ecm_{t-i} \\
&+ e_t …………………………………………………………… 4
\end{aligned}
$$

Where Δ represents the difference operator, β_1 to β_5 denote the short-run components, while β_6 to β_{10} represent the long-run components. ecm refers to the error correction model, and ε is the error term. Cointegration of variables is indicated when the computed F-statistic exceeds the upper bound critical values, while non-

cointegration occurs when the computed F-statistic is lower than both the upper and lower bound critical values. In cases where the computed F-statistic falls between the lower and upper bound critical values, the test results are inconclusive.

Sources and Methods of Data Collection

This study aims to examine the impact of fiscal policy and inflation on economic growth in Nigeria. Consequently, it relies on secondary data which is time series covering the period from 1980 to 2023. ARDL would be used for the analysis. The data were obtained from the National Bureau of Statistics (NBS), and World Bank Development Index (WDI).

RESULTS AND DISCUSSION

Descriptive Analysis

Table 4.1: Summary of Descriptive Statistics

	GDP	CPI	INCAPITAL	INGOV EXP	INGOV REV	INLABF
Mean	23.53749	80.80861	2.481734	6.336178	6.639965	16.37838
Median	21.12571	35.18668	2.544187	6.925592	7.552846	17.30802
Maximum	43.26613	421.0711	3.526973	10.10362	9.440382	17.80620
Minimum	13.23075	0.405047	1.698733	2.265558	2.352203	5.066087
Std. Dev.	6.288407	105.0530	0.390860	2.481279	2.542163	3.272139
Skewness	1.039146	1.604734	0.303442	-0.304728	-0.532288	-3.085107
Kurtosis	3.889255	4.891032	3.205308	1.784913	1.753351	10.72141
Jarque-Bera	9.155540	24.86239	0.718304	3.310771	4.815024	158.7491
Probability	0.010278	0.000004	0.698268	0.191018	0.090039	0.000000
Sum	1012.112	3474.770	104.2328	272.4557	285.5185	638.7568
Sum Sq. Dev.	1660.850	463517.4	6.263623	258.5832	271.4289	406.8620
Observations	44	44	42	43	44	39

Source: Author's computation using E-views, 2024

From table 4.1 above, the descriptive statistics revealed that from 1980 to 2023, the economic growth (GDP), consumer price index (CPI), capital (INCAP), government expenditure(INGOVEXP), government revenue (INGOVREV) and labour (INLABF) all showed positive mean value of 23.5, 80.8, 2.5, 6.34, 6.64, and 16.4. The maximum values of the variables are approximately 43.3, 421.1, 3.53, 10.10, 9.44 and 17.8 respectively; with their minimum values ranging from 13.23, 0.41, 1.7, 2.27, 2.35 and 5.07 respectively. The standard deviation showed that 105.1 was recorded by CPI, while the least standard deviation of 0.30 was recorded by INCAPITAL. The skewness statistic from the table revealed that GDP, CPI and INCAP are positively skewed, while INGOVEXP, INGOVREV, and INLABF are negatively skewed. The kurtosis co-efficient showed that GOVEXP and GOVREV are platykurtic as their values are less than 3.0000 which indicates that the tails of the variables are very thin compared to the normal distribution, while GDP, INCAPITAL, CPI, and INLABF are leptokurtic as their values are greater than 3.0000 which indicates that the tails are fatter than the normal

distribution. Finally, the probability of the Jarque-Berra statistic revealed that GDP, CPI, and LABF were below the p-value of 0.05, while CAP, GOVEXP and GOVREV were above the 5% significance level.

Unit Root Test of Stationarity

To measure the time series properties of variables used in this research, the unit root test was employed using ADF and PP test statistics.

Table 4.2 Augmented dickey fuller Philips Perron

Variables	Level	First Diff	Order of Integration	Level	First diff	Order of Integration
GDP	**-3.348037 (0.0190)****	_____	I(0)	-2.472958 (0.1291)	**-9.537346 (0.0000)****	I(1)
CPI	-1.476619 (0.8207)	**-4.235123 (0.0093)****	I(1)	-0.954240 (0.9396)	**-2.958384 (0.0027)****	I(1)
INCAPITAL	-1.059164 (0.2568)	**-4.120607 (0.0001)****	I(1)	-1.059164 (0.2568)	**-5.573093 (0.0000)****	I(1)
INLABF	-1.788685 (0.3795)	**-6.602046 (0.0000)****	I(1)	-2.549117 (0.1124)	**-11.78047 (0.0000)****	I(1)
INGOVEXP	-0.571948 (0.8658)	**-7.847435 (0.0000)****	I(1)	-0.156094 (0.9361)	**-7.710746 (0.0000)****	I(1)
INGOVREV	-1.321320 (0.6109)	**-6.355558 (0.0000)****	I(1)	-1.358391 (0.5933)	**-6.355558 (0.0000)****	I(1)

Test critical values: 1% level (0.01)* 5% level (0.05)** 10% level (0.10)***

Source: Author's computation using E-views, 2024. P-values in brackets

From the table above, it can be deduced that INLABF INCAPITAL, INGOV_EXP, INGOVREV and CPI are non-stationary at level for all ADF and PP tests using the case of constant intercept as their respective p-values are greater than 0.05. However, after the difference of these variables were taken, they were found to be stationary at the first difference I(1) for all tests with p-values less than 0.05. GDP is found to be stationary at level I(0) for ADF test but stationary at I(1) for PP tests. Notably, none was found to be stationary at level I(0) for all two ADF and PP tests at its p-value of less than 0.05.

Lag Selection Test

Table 4.3: Lag Order Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-453.5405	NA	10221.90	26.25946	26.52609	26.35150
1	-234.0419	351.1978	0.295038	15.77382	17.64024*	16.41811
2	-176.0985	72.84318*	0.101923	14.51991	17.98612	15.71644
3	-120.4874	50.84435	0.058199*	13.39928*	18.46527	15.14806*

Source: Author's computation using E-views, 2024.

From table 4.3, after the lag selection measures, it can be grasped that all the information criteria selected lag 3 as the maximum lag length.

Co-integration Test

Table 4.4: F-Bounds co-integration test

Test Statistic	Value	K
F-statistic	8.648334	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Author's computation using E-views, 2024.

The result of the analysis in table above indicates that the F-statistic (8.648334) is greater than the upper bound critical value of 3.79 and 3.35 at 5% and 10% significance levels respectively. It is also seen that the F-statistic is greater than lower critical bound at 10%, 5%, 2.5% and 1%. Thus, it can be concluded that at a 5% significance level, there is indication of a long-run connection among the variables used in the model.

Table 4.5: ARDL Estimates

Selected Model: ARDL(3, 3, 3, 3, 3)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	0.378395	0.209269	1.808174	0.0980
GDP(-2)	0.313039	0.248473	1.259848	0.2338
GDP(-3)	0.288347	0.220860	1.305569	0.2183
CPI	-1.642023	0.676513	-2.427185	0.0336
CPI(-1)	-0.446436	0.990062	-0.450918	0.6608
CPI(-2)	1.069156	0.965859	1.106947	0.2919
CPI(-3)	1.395908	0.619529	2.253177	0.0456
INCAPITAL	-9.134509	4.667749	-1.956941	0.0762
INCAPITAL(-1)	1.097342	4.087231	0.268481	0.7933
INCAPITAL(-2)	5.638757	4.708638	1.197535	0.2563

INCAPITAL(-3)	6.183130	4.100643	1.507844	0.1598
INGOV_REV	-7.895886	2.564059	-3.079448	0.0105
INGOV_REV(-1)	13.07250	2.739115	4.772527	0.0006
INGOV_REV(-2)	2.395688	3.645024	0.657249	0.5245
INGOV_REV(-3)	5.355804	2.954475	1.812777	0.0972
INGOV_EXP	7.367552	3.870419	1.903554	0.0834
INGOV_EXP(-1)	-0.254449	3.911489	-0.065052	0.9493
INGOV_EXP(-2)	-3.129574	4.734179	-0.661060	0.5222
INGOV_EXP(-3)	-13.77504	5.060801	-2.721908	0.0199
INLABF	0.480510	0.395802	1.214016	0.2502
INLABF(-1)	0.702044	0.440034	1.595431	0.1389
INLABF(-2)	-2.001847	0.733014	-2.730982	0.0195
INLABF(-3)	-2.451607	0.796517	-3.077907	0.0105
C	29.58528	14.82305	1.995897	0.0713
R-squared	0.927430	Mean dependent var		23.25783
Adjusted R-squared	0.775693	S.D. dependent var		6.350493
S.E. of regression	3.007663	Akaike info criterion		5.254180
Sum squared resid	99.50642	Schwarz criterion		6.320704
Log likelihood	-67.94815	Hannan-Quinn criter.		5.622344
F-statistic	6.112076	Durbin-Watson stat		2.351002
Prob(F-statistic)	0.001712			
*Note: p-values and any subsequent tests do not account for model selection.				

Source: Author's computation using E-views, 2024.

Results from table above showed that F-statistic is 6.112076 while the Prob is 0.001712 which indicates that the combined influence of the exogenous variables on the dependent variable is statistically significant. The results also showed that multiple coefficients of determination, R-squared is 0.927430. The result indicated that 93% of the variations in the dependent variable (GDP) are explained by the exogenous variables (CPI, INCAP, INGOVEXP, INGOVREV and INLABF) while the remaining 7% is attributed to other factors not included in the model. Furthermore, the results revealed Durbin Watson (DW) statistic of 2.351002, which implies that serial correlation is not found in the model.

Table 4.6. Short-run impact of fiscal policy and inflation on economic growth in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-0.601386	0.277931	-2.163799	0.0534
D(GDP(-2))	-0.288347	0.220860	-1.305569	0.2183
D(CPI)	-1.642023	0.676513	-2.427185	0.0336
D(CPI(-1))	-1.069156	0.965859	-1.106947	0.2919
D(CPI(-2))	-1.395908	0.619529	-2.253177	0.0456
D(INCAPITAL)	-9.134509	4.667749	-1.956941	0.0762
D(INCAPITAL(-1))	-5.638757	4.708638	-1.197535	0.2563
D(INCAPITAL(-2))	-6.183130	4.100643	-1.507844	0.1598
D(INGOV_REV)	-7.895886	2.564059	-3.079448	0.0105
D(INGOV_REV(-1))	-2.395688	3.645024	-0.657249	0.5245
D(INGOV_REV(-2))	-5.355804	2.954475	-1.812777	0.0972
D(INGOV_EXP)	7.367552	3.870419	1.903554	0.0834
D(INGOV_EXP(-1))	3.129574	4.734179	0.661060	0.5222
D(INGOV_EXP(-2))	13.775036	5.060801	2.721908	0.0199
D(INLABF)	0.480510	0.395802	1.214016	0.2502
D(INLABF(-1))	2.001847	0.733014	2.730982	0.0195
D(INLABF(-2))	2.451607	0.796517	3.077907	0.0105
CointEq(-1)	-0.020219	0.286699	-0.070523	0.9450
Cointeq = GDP - (18.6265*CPI + 187.1884*INCAPITAL + 639.4106				
*INGOVREV -484.2779 *INGOVEXP -161.7753 *INLABF + 1463.2573				

Source: Author's computation using E-views, 2024.

From the table above, it can be seen that inflation (CPI) exert negative and significant impact on economic growth in Nigeria along the short run horizon. This implies that with coefficients of approximately -1.64 unit and p-value of 0.03 correspondingly, a unit increase in consumer price index would bring about a -1.64 unit decline in economic growth respectively in the short run. This result is in line with the study of (Adewale, 2018 and obayori, 2019) who also found a negative relationship between inflation and economic growth (GDPGR).

Additionally, capital (CAP) and government revenue (GOVREV), also exhibit negative and significant impact on economic growth in the short run. This implies that with coefficients of -9.13 and -7.89 and p-values of 0.076 and 0.01 respectively, the result implies that a unit increase in capital and government revenue would bring about a 91% decline in economic growth in Nigeria along the short run horizon. While labour (LABF) with coefficient

approximately 0.48 and p-value of 0.2502, the result implies that a unit increase in labour would bring about a 48% increase in economic growth in Nigeria in the short run. This result aligned with the study of (Udoh et al., 2023) who found capital to have a positive relationship with economic growth.

Conversely, government expenditure exert positive and significant effect on economic growth (GDP) in Nigeria over the short horizon. With regards to coefficients of approximately 7.37 coupled with a p-value of 0.08, the result implies that a unit increase in government expenditure would bring about a unit increase in economic growth (GDP) over the short period of time. This result is in line with Udoh et al (2023) who found a positive relationship between government expenditure and economic growth. Conclusively, the result in table above also reveals that the coefficient of error correction mechanism is negatively approximate to -0.02. This shows that about 2% of the short-run disequilibrium will be adjusted in the current year.

Table 4.7 Long-run impact of fiscal policy and inflation on economic growth in Nigeria.

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPI	18.626454	264.073552	0.070535	0.9450
INCAPITAL	187.188384	2697.823077	0.069385	0.9459
INGOVREV	639.410609	9140.465698	0.069954	0.9455
INGOVEXP	-484.277862	6859.501563	-0.070600	0.9450
INLABF	-161.775331	2356.276225	-0.068657	0.9465
C	1463.257289	21008.226341	0.069652	0.9457

Source: Author's computation using E-views, 2024.

In the long run outcome of the analysis on the impact of fiscal policy and inflation rate on economic growth in Nigeria. Evidence from the result showed that all variables are not significant in the model. CPI, INCAPITAL, INGOVREV, INGOVEXP and INLABF all failed to significantly impact on the growth of the economy in Nigeria. While INLABF and INGOVEXP negatively impacted on the growth of the economy, reverse is the case with CPI, INGOVREV and INCAPITAL. It is evidenced from the result that 1% increase in NLABF and INGOVEXP would decrease GDP growth by 484.3 and 161.8 respectively. Where a 1% increase in CPI, INGOVREV and INCAPITAL will further increase GDP growth by 18.6, 187.2 and 639.4 respectively. The outcome of the study's findings has serious implications on the case of Nigerian economy in the long run.

DISCUSSION

It can be deduced from the above that, there is long-run relationship among the variables under considerations, which is in support of findings from the study of Udo, et. al., (2022) showing co-integrating relationship between inflation, government expenditure and economic growth in Nigeria. Considering the existence of short run and long-run relation, the study assessed the short run and long run impact of fiscal policy, inflation and economic growth in Nigeria using the VAR model.

In line with the short-run estimations, that inflation (CPI) exert negative and significant impact on economic growth in Nigeria along the short run horizon. This implies that increase consumer price index in the economy will decline or reduce the growth of the economy in Nigeria. This result is in contradiction to the findings of the study of Ebi and Ibe, (2019) who found that in Nigeria, inflation has a positive and significant relationship with economic growth. Furthermore, government expenditure exert positive and significant effect on economic

growth (GDP) in Nigeria over the short horizon. This implies that a unit increase in government expenditure would bring about a unit increase in economic growth (GDP) over the short period of time. This result is in line with Udoh et al (2022) who found a positive relationship between government expenditure and economic growth.

Conversely in the long run, Evidence from the result showed that all variables are not significant in the model. CPI, INCAPITAL, INGOVREV, INGOVEXP and INLABF all failed to significantly impact on the growth of the economy in Nigeria. While INLABF and INGOVEXP negatively impacted on the growth of the economy, reverse is the case with CPI, INGOVREV and INCAPITAL. It is evidenced from the result that 1% increase in NLABF and INGOVEXP would decrease GDP growth.

CONCLUSION

This research study focused on the assessment of the connection between fiscal policy, inflation and economic growth in Nigeria for the period of 44 years (1980-2023). This study proposed the Keynesian growth framework in the understanding of the relationship that exists among the variables under consideration and how they can come together to foster and improve macro-economic activities. Consequently, this study explored the descriptive analysis, unit root test, co-integration test, lag selection test, and ARDL estimating technique by employing Gross domestic product (GDP) as dependent variable, while government expenditure (GOVEXP), government revenue (GOVREV), consumer price index (CPI), labour (LAB) and capital (CAP) were employed as exogenous variables.

The study revealed that inflation (CPI) exert negative and significant impact on economic growth while Fiscal policy (GOVEXP) showed positive and significant effect on economic growth (GDP) in Nigeria in the short run. In the long run, the result showed that all variables are not significant in the model. Fiscal policy and inflation failed to significantly impact on the growth of the economy in Nigeria. While fiscal policy negatively impacted on the growth of the economy, reverse is the case with inflation.

The research concluded that, there is short run relationship between fiscal policy and inflation on economic growth in Nigeria. While that of fiscal is positive, the inflation is negative. Also, the long run relationship highlighted negative insignificant between fiscal policy ad economic growth while inflation and economic growth showed positive insignificant relationship.

Based on the conclusion of the study, fiscal policy and inflation play pivotal roles in shaping Nigeria's economic trajectory. Effective fiscal management fosters growth, but its success is often undermined by high inflation and external shocks. Structural inefficiencies, and inflationary pressures are key barriers to achieving stable economic growth.

The study recommended that:

- Allocating more resources to education, and infrastructure to support long-term productivity and growth.

- Also, fiscal policies need to prioritize productivity-enhancing investments over consumption focused expenditures to minimize inflationary pressures.

- Stronger regulatory frameworks and institutional reforms are necessary to align fiscal and monetary objectives.

- Furthermore, diversifying the economy can mitigate external shocks and stabilize fiscal revenues.

Other studies can look into investigating the optimal inflation threshold for sustained growth in Nigeria. Also, assessing the role of technology and innovation in reducing inflationary pressures while promoting fiscal efficiency. Another area of interest is in studying the impact of regional fiscal policies on inflation and growth disparities across Nigerian states.

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