



## **EFFECT OF MONETARY AND FISCAL POLICIES ON ECONOMIC GROWTH IN NIGERIA**

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**Abstract:** This study examines the effects of monetary and fiscal policies on economic growth in Nigeria, using the monetarist vs. Keynesian debate as the theoretical framework. The present study employed the autoregressive distributed lag (ARDL) approach on annual time series data from 1991 to 2022. Indeed, the ARDL approach is used in conjunction with a Toda and Yamamoto (1995) causality test to determine the direction of causality between the variables. The empirical findings indicate that both in the short run and long run, monetary policy has a negative and significant impact on economic growth, while fiscal policy has a positive and significant impact on economic growth. More so, the inflation rate has a positive and significant impact on economic growth. Besides, unemployment has a negative and significant impact on economic growth during the period of study. In addition, the results of the Toda and Yamamoto causality tests indicate there is a unidirectional causality that runs from fiscal policy to economic growth, unemployment rate to fiscal policy, and monetary policy to the inflation rate. Also, there is bidirectional causality from unemployment rate to fiscal policy. Thus, based on the positive impact of fiscal policy on economic growth, it is, therefore, recommended that the Nigerian government lessen excessive expenditure on unproductive activities that are susceptible to corruption and focus on productive expenditures across the sectors of the economy. This would further initiate growth or sustain the ensuing growth process.

**Keywords:** Economic growth, Monetary policy, Fiscal policy, Inflation rate and Unemployment rate.

## 1. INTRODUCTION

In the global context, economic growth is conceived as the rise in the quantity of goods and services produce in a nation at a specific point in time. Economic growth is expected to result in better standards of living as well as manifesting in better employment opportunities in the country. Therefore, monetary and fiscal policies are the two most widely recognized macroeconomic tools used to stimulate sustainable growth paths (Richard & Felix, 2022). In this connection, the effectiveness of monetary and fiscal policies on output growth has been the subject of controversy among two conflicting schools of thought; the Keynesian school and the monetarist school of thought. In this sense, the monetarist regards monetary policy through the use of stable growth in the money supply as suitable policy for economic stabilization and growth. On the other hand, the Keynesian view holds that the use of fiscal policy instruments like taxes and government expenditures to stimulate aggregate demand, income, and output growth is crucial for economic stabilization and growth (Jhingan, 2016). In a broader sense, the widely used fiscal policy stances are the expansionary fiscal policy, which entails an increase in government expenditure on goods and services as well as reducing the tax rate to boost aggregate demand, productivity, and real output growth during an economic downturn or recession. Conversely, contractionary fiscal policy also involves an increase in tax rates and reducing government expenditure on goods and services with the hope of reducing aggregate demand, controlling inflation pressure, and stimulating real output growth, particularly when there is an economic boom.

In the Nigerian setting, monetary and fiscal policies are the two major strategies used to promote the development of the economy. In such case, monetary policy is a measure pursued by the central bank through the adjustment of the money supply, interest rate, and credit to influence aggregate demand so as to ensure a stable and growth-friendly environment in an economy. Fiscal policy, on the other hand, is the use of government expenditure, taxes, and debt to influence economic activities with the aim of achieving macro-economic objectives of output growth, among others. More specifically, both monetary and fiscal policies aim to achieve macroeconomic stability. The monetary authorities, particularly the central bank, are in charge of implementing monetary policy, whereas the fiscal authorities, particularly the ministry of finance, are directly in charge of fiscal policy (Central Bank of Nigeria, 2011).

In another perspective, Nigerian economic growth has been influenced by various macroeconomic policies that have been implemented by both the monetary and fiscal authorities over time. The available statistics show that the Nigerian economy has experienced a fluctuating GDP growth rate. For instance, the average growth rate in 1991 was 0.36%. It rose to 5.02% in 2000. It further rose again to 8.01% in 2010, but fell to -1.79 % in 2020 as a result of the consequences of the

COVID-19-induced recession. Following the recession, it increased to 3.65% in 2021 and dropped to 3.25% in 2022 (World Bank, 2023).

In this economic situation, the point of contention still lies in which policy is best suited to boost Nigeria's economy. In light of the aforementioned, should fiscal or monetary policy act as a catalyst for growth and development progress, or should they act as an external factor that supports the process of growth? With a focus on Nigeria, this study aims to investigate the impact of fiscal and monetary policies on economic growth between 1991 and 2022, using the debate between monetarist and Keynesian economists as the theoretical basis to arrive at the best policies that stimulate economic growth in Nigeria. After this introduction, Section 2 discusses the theoretical and empirical literature. Section 3 explains the research methodology. The results and discussion are presented in Section 4. In Section 5, the paper presents the conclusion and recommendations.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Keynesian and Monetarist Theories**

The Keynesian school of thought led by Keynes (1936) believed in the use of fiscal policy as an effective instrument to stabilize the economy during the course of an economic recession. The fiscal policy authority can adopt government expenditure, taxation policy, and public debt to foster growth and stability in the country. The Keynesian ideology is considered to be a demand-side economic theory that deals with changes in the economy over the short run. The theory focuses on government expenditure in the national economy to boost aggregate demand and its consequences on production, employment, output, and inflation in the economy, especially during periods of recession. On the contrary, the monetarist school of thought, spearheaded by Friedman (1968), acknowledged that economic growth results from the implementation of a successful monetary policy rather than fiscal policy in an economy. The monetary policy is designed to stimulate desirable output growth through a steady money supply. In a broader sense, the monetarists believed that the effects of fiscal policy on stimulating output growth were weak. Therefore, only the money supply works faster because it can be held in different forms, like liquid cash, stocks, bonds, and other related tangible assets, among others, because it may be needed for purposes other than planned transactions in order to stimulate aggregate demand, price, and output growth in an economy, and more importantly, during an economic recession.

### **2.2. Empirical Literature Review**

A cross-country study conducted by Besnik (2013) assessed the effectiveness of monetary and fiscal policies on economic growth in developing and emerging

countries from 2008 and 2010. The study further examined 83 financial crisis episodes in 66 developing and emerging countries. The study applied ordinary least squares techniques. The results show that fiscal policy expansion has a positive impact on output, whereas monetary policy expansion has no impact on output growth.

Similarly, Imoughele, Dominic, and Richardson (2018) determined the influence of fiscal and monetary policies on economic growth in Nigeria. The study employed time series data from 1986–2015 and also adopted the ordinary least squares estimation technique. The result indicates that fiscal policy is more effective in stimulating the growth performance of Nigeria as compared to monetary policy.

In contrast, Abubakar and Felix (2019) examined the impact of monetary policy on economic growth in Nigeria, using annual time series data from 1960–2016. The study adapted the autoregressive distributed lag (ARDL) approach to test for co-integration and error correction mechanism. The result generated shows that monetary policy has a negative and significant impact on economic growth.

Also, Aliyu and Mahmood (2019) established the relationship between monetary and fiscal policy and economic growth in Nigeria for a period of 10 years, from 2006 to 2015. The study used the Pearson correlation technique to establish the relationship between the dependent and independent variables. The results show that monetary policy contributed 87% and fiscal policy contributed 13% to the GDP growth rate in Nigeria during the period of study.

Another study by Chandana, Adamu, and Musa (2021) investigated the impact of fiscal policy on economic growth in Nigeria. The study used time series data for the period 1970–2019. It also employed the autoregressive distributed lag (ARDL) model. To ensure robustness of results, the study accounts for structural breaks in the unit root test and the co-integration analysis. The results show that fiscal policy has a positive and significant impact on economic growth.

Broadly, Isiaq and Aduralere (2023) investigated the effects of monetary and fiscal policies on economic growth in Nigeria, using time series data from 1981–2020. The study employed the Johansen co-integration approach. The results indicate that fiscal policy has a positive and significant effect on economic growth, while monetary policy has a negative and significant effect on economic growth.

Recently, Rahman (2023) determined whether government expenditure leads to economic development in some Asian countries, including Bangladesh, India, Pakistan, Sri Lanka, and Bhutan, from 2011 to 2020. The study used the ordinary least squares estimation technique for data analysis. The empirical result shows that fiscal policy has a positive and significant impact on economic growth.

The empirical evidence on the effect of both monetary and fiscal policies on output growth across the globe presents two opposing views, some suggesting a negative or positive effect of monetary and fiscal policies on economic growth. For instance, Aliyu and Mahmood (2019), Abubakar and Felix (2019) and Isiaq and Aduralere (2023) found that monetary policy has a negative and significant impact on economic growth. Besides, studies by Besnik (2013), Imoughele, Dominic, and Richardson (2018), Aliyu and Mahmood (2019), Chandana, Adamu, and Musa (2021), and Rahman (2023) conclude that fiscal policy has positive and significant impacts on economic growth. In this regard, the results of the investigations undertaken are inconclusive. Therefore, to extent the frontiers of knowledge and to fill this gap in this study area, this study used the autoregressive distributed lag (ARDL) approach to enable the researcher to capture both the short-run and long-run impacts of both fiscal and monetary policies on economic growth in Nigeria. One noticeable advantage of this study is that it used time series data from 1991–2022, which covers the aftereffects of COVID-19 economic recession in Nigeria.

### 3. DATA AND METHODOLOGY

#### 3.1. Sources of Data

In this study, annual data on economic growth, monetary policy, fiscal policy, inflation, and unemployment for the period 1991–2022 were utilized. The data were drawn from the world development indicators (2023). In this sense, all the variables were transformed into logarithms in order to avoid spurious regression results. The dependent variable is economic growth, while the explanatory variables are monetary policy, fiscal policy, inflation, and unemployment.

#### 3.2. Model Specification

The model for this research is specified as:

$$GDP\ GR_t = \beta_0 + \beta_1 MP_t + \beta_2 FP_t + \beta_3 IFR_t + \beta_4 UNR_t + \mu_t \quad (1)$$

Where

GDP GR = GDP Growth rate proxy for economic growth

MP = Monetary policy proxy by broad money supply

FP = Fiscal policy proxy by government expenditure

IFR = Inflation rate proxy by consumer price index

UNR = Unemployment rate

$t$  = time-series,  $\beta_0$  = constant or the intercept, and  $\beta_1, \beta_2$ , and  $\beta_4$  are the coefficients. The inclusion of the stochastic disturbance term ( $u$ ) in the econometric model is to capture those factors affecting economic growth but are not taken into account in the model due to a lack of data or because they are unobservable.

### 3.3. Estimation Procedure

The study adopts the autoregressive distributed lag (ARDL) technique developed by Pesaran and Shin (1999), which was extended by Pesaran, Shin, and Smith (2001) to examine the effects of monetary and fiscal policies on economic growth in Nigeria. The ARDL method was used because the ADF and PP unit root tests report a mixture of I (0) and I (1) levels of integration. This approach is superior to other types of cointegration approaches because it has a single-equation set-up and is easy to interpret. The variables used in the model can be assigned different lag lengths. The dynamic short run and long run unrestricted ARDL model are specified as follows:

$$\begin{aligned} \Delta[(\ln LGDPGR_t)] & \beta_0 + \beta_1 \ln(LGDPGR_{t-1}) + \beta_2 \ln(LMP_{t-1}) + \beta_3 \ln(LFP_{t-1}) + \beta_4 (LIFR_{t-1}) \\ & + (LUNR_{t-1}) \sum_{i=1}^p \alpha_1 \Delta \ln(LGDPGR_{t-i}) + \sum_{i=1}^m \alpha_2 \Delta \ln(LMP_{t-i}) \\ & + \sum_{i=1}^n \alpha_3 \Delta \ln(LFP_{t-i}) + \sum_{i=1}^n \alpha_4 \Delta \ln(LIFR_{t-i}) + \sum_{i=1}^n \alpha_5 \Delta \ln(LUNR_{t-i}) + \varepsilon_t \end{aligned}$$

In a similarly way, the error correction model is specified as:

$$\begin{aligned} \Delta[(\ln LGDPGR)] & a_0 + \sum_{i=1}^p \alpha_1 \Delta \ln(LGDPGR_{t-i}) + \sum_{i=1}^m \alpha_2 \Delta \ln(LMP_{t-i}) + \sum_{i=1}^n \alpha_3 \Delta (LFP)_{t-i} \\ & + \sum_{i=1}^n \alpha_4 \Delta LIFR_{t-i} + \sum_{i=1}^n \alpha_5 \Delta LUNR_{t-i} \end{aligned}$$

where  $\Delta$  is the first difference operator,  $\ln(LGDPGR)$  is the natural log of GDP growth rate,  $\ln(LMP)$  is the natural log of monetary policy,  $\ln(LFP)$  is the natural log of fiscal policy,  $\ln(LIFR)$  is the natural log of inflation rate, and  $\ln(LUNR)$  is the natural log of unemployment, the  $p$  denotes the lag length, the  $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$ , and  $\alpha_5, \beta_0, \beta_1, \beta_2, \beta_3, \beta_4$  and  $\beta_5$  are parameters to be estimated in the model while the  $\varepsilon_t$  stands for white-noise error term, respectively

## 4. RESULTS AND DISCUSSION

### 4.1. Pre-estimation Test

**Table 1: Results of Unit Root Tests**

<i>Unit Root Tests</i>						
<i>(ADF) Augmented Dickey-Fuller (1981)</i>			<i>(PP) Phillips Perron (1998)</i>			
<i>Level and First Differences</i>						
<i>Variables</i>	<i>Constant Without Trend</i>	<i>Constant With Trend</i>	<i>DF</i>	<i>Constant Without Trend</i>	<i>Constant With Trend</i>	<i>DF</i>
LEG	-3.1831**	-3.8097**	1(0)	-4.3237*	-4.2004*	1(0)
LMP	-4.4262*	-4.5562*	1(0)	-5.8462*	-8.2771*	1(0)
LFP	-7.7416*	-5.1321*	1(1)	-13.8903*	-22.261*	1(1)
LIFR	-4.6497*	-4.5438*	1(1)	-4.6291*	-4.5176*	1(1)
LUNR	-6.1298*	-6.0219*	1(1)	-6.1768*	-6.0590*	1(1)

Note: \* and \*\* show significance level at 1% and 5% respectively

Source: Researchers' Computation from E-views 10, 2023.

From the result in Table 1, economic growth and monetary policy are integrated at level 1(0), while fiscal policy, the inflation rate, and the unemployment rate are integrated at their first difference of 1(1). Therefore, the mixture of 1(0) and 1(1) orders of integration necessitates the adoption of the autoregressive distributed lag (ARDL) technique.

**Table 2: Results of Bound Test**

F-statistic	5.2896	4
Level of significance	The critical value I(0) Bound	The critical value 1(1) Bound
10%	2.45	3.52
5%	2.86	4.01
1%	3.74	5.06

Source: Researchers' computations from E-Views 10, (2023).

The results of the co-integration test in Table 2 reveal that the F-statistic values of 5.2896 exceed the upper bound value (5.06) and lower bound values (2.45) at a 1% level of significance. As supported by the results of the ARDL bound tests, the study confirms that economic growth, monetary policy, fiscal policy, inflation rate, and unemployment rate have a long-term relationship in Nigeria during the study period.

## 4.2. Estimation

Table 3: Short-run coefficients

**Table 3. Short Run Form-Dependent Variable: Economic Growth**

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-statistic</i>	<i>Prob.</i>
D(LMP)	-0.2707	0.3341	-3.8036	0.0010
D(LFP)	0.5480	1.5311	1.6442	0.0009
D(LIFR)	0.5551	0.3016	1.8402	0.0799
D(LUNR)	-0.1349	0.5076	-1.4478	0.0624
C	14.0059	2.5178	5.5627	0.0000
CointEq(-1)	-0.8669	0.1564	-5.5447	0.0000

*Source:* Researchers' Computations from E-views 10, 2023.

Table 3 reports that monetary policy has a negative and significant impact on economic growth at 1% levels of significance. An increase in monetary policy by 1% would decrease economic growth by 27%. Fiscal policy has a positive and significant impact on economic growth at 1% levels of significance. Also, an increase in fiscal policy by 1% would increase economic growth by 55%. The inflation rate has a positive and significant impact on economic growth at 10% levels of significance. Also, an increase in the inflation rate of 1% would increase economic growth by 56%. Unemployment has a negative and significant impact on economic growth at 10% levels of significance. Also, an increase in the unemployment rate of 1% would decrease economic growth by 13%. Besides, the short-run error-correction model ECM (-1) has a coefficient value of -0.87 with a negative sign, less than one, and is significant at 1%. Again, the speed of adjustment back to equilibrium stood at 87%, respectively, during the short-run period.

**Table 4: Long-runs coefficients**

Long Run Coefficients-dependent Variable: Economic Growth				
<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
LMP	-0.4517	0.5406	-2.6852	0.0139
LFP	0.6524	1.8083	-2.0198	0.0563
LIFR	0.4567	0.5271	0.8664	0.0960
LUNR	-0.1264	0.5478	2.0561	0.0524

*Source:* Researchers' Computations from E-views 10, 2023.

Similarly, in Table 4, monetary policy has a negative and significant impact on economic growth at 5% levels of significance. An increase in monetary policy



by 1% would decrease economic growth by 45%. Fiscal policy has a positive and significant impact on economic growth at 10% levels of significance. Also, an increase in fiscal policy by 1% would increase economic growth by 65%. The inflation rate has a positive and significant impact on economic growth at 10% levels of significance. Also, an increase in the inflation rate of 1% would increase economic growth by 46%. Unemployment has a negative and significant impact on economic growth at 10% levels of significance. Also, an increase in the unemployment rate of 1% would decrease economic growth by 13%.

### 4.3. Post -Estimation Tests

The adequacy of the ARDL framework is verified at this research stage using some diagnostic tests, and the results are presented as follows:

#### 4.3.1. Normality Test

**Table 5: Normality test**

<i>Statistic</i>	<i>Value</i>
Skewness	0.3604
Kurtosis	2.8490
Jarque-Bera	2.2452
probability	0.3254

*Source:* Researchers' computations from E-Views 10, (2023).

The results of the normality test in Table 5 show all the conditions for normality are met because the skewness value (0.3604) is skewed to the right. The kurtosis value of 2.8490 is close to 3, and the Jarque-Bera statistic value of 2.2452 and the associate probability value of 0.3254 should not be significant for it to be considered meaningful. Therefore, the error term is normally distributed, and the variables are stable and can be considered for further economic predictions and inferences.

**Table 6: Results of others Diagnostic Tests**

<i>Tests</i>	<i>F-statistics</i>	<i>Prob. Value</i>
Breusch-Godfrey Serial Correlation LM Test	0.5703	0.4228
Heteroscedasticity Test: Breusch-Pagan-Godfrey	1.6326	0.1750

*Source:* Researchers' computations from E-Views 10, (2023).

In Table 6, the result of Breusch-Godfrey (1978) serial correlation LM tests shows that the computed F-statistic and p-value are 0.5703 (0.4228). Also, the

results of the Heteroskedasticity Test: Breusch-Pagan-Godfrey (1979) indicate the computed F-statistic and p-value are 1.6326 (0.1750). As expected, the tests should not be significant for them to be considered useful. Therefore, the residuals in the model are free from any diagnostic problems.

#### 4.3.2. Stability Diagnostic

**Table 7: Results of Ramsey RESET Test**

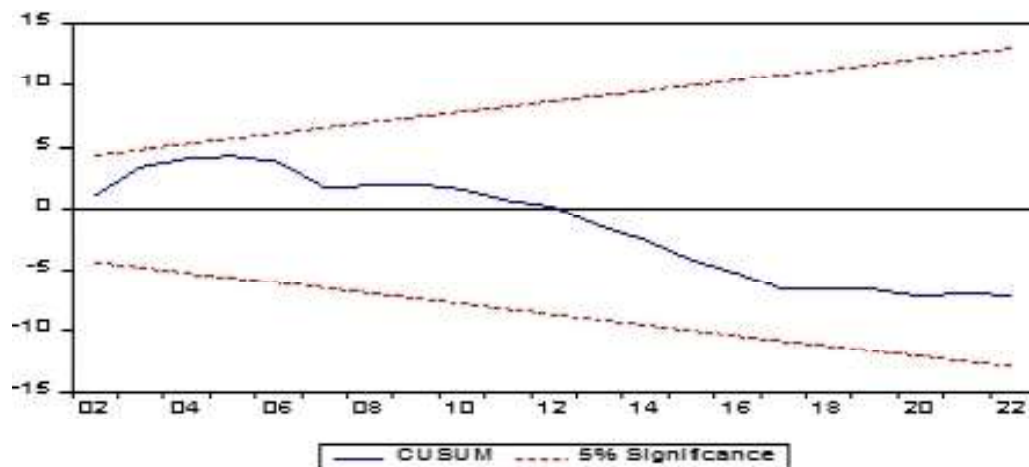
Ramsey RESET Test			
	<i>Value</i>	<i>df</i>	<i>Probability</i>
F-statistic	0.570789	(3, 16)	0.5377

Source: Researchers' computations from E-Views 10, (2023).

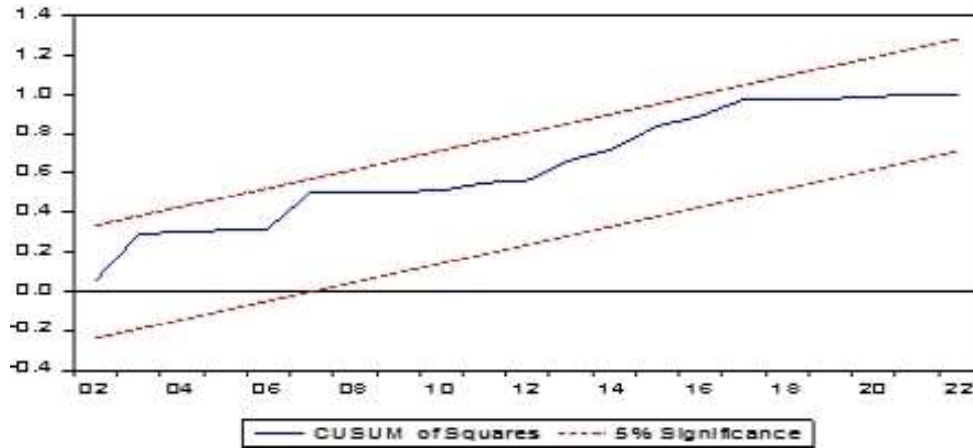
The Ramsey (1969) Reset test is applied to detect the omission of variables or inappropriate functional forms. The results in Table 7 indicate the computed F-statistic and p-value of 0.5708 (0.5377) are not statistically significant at any level. As expected, the tests should not be significant for them to be considered useful. In this case, all the variables needed have been incorporated into the model, and there is no specification error in the model.

#### 4.3.3. Recursive Estimates

This study makes use of the Cumulative Sum of Recursive Residues (CUSUM) developed by Brown, Dublin, and Evans (1975) in testing the stability of the parameters of the model within a 5% level of significance. The results of the CUSUM and CUSUM Square are shown in Figures 1 and 2.



Source: Researcher's computations from E-Views 10, (2023).



Source: Researchers' computations from E-Views 10, (2023).

As it can be observed from figures 1 and 2, neither the CUSUM nor the CUSUMSQ plots cross the 5% critical boundaries; therefore, the study concludes that the estimated parameters are very stable and there is a significant relationship between the dependent (economic growth) and independent variables (monetary policy, fiscal policy, inflation rate, and unemployment rate) used in the model during the study period.

#### 4.4. Causality Test Results

In this study, Toda and Yamamoto's (1995) causality test was employed to determine the direction of causality between the variables (economic growth, monetary policy, fiscal policy, inflation rate, and unemployment rate) in Nigeria from 1991 to 2022. The results are presented as follows:

**Table 8: Results of Toda and Yamamota Causality Test**

<i>Causality</i>	<i>Chi-sq</i>	<i>df</i>	<i>Prob.</i>
LMP does not Granger Cause L EG	0.5365	2	0.7647
LFP does not Granger cause LEG	6.6401	2	0.0261**
LUNR does not Granger cause LFP	18.4585	2	0.0001*
LFP does not Granger cause LIUNR	6.1342	2	0.0466*
LMP does not Granger cause LIFR	5.6390	2	0.0000*

\* and \*\* represent 1% and 5% of significance.

Source: Researchers' Computations from E-views 10, 2023.

In Table 8, the results of the T.Y. causality tests reported that there is a unidirectional causality that runs from fiscal policy to economic growth,

unemployment to fiscal policy, and monetary policy to the inflation rate. Also, there is bidirectional causality from unemployment to fiscal policy, as shown by the significance of their  $p$ -values during the study period.

## 5. CONCLUSION

This study examines the effects of monetary and fiscal policies on economic growth in Nigeria, using the monetarist vs. Keynesian debate as the theoretical framework. The present study employed the autoregressive distributed lag (ARDL) approach on annual time series data from 1991 to 2022. The results show that both in the short and long runs monetary policy has a negative and significant impact on economic growth. Also, fiscal policy has a positive and significant impact on economic growth. These empirical results support and endorse the work of Besnik (2013), Imoughele, Dominic, and Richardson (2018), Aliyu and Mahmood (2019), Aluthge, Jibir, and Abdu (2021), Chandana, Adamu, and Musa (2021), and Rahman (2023), who found a positive and significant impact of fiscal policy on economic growth. The results of this study differ from those of Aliyu and Mahmood (2019), Abubakar and Felix (2019) and Isiaq and Aduralere (2023), who found that monetary policy has a negative and significant impact on economic growth. From the empirical results, it is concluded that fiscal policy is a better tool for policymaking because it contributes significantly to economic growth in the Nigerian context during the period of investigation (1991–2022). It is, therefore, recommended that policymakers reduce excessive expenditure on unproductive activities that are susceptible to increasing corruption and focus on productive expenditures in the Nigerian economy in order to initiate or sustain the present growth path.

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