PUBLIC SPENDING AND INFLATION IN NIGERIA

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Abstract
This paper examines the effect of public spending on inflation in Nigeria from 1980 to 2017. Secondary data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (various issues). The study used public capital (GCE) and recurrent (GRE) spending as the main explanatory variables while money supply (MSS) and exchange rate (EXR) were added as check variables. The Auto Regressive Distributed Lag (ARDL) was used to analyze the relationship between public spending and inflation in Nigeria. The result shows that government capital spending impacts negatively on inflation; government recurrent spending has a negative and an insignificant impact on inflation. Also, money supply has both a positive and negative impact on inflation while exchange rate has a positive and an insignificant impact on inflation. Based on these findings, the paper therefore recommends that government needs to ensure appropriate channeling of its expenditure to infrastructural development in order to stimulate investment and production thereby stabilizing price. Also, there is need for the government to efficiently engage monetary policy instruments that are adequate in ensuring a given level of money supply that stabilizes prices.

Keywords: Inflation, Public Capital Spending, Public Recurrent Spending.

1. Introduction

The problem of inflation is not peculiar to Nigeria alone. It is a general economic phenomenon facing many countries both developed and less developed countries alike. Many factors have been identified to be responsible for generating inflationary pressure in Nigeria. In a conference organized jointly by the Central Bank (CBN) and Nigerian Institute of Social and Economic Research at Ibadan in 1974 on "inflation in Nigeria" most participants stressed on money supply, government expenditure, limitation in real output and the existence of structural rigidities and bottlenecks in the economy as the major causes of inflation in the Nigerian economy. Studies by Akinnifesi (1977, 1984), Adeyeye and Fakiyesi (1980) and Osake (1983), failed to produce a consensus on the role of monetary growth in explaining inflation in the economy. However, they recognized the importance of non-monetary variable in explaining inflationary tendencies in Nigeria and this has been particularly the case following the introduction of SAP (Asogu, 1991).

The Nigerian economy presently is characterized by stagflation, a situation of high level of unemployment and inflation existing at the same time. To curb inflation, successive Nigerian governments have adopted various stabilization measures. It is against this background that we want to look into inflationary pressures and the Nigerian economy to see if we can identify the forces accounting for this pressure.

In line with the above, the Nigerian government needs to spend in order to ensure stability of the economy, stimulate or enhance productivity or investment through direct public spending and investment according to the Keynesian view (Olayungbo, 2013). Consequently, there has been a continuous increase in government expenditure in Nigeria, like in most developing countries, over the years, both in the recurrent and the capital expenditure. This could be attributed to huge receipts from the production and sale of crude oil and the increased demand for public goods like roads, education and health facilities, external and internal security given an ever increasing population.

Available statistics shows that total government expenditure increased from 11188.42 billion naira in 1981-1985 to 33457.68 billion naira in 1986-1990 to 152054.40 billion naira in 1991-1995 to 580259.12 billion naira in 1996-2000 to 1302089.46 billion naira in 2001-2005 to 3055457.22 billion naira to 5363112.32 billion naira. With the same period inflation rate has been on double digit and has moved up and down, it increased from 15.39 percent in 1981-1985 to 25.87 percent in 1986-1990 to 48.93 percent in 1991-1995, dropped to 12.29 percent in 1996-2000 and later moved to 15.73 percent in 2001-2005, fell again to 10.09 percent in 2006-2010 and by 2011-2017 the value had reached 11.82 percent (CBN, 2017).

Also, empirical studies on the effect of government expenditure or public spending on inflation have provided mixed results. Scholars such as Nyambe and Kanyeumbo (2015), Egbulonu and Wobilor (2016), Mehrara, Soufiani and Rezaei (2016) and more have found that public spending positively impacts on inflation while Olayungbo (2013), Peter (2015) and more have found that public spending negatively impact on inflation. Yet, Ogbonna

(2014), Ojarikre, Ezie and Torka (2015), Ogbole and Momodu (2015) and more did not find any relationship.

The persistence of these problems in Nigeria in spite of various policy measures to stabilize the economy, reduce inflation and the inconclusive debate regarding the actual effect of public spending on inflation motivated this study.

2. Literature Review

2.1 Theoretical Review of Literature

The Keynesian approach to demand-pull inflation

The Keynesian's explanation of demand pull inflation is hinged on the assumption that the economy is not initially at its full employment level of resources and that changes in aggregate investment expenditure will induce changes in the level of aggregate demand. But, that once the full level of resource employment is reached, bottleneck appears. Thus, further government expenditure on investment beyond this attained full employment level of resources, will create excess aggregate demand above the fixed level of aggregate supply. "In sum, as inflation is a creature of excess demand there is no serious price level distortion until full employment is reached".

The traditional Keynesian approach categorized inflation as being either "demand pull or cost push" in nature. Demand pull inflation occurs where excess aggregate demand forces up the general price level.

Modern monetarist view

The modern monetarists approach to the effect of money in the economy may be thought of as being a more realistic version of the classical view of money. Although, the modern monetarists have based their argument on the fisher's formula, they took a more pragmatic position in the operations of the economy and also acknowledged the empirical evidence which served to undermine the simple classical view. Thus, they argued that V is predictable and, while it is recognized that its value might vary over time, it's expected that its longtime trend value is fairly stable. Also they argue that the economy will adjust "naturally" towards a full employment position over time. It is accepted that in the short run "rigidities" may occur due to the existence of monopoly power of trade unions and large corporations as well as the constraints of legally binding fixed term contract. But it is believed that in the longer term market forces will dominate and appropriate adjustments will be affected to accommodate changes in demand patterns. This follows its long term naturally determined trend.

The modern quantity theorists in accepting that there may be short term rigidities which interfere with its smooth adjustment, argue that the initial effect of increased quantity of money in circulation may be aimed at raising the level of aggregate demand in real terms, hence leads to an increase in the level of output and employment, assuming of-course that unemployed resources are initially available. Also to the extent that the additional money balances are used to purchase interest bearing financial assets that may stimulate interest

sensitive expenditure and so raise aggregate demand further. However, given the belief that V follows a fairly stable and predictable trend, T will tend automatically towards its full employment level. The conclusion reached by modern monetarists is that increase in the quantity of money in circulation will have no effect on real output and employment in the long term but will serve merely to raise the price level (i.e cause inflation). In other words, the modern monetarists' analysis arrived at the same ultimate conclusions as the classical theorists but via a more intuitively plausible and empirical supported route (Goacher, as cited in Onuchuku and Adoghor, 2000). "Thus, in short term, modern quantity theorists neither assumes full employment as a normal situation nor a stable velocity of money, but regards inflation as the result of excessive increase in money supply".

Keynesian Theory of Public Spending

The English economist, John Maynard Keynes popularized the use of government expenditure as a stabilization tool. Writing during the Great Depression of the 1930s, Keynes argued that output and employment were well below their potential level because there was insufficient total demand. If demand could be increased, output and employment could be expanded and the economy would return to its full employment potential. Moreover, Keynes believed this could be achieved with expansionary fiscal policy.

During a recession, Keynes argued that rather than balancing its budget, the government should increase its spending, reduce taxes, and shift its budget towards a deficit. According to Keynes, higher levels of government spending would directly increase total demand. Further, lower taxes would increase the after-tax incomes of households and they would spend most of that additional income, which would also stimulate total demand. Thus, the Keynesian prescription to cure a recession was a larger budget deficit.

In contrast, if the economy was experiencing a problem with inflation during an economic boom, Keynesian analysis called for restrictive fiscal policy to temper excessive demand. In this case, reductions in government spending, higher taxes, and a shift of the budget toward a surplus would reduce total demand and thereby help to fight inflation.

Thus, Keynes rejected the view that the government's budget should be balanced. He argued that appropriate budgetary policy was dependent on economic conditions. According to the Keynesian view, governments should run budget deficits during recessionary times and surpluses during periods when inflation was a problem because of excessive demand.

Can fiscal policy be used to reduce economic instability? The Keynesian view of fiscal policy swept the economics profession and, by the 1960s, it was also widely accepted by policy makers. During that era, most economists believed that fiscal policy exerted a powerful impact on the economy and that it could be instituted in a manner that would smooth the ups and downs of the business cycle. However, this is more difficult than was initially perceived. If changes in fiscal policy are going to exert a stabilizing impact on the economy, they must be timed correctly. Proper timing of fiscal changes is difficult.

2.2 Empirical Review of Literature

Very few studies have been carried out on the relation between public spending on inflation of countries. Most of studies either examined the effect of public spending on economic growth or macroeconomic variables. For instance; Ozurumba (2012) examines the causal relationship between inflation and fiscal deficits in Nigeria from 1970 to 2009 using autoregressive distributed lag (ARDL) model and the Granger-causality tests. From his results of the ARDL test, it was observed that there exists a significant negative correlation between growth in fiscal deficit and innovations in the rate of inflation which is in conformity with expectation. Abstracting from the results, the study recommended that policies targeted at inflationary control in Nigeria may be most effective if they are targeted at reduction in fiscal deficits and by extension, government should support growth in the real sectors of the economy.

Everton, Vincent and Wilson (2012) employed the vector error correction modeling technique to investigate the long term relationship between fiscal deficits and inflation for Nigeria. The empirical results show that there is a positive but insignificant relationship between fiscal deficits and inflation. The analysis of the Nigerian data also indicate a tenuous link to previous levels of fiscal deficits with inflation and provide, moreover, evidence of a positive long-run relationship between money supply growth and inflation, suggesting therefore that money supply growth is pro-cyclical and tends to grow at a faster rate than the rate of inflation. Finally, from the impulse response and variance decomposition analysis, the study finds that the length of inflation is an important determinant of the ability of the system to return to its long-run equilibrium following a shock.

In the same vein, Medee andNenbee (2012) examined fiscal deficits and inflation in Nigeria from 1980 to 2010 using the Ordinary Least Square (OLS) technique of multiple regressions for the study. The results showed that both inflation rates and interest rates were rightly signed with fiscal deficits. Despite this theoretical congruence, inflation rates impacted on fiscal deficits while interest rate does not. To this extent, they then, suggested that there is need to reorder Nigeria's fiscal policy priorities based on sincerity so as to rebuild confidence in the economy.

Muhammad and Attiya (2013) explores the relationship among the rate of inflation, economic growth and government expenditure in Pakistan from 1980 to 2010 using Autoregressive Distributed Lag (ARDL) model and Granger-causality tests. The outcome of the estimations identified a long term relationship amongst rate of inflation, economic growth and government expenditure; it means that government expenditures yield positive externalities and linkages. The results further revealed that in the short run time frame, inflation rate is found not to affect economic growth but rather government expenditures is found to have link with economic growth. The causality test results suggest that inflation rate causes economic growth with government expenditure also causing economic growth in Pakistan.

Olayungbo (2013) examined the causal relationship between government spending and inflation in Nigeria from the period of 1970 to 2010. The study used Granger Causality test

and the Vector Autoregression (VAR) modeling techniques for the analysis. The study found that a uni-directional causality exists from government expenditure changes (low or contractionary government spending) to inflation changes (high inflation). The finding implies that inflationary pressure in Nigeria is state dependent, that is, high inflation is caused by low or contractionary government spending.

Ogbonna (2014) investigated the effect of government size and developments on consumer price index in Nigeria for the period between 1981 and 2013. The study employed co-integration and vector error correction model (VECM) methods to analyze the data. The results indicate that a long run equilibrium relationship exists between consumer price index and government size in Nigeria. Also, no long run causal relationship was identified between consumer price index and government expenditure in Nigeria and there is no short run causality running from government expenditures to consumer price index in Nigeria. The above results of the study suggest that government expenditure should not be intended for the moderation of developments in consumer price index, rather, policy measures designed to ensure effective and appropriate pricing of the domestic currency should be put in place for effective control of inflation in Nigeria.

Danladi, Akomolafe, Olarinde and Anyadiegwu (2015) examined the impact of government expenditure on macroeconomic objective in an economy. The study used Johansen cointegration test, Granger causality test and the autoregressive distributed lag (ARDL) for the analysis. From the analysis, the study found that government spending significantly and positively explained the economic growth of the country. The study also revealed that total government expenditure, capital and recurrent expenditure showed a positive relationship with economic growth. However, the recurrent component of the expenditure significantly explained more. Therefore, it is recommended that the government should give more priority to the capital component that is more productive and can induce rapid economic prosperity.

Ojarikre, Ezie and Torka (2015) examined empirically the causal relationship existing between public expenditure growth and inflation in Nigeria from 1981 to 2012. The study employed econometric techniques of Johansen Co-integration test and the Granger Causality test. The study found that the Johansen cointegration technique indicated the presence of co-integration among the variables. It also found that there is no statistically discernible relationship between government expenditure growth and inflation in Nigeria. We therefore, kick against the 'old-time religion' of restricting aggregate demand by tight monetary policy as often demonstrated by the Central Bank of Nigeria through adjustments in the Monetary Policy Rate (MPR), but we rather advocate a relaxation of the MPR with the necessary adjustments when necessary as inflation is occasionally necessary to jump-start an economy that is floundering.

Ogbole and Momodu (2015) investigated the nature and extent of causal relationship between government expenditure and inflation rate for a period of 42 years spanning from 1970 to 2011. The study employed the Johansen's cointegration test and Granger causality test analysis. The variables are stationary, weakly and inversely correlated and show long run

relationship. However, they did not granger cause each other, implying that there exists no pair wise causal relationship between them. We recommend appropriate fiscal-monetary policy mix, redirecting government expenditure to productive channels in the economy and maintain a strategic balance between capital and recurrent expenditure.

Egbulonu and Wobilor (2016) examined the relationship between fiscal policy and inflation rate in Nigeria from 1970 to 2013. The study used the Co-integration, Granger causality tests, Ordinary Least Square (OLS) regression and Error Correction Mechanism (ECM) techniques to analyze the data. The results found a statistically insignificant positive relationship between government expenditure; government tax revenue and inflation in Nigeria, while government debt stock is positive and statistically significant. The study recommends that government should minimize her level of borrowing (domestic and foreign borrowing), improve tax administration in order to reduce tax evasion and avoidance, and implement viable fiscal policy and monetary policy mix as well as diversify the nation's economic base.

Iheanacho (2016) examined the long and short run relationship between public expenditure and economic growth in Nigeria over the period of 1986-2014, using Johansen cointegration and error correction approach. This study shows a negative and significant long run relationship between economic growth and recurrent expenditure coexists with a positive short run relationship, highlighting the dual effects of recurrent expenditure on economic growth in Nigeria. For the capital expenditure, this study documents negative and significant long run effect of capital expenditure on economic growth in Nigeria. The study has some policy implications for policy holders because it could be guide on effective utilization of public funds on rightful projects rather than spending it on enormous projects that will not translate into meaningful growth of the economy.

Mehraraa, Soufianib, and Rezaei (2016) examined the nonlinear relationship between inflation and government spending using quarterly data over the period of 1990-2013, by using Smooth Transition Regression Model. The study showed that in regime of tight money or low growth of liquidity, government expenditure is not inflationary. In regime of low growth of liquidity, this variable has low inflationary impact and probably stimulates economic growth. Inflationary expectations in first regime are more effective in causing short run inflation. In expansionary regime, increase of money supply has more effects on inflation rather than production. So monetary and fiscal policies could be used to control inflation and stimulate aggregate demand in low regime. Also in easy money regime, monetary and fiscal discipline can be useful for inflation decrease.

Ojong, Nkamare and Ogar (2016) examined the effect of government expenditure and its implications on the Nigerian economy. The study used the ordinary least square multiple regression technique for the analysis. The study found that recurrent expenditure had a significant relationship on the growth and development of Nigeria economy; capital expenditure had a significant effect on the growth and development of Nigeria economy and finally, aggregate expenditure had a positive impact on the growth of Nigerian economy. It therefore recommended that government should spend more on security as this will promote

investment; also, government should increase its expenditure on economic services such as agriculture, construction, transport, communication, electricity and other economic services and finally, government should increase its spending on transfers such as pensions, gratuities, bursaries and grants etc.

Eze and Nweke (2017) examined the effect of inflation on Nigeria's economic growth for the period ranging from 1980 to 2015. The study used cointegration approach, vector error correction model (VECM) and granger causality test for the analysis. The VECM results demonstrated that inflation affects Nigeria's economic growth negatively and insignificantly; GINVXP and TEXP have significant and negative effect on RGDP and PINVXP has significant and positive influence on RGDP. The study therefore recommends that government may reconsider the over reliance in its spending on public and private investments in solving inflation problems in Nigeria, as there are other factors responsible for high inflation in the economy. Also, government is by this study advised to increase its capital budget spending on public investment projects, and as well create business friendly environment for private investment in Nigeria. In so doing, significant economic growth will be achieved and sustained in the Nigerian economy.

2.3 Summary of reviewed Literature and Research Gap

From the literature review, it was observed that only few studies examined the effect of public spending on inflation of countries. However the findings of these studies varied. Specifically, the study of Ojarikre, Ezie and Torka (2015) who examined empirically the effect of public expenditure growth on inflation in Nigeria from 1981 to 2012 has serious defects. The study by Ojarikre, Ezie and Torka (2015) has the following defects: (a) the unit root test result revealed that the series were integrated of order zero and order one, yet the study went ahead to conduct the Johansen cointegration and then Granger causality test. This approach is very wrong. The Johansen cointegration is estimated on the assumption that the variables were integrated of order one; therefore, the regression estimate of the model is inappropriate and so the policy references of the study are unreliable. When the variables are integrated of order zero and order one, the appropriate test is Auto Regressive Distributed Lag (ARDL).

Apart from the above study, most of the studies examined the effect of public spending on either economic growth or macroeconomic variables and so on. The present study deviates from these studies by disaggregating public spending into capital and recurrent and also added money supply and exchange rate as controlled variables from 1981 to 2017 using Auto Regressive Distributed Lag (ARDL) modeling technique to estimate the model.

3. Methodology

3.1 Model Specification

The model specification of this study is in line with the work of Ojarikre, Ezie and Torka (2015) with further modification. Ojarikre, Ezie and Torka (2015) used only public capital and recurrent expenditure to examine its effect on inflation between 1981 and 2012 but this study used public capital, recurrent expenditure, money supply and exchange rate on inflation from 1981 to 2017. Thus, the model is specified as:

$$INF = F (GCE, GRE, MSS, EXR) \qquad (1)$$

Where;

INF = Inflation

GCE = Public capital spending

GRE = Public recurrent spending

MSS = Money supply

EXR = Exchange rate

Econometrically, equation (1) is specified as:

$$INF = \beta_0 + \beta_1 GCE + \beta_2 GRE + \beta_3 MSS + \beta_4 EXR + \mu \qquad (2)$$

Thus, a priori expectations are $\beta_1 < 0$; β_2, β_3, and $\beta_4 > 0$

3.2 Data Sets and Estimation Technique

Data on Inflation (INF), government capital expenditure (GCE), government recurrent expenditure (GRE), money supply (MSS) and exchange rate (EXR) were gathered from various issues of Central Bank of Nigeria statistical bulletin between the periods 1981 to 2017.

The techniques adopted in the study were descriptive statistics, Unit Root test and Auto Regressive Distributed Lag (ARDL) modeling techniques.

4. Data Analysis and Interpretation of Results

The empirical analysis of data in this paper was conducted in five phases. It begins with the descriptive statistics analysis of the data and thereafter conducted the unit test. Furthermore, Bound test for co-integration, the short run and long run estimation of the ARDL and diagnostic tests were conducted.

4.1 Descriptive Statistics

The result of the descriptive statistics is presented in Table 1 below. Table 1 shows that, the standard deviation calculated for money supply (MSS) was the most volatile in the series with a value of 2.51 while inflation (INF) was the least volatile variable with a value of 0.72. The calculated values for the skewness statistic for all the variables – GCE, GRE, EXR and MSS - were negatively skewed, suggesting that their distributions have a long left tail. Again, the kurtosis statistics of all the variables were equally platykurtic, meaning that their distributions were flat relative to normal distribution. Based on these observations, it therefore means that there is unit root (non-stationarity) in the series. Thus, estimating these variables at level might not give good results, hence, the need to conduct the unit root test. The unit root test is conducted to test whether or not the variables were stationary. The study adopts the Augmented Dickey Fuller (ADF) unit root tests procedures.

Table 1: Descriptive Statistics

	LOG(INF)	LOG(GCE)	LOG(GRE)	LOG(EXR)	LOG(MSS)
Mean	2.691215	11.69793	12.29332	3.293778	13.28239
Median	2.529375	12.45015	12.55317	3.811330	13.22509
Maximum	4.288265	13.95770	15.56692	5.535333	16.97641
Minimum	1.682688	8.318767	8.466068	-0.494296	9.579914
Std. Dev.	0.716570	1.964189	2.337737	1.947662	2.505197
Skewness	0.812804	-0.519175	-0.284440	-0.735479	-0.021650
Kurtosis	2.661840	1.701704	1.702910	2.202203	1.612934
Jarque-Bera	4.135432	4.145616	3.009101	4.200297	2.888741
Probability	0.126474	0.125832	0.222117	0.122438	0.235895
Sum	96.88374	421.1255	442.5596	118.5760	478.1661
Sum Sq. Dev.	17.97153	135.0313	191.2755	132.7685	219.6604
Observations	36	36	36	36	36

Source: *Author's Computation (2018)*

4.2 Unit Root Test

The results of the unit root test using the ADF are reported in Table 2. The result of the variables shows that INF was stationary at level while GCE, GRE, MSS and EXR were found stationary in their 1st difference. This can be seen by comparing the observed values (in absolute terms) of the ADF test statistics with the critical values (also in absolute terms) of the test statistics at the 5 percent level of significance.

Table 2: Unit Root Test Results

Augmented Dickey Fuller (ADF) Test					
Variables	Level	5% Critical Values	1st Diff.	5% Critical Values	Status
LOG(INF)	-3.315894	-2.945842	-	-	I(0)
LOG(GCE)	-1.299045	-2.948404	-6.161942	-2.948404	I(1)
LOG(GRE)	-1.189755	-2.951125	-7.984188	-2.951125	I(1)
LOG(MSS)	-0.542707	-2.945842	-3.233679	-2.948404	I(1)
LOG(EXR)	-1.908968	-2.945842	-5.108212	-2.948404	I(1)

Source: *Author's Computation (2018)*

4.3 Bound Test Result

Since the series are of different order of integration, that is, I(0) and I(1), we cannot use the Engle-Granger and Johansen cointegration but rather the appropriate test to use is the Bound Cointegration test (Salisu, 2016). The result of the Bound Cointegration test is presented in Table 3 below.

Table 3: ARDL Bound Test Result

F-Statistics	1.996714	
% Critical Levels	Critical Value for Bond Test	
Significance	1(0) Bond	1(1) Bond
10%	2.45	3.52
5%	3.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: *Author's Computation (2018)*

From Table 3, the result of the bound co-integration test shows that the calculated f-statistic value of 1.996714 falls below the theoretical critical value for the lower bound I(0). This means that there is no co-integration, hence, no long run relationship between government spending and employment generation in Nigeria within the period under review.

In line with the above, Omoke (2010), Jawaid and Waheed (2016) and Salisu (2016) have argued that when the co-integration test of any result indicates no co-integration, then there is no need to further subject the variables to error correction test rather the short run regression results can be used to estimate the model. Since the null hypothesis is accepted, there is no need to further subject the variables to error correction test. Thus, in our case the short run is estimated following the ARDL approach.

4.4 Short Run Estimation Results Based on ARDL
The result of short run estimation for Inflation (INF) model is presented in Table 4 below.

Table 4: ARDL Short Run Estimation Result for INF Model

Dependent Variable: LOG(INF)				
Method: ARDL				
Sample (adjusted): 1982 2016				
Included observations: 35 after adjustments				
Maximum dependent lags: 2 (Automatic selection)				
Model selection method: Schwarz criterion (SIC)				
Dynamic regressors (2 lags, automatic): LOG(GCE) LOG(GRE) LOG(MSS) LOG(EXR)				
Fixed regressors: C				
Number of models evaluated: 162				
Selected Model: ARDL(1, 0, 0, 1, 0)				
Note: final equation sample is larger than selection sample				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOG(INF(-1))	0.582299	0.146415	3.977041	0.0004
LOG(GCE)	-0.489264	0.212442	-2.303045	0.0289
LOG(GRE)	-0.696831	0.717015	-0.971849	0.3394
LOG(MSS)	2.802364	1.130026	2.479910	0.0194
LOG(MSS(-1))	-2.224352	1.013024	-2.195753	0.0366
LOG(EXR)	0.559447	0.403531	1.386378	0.1766
C	5.409568	2.793684	1.936357	0.0630
R^2 = 0.502266; Adj-R^2 = 0.395609; F-Stat. = 4.709165; DW = 2.017768				

Source: *Author's Computation (2018)*

The regression results of the short run dynamics based on the ARDL in Table 4 above shows that the calculated R^2 is 0.502266. This means that about 50 per cent of the total variations in INF are caused by the explanatory variables GCE, GRE, MSS and EXR. Thus, the remaining 50 per cent of variations is caused by exogenous factors to the model but covered by the error term. This observation is further buttressed by the adjusted R^2 of about 40 per cent. Also, the f-statistic calculated of 4.709 is greater than $F_{0.05,V1,V2}$ of 2.69. This means that the overall model is significant at 5 per cent level. The value of the Durbin Watson (D.W) is 2.017768, suggesting that there is the absence of serial autocorrelation in the model.

Table 4 also shows that the coefficient of government capital spending is -0.489264, meaning that one percent increase in government capital spending leads to a decrease in inflation (INF) by about 0.49 per cent. The negative sign of GCE conform to our a priori expectation in line with economic theory. Also, the coefficient of government capital spending impacts significantly on inflation in Nigeria at 5 per cent level of significant within the period under review. The finding agrees with Peter (2015) who found government capital expenditure to be negatively related to inflation.

Furthermore, the results indicate that the coefficient of government recurrent spending is 0.696831, meaning that one percent increase in government recurrent spending leads to a

decrease in inflation (INF) by about 0.69 per cent. The negative sign of GRE do not conform to our a priori expectation in line with economic theory. Also, the coefficient of government recurrent spending does not impact significantly on inflation in Nigeria at 5 per cent level of significant within the period under review.

Again, the coefficient of current money supply (MSS) has a positive and a significant impact on inflation while past lag 1 money supply (MSS) has a negative and a significant impact on inflation in Nigeria within the period under review. The coefficient of exchange rate (EXR) has a positive and an insignificant impact on inflation in Nigeria.

4.6 Diagnostic Testing Results

The result of the diagnostic tests is presented in Table 6 below. Table 6 shows the Serial Correlation test (using Breusch-Godfrey Serial Correlation LM Test), Heteroscedasticity test (using Breusch-Pegan-Godfrey Test) and Normality test (using Jarque-Bera Statistics). The study reveals that the model passes the diagnostic tests against serial correlation, functional form misspecification, heterosckedasticity and non-normal errors as presented in Table 5 below.

Table 5: Diagnostic Test Results

Test	Result	Prob.
Normality Test	0.546048	0.761074
Heterosckedasticity Test	0.548501	0.7197
Breusch-Godfrey Serial Correlation LM Test	0.023176	0.8625

Source: *Author's Computation (2018)*

5. Conclusion and Policy Recommendation

This paper empirically investigated the effect of public spending on inflation in Nigeria between 1981 and 2017 by employing the Auto Regressive Distributed Lag (ARDL) approach. Data for the empirical analysis were sourced from secondary source like the Central Bank of Nigeria Statistical Bulletin (Various- Issues). The results of the analysis revealed that government capital spending impacts negatively on inflation; government recurrent spending has a negative and an insignificant impact on inflation. Also, money supply has both a positive and negative impact on inflation while exchange rate has a positive and an insignificant impact on inflation. Based on these findings, the paper therefore recommends that government needs to ensure appropriate channeling of its expenditure to infrastructural development in order to stimulate investment and production thereby stabilizing price. Also, there is need for the government to efficiently engage monetary policy instruments that are adequate in ensuring a given level of money supply that stabilizes prices.

References

Adeyeye, E.A. &Fakiyisi, T. O. (1980). Productivity prices and incomes board and anti-inflationary policy in Nigeria. The Nigeria economy under the Military, Nigerian Economic Society Ibadan: processing of the 1980 annual conference.

Akinnifesi, E. O. (1989). Inflation in Nigeria: causes, consequences and control. CBN jubilee bulletin.

Asogu, J.O. (1991). An Econometric Analysis of the Nature and Causes of Inflation in Nigeria. *Central Bank of Nigeria Economic and Financial Review, Lagos.*

Central Bank of Nigeria (2017). Statistical Bulletin. Lagos: Central Bank of Nigeria.

Danladi, J. D. , Akomolafe, K. J., Olarinde, O. S. &Anyadiegwu, N. L. (2015). Government Expenditure and Its Implication for Economic Growth: Evidence from Nigeria. *Journal of Economics and Sustainable Development, 6(18), 142-150.*

Egbulonu, K. G., &Wobilor, A. K. (2016). Impact of Fiscal Policy on Inflation in Nigerian Economy. International Journal of Innovative Development & Policy Studies 4(3), 53-60.

Eze, O. M. &Nweke, A. M. (2017). Assessment of the effect of inflation on Nigeria's economic growth: Vector Error Correction Model Approach. European Journal of Business and Management, 9(15), 18-30.

Iheanacho, E. (2016). The contribution of government expenditure on economic growth of Nigeria Disaggregated Approach. International Journal of Economics & Management Sciences, 5(5), 1-8.

Jawaid, S. T., &Waheed, A. (2011). Effect of terms of trade and its volatility of economic growth: A cross country empirical investigation. *Transition Studies Review, Springer Central Eastern European University Network (CEEUN),* 18(2), 271-229.

Medee, P. N. &Nenbee, S. G. (2012). The impact of fiscal deficits on inflation in Nigeria. *International Journal of Economic Development Research and Investment*, 3(1), 12-21.

Mehraraa, M., Soufianib, M. B., &Rezaei, S. (2016). The Impact of Government Spending on Inflation through the Inflationary Environment, STR approach. World Scientific News (WSN), 37, 153-167.

Nyambe, J. M., &Kanyeumbo, J. N. (2015). Government and household expenditure

components, inflation and their impact on economic growth in Namibia.. Journal of Business, Economics and Accountancy, 3(4), 81-86.

Ogbole, O. F., &Momodu, A. A. (2015). Government Expenditure and Inflation Rate in Nigeria: An Empirical Analyses of Pairwise Causal Relationship. Research Journal of Finance and Accounting, 6(15), 36-41.

Ogbonna, B. C. (2014). Inflation dynamics and government size in Nigeria. *International Journal of Economics, Commerce and Management United Kingdom, II(12),* 1-22.

Ojarikre, O. J., Ezie, O. and Torka, T. M. (2015). Public expenditure growth and inflation in Nigeria: The causality approach. International Journal of Economics and Management Studies, 2(1), 26-35.

Ojong, C. M., Nkamare, S. E. &Ogar, A. (2016). Government Expenditure and Its Implications on Nigerian Economy. *IOSR Journal of Humanities And Social Science*, 21(1), 50-55.

Olayungbo, D. O. (2013). Government Spending and Inflation in Nigeria: An Asymmetry Causality Test. International Journal of Humanities and Management Sciences (IJHMS), 1(4), 238-242.

Omoke, P. C. (2010). Inflation and economic growth in Nigeria. *Journal of sustainable development*, 3(2), 159-166.

Onuchuku, O. and Adoghor, G. (2000). *Macroeconoimic: theory and application*. Choba, Emhai Printing and Publishing Co.

Ozurumba, B. A. (2012). Fiscal Deficit and Inflation in Nigeria: Causality Approach, *International Journal of Scientific and Technology Research*, l(8): 1-12.

Peter, G. A. (2015).Effects of public expenditure on selected macroeconomic variables in Nigeria; 1986-2012. An unpublished thesis submitted to Department of Economics, Faculty of Social Sciences, Ahmadu Bello University, Zaria.

Salisu, A. A. (2016). Analysis of long run and short run models. CEAR Econometric Workshop, Nigeria. Centre for Econometrics and Allied Research, University of Ibadan. Doi: 10.13140/RG.2.2.35204.53121.