THE INFLATIONARY EFFECTS OF BUDGET DEFICIT IN NIGERIA

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ABSTRACT

**Purpose.** Chronic budget deficit and rising inflation have been the major problems of government in Nigeria with their implication for significant macroeconomic variables. The government’s efforts in curbing these problems have not yielded the expected result. Thus, this study investigated the inflationary effects of the budget deficit in Nigeria.

**Methodology.** Augmented-Dickey Fuller test, Bound Test and Autoregressive Distributed Lag test (ARDL) were used for analysis. Data were sourced from Central Bank of Nigerian Statistical Bulletin from 1986 to 2019.

**Finding and Implication.** A long-run dynamic relationship was established between the budget deficit and the inflation rate in Nigeria. Based on findings, long run movement was discovered between budget deficit and inflation in Nigeria. It was established that rising budget deficit lead to inflationary pressure in Nigeria. Thus, there is need for government to work assiduously and diligently in ensuring balance in national budget.

**Originality and Limitation.** This study contributed to existing study by investigating the dynamic inflationary effects of budget deficit in Nigeria and the adoption of important deficit financing variables. This study mainly focused on inflation rate without looking at the effect of budget deficit on other macroeconomic variables. Thus, future studies should focus on other macroeconomic variables like unemployment rate and balance of payments.
1. INTRODUCTION

Both developed and developing countries have the core objective of maintaining single-digit inflation. A spiraling and uncontrolled inflation is detrimental to the growth and economic performance of any nation. Despite the fact that most countries seek to achieve other macroeconomic objectives of improved economic growth, unemployment reduction, and a healthy balance of payments position, a single-digit and stable inflation rate remains the leading objective and is linked to other objectives. According to Nguyen (2015), Ogunsakin and Olalere (2017), achieving a stable growth rate and excellent economic performance alongside a low inflation rate remains the monetary authority’s focus. Thus, inflation targeting policy has been the major policy thrust of the monetary authority in most nations to achieve desired internal and external macroeconomic objectives.

However, all nations desire high economic growth, which results in the formulation of expansionary fiscal policy by the government. Nevertheless, the adoption of an expansionary fiscal policy that would increase government spending must be accompanied by high government revenue, which may lead to a budget deficit. Samirkaş (2014); Khumalo (2018) viewed budget deficit as the difference between governmental inflows and outflows during a particular period, usually a fiscal year. It is the annual gap between government spending and revenue. According to Sen, Sagbas and Keskin (2007) rising deficit in developing nations can be linked to unbalanced economic structures such as a high gap in the balance of payments, rising national expenditure, falling revenue, and expanding military expenditure. The budget deficit as a tool of development and growth is traced to the Keynesian expenditure-led growth theory of the 1970s, which stressed the role of government intervention in the economy through the provision of basic amenities and infrastructure to stimulate investment and growth (Oladipupo & Akinbobola, 2011). Nonetheless, Eminer (2015); Aslam (2016) stated that a growing budget deficit might influence the economy positively if fiscal policy instruments are directed towards growth-inducing activities. However, Temple (2000), Tekin-Koru and Ozmen (2003), Samirkas (2014) asserted that a persistent deficit in the budget could produce undesirable effects on the price level, investment, employment, and standard of living, economic performance, and balance of payments position.

However, the implication of budget deficit and inflation in the economy is a subject of discourse among scholars (Nguyen, 2015). Bulawayo, Chibwe and Seshamani (2018); Sargent and Wallace (1981) asserted that the financing of budget deficit through the printing of money (seigniorage) might lead to inflationary pressure in the economy. Furthermore, financing budget deficit through borrowing by issuing government debt instruments may result in inflation and discourage investment through the crowding-out effect (Leeper, 1991; Nwakoby, Okaro & Nwude 2016). Though Sharp and Flenniken (1978) are of the opinion that budget deficit is too weak...
to cause movement in inflation, Fischer, Sahay and Végh (2002); Sill (2005); Ishaq and Moshin (2015) averred that budget deficit might lead to the inflationary pressure in the economy.

Nigeria has been experiencing a budget deficit since 1981, as revealed in the Central Bank of Nigeria Statistical Bulletin 2018. Though the nation experienced a surplus in 2011 and 2014, the deficit in the government budget has been widening concurrently. The deficit in the budget rose from ₦0.43 in 2015 to ₦0.96 billion and ₦1.70 billion in 2016 and 2017, respectively, before falling to ₦1.17 billion in 2018 (CBN, 2018). The increase in fiscal deficit was followed by the need to finance the deficit, leading to an increase in borrowing and depletion of assets and reserves. This mounting deficit has posed greater challenges to the government and policymakers in Nigeria. While it is believed that a budget deficit may serve as an instrument of growth and development, a rising deficit may cause macroeconomic instability (Samirkas, 2014). For example, inflation rate rose from 7.96% in 2013 to 7.98% in 2014, 9.55% in 2015, 18.55% in 2016 and 15.37% in 2017 before falling to 11.4% in 2018. Despite this fall, the inflation rate has never reached a single-digit regardless of policies formulated to arrest the situation.

Olasunkanmi (2013) opined that, regardless of the increase in the budget deficit, Nigeria has been experiencing underperformance and falling below expectation in terms of economic performance. Ogunsakin and Olalere (2017) stressed that the budget deficit contributed more to price volatility and economic instability in Nigeria rather than contributing significantly to the economy. Anayochukwu (2012) stated that the widening gap between government expenditure and revenue contributed to Nigeria’s economic instability, low investment, and poor macroeconomic performance. However, the investigation into previous studies indicates that findings have been inclusive and inconsistent, especially in Nigeria and other developing countries. In the studies of Oladipo and Akinbobola (2011), Anayochukwu (2012), Orji, Onyeze and Edeh (2014) negative relationship was established between budget deficit and inflation, while Olasunkanmi and Yetunde (2016), Nwakoby et al., (2016); Ogunsakin and Olalere (2017) found a positive effect of budget deficit on inflation. However, the sources of inconsistency largely result from a difference in the study period, method of data analysis, and the underlying economic conditions with significant macroeconomic instability. This paper is a major innovation and contribution to previous studies by adopting more recent data and dynamic techniques. Thus, this study aimed to investigate the inflationary effect of the budget deficit in Nigeria using up-to-date data from 1986 to 2019. Following the current chapter that introduces the study, the remaining part of the paper was arranged chronologically into the literature review, methodology, empirical findings, and conclusion.
2. LITERATURE REVIEW

Inflation is the increase in the price of goods and services in the economy. Nwakoby et al. (2016) viewed inflation as the persistent rise in the general price level resulting from an increase in demand for goods and services without a proportionate supply of goods and services. According to Khumalo (2013), inflation arises when money grows faster than the economy’s growth, which is caused by a high supply of money by the Central Bank than the demand for money in the economy. The management of inflation is vested in the hand of the Central Bank through their ability to formulate policies that will regulate the financial markets and control the quantity of money in the economy (Khumalo, 2013).

Budget deficit results from an increase in government spending or the government’s inability to increase the country’s revenue base. According to Ayogueze and Anidiobu (2017), a budget deficit is when tax incomes are not enough to finance rising government expenditure. Maji and Acheegbulu (2010) opined that a budget deficit is a gap between budget receipts and budget expenditures financed by cash balance and debt. The budget deficit is caused by economic factors such as rising unemployment, poor economic performance, fall in tax revenue, rising foreign debt, declining external reserves, and rising infrastructural expenditure (Jadhav & Neelankavil, 2011; Murwirapachenam, Maredza & Choga, 2013; Ogunsakin & Olalere, 2017).

Saeidi and Valizadeh (2012) asserted that an increased budget deficit would lead to high inflation through more borrowing and a rise in the money supply. According to Khumalo (2013), Leeper (1991), the dominance of fiscal policy will result in deficit financing leading to inflationary pressure in the economy through high borrowing. Also, a tight monetary policy will initially produce low inflation but will later lead to the issue of debt instruments due to a fall in revenue, thereby leading increase in inflation level (Nwakoby, et al., 2016; Ogunsakin & Olalere, 2017). Akcay, Alper and Ozmucur (1996); Kaur (2018) stated that an increase in deficit could lead to inflationary pressure either through an increase in a net credit which drives up borrowing rate and crowding out private investment, or the development of new assets by the financial sector.

Empirically, many studies have been conducted in both developed and developing countries. Focusing on Finland, Sweden, and Japan, Bassetto and Butters (2010) found that fiscal deficit did not induce inflation. In Zimbabwe, Makochekanwa (2011) adopted the Johansen Co-integration technique and established that monetization of the budget deficit is inflation stimulating. Also, the granger causality result of Oladipo and Akinbobola (2011) indicated a causality between budget deficit and inflation. Awe and Olalere (2012) discovered that budget deficit influenced inflation by adopting a vector error correction mechanism.

Anayochukwu (2012), investigating the causal relationship between inflation and fiscal deficits in Nigeria, found that fiscal deficit/GDP caused inflation. Jayara-

3. METHODOLOGY

3.1. Research Design

This study was based on a quantitative research design to investigate the inflationary effect of the budget deficit in Nigeria. The data are time series in nature from 1986 to 2019. Data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (2019). In this study, the budget deficit is represented as budget deficit as a percentage of gross domestic. Inflationary pressure is captured with the annual inflation rate. Government total debt represents the means of financing the budget deficit. Gross domestic product captured the economic size, while the exchange rate measured the value of the naira concerning the dollar.
3.2. Model Specification

This work was pinned on the Fiscal Theory of the Price Level (FTPL), which emphasizes the role of fiscal and monetary policy in determining inflation. The theory asserts that inflation is determined by only government debt and fiscal policy alone, while monetary policy plays an indirect role. The theory highlights the role of employing borrowing in funding budget deficits on inflation. Sargent and Wallace (1981) argued that the inflation rate relies on monetary and fiscal policy stance management. Under the monetarist stance, the budget gap will cause inflation because seigniorage revenues are essential in ensuring that government does not default. However, Leeper (1991), Sims (1994), and Woodford (1994, 1995) stated that the inflation level is determined by fiscal variables such as government debt and present and future revenue.

However, the estimation of the effect of budget deficit on inflation rate is modeled in line with Nwakoby, et al. (2016), wherein inflation was modeled as a function of fiscal deficit, money supply, gross domestic product, and exchange rate depreciation with minor modification. Thus, the model for this study is given as follows:

\[
\text{INF} = f(\text{BDGDP, GTD, RGD, EXCH})
\]

The linear function of the above model is given as

\[
\text{LINF} = \beta_0 + \beta_1 \text{BDGDP} + \beta_2 \text{LGTD} + \beta_3 \text{LRGDP} + \beta_4 \text{LEXCH} + \mu
\]

where:

- LINF = Log of Inflation Rate
- BDGDP = Budget Deficit as a percentage of gross domestic product
- LGTD = Log of Government Total Debt
- LRGDP = Log of Real Gross Domestic Product
- LEXCH = Log of Exchange Rate
- \(\beta_0\) = Constant Term
- \(\beta_1 - \beta_4\) = Parameters of the estimated variables
- \(\mu\) = Error Term

3.3. Data Estimation Techniques

Estimating the relationship between inflation and budget deficit requires testing the stationarity of the time-series data. This is because macroeconomic data may contain unit roots, mainly stochastic trends. The stationarity of data is significant in establishing a relationship among time series data because using non-stationary data may invalidate economic results. For this purpose, Augmented Dickey-Fuller and Phillips-Peron Unit Root Tests were conducted to determine the stationarity and order of integration of the data series.

The outcome of the stationarity test revealed that the data series are integration of level (budget deficit as a percentage of gross domestic product) and first difference (log of inflation, log of government total debt, log of real gross domestic product and
log of exchange rate) which prompted the estimation of both short and long run relationship using Autoregressive Distributed Lag-Bound Testing Approach. Pesaran and Shin (1999); Pesaran, Shin and Smith (2001) developed the ARDL technique to investigate the relationship between data series with a combination of level and first difference or purely first difference. This technique, according to Narayan (2005), Jalil and Ma (2008) Gujarati (1995), Pesaran and Shin (1999), is suitable for estimating data with a small sample size, correcting for the problem of serial correlation and endogeneity among data series. Since the data series are a combination of level and first difference order of integration, thus estimation of the long-run relationship among the variables is necessary as thereby may be long term movement among the time series data. For this purpose, the Bound Co-integration technique was employed to ascertain the long-run relationship between budget deficit and inflation which takes the form of

\[ \Delta \text{LINF}_t = \alpha_0 + \beta_1 \Delta \text{LINF}_{t-1} + \beta_2 \Delta \text{BDGD}_t + \beta_3 \Delta \text{LGTGD}_{t-1} + \beta_4 \Delta \text{LRGD}_{t-1} + \beta_5 \Delta \text{LEXCH}_{t-1} + \sum_{i=1}^{q} \alpha_i \text{LINF}_{t-1} + \sum_{i=1}^{q} \alpha_2 \Delta \text{BDGD}_{t-1} + \sum_{i=1}^{q} \alpha_3 \Delta \text{LGTGD}_{t-1} + \sum_{i=1}^{q} \alpha_4 \Delta \text{LRGD}_{t-1} + \sum_{i=1}^{q} \alpha_5 \Delta \text{LEXCH}_{t-1} + \epsilon_t \] (3)

Where LINF, BDGD, LGTD, LRGDP, and LEXCH are the study variables, are the first difference, and \( \epsilon \) is the error term. Under the above equation, the null hypothesis is that no co-integration or long-run relationship exists among the variables, while the alternative hypothesis is that a co-integration or long-run relationship exists among the variables.

After discovering the long-run relationship among the variables, the short-run, and long-run relationship was estimated wherein the dependent variable converged at equilibrium and corrected against disequilibrium. This requires the estimation of the short and long-run coefficients of the independent variables, namely budget deficit, total government debt, real gross domestic product, and exchange rate on the inflation rate, using an error correction model based on the Autoregressive Distributed Lag estimation procedure. The short-run (Error Correction Model) and long-run coefficients take the following form, respectively:

The short run coefficient adopting the ECM-ARDL short run approach is given as:

\[ \Delta \text{LINF}_t = \alpha_0 + \sum_{i=1}^{p} \lambda_i \Delta \text{LINF}_{t-1} + \sum_{i=1}^{p} \lambda_2 \Delta \text{BDGD}_{t-1} + \sum_{i=1}^{p} \lambda_3 \Delta \text{LGTGD}_{t-1} + \sum_{i=1}^{p} \lambda_4 \Delta \text{LRGD}_{t-1} + \sum_{i=1}^{p} \lambda_5 \Delta \text{LEXCH}_{t-1} + \phi \text{ECT}_{t-1} + \mu_t \] (4)

From equation 4, \( \lambda \) the coefficients relating to the short-run dynamics of the convergence to equilibrium. D represents the differencing of the variables, ECT\(_{t-1}\) is the error correction term resulting from the estimated long-run equilibrium relationship, and \( f \) is the coefficient idenoting the speed of adjustment to long-run equilibrium when there is a shock in the system.

\[ \Delta \text{LINF}_t = \alpha_0 + \sum_{i=1}^{p} \Theta_1 \Delta \text{LINF}_{t-1} + \sum_{i=1}^{p} \Theta_2 \Delta \text{BDGD}_{t-1} + \sum_{i=1}^{p} \Theta_3 \Delta \text{LGTGD}_{t-1} + \sum_{i=1}^{p} \Theta_4 \Delta \text{LRGD}_{t-1} + \sum_{i=1}^{p} \Theta_5 \Delta \text{LEXCH}_{t-1} + \epsilon_t \] (5)

Where \( \Theta_1 - \Theta_5 \) represents the parameters of the variables. \( \epsilon = \text{Error Term} \).
4. EMPIRICAL FINDINGS

This section performed the Augmented Dickey-Fuller Unit root test and lag selection criteria on the data series. The bound co-integration technique was adopted for long-run relationship estimation. At the same time, the Autoregressive Distributed Lag technique was used to estimate the model’s short and long-run coefficients. Finally, the diagnostic and stability test concludes the section.

4.1. Unit Root Test

Analyzing a robust result using time series data requires that the data are stationarity. However, macroeconomic data may contain a unit root, mainly involving a stochastic trend. The stationary of data is of significance in establishing relationships among time series data because the use of non-stationary data may invalidate the result. For this purpose, Augmented Dickey-Fuller Unit and Phillips-Peron unit root tests are conducted to determine the stationarity and order of integration of the data series and presented in Table 1.

Table 1: Summary of Augmented Dickey-Fuller and Phillips-Peron Unit Root Tests

<table>
<thead>
<tr>
<th>Series</th>
<th>Augmented Dickey-Fuller</th>
<th>Phillips-Peron</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-Statistic</td>
<td>Prob.</td>
</tr>
<tr>
<td>LINF</td>
<td>-4.368149</td>
<td>0.0016</td>
</tr>
<tr>
<td>BDGDP</td>
<td>-4.290109</td>
<td>0.0020</td>
</tr>
<tr>
<td>LGTD</td>
<td>-4.266306</td>
<td>0.0022</td>
</tr>
<tr>
<td>LRGDP</td>
<td>-3.114411</td>
<td>0.0358</td>
</tr>
<tr>
<td>LEXCH</td>
<td>-5.655159</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Notes: 1(0) = Stationary at Level; 1(1) = Stationary at First Difference, ** significance at 5%
Source: Researcher’s Computation, 2021

The result reported in Table 1 shows that budget deficit as a percentage of gross domestic product is stationary at the level while the log of inflation, log of total government debt, log of real gross domestic product, and log of exchange rate are not stationary at level. However, the log of inflation, log of total government debt, log of real gross domestic product and log of exchange rate become stationary when tested at the first difference, which implies that the variables are integrated at order one. Since the variables are integrated at the level and first difference, the Autoregressive Distributed Lag technique was preferable and employed (Pesaran & Shin, 1991; Pesaran et al., 2001).
4.2. Lag Selection Criteria

However, before estimating the long-run relationship of the model, it is essential to determine the optimum with which the model will be estimated to ensure that appropriate lags are selected to avoid the problem of degree of freedom (Wooldridge, 2013; 1995; Gujarati, 1995). For this purpose, the study uses the Akaike information criterion represented in Table 2.

Table 2: Lag Selection Criteria

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-199.3549</td>
<td>13.69033</td>
<td>13.97057</td>
<td>13.77998</td>
</tr>
<tr>
<td>1</td>
<td>1.789744</td>
<td>2.680684</td>
<td>4.642360</td>
<td>3.308241</td>
</tr>
<tr>
<td>2</td>
<td>65.17835</td>
<td>0.854777</td>
<td>4.497890*</td>
<td>2.020240</td>
</tr>
<tr>
<td>3</td>
<td>123.9651</td>
<td>-0.664338*</td>
<td>4.660213</td>
<td>1.039032*</td>
</tr>
</tbody>
</table>

Source: Researcher’s Computation, 2020 (Note: * indicates lag order selected by the criterion. AIC: Akaike information criterion. SC: Schwarz information criterion. HQ: Hannan–Quinn information criterion)

The result of the selected lag for the study is presented in Table 2. The result indicates that the optimal lag for the study according to Akaike Information Criterion is lag 3 which is used to estimate the ARDL model.

4.3. Co-integration Test Result

Estimating the long-run relationship among the variables is necessary when data are stationary, thereby maybe long-term movement among the time series data. Thus, the study employed the Bound Co-integration technique to ascertain the long-run relationship among the focus variables and presented in Table 3.

Table 3: Bound Co-integration Test

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>17.95222**</td>
<td>5</td>
</tr>
<tr>
<td>Critical Value Bounds Significance 5%</td>
<td>2.62</td>
<td>1.0 Bound</td>
</tr>
</tbody>
</table>

Notes: ** significance at 5%
Source: Researcher’s Computation, 2021

The result presented in Table 3 shows that the estimated F-statistic value of 17.95222 is greater than the lower bound critical value of 2.62 at 5%. Thus, it is concluded that there is a long-run equilibrium relationship between the log of the inflation rate, budget deficit as a percentage of gross domestic product, log of total government debt, log of real gross domestic product, and log of the exchange rate. This
result conformed to the findings of Nwakoby et al. (2016), Ogunsakin and Olalere (2017), and Kaur (2018) but is not in line with the result of Samirka (2014), Bula-wayo et al. (2018).

4.4. Autoregressive Distributed Lag Model Result

Table 4: Short Run Error Correction Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(BDGD)</td>
<td>0.057408</td>
<td>0.007501</td>
<td>7.653800</td>
<td>0.0000**</td>
</tr>
<tr>
<td>D(BDGD(-1))</td>
<td>-0.039886</td>
<td>0.012772</td>
<td>-3.123020</td>
<td>0.0070**</td>
</tr>
<tr>
<td>D(LGTD)</td>
<td>0.797576</td>
<td>0.355538</td>
<td>2.243297</td>
<td>0.0404**</td>
</tr>
<tr>
<td>D(LRGDP)</td>
<td>-7.805844</td>
<td>2.351579</td>
<td>-3.319406</td>
<td>0.0047**</td>
</tr>
<tr>
<td>D(LRGDP(-1))</td>
<td>12.855429</td>
<td>6.307919</td>
<td>2.037983</td>
<td>0.0596</td>
</tr>
<tr>
<td>D(LRGDP(-2))</td>
<td>-3.660180</td>
<td>2.498635</td>
<td>-1.465223</td>
<td>0.1635</td>
</tr>
<tr>
<td>D(LEXCH)</td>
<td>-2.830820</td>
<td>0.189195</td>
<td>-14.962475</td>
<td>0.0000**</td>
</tr>
<tr>
<td>ECT(-1)</td>
<td>-0.950131</td>
<td>0.075236</td>
<td>-12.628658</td>
<td>0.0000**</td>
</tr>
</tbody>
</table>

Notes: ** significance at 5%
Source: Researcher’s Computation, 2021

Table 4 presents the short-run result of the ARDL model. The Error Correction Term (ECT(-1)), which measures the model’s speed of adjustment, shows a coefficient value of -0.950131 which is significant at a 5% confirming short run relationship among the variables. This implies that the model converges from disequilibrium to equilibrium state at a speed of 95% annually. Furthermore, the result shows that budget deficit as a percentage of gross domestic product has a positive effect on the current inflation rate but a negative and significant effect at lag one. Similarly, the log of total government debt positively affects the inflation rate in the short run. Furthermore, it is found that the real gross domestic product log has a mixed effect on the log inflation rate in the short run, as reported in Table 4. Finally, the log of the exchange rate is found to exert a negative effect on the log of the inflation rate in the short run.

Table 5: Long Run Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDGD</td>
<td>0.130517</td>
<td>0.029331</td>
<td>4.449795</td>
<td>0.0005**</td>
</tr>
<tr>
<td>LCGD</td>
<td>0.839439</td>
<td>0.391551</td>
<td>2.143883</td>
<td>0.0488**</td>
</tr>
<tr>
<td>LRGDP</td>
<td>5.026444</td>
<td>0.681845</td>
<td>7.371830</td>
<td>0.0000**</td>
</tr>
<tr>
<td>LEXCH</td>
<td>-0.090050</td>
<td>0.406524</td>
<td>-0.221513</td>
<td>0.8277</td>
</tr>
<tr>
<td>C</td>
<td>-44.038211</td>
<td>6.752443</td>
<td>-6.521819</td>
<td>0.0000**</td>
</tr>
</tbody>
</table>

** significance at 5%
Source: Researcher’s Computation, 2021
The result of the log run coefficients is presented in Table 5. It is found that budget deficit as a percentage of gross domestic product has a positive effect on the inflation rate in Nigeria, which implies that a 1% increase in the budget deficit will lead to a 13% increase in the inflation rate in Nigeria. This implies that widening the budget deficit through an increase in government borrowing will increase the inflation rate in Nigeria.

Similarly, the log of total government debt affects the log of inflation rate with a coefficient of 0.839439, which indicates that a 1% increase in government total debt will lead to an 83% increase in the inflation rate in Nigeria. The implication is that the issue of government debt instruments in funding a large deficit in the national budget will lead to an increase in the economy’s inflation rate. Finally, the real gross domestic product log has a positive effect on the inflation rate, which implies that an increase in the real gross domestic product will lead to an increase in the inflation rate in Nigeria.

Table 6: Diagnostics Results

<table>
<thead>
<tr>
<th>Diagnostics test</th>
<th>Observed value</th>
<th>P-value (Chi-square)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normality Test (Jarque-Bera)</td>
<td>0.489624</td>
<td>0.7829</td>
</tr>
<tr>
<td>Breusch–Godfrey LM test for serial correlation</td>
<td>2.828692</td>
<td>0.0926</td>
</tr>
<tr>
<td>Heteroskedasticity Test: Breusch–Pagan–Godfrey</td>
<td>13.41216</td>
<td>0.0926</td>
</tr>
<tr>
<td>Ramsey RESET Test</td>
<td>3.045710</td>
<td>0.0702</td>
</tr>
</tbody>
</table>

Source: Researcher’s Computation, 2020

Diagnostics and residual stability are tested using Jarque-Bera Normality Test, the Breusch–Godfrey LM test for serial correlation, Breusch–Pagan–Godfrey for Heteroskedasticity, and Ramsey Reset Test for stability. The individual result report in Table 6 indicates that the residual is normally distributed, has no serial correlation, free from Heteroskedasticity, and the model is rightly specified.

5. CONCLUSION

The need to cater to increasing government responsibilities in the modern day has increased expenditure and spending without a proportionate increase in government revenue, mostly in developing countries. This results in a budget deficit which must be financed through different means. However, while budget deficit mainly occurred due to the need to promote economic growth, financing may affect a country’s price stability objective. By estimating dynamic long and short-run coefficients, this study investigated the inflationary effects of budget deficits in Nigeria.

The study revealed that the widening budget deficit in Nigeria produced an increase in inflation in the long run but a mixed effect in the short run. This implies that an increase in fiscal deficit financed through the issue of government debt
instruments will have an undesirable effect on the price stability objective. The re-
sults corroborate the empirical findings of Sargent and Wallace (1981), Fischer et al.
(2002), Sill (2005), Nguyen (2015), Nwakoby et al. (2016), Ogunsakin and Olalere
(2017), who establish a positive relationship between budget deficit and inflation.
Thus, the government needs to work assiduously and diligently in ensuring balance
in the national budget. This can be achieved by cutting frivolous spending, curbing
the menace of corruption by strengthening government institutions and increasing
the revenue base of the economy through diversification. Government anti-corrup-
tion war should be extended to every parastatals and state to ensure that finance ob-
tained is used for growth-inducing purposes rather than for inflation-inducing per-
sonal gain. Finally, a large proportion of debt obtained should be directed towards
financing capital expenditure that can support the economy’s growth.
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