Deficit Financing And Price Level In Nigeria

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ABSTRACT
The study examines the relationship between deficit financing and changes in price level in Nigeria. Time series data of budget deficit, credit to private sector, money supply, consumer price index and normal gross domestic product (GDP) from 1981 to 2015 were obtained from the Central Bank of Nigeria annual statistical bulletin, and time series econometric techniques were used to eliminate the relationship. The findings show that deficit financing solely cannot influence inflation in Nigeria. However, it was discovered that the collective effect of money supply, credit to private sector and deficit finance has strong implication that can propel inflation in Nigeria. The work recommends that government stabilization policies be holistic and consider all variables that have the potential of increasing or decreasing general price level.

Keywords: deficit financing, credit to private sector, inflation, money supply nominal GDP

INTRODUCTION
The actions and inactions of government influence decisions, and variations in the macroeconomic variables in a mixed economy. Government uses policy instrument to drive home changes desired in almost all sectors of the economy. The history of fiscal deficit financing dates back to the 1970(s), soon after the civil war when the jumbo loan of One billion dollar ($1billion) was absorbed to rehabilitate and reconstruct the war torn economy.

The government seeks to achieve the promotion of economic growth, stable prices, employment creations, positive external balances, the maintenance of law and order, conducive environment for foreign investment, etc.

There was the immediate need to operate an economic system that guarantees improved human well-being and social equity. To achieve the in the long-run, there was short-run policies aimed at stimulating production and building local capacity. Several policies of government were presented through the annual budget, designed not only to raise revenue but a tool for economic management, communication and for the controlling of the economy. Akpakpan (1999), the control consist of managing the aggregate demand and that of supply to ensure “right” levels in the economy for the avoidance of recession or inflationary trend – objectively to achieve economic stability, i.e., the achievement of price stability, maintaining full employment and sustained economic growth that leads to improved gross domestic product (GDP). Onwe (2014), opine that stable economic demonstrate modest growth in gross domestic product (GDP) and jobs while holding inflation to minimum. Government economic policies strive for stable economic growth rate, and prices while economist rely on multiple measures (natural income, consumption, inflation, investment, international trade and international finance) for gauging the amount of stability.
Deficit financing has been an increasing decimal in the Nigeria budgetary system. One trillion, four hundred and seventy five billion, three hundred and twenty million Naira (N1,475,320,000,000.00) out of Six trillion seventy seven billion, six hundred and eighty million naira (N6, 077,680,000,000.00) in the 2016 budget was debt refinancing as a fall out of previous government deficit spending. The fiscal deficit for the 2015 budget was 1,041.01 but the actual was 1,163.15 in billion while that of 2016 was 2,222, a percentage change of 113.4%. The fiscal deficit to gross domestic product in 2015 was 1.09%, 2.16% in 2016, a percentage change of 98%.

**Purpose of the Study**
The study is based on deficit financing and price level in Nigeria. Specifically, the study intend to:
1. Find out the influence of deficit finance changes in the price level in the economy
2. Find out the influence of budget deficit in the Nigeria Economy.

**Research Questions**
The following research questions were developed and served as a guide for the study:
1. What is the influence of deficit finance changes in the price level in the economy?
2. What is the influence of budget deficit in the Nigeria Economy?

**Related Empirical Literature Review**
According to the work of Nwaeke and Korgbeelo (2016), analyse budget deficit and the Nigeria economy and discovered that budget deficit, irrespective of the source of financing, have no significant impact on inflation in Nigeria.

Similarly Jibrin (2011) in assessing the impact of budget deficit on the Nigerian economic growth and development found out that rising government expenditure has not translated to meaningful growth and development.

Also, Okoro (2013) estimated the short-run and long-run relationship between deficit financing and trade balance in Nigeria and showed that “short-run dynamic result indicates positive relationship between deficit financing and trade balance (surplus). While the long-run result posits that an increase in deficit financing diminishes trade balance in Nigeria”. The research also found that increase government spending adversely affects the balance of trade, irrespective of whether it is money financed by external borrowing.

In addition, Onwe (2014) investigated the implication of deficit financing on economic growth in Nigeria. The research provides empirical evidence that “deficit financing through ways and means will sustain the economic growth and increase the level of unemployment and reduce inflation rate; and that non-banking public source of deficit financing has been relatively high over the years and has significant positive implications on economic stability in Nigeria.

In investigating the implication of deficit financing on private sector investment in Nigeria, Isah (2012) concludes that government expenditure, deficit financing and high external debt burden is responsible for low private investment profile in Nigeria.

In an effort to provide empirical evidence for the relationship between deficit financing, inflation and money supply in Nigeria, Bakare et al (2014) argued that budget deficit with its implication for increase money supply could lead to inflation if not properly managed. Some result from the research showed that “inflation was also found to be highly dependent on performance of growth of money supply…….” (Bakare et al, 2014).

Ezeabasili et al (2012) provided empirical evidence as regard economic growth and fiscal deficit in Nigeria; that “fiscal deficit affect economic growth negatively” and “government consumption expenditure was also found to affect economic growth negatively.

In a comparative study of deficit financing, money growth and consumer price index in Nigeria and United Arab Emirate (U.A.E) Akonji and Ageel discovered a long-run relationship between the variables and causality between money supply and deficit financing and bidirectional causality between deficit financing and consumer price index for Nigeria. The result from U.A.E showed that there is no long-run
The relationship between the variables, however, “money supply exacts some influence on deficit financing but consumer price index does not exact significant influence on deficit financing.” Umeora (2013) in investigating the relationship between fiscal deficit and selected macroeconomic variables in Nigeria discovered that “Fiscal deficit is believed to have adverse effect on most macroeconomic variables. Adesuyi and Falowo (2013) in assessing the impact of fiscal deficit financing on macroeconomic growth in Nigeria discovered “that fiscal deficit has made a significant debt and domestic loans are important in driving the chronic deficit in Nigeria which contributes to growth”.

In his work on budget deficit and fiscal policy, Romer (2012) states that “there is a rapidly growing literature investigating the short-run macroeconomic effects of fiscal policy empirically. Examples include Blanchard and Perotti (2002); Ramey (2009); C.Romer and D. Romer (2009); Fisher (2009); Hall (2009); and Barro and Redlick (2009). The general consensus of this work is that fiscal policy normally operates in the expected direction: reduction in taxes and increase in government purchases raises output in the short-run”.

**METHODS**

Time series econometric method is employed to analyse the relationship between deficit financing and price level in Nigeria. Price level measures the price of a representative basket of commodities. The consumer price index is the price of a typical basket of consumer goods and services, a sustained increase in consumer price index is inflation. Thus, the consumer price index (CPI) becomes the dependent variable. Deficit financing by implication increases the money supply of an economy; a fiscal measure where government borrows both from domestic and foreign sources to finance the excess of government expenditure over revenue. The money supply in an economy can also be increased through increase in money supply through the central bank and deposit money bank credit creation. Following, deficit finance (DF), money supply (MS) and credit to the private sector (CPS) are independent variables. The model then becomes:

\[
\text{LCPI}_t = f(\text{LCPS}_t, \text{MS}_t, \text{DF}_t)
\]

Explicitly specified as

\[
\text{LCPI}_t = \beta_0 + \beta_1 \text{LCPS}_t + \beta_2 \text{MS}_t + \beta_3 \text{DF}_t + U_t
\]

Where

- CPI = Consumer Price Index
- CPS = Credit to the Private Sector
- MS = Money Supply (M2)
- \(L\) stands for the log
- \(U_t\) = Error term

**A Priori Expectation**

A log linear model is specified because a change in the log of a variable is the growth rate of the variable. That is change in the log of CPI gives the growth rate of consumer price index which is inflation. Thus, \(\beta_1\) and \(\beta_2\) are expected to be positive; credit to the private sector is bank medium of creating money, while money supply is a major determinant of inflation, both has implication for propelling inflation. Although, government deficit financing has implication for increase money supply and could lead to inflation if not properly managed. Therefore the sign and of \(\beta_3\) can be either positive if deficit financing propel inflation and insignificant if otherwise.
RESULTS
The unit root and co-integration test of the variable were examined to determine the appropriate estimation technique.

Table 3.1 Augmented Dickey-Fuller Root Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Augmented Dickey-Fuller Test Statistics</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>First Difference</td>
</tr>
<tr>
<td>: MS</td>
<td>2.347715</td>
<td>-3.803113</td>
</tr>
<tr>
<td>DF</td>
<td>-1.374673</td>
<td>-6.003749</td>
</tr>
<tr>
<td>LCPI</td>
<td>-3.288960</td>
<td>-5.685866</td>
</tr>
<tr>
<td>LCPS</td>
<td>-2.376826</td>
<td>4.136345</td>
</tr>
<tr>
<td>ECT</td>
<td>-3.463127</td>
<td></td>
</tr>
</tbody>
</table>

Tau statistic critical value for 5 percent level -3.50

Source: Author’s Compilation

The ADF unit root test showed that all the variables are integrated at order one I(1). That is the variables are non-stationary at level but are stationary after first difference. An Engle Granger cointegration test is carried out to determine if long-run association exist between the variables.

Engle Granger Cointegration Test

\[ LCPI_t = f(\text{LCPS}_t, \text{MS}_t, \text{DF}_t) \]

\[ LCPI_t = 2.961 - 0.027 \text{LCPS}_t - 3.64 \text{MS}_t + 7.45 \text{DF}_t \]

The unit root test result of the residual (ECT) of equation 3.1 in table 3.1 shows that the variables are co-integrated; (-3.463127 > -1.951000 the critical value at 5% level of significance in absolute terms) That is, long-run equilibrium association exist between the variables in equation 3.1. Thus, an error correction model (ECM) is estimated to account for the short-run adjustment of the variables.

Error Correction Model (ECM)

\[ \text{DLCPI}_t = \beta_0 + \beta_1 \text{DLCPS}_t + \beta_2 \text{DMS}_t + \beta_3 \text{DDF}_t + \beta_4 U_{t-1} + U_t \]

Dependent Variables: DLCPI

Table 3.2 ECM result

<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>C</td>
<td>-251492</td>
<td>0.200633</td>
<td>-1.253490</td>
<td>0.2200</td>
</tr>
<tr>
<td>DLCPS_t</td>
<td>1.079482</td>
<td>0.699367</td>
<td>1.543514</td>
<td>0.1335</td>
</tr>
<tr>
<td>DMS_t</td>
<td>-4.61</td>
<td>0.000146</td>
<td>-0.316743</td>
<td>0.7537</td>
</tr>
<tr>
<td>DDF_t</td>
<td>0.000158</td>
<td>0.000535</td>
<td>0.295174</td>
<td>0.7700</td>
</tr>
<tr>
<td>ECT2 (-1)</td>
<td>-0.513287</td>
<td>0.159646</td>
<td>-3.215152</td>
<td>0.0032</td>
</tr>
</tbody>
</table>

Source: Authors' Compilation

R2 – 0.31 DW 1.732721

The coefficient of the residual (ECT) is negative -0.51 and is statistically significant; with t-value of -3.21. These show that there is a long-run equilibrium association between LCPI_t, LCOS, MS and DF. The
result indicated that 51 percent of the disequilibrium in LCPI in the previous quarter adjusts to changes in LCPS, MS and DF in the current period. This implies that consumer price index adjust to the collective changes in credit to private sector, money supply and deficit financing, however the result show that none of the variables individually influence changes in consumer price index in the short-run. Since the Engle-Granger unit root test of the residual from equation 3.1 is stationary and the coefficient of the error correction term in equation 3.2 is negative and statistically significant, equation 3.1 becomes an estimate of the long-run relationship between LCPI and the independent variable.

In \( LCPI_t = 2.961 - 0.027 LCPS_{t} - 3.644 MS_{t} + 7.45 DF_{t} \) …………………………3.3

<table>
<thead>
<tr>
<th>s.e</th>
<th>t</th>
<th>prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0.41)</td>
<td>(7.14)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>(0.08)</td>
<td>(-0.32)</td>
<td>(0.74)</td>
</tr>
<tr>
<td>(6.49)</td>
<td>(-0.56)</td>
<td>(0.57)</td>
</tr>
<tr>
<td>(0.00)</td>
<td>(0.09)</td>
<td>(0.92)</td>
</tr>
</tbody>
</table>

The long-run analysis shows that there is no statistically significant relationship between CPI and the explanatory variables. Although deficit financing has the potential of causing inflation, the effect is not statistically significant. Probably that is the reason why changes in the variables could only account for about 51 percent of the 31 percent changes in CPI that the short-run model explains.

Test of Hypothesis
Using the probability value of the coefficient of deficit financing (DF) in equation 3.3, 0.92 which is greater than 5% or 0.05 the null hypothesis that there is no significant relationship between budget deficit and inflation on the Nigeria Economy cannot be rejected. That is deficit financing, solely cannot propel inflation on the Nigeria economy.

DISCUSSIONS OF FINDINGS
After looking at the period under consideration, the result shows that deficit financing does not have a sole effect on price level in the Nigeria economy. More so, money supply and credit to private sector do not individually engender inflation in the country. However, collectively these variables propel inflation in the economy. The finding is similar to that of Nwaeke and Korgbeelo (2016), who found that deficit financing irrespective of the source of financing have no significant impact on inflation in Nigeria.

CONCLUSION
The objective of the study was to identify the impact of budget deficit on inflation in Nigeria. From the findings, we conclude that deficit financing has no unilateral overriding effect on inflation in Nigeria. However, the combined effect of deficit financing, commercial bank credit to private sector and money supply has strong implication on inflation in the economy.

RECOMMENDATIONS
Finally, it was recommended that government price stabilization policies be holistic and should accommodate all relevant variables that have the potential to propel inflation in the Nigeria economy.

REFERENCES


