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Effect 0f Deficit Budget Financing Sources on Inflation Rate in Nigeria

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ABSTRACT: *The study examined the effect of deficit budget financing sources on inflation rate in Nigeria. External debt, Ways and Means Advances, and Treasury Bills were the independent variables of the study, while inflation rate was the dependent variable. The study adopted an ex-post-facto research design, covering the period between 2011 and 2020. Secondary data were extracted from the Central Bank of Nigeria Statistical Bulletin. Ordinary Least Square multiple regression technique was used for the data analysis. In line with the specific objectives of the study which is to ascertain the effect of external debt, ways and means advances, and treasury bills on inflation rate in Nigeria, it was revealed that external debt and treasury bills have a significant effect on inflation rate in Nigeria. Ways and means advances have a positive and significant effect on inflation rate in Nigeria. This implies that among the explanatory variables, ways and means advances is the major determinant of inflation rate in Nigeria. The study recommended therefore that government policies on inflation rate should factor in external debts because of their negative effect on inflation rate. external borrowing should be prudently used in productive activities that can raise investments, reduced inflation and improve the country's exchange rate. The Government should drastically reduce the rate they borrow from CBN. Any of such borrowing should be targeted towards developing the economy and they should always maintain the credit limit set by the CBN. The government should reduce the number of treasury bills issued to the general populace. Other sources of deficit budget funding, such as privatization of obsolete government institutions, should be considered by the government.*

KEYWORDS: external debt, ways and means advances, treasury bills, inflation rate, Nigeria

INTRODUCTION

Background of the Study

Inflation continue to become a subject of debate and counter debate among economists because of the critical role it plays in stabilising macroeconomic variables. Stable Inflation is also necessary for monetary and price stability, as well as economic growth. The prime objectives of the 21st-century economic system are the stability of prices of products and services at an inflation rate that is not detrimental to the economic, business and financial climate (Ben, Udo, Abner, Ike, Tingir & Ibekwe, 2018). Anfofum, Afang and Moses, (2015) submit that single-digit inflation rate of 2-6 percent has a positive and significant impact on the economy through increased wages, consumption, investment, creativity, invention, and production. Double-digit inflation has a calamitous micro and macroeconomic consequences that erode consumers' purchasing power and diminish indicators of economic growth and development. The destructive impact of inflation in developed and emerging economies particularly in Nigeria from the 1970s has occupied public discussion and is of prime concern to all stakeholders.

Economists unanimously define inflation as a general, continuous and persistent increase in the general price level of products and services within an economy. According to Okoye, Olokoyo, Ezeji, Okoh, and Evbuomwan, (2019) inflation is a general, continuous and persistent increase and not a distinctive increase in the general price of products and services. The definition bares the prerequisites of "general, continuous and persistent" for price increase in products and services to qualified as inflationary. High inflation rate erodes the gains from growth and leaves the poor worse off thereby increase the divide between the rich and poor in the society. A high inflation rate result from increase in food prices, it hurts the poor because of their high marginal propensity to consume.

Deficit financing seems to present a positive inflationary impact on developing economies particularly Nigeria (Isenmila, 2008). When there is a budget deficit, government finds ways of financing the deficit through borrowing from commercial and merchant banks or from the non-banking public and through the issue of short-term bonds and monetary instruments. Isenmila (2008) submit that the use of deficit financing for the pursuit of fiscal policies often leads to increased danger in an economy.

Deficit financing in Nigeria dates back to 1961, and appeared justified during the immediate post-independence era, Okoro (2013) stated that deficit financing arises largely because of the need to expand the economy. From 1970, the country ran into fiscal deficits and sustained a public sector spending boom. The fiscal deficits of 1970 were justified because it was largely for war reconstruction. Backed with huge wealth from oil, Nigeria embarked on wasteful spending, the mismanagement of the oil boom of the early 1970s led to the return to deficits financing in 1980. From 1982, the continuing decline in crude oil export earnings in 1983 once again led to the resumption of fiscal deficits which were financed through heavy borrowing after reducing the nation's reserves. Then fiscal deficit according to Edo (2002) arises because public spending rises while revenue remains unchanged, or tax revenue falls while public spending remains unchanged. This, leading to deficit financing which occurs as a practice in which a government spends more money than it receives as revenue.

Nigeria has consequently been engaging in deficit spending as an anchor to capital formation and sustainable output growth. The implication of the sources of financing these deficit on the high rate of inflation in Nigeria has been grey and needed more exposure. Consequently, the study ascertained the effect of deficit budget financing on inflation rate in Nigeria.

Statement of the Problem

Theoretically, increase in money supply without equivalent output increase could result into inflationary pressure as too much money would be chasing few goods and services, thereby putting pressure on the general price levels. More recently, the financial tsunami and drought that hit the whole world as a result of Covid-19 pandemic has created a supply crisis, aggravating the upward trend in food prices especially in Nigeria. Nigeria is an import dependent nation.

Nigeria's economy is spinning on an inflation flywheel as headline consumer price index (CPI) for January 2020 moved from +15.75% in December 2020 to +16.47% in January 2021. The recent rise in domestic prices pivots from a twelve month average rise of +13.62%. Analysts note that all major inflation components sprang upwards in January 2021; food inflation rose by +20.57% and core inflation by +11.85%. The rise in the food index was caused primarily by increases in the prices of bread and cereals, potatoes, yam & other tubers, meat, fruits, vegetable, fish, and oils & fats. Despite the optimism of some anaysts that food inflation may decline between Q2 and Q3 2022 there are countervailing indications, such as the sustained conflicts between farmers and cattle herders which could flick sand into the eyes of incorrigible romantics. Farmers in the Northern and Southern parts of the country continue to lament the destruction of their crops and the incessant incursions on their farmlands by armed AK 47-wielding pastoralists. The high level of insecurity in the country's farmbelt implies that farm output could decline significantly during the year, thereby putting further pressure on domestic food prices.

However, inflation rate spike affected other areas of the economy other than agriculture. There is an increase in the price of virtually everything in Nigeria. The highest increases were recorded in the cost of Passenger air transport, medical services, hospital services, passenger road transport, pharmaceutical products, paramedical services, vehicle spare parts, motor cars, miscellaneous services relating to housing, maintenance, and repair of personal transport equipment. These high prices have drastically detoriated the living standard of an average Nigerian and pushed many Nigerians to poverty level.

There are various sectoral constraints or bottlenecks which generate the sectoral imbalances and lead to rise in prices. Structuralist theory of economics, one of the major propagators of inflation in developing countries is deficit financing. In the developing countries planned efforts are being made by the Government to industrialise their economies. This requires large resources to finance public sector investment in various industries. The socio-economic and political structure of these countries is such that it is not possible for the Government to raise enough resources through taxation, surplus generation in the public sector enterprises for investment in the projects of economic development. In Nigeria, revenue generation from taxation has been relatively very small due to low tax base, large scale tax evasion, inefficient and corrupt tax administration. Consequently, the government has been forced to resort to-excessive deficit financing through the issue of treasury bills, ways and means advances, and external borrowings which has caused excessive growth in money supply relative to increase in output year after year and has therefore resulted in inflation in the developing countries. The study therefore ascertained the extent of effect deficit financing have on inflation rate using evidence from Nigeria.

Objective of the Study

The main objective of the study is to ascertain ascertained the effect of deficit budget financing on inflation rate in Nigeria. The specific objectives of the study are as follows:

i. Evaluate the effect of external debt on inflation rate in Nigeria.
ii. Determine the effect of ways and means advances on inflation rate in Nigeria.
iii. Investigate the effect of government treasury bills on inflation rate in Nigeria.

REVIEW OF RELATED LITERATURE

Federal Budget Deficit

Deficit financing can be conceptualized as excess of government expenditure over its revenue projections. The Central Bank of Nigeria (CBN, 2013) describes deficit financing as a usual pattern of action in which governments spend more than they receive as revenue, and the difference is made up by government borrowings in anticipation that expanded business activities will bring in enough additional earnings to cover the shortfall.Also, deficit financing is viewed as "a type of financial planning by a government in which it borrows money to cover the difference between its tax incomes and its expenditure" (Dictionary of Banking and Finance, 2005).

Furthermore, deficit budgeting implies government determination to expend much more money than it earns from diverse income sources (Anyanwaokoro, 2004). In other words, a budget deficit is the surplus of public sector spending over revenues (Nayab, 2015).The bottom line of such fiscal plan lies in government spending more than its total receipts. The government can defray this shortfall by using any or combination of these approaches: (1) external borrowing; (2) borrowing from the citizenry (through issuance of debt securities, e.g. treasury bills, bonds, etc); (3) borrowing from the banking system (mainly from central bank of country; (3) drawing from its foreign reserve; and (4) printing money (Ways and Means method). The most important feature about deficit financing is that it appears to generate economic surplus during the process of development. That is to say, the multiplier effects of deficit financing will be larger if total output exceeds the volume of money supply. As a result, inflationary effect will be neutralized.

External Debt

External debt can be defined as debt owed to non-residents repayable in terms of foreign currency, food, or service (World Bank, 2014). The external debt is debt incurred by a nation that is payable in currencies other than that of the debtor country. External debt includes short-term debts, such as trade debts that mature between one and two years, or whose payment would be settled within a fiscal year in which the transaction is conducted (Central Bank of Nigeria CBN, 2013). International Monetary Fund IMF (2014) offered, "Gross external debt, at any given time, is the outstanding amount of that actual current, and not contingent, liabilities that require payment(s) of principal and or interest by the debtor at some point in the future and that are owed to non-residents by residents of an economy".

Alam and Taib (2013) defined external debt as that portion of a country's debt that is acquired from foreign sources such as foreign corporations, government, or financial institutions. According to Ogbeifin (2007), external debt arises as a result of the gap between domestic savings and investment. As the gap widens, debt accumulates and this makes the country continually borrow an increasing amount to stay afloat.

Ways and Means Advances

Ways and Means Advances is a loan facility used by the central bank to finance the government in periods of temporary budget shortfalls subject to limits imposed by law. According to Section 38 of the CBN Act, 2007, the bank may grant temporary advances to the Federal Government in respect of temporary deficiency of budget revenue at such rate of interest as the bank may determine. The Act states that the total amount of such advances outstanding shall not at any time exceed five per cent of the previous year's actual revenue of the Federal Government. All advances shall be repaid as soon as possible and shall, in any event, be repayable by the end of the Federal Government financial year in which they are granted and if such advances remain unpaid at the end of the year, the power of the bank to grant such further advances in any subsequent year shall not be exercisable, unless the outstanding advances have been repaid.

Under the monetary policy category of the CBN's Frequently Asked Questions page, it was asked, *"Can the Federal Government frustrate the Central Bank of Nigeria from pursuing its monetary policy?"* The apex bank responded to the question stating, *"Yes when the Federal government exceeds its revenue, the CBN finance government deficit through Ways and Means Advances subject (in some cases) to the limits set in the existing regulations, which are sometimes disregarded by the Federal Government. The direct consequences of the central bank's financing of deficits are distortions or surges in the monetary base, leading to an adverse effect on domestic prices and exchange rates i.e macroeconomic instability because of excess liquidity that has been injected into the economy."*

Direct advances from the Central Bank of Nigeria represent the federal government borrowing from CBN. The Federal Government's total borrowing from the Central Bank of Nigeria through Ways and Means Advances has ballooned to N15.51tn, rising by 2,286 per cent in six years (CBN, 2021). The N15.51tn owed by the Federal Government to the central bank is not part of the country's total public debt stock, which stood at N33.11tn as of March 2021, according to the Debt Management Office.

Treasury Bills

Treasury bills are short-term sovereign debt securities maturing in one year or less. They are sold at a discount and redeemed at par. These bills are by nature, the most liquid money market securities and are backed by the guarantee of the Federal Government of a nation. The Federal Government of Nigeria, through the Central Bank of Nigeria, issues Nigerian Treasury Bills to provide short-term funding for government budget deficit. The treasury bills are usually issued through a competitive bidding process, quoted and traded on FMDQ's platform. Treasury Bills are government-guaranteed debt instruments issued by CBN on their behalf to finance expenditure. The CBN also uses treasury bills to control the money supply in the economy. CBN has issued N722.17 billion treasury bills in Q3 2021.

Inflation Rate

Inflation is one of the most frequently used terms in economic discussions, yet the concept is variously misconstrued. There are various schools of thought on inflation, but there is a consensus among economists that inflation is a continuous rise in the prices. Inflation is the persistent increase in the general price level within the economy which affects the value of the domestic currency (Fatukasi, 2012). It is not once and for all upward price movement but has to be sustained over time and affect all goods and services within the economy. Inflation is frequently described as a state where "too much money is chasing too few goods". When there is inflation, the currency losses purchasing power. The purchasing power of a given amount of naira will be smaller over time when there is inflation in the economy. For instance, assuming that N 10.00 can purchase 10 shirts in the current period, if the price of shirts double in the next period, the same N 10.00 can afford 5 shirts only. In the definition of inflation, two things must be borne in mind. First, is aggregate, which implies that the rise that constitutes inflation must cover the entire basket of goods in the economy as distinct from an isolated rise in the prices of a single commodity or group of commodities.

The National Bureau of Statistics released Nigeria's inflation figures for the month of December 2021 on Monday, which to the surprise of many analysts, was an uptick compared to the previous month despite recording steady declines in 8 successive months. The change in the direction of the rate comes as a surprise to most economic analysts, considering that the rate had been going through a moderation from the highs recorded in the previous year, leveraging on favourable base periods. According to the NBS, Nigera's consumer price index rose by 15.63% year-on-year in December 2021, compared to the rate of increase recorded in the preceding month (November 2021 – 15.4%). The high rate of inflation

Theoretical Framework
The study was anchored on Structural Theory of Inflation by Prof. Gunnar Myrdal and Paul Straiten (1972). However, Keynesian Theory of Inflation by John Maynard Kyenes (1935) was used as a support to the study.

Keynesian Theory of Inflation
The Keynesian not only oppose the monetarists' view of a direct and proportional relationship between the quantity of money and prices but postulates that the money supply has an influence on inflation in a much more complex way than the strict monetarists suggest. Keynesians proposed that inflation was caused by demand outstripping supply and pulling inflation higher; inflation being built into the system; and by higher costs pushing inflation higher (Keynes, 1935). They emphasised that the increase in aggregate demand as the source of demand-pull inflation. Onoh and Obioma (2017) submit that when the value of aggregate demand exceeds the value of aggregate supply at the full employment level, the inflationary gap arises.

Structural Theory of Inflation
The theory attributes structural factors as an explanation of inflation prevailing mostly in all developing countries. The theory relates inflation to the effect of structural imbalances and rigidity of the economy. Such factors relate to shortages of supply relative to demand in some sectors; underutilisation of resources and excess capacity due to lack of demand in other sectors etc. The structuralist holds the view that inflation is necessary with growth. The structuralists argue that increase in investment expenditure and the expansion of money supply to finance it are the only proximate and not the ultimate factors responsible for inflation in the developing countries.

According to the structuralists, one should go deeper into the question as to why aggregate output, especially of food-grains, has not been increasing sufficiently in the developing countries to match the increase in demand brought about by the increase in investment expenditure, and money supply. Further, they argue why investment expenditure has not been fully financed by voluntary savings and as a result excessive deficit financing has been done.

Structural theory of inflation has been put forward as an explanation of inflation in the developing countries especially of Latin America. The well-known economists, Myrdal and Straiten who have proposed this theory have analysed inflation in these developing countries in terms of structural features of their economies. Recently Kirkpatrick and Nixon have generalised this structural theory of inflation as an explanation of inflation prevailing in all developing countries. They mention various sectoral constraints or bottlenecks which generate the sectoral imbalances and lead to rise in prices. Therefore, to explain the origin and propagation of inflation in the developing countries, the forces which generate these bottlenecks or imbalances of various types in the process of economic development need to be analysed. According to the theory, one of the major propagators of inflation in developing countries is deficit financing.

In the developing countries planned efforts are being made by the Government to industrialise their economies. This requires large resources to finance public sector investment in various industries. The socio-economic and political structure of these countries is such that it is not possible for the Government to raise enough resources through taxation, surplus generation in the public sector enterprises for investment in the projects of economic development. In Nigeria, revenue generation from taxation has been relatively very small due to low tax base, large scale tax evasion, inefficient and corrupt tax administration. Consequently, the government has been forced to resort to-excessive deficit financing which has caused excessive growth in money supply relative to increase in output year after year and has therefore resulted in inflation in the developing countries.

Empirical Review

Kouladoum (2018) investigated the impact of foreign debt stock on the real foreign exchange rate in Chad. The independent variables of the study are –external debt stock, external debt service payments, public spending, aggregate public investment, broad money supply, and the degree of trade openness, whereas the endogenous variable of the study is the real foreign exchange rate. Historical data from 1975 to 2014 was collated and estimated using GMM. The results indicate that foreign debt stock exerts a positive and significant impact on the dependent variable at the 5% threshold. Aggregate investment and government spending was found to have a statistically insignificant negative impact on FOREX. Other results indicate that broad money supply has a linear but insignificant influence, while debt service payment exerted a statistically significant nonlinear impact on the real exchange rate in Chad.

Chinemerem, Andrew, and Bruno (2021) examined the effect of deficit financing on sectorial output in Nigeria from 1986–2020. The independent variable in the study is deficit financing measured by domestic debt, foreign debt, budget deficit, and Foreign exchange reserve while the dependent variable in the study is Sectorial Output measured by manufacturing sector and services sector output. Accordingly, the two models support the ARDL Methodology since they reported mixed integration. The study found that domestic debt has a positive significant effect on sectorial output in Nigeria. More so, foreign debt has a negative insignificant effect on manufacturing sector output. However, it has a significant effect on the Services Sector Output in Nigeria. Again, the study found that Budget Deficit exerted a positive significant effect on Manufacturing Sector Output. However, it exerted a negative insignificant effect on Services Sector Output. While Foreign Reserve exerted a negative insignificant effect on Manufacturing Sector Output, Foreign Reserve had mixed effects on Services

Sector Output; such effect tends to be statistically significant only in the short run. Lastly, the both inflation rate and the interest rate have a mixed effect on Sectorial Output.

Akamobi and Unachukwu (2021) probed the macroeconomic effects of budget deficit in Nigeria. Specifically, it seeks to probe the effect of budget deficit on private investment and public investment in Nigeria by adopting the ADF unit root test and ARDL model, Granger Causality test and the short-run diagnostics and stability using annual time series data covering 37 years from 1981 to 2019. The variables employed include – Growth rate of real gross domestic product, private investment (Gross Fixed Capital Formation) as a percentage of GDP, public investment measured as ratio government capital expenditure to GDP, budget deficit, money supply measured as ratio of GDP, inflation rate measured by annual year-on-year inflation rate, interest rate, labour force participation rate. The research findings admitted that, budget deficit have positive and significant impact on economic growth in Nigeria. The study also reveals that budget deficit has negative and insignificant impact on private investment in Nigeria. In addition, further investigation shows budget deficit have positive and significant impact on public investment in Nigeria.

Sanusi (2021) examined the impacts of macroeconomic fundamentals on Nigeria's fiscal deficit. An error correction model was specified and estimated. In terms of sign and size, the result showed that there is an inverse relationship between budget deficit and the external reserve. This implies that an increase in the external reserve leads to a decrease in budget deficits. A unit increase in external reserves resulted in a 12.4 per cent fall in the budget deficit. In contrast, however, national income and interest rate showed a positive relationship with the budget deficit. An increase in income expands the potential and propensity to spend. Lenders are equally more disposed to lend to the government because of the presupposed economic prosperity. The lagged value of the error correction term has the expected inverse sign of -0.42 and is highly significant. The negative value of the error correction model further supports the co-integration relationship among the variables.

Safdar, Liaquat, and Bibi (2021) examined the influence of trade deficit and external debt on the performance of the economy of Pakistan during 1980- 2017. The short-run, long-run association and stationarity of data amongst variables are obtained by applying vector error correction technique and Johansen Co-integration test. The study reveals that there is a statically important and negative influence of the trade deficit on GDP while total external debt also has a harmful impact on GDP. The association between total external debt and the gross domestic product is negative and significant, it means when total external debit increases gross domestic product decrease.

Osuji, Erhijakpor, and Oshiobugie (2022) examined the effect of deficit financing on Sectorial Output in Nigeria from 1986–2020. Accordingly, the two models support the ARDL Methodology since they reported mixed integration. The study found that domestic debt has a positive significant effect on Sectorial Output in Nigeria. More so, Foreign Debt has a negative insignificant effect on Manufacturing Sector Output. However, it has a significant effect on the Services Sector Output in Nigeria. Again, the study found that Budget Deficit exerted a positive significant effect on Manufacturing Sector Output. While Foreign Reserve exerted a negative insignificant effect on Manufacturing Sector Output, Foreign Reserve had mixed effects on Services Sector Output; such effect tends to be statistically significant only in the short run. Lastly, both the inflation rate and the interest rate have a mixed effect on Sectorial Output.

Otieno, Odhiambo, Ombok, and Otieno (2019) determine the effect of external budget deficit financing mechanisms on economic growth in Kenya. The study used secondary time series data for the period 1970-2014 from Economic Survey published by Kenya National Bureau Statistics. The study was guided by neoclassical growth theory and adopted a correlational research design. The models were estimated using the Ordinary Least Squares method. The results indicated a negative and significant effect of external budget deficit financing on economic growth (where$\beta = -0.9385; p = 0.02.$).

Alugbuo and Eze (2021) investigated the effectiveness of aggregate deficit financing on capital formation in Nigeria for the period 1981-2019 with the help of the ARDL model of estimation. Results showed that External Debt Stock (LNEXDBT) had a positive relationship with GCF_GDP in the current year, 1st and 2nd lags but statistically insignificant in the long run, Domestic Debt Stock (LNDMDBT) had a negative relationship with GCF_GDP in the current year, 1st and 2ndyear lags and long run, Aggregate Gross Savings (LNADBTS) had a positive significant relationship with GCF_GDP in the current year and in the long run, Aggregate Debt Service (LNADBTS) had a positive relationship with GCF_GDP in the current year and the long run while Total external reserves had a negative relationship with GCF_GDP in the current year and the long run.

Onyedibe, Uzonwanne, Ezenekwe, Nzeribe, and Ezenweobi (2021) investigated the impact of budget deficit financing on money demand in Nigeria to find the effect of budget deficit financing indicators such as external debt financing, domestic debt as well as debt servicing on money demand. The study adopted an auto redistributive lag model (ARDL) which shows the existence of a long-run relationship between money demand and indicators of financing budget deficit and Ordinary Least Square. The findings revealed that external source of financing budget deficit, internal source of financing budget deficit as well as debt servicing has a significant effect on money demand in the Nigerian context.

Alam, Sadekin, Islam, and Moudud-Ul-Huq (2021) examined the effect of budget deficit financing on economic growth in Bangladesh throughout 1981–2018. Using secondary data, the paper used the cointegration test, vector error correction mechanism (VECM), and Granger causality test. The study found that in the long run, government domestic debt (GDD), government external debt (GEXD), and money supply (MS) affect positively economic growth (RGDP). The outcomes of the VECM approach express that in the short run, GDD, external debt, and MS negatively affect economic growth. Also, short-run causality runs from the GDD, GEXD, and MS to economic growth. The Granger causality test result shows unidirectional causal nexus running from GDD to RGDP, RGDP to external debt, and GEXD to MS, and bidirectional causal nexus between MS and GDD in Bangladesh.

Gap in Empirical Review

The summary of empirical literature indicates that a lot of studies have been conducted on deficit budget financing both locally and internationally. However, this is the first indigenous study that examined the effect deficit budget finance source have on the inflation rate in Nigeria using external debt, ways and means advances, and government treasury bills. The period of the prior studies also created an empirical gap which the current study filled.

METHODOLOGY

In the exploration of the impact of deficit budget financing sources on the inflation rate in Nigeria, a research design grounded in the ex-post facto approach was employed. This choice was made due to the reliance on historical data, aligning with the retrospective nature of ex-post-facto research. The study was specifically concentrated within the geographical confines of Nigeria, aiming to unravel the repercussions of deficit budget financing sources on inflation rates spanning the period from 2011 to 2020. Secondary data sources were utilized for the analysis, with the Statistical Bulletin of the Central Bank of Nigeria serving as the principal provider of the time series data for the specified timeframe. The target population encompassed various deficit budget financing sources in Nigeria, including external debt, exports, Ways and Means Advances, Treasury Bills, taxation, oil revenue, non-oil revenue, and more. However, due to practical constraints, the study focused its investigative lens on External Debt, Ways and Means Advances, and Treasury Bills to discern their respective impacts on Nigeria's inflation rate.

Model Specification

A Ordinary Least Square regression techniques was employed to evaluate the effect of deficit budget financing sources on inflation rate in Nigeria. The model was specified as follows:

$$INFRATE = \beta_o + \beta_1 (EXDT)_t + \beta_2 (WAMA)_t + \beta_3 (TB)_t + \mathcal{E}_t$$

Where;

INFRATE	Inflation Rate
EXDT	External Debt
WAMA	Ways and Means Advances
TB	Treasury Bills
$\mathcal{E}$	Stochastic disturbance (Error) Term
β_o	Coefficient (constant) to be estimated
$\beta_i - \beta_3$	Parameters of the independent variables to be estimated
t	Current period

DATA PRESENTATION AND ANALYSIS

Data Analysis

Table 4.2.1 Descriptive Statistics

	INFRATE	EXDT	WAMA	TB
Mean	11.63700	3.94E+10	1216.192	2698.578
Median	11.75000	3.41E+10	1282.750	2728.202
Maximum	15.69000	7.06E+10	2564.708	3579.799
Minimum	8.060000	2.10E+10	180.2100	1727.914
Std. Dev.	2.660689	1.74E+10	855.0375	518.7580
Skewness	0.166849	0.566219	0.143889	-0.190294
Kurtosis	1.924518	1.969554	1.516409	2.920415
Jarque-Bera	0.528340	0.976764	0.951608	0.062992
Probability	0.767843	0.613618	0.621385	0.968995
Sum	116.3700	3.94E+11	12161.92	26985.78

Sum Sq. Dev.	63.71341	2.72E+21	6579802.	2421989.
Observations	10	10	10	10

Source: E-views 10 software

Table 4.1 shows the descriptive statistics of the variables to used in the study. The variables are not in log form to show the values of the variables in the descriptive statistics in its real form. The mean and the median values indicate that there are no outliers in the observation. The standard deviation shows that all the variables exhibit some variations. The probability of the Jarque-Bera Statistics for all the variables (focal and explanatory) have insignificant p-values as follows Inflation Rate (0.767843), External Debt (0.613618), Ways and Means Advance (0.621385), and Treasury Bills (0.968995). The insignificance of p-values depicts a normal distribution for the variables studied used in the study. This was further confirmed by the skewness coefficients which are greater than one for all the variables. The kurtosis coefficient provides a second level of confirmation that all the variables are normally distributed with the following coefficients, net Inflation Rate (1.924518), External Debt (1.969554), Ways and Means Advance (1.516409), and Treasury Bills (2.920415).

Regression Results (OLS)
After the application of the ordinary least square (OLS) estimation method on the model earlier suggested in the previous chapter, the following results shown in the table below was obtained.
N.B: These results were estimated using the Newey-West HAC method, to correct for the presence of autocorrelation in the model.

Table 4.2.2 OLS Estimation Result [Dependent Variable: Log (EXRV)]

Variable	Coefficient	Standard Error	t-Stat	p-Value
Log (EXDT)	4.110147	2.473321	1.661793	0.1476
Log (WAMA)	3.354875	0.817477	4.103937	0.0063
Log (TB)	2.215732	4.001348	0.553746	0.5998
C	71.33366	46.91003	1.520648	0.1792
R^2 = 0.56, Adjusted R^2 = 0.35, F-Stat = 2.650846, Prob(F-stat) = 0.000695, D.W. Stat. = 2.63				

Source: E-views 10 software

External Debt: External Debt has a coefficient of 4.110147 which shows that a unit increase in External Debt will increase the inflation rate in Nigeria by 4.11%. The value of the t-statistics (1.661793 < 2) and the probability of t-Statistic (0.1476 > 0.05) shows that External Debt has a nonsignificant effect on inflation in Nigeria.

Ways and Means Advances: Ways and Means Advances has a coefficient of 3.354875 which shows that a unit increase in Ways and Means Advances will increase inflation rate of the country by 3.3%. The value of the t-statistics (4.103937 > 2) and the probability of t-Statistic (0.0063 < 0.05) shows that Ways and Means's Advances have a significant effect on inflation rate in Nigeria.

Treasury Bills: Treasury Bill has a coefficient of 2.215732 which shows that a unit increase in the Treasury Bills results in a 2.21% decrease in inflation rate in Nigeria. The value of the t-statistics

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(0.553746 < 2) and the probability of t-Statistic (0.5998 > 0.05) indicate that Treasury Bills have a nonsignificant effect on inflation rate in Nigeria.

Statistical Criteria (First Order Tests)
The value of the Adjusted R^2 is 0.35, which tells us that 35 per cent of the variations in the inflation rate are explained by the independent variables, while the other 65 per cent are explained by other factors other than External Debt, Ways and Means Advances, and Treasury Bills. These other factors are contained in the error term. The f-test is used to check for the overall significance of the model and if the value of the probability of the f-stat (p-value: 0.000695) is less than 0.05 at a 5% critical value, the model is said to be significant and statistically fit. The Durbin Watson Statistic shows the presence of negative autocorrelation in the time series data.

Test of Hypotheses
To ascertain the effect of deficit budget finance sources on inflation rate in Nigeria, the three hypotheses formulated in section one of this study was tested using the following decision rule:

Statement of Decision Rule: Reject H_0 if the P-value is less than 0.05 and the t-statistic is > 2, otherwise accept the null hypotheses.

Hypothesis One
Step 1: Restatement of the Hypothesis in Null and Alternate Form
H_0 External debt does not have a significant effect on inflation rate in Nigeria
H_1 External debt have a significant effect on inflation rate in Nigeria.

Step 2: Presentation of Test Results
Table 4.2.5 Spearman Rank Order Covariance analysis result is used to test the above stated hypothesis.

Step 3: Decision
From the panel covariance analysis in Tables 4.2.5, the P-value of 0.1476 is > 0.05; the t-statistic of 1.661793 is < 2. Therefore, the null hypothesis is accepted and the alternative hypothesis rejected. This implies that External Debt does not have a significant effect on inflation rate of Nigeria.

Hypothesis Two
Step 1: Restatement of the Hypothesis in Null and Alternate Form
H_0 Ways and Means Advances does not have a significant effect on inflation rate in Nigeria.
H_1 Ways and Means Advances have a significant effect on inflation rate in Nigeria.

Step 2: Presentation of Test Results
Table 4.2.2 Spearman Rank Order Covariance analysis result is used to test the above stated hypothesis.

Step 3: Decision
From the panel covariance analysis in Tables 4.2.2, the P-value of 0.0063 is < 0.05; the t-statistic of 4.103937 is > 2. Therefore, the null hypothesis is rejected and the alternative hypothesis accepted. This implies that Ways and Means Advances have a significant effect on inflation rate of Nigeria.

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Hypothesis Three

Step 1: Restatement of the Hypothesis in Null and Alternate Form

H_0 Treasury bills does not have a significant effect on inflation rate in Nigeria.

H_1 Treasury bills have a significant effect on inflation rate in Nigeria.

Step 2: Presentation of Test Results

Table 4.2.2 Spearman Rank Order Covariance analysis result is used to test the above stated hypothesis.

Step 3: Decision

From the panel covariance analysis in Tables 4.2.2, the P-value of 0.5998 is > 0.05; the t-statistic of 0.553746 is < 2. Therefore, the null hypothesis is accepted and the alternative hypothesis rejected. This implies that Treasury bills does not have a significant effect on inflation rate of Nigeria.

Discussion of Results

External Debt and Inflation Rate

The covariance analysis result revealed that external debt has a negative and nonsignificant effect on inflation rate in Nigeria. The implication is that the more Nigeria finance their budget with external borrowings, the more the inflation rate continue to increase in the economy. This is because an increase in external debt leads to an increases in inflation with time and weakens domestic currency. The result also aligns with the findings of Sanusi (2021) who found macroeconomic variables to significantly affect inflation rate; Osuji, Erhijakpor, and Oshiobugie (2022) also revealed that deficit financing has a positive and significant effect on output; and Onyedibe, et al (2021) who established that external source of financing budget deficit, internal source of financing budget deficit as well as debt servicing has a significant effect on money demand in the Nigerian context.

Ways and Means Advances and Inflation Rate

The covariance analysis result revealed that ways and means advances have a positive and significant effect on inflation rate in Nigeria. The implication is that the more the government of Nigeria borrow from CBN to finance her budget deficit, the more Nigeria experience rise inflation rate. This is because such borrowings injects money into the economy, thereby leading to a demand pull inflation. The result is in line with the *a priori* expectation of the researcher. The result also aligns with the findings of Sanusi (2021) who found macroeconomic variables to significantly affect inflation rate; Osuji, Erhijakpor, and Oshiobugie (2022) also revealed that deficit financing has a positive and significant effect on output; and Onyedibe, et al (2021) who established that external source of financing budget deficit, internal source of financing budget deficit as well as debt servicing has a significant effect on money demand in the Nigerian context.

Treasury Bills and Inflation Rate

The covariance analysis result revealed that treasury bills have a positive and nonsignificant effect on inflation rate in Nigeria. The implication is that the more Nigeria issues her treasury bills to the public as a means to finance her budget deficit, the more the economy witness increase in inflation rate. The result also aligns with the findings of Sanusi (2021) who found macroeconomic variables to significantly affect inflation rate; Osuji, Erhijakpor, and Oshiobugie (2022) also revealed that deficit financing has a positive and significant effect on output; and Onyedibe, et al (2021) who established that external source of financing budget deficit, internal source of financing budget deficit as well as debt servicing has a significant effect on money demand in the Nigerian context.

CONCLUSION AND RECOMMENDATIONS

This study examined the effect of deficit budget financing sources on inflation rate in Nigeria. The study made use of three objectives to capture various elements of deficit budget finance sources. From the data analysis, the study found that external debt and treasury bills have a positive but nonsignificant effect on inflation rate in Nigeria. Ways and means advances from the CBN has a positive and significant effect on inflation rate in Nigeria.

The adjusted R-squared (R^2) revealed that about 35% of the changes in inflation rate, is accounted for by external debt, ways and means advances, and government treasury bills. The remaining 65% could be explained by other factors capable of influencing inflation rate in Nigeria such as insecurity, exchange rate volatility, and so on. Consequently, the study concludes that ways and means advances to the government by CBN have a significant influence on inflation rate in Nigeria. Such advances increases inflation rate in the economy of Nigeria. From the findings of the study the researcher made the following recommendations:

i. Government policies on inflation rate should factor in external debts because of their negative effect on inflation rate. external borrowing should be prudently used in productive activities that can raise investments, reduced inflation and improve the country's exchange rate.
ii. The Government should drastically reduce the rate they borrow from CBN. Any of such borrowing should be targeted towards developing the economy and they should always maintain the credit limit set by the CBN.
iii. The government should reduce the number of treasury bills issued to the general populace. Other sources of deficit budget funding, such as privatization of obsolete government institutions, should be considered by the government.

The study contributed to knowledge by being the first indigenous study that examined the effect deficit budget finance source have on the inflation rate in Nigeria using external debt, ways and means advances, and government treasury bills. The finding that only ways and means advances from Central Bank of Nigeria to the government have a significant effect on inflation rate in Nigeria, is also a huge contribution to knowledge.

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