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The impact of the recurring budget deficit on economic growth in Nigeria (2010 – 2020)

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Abstract
Despite the progress made in the last four decades of economic planning; budget or fiscal deficit has remained a constant feature of the Nigerian budget plan. Fiscal balance as a measure of macroeconomic health must be planned with an objective of achieving acceptable rate of growth, low unemployment rate, reasonable and sustained foreign reserve as well as a rational degree of price stability. Nigeria is yet to experience any of these. However, economists agree that there seems to be a relationship between fiscal deficit and such macroeconomic variables like; growth, interest rate, trade deficit, money supply and exchange rate among others. The above notwithstanding, there is ongoing debate as to whether the relationship is positive, negative or neutral. In the light of the above, it may be pertinent to ask; "How does the size of budget deficit affect the rate of economic growth in Nigeria?" In considering this question and other related issues, this paper posits that the interplay of other variables such as; money supply, interest rate and exchange rate along with fiscal deficit may give a better understanding of the budget deficit situation in Nigeria. Consequently, the paper examines available data from 2010 till date using standard econometric methods to build an augmented neoclassical growth model that helps to examine and effectively study the growth-budget deficit problem. More specifically, a vector autoregressive model is fitted to the data. Also a graph of the GDP budget deficit is used to examine if there is limit to the extent budget deficit can grow GDP.The results show that; a one year lag in growth (D(logGDP(-1))), capital expenditure D(logCEX(-1)), lending rate D(LR(-1)) and two year lag of D(logNOR(-2)) are statistically significant at 10% and below. However, budget deficit is not statistically significant in the model, the positive influence notwithstanding. The model was found to be good for both long run and short run equilibrium relationship and hence good for policy formulation and implementation. The graph of GDP against budget deficit showed sign of possible threshold after 140B mark. The paper concludes that budget deficit do not significantly growth the economy. However, its positive sign suggested that we may not say that it does not contribute at all. When we combine it with the knowledge that it may have a limit to the extent it helps the economy grow, it can only be said that we strike a balance between it as a planning tool and the returns to the society.

Keywords: economic growth, recurring budget, economic planning

Introduction

Budgeting is an integral component of economic planning. Oil revenue provides Nigeria with a large part of income for public expenditure. Hence, Nigeria is structurally dependent on oil. Consequently, the annual budget has been based on revenue from oil. Non-oil revenue generating sectors; such as agriculture, the source of commodity exports has been neglected. This has made the nation more vulnerable to external shocks arising from fluctuations in the crude oil market. Following the glut in international oil market in the early 1980's the country faced acute economic crisis that forced her to adopt a fiscal deficit policy. Deficit expenditure is normally financed by browed funds and the major object is to stimulate economic activity by increasing aggregate demand, Todaro and Smith (2006). Siegel (1979) [27] opines that deficit financing is probably the single most important measure of the impact of fiscal policy on an economy. Thus, it is now widely accepted that fiscal balance is a useful indicator of macroeconomic health of a nation. However, it will appear that Nigeria is running budget deficit as policy.

Nigeria, like most less developed countries suffers from low income with high propensity to consume. Voluntary savings is therefore at a very low level and investments at the level of voluntary savings will lead to low growth rate and a vicious circle. Economic planners use deficit financing as a tool for breaking the deadlock, Jhingan (2005) [16]. Thus fiscal deficit is widely in use in public sector financing. Its wide use is influenced by the desire of various governments to respond positively to ever increasing demand of the people, Ariyo (1993). Developing countries fall back on the use of fiscal deficit as a strategy for increasing aggregate demand and reducing stress on the economy.

Economic literature suggests three issues that should guide decisions on fiscal profile for an economy. These include its usefulness as a tool for accelerating growth and development, as an option for financing government

expenditure within the proviso that the deficit profile remain sustainable, Buiter (1983). A sustainable deficit is one that will not lead to unlimited growth in the Debt - Gross Domestic Product Ratio.

Baily and Fedstein (1980) Landau (1983), Thomtom (1990), Ariyo and Raheem (1991), have divergent views of fiscal deficit as a tool for enhancing accelerated growth and development. While some believe that fiscal deficit leads to macroeconomic instability, such as unemployment, inflation and accumulation of debt, others are of the opinion it has a positive effect. Still, others are of the opinion that fiscal deficit has a neutral effect on the economy. Thiwall (1983), Jhingan (2005) [16], Todaro and Smith (2006), share the views that some structural variables such as balance of payment deficit, capital outflow, inflation and exchange rate may have causal effects on fiscal deficit.

However, we see the need to re-examine and understand the relationship between economic growth (growth in GDP) and fiscal deficit within the interplay with some macroeconomic variables. This understanding will help us in the macroeconomic management of the economy. Admittedly, Capital expenditure, exchange rate, interest rate, money supply (M2) and non-oil revenue are some variables that can increase the efficiency and productivity of private and government investment and thus contributes to the economic development process of a nation. Besides, if the size of budget deficit changes the growth rate of an economy positively, it is doubtful that the positive influence will be continuous. If this is correct, then there is a threshold beyond which the economy begins to experience a decline in growth. This paper seeks to find this threshold for the Nigerian economy and to examine if we have reached the turning point and how macroeconomic management can help in reversing the trend. Consequently, the objectives of this paper are to:

a. Examine if fiscal deficit, Capital expenditure, exchange rate, interest rate, money supply (M2) and non-oil revenue contribute to the economic growth of Nigeria economy.
b. Examine if there is a threshold in the contribution of fiscal deficit in the growth relationship.
c. Offer policy recommendation based on the findings of the study.

Thus in line with the above objectives the following hypotheses are presented

1. Fiscal deficit, Capital expenditure, exchange rate, interest rate, money supply (M2) and non-oil revenue do not have significant relationship with economic growth in Nigeria economy.
2. The macroeconomic variables in 1. Above do not granger cause one another.

The results of this work will expand, provide information and understanding as well as direct fiscal management of the Nigeria economy.

The other sections of this work are organized as follows: Section 2; presents the literature review and theoretic framework. In section 3; the methods used for the study are discussed while section 4 presents the data and results. The object of section 5 is to summarize the work, conclude and make policy recommendations.

1.0 2.0: Stylized Facts

This section highlights some stylized facts on public debt and domestic savings in Nigeria. We include information on: trends in fiscal deficit and debt; trends in domestic saving; and trends in interest rates

Public Debt

Public debt in Nigeria has been on an increase and the has risen to ₦33.11 billion as at Q1 2021.

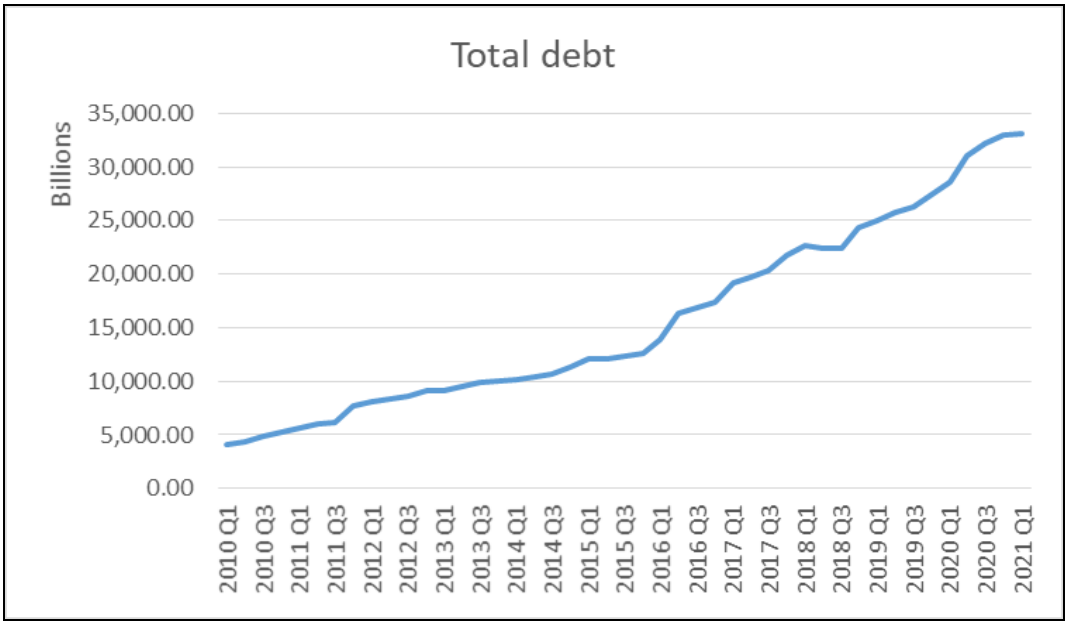

Fig 1

Debt to GDP

The ratio of Debt to GDP tripled in the last decade, to 21.7 per cent in 2020 from 7.53 per cent in 2010. As at Q1 2021, the nominal GDP was ₦40.01 trillion.

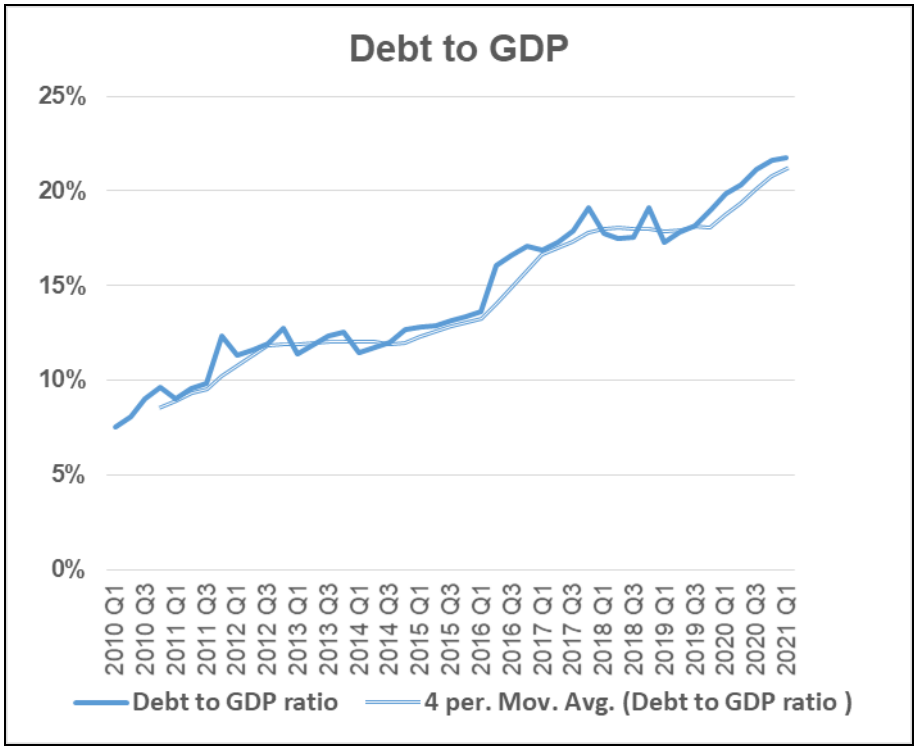

Fig 2

Debt to Revenue Ratio

The Debt to Revenue ratio, a sustainability ratio which compares public debt to gross government revenue, rose to 419.07 per cent in 2020 from 313.5 per cent in 2019. Thus, surpassing the previous peak of 343.5 per cent in 2016 during the 2015/16 recession. The deterioration in this ratio was driven by a decline in gross revenues by 10.2 per cent (Y-o-Y) following a 21.7 per cent downturn in gross oil revenues.

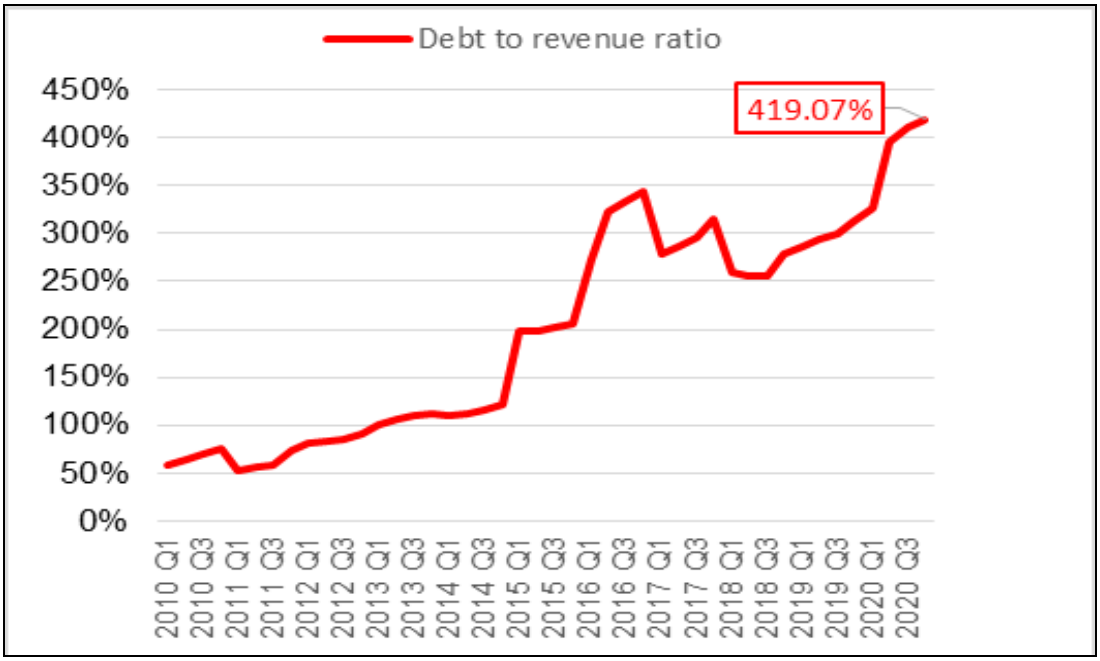

Fig 3

Debt Service to Revenue Ratio

The DSR which measures the percentage of revenue used to service the debt, rose to 31.2 per cent in 2020 from 28 per cent in 2019 due to declining revenues. The Domestic Debt Service to revenue which measures revenue spent on servicing domestic debt only, also rose to 29 per cent in 2020 from 22.9 per cent in 2019.

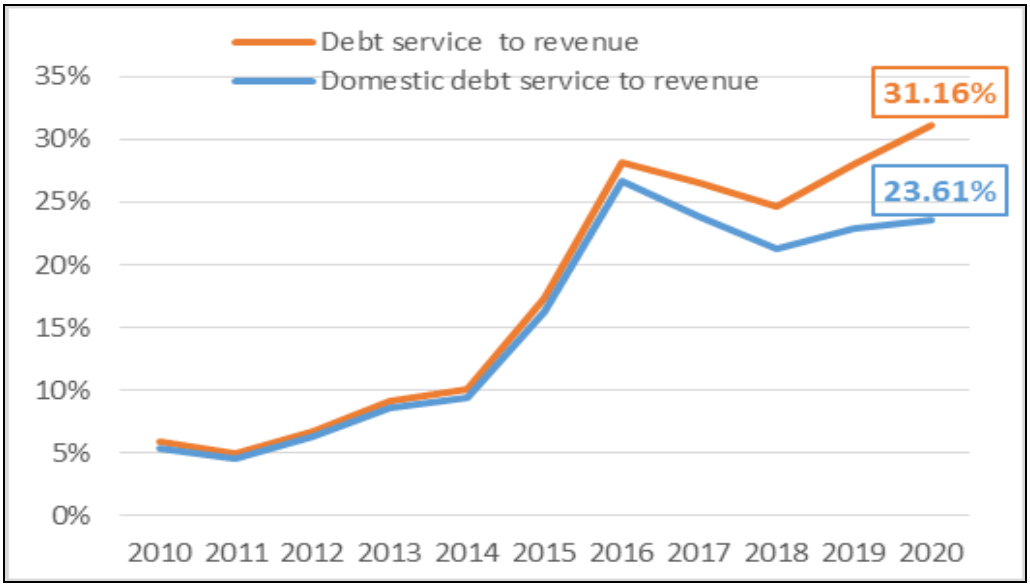

Fig 4

Fiscal Deficit

The trend in fiscal deficit shows there has been a progressive increase in fiscal deficit since the beginning of the decade, reaching its peak in 2020. As of December 2020, the deficit stood at ₦ -5.83 trillion. The budget is mainly financed with proceeds from crude oil sales and due to the crash in price of crude oil, it has been difficult for the government to generate revenue. Government borrowing from the financial markets is therefore on the rise, thus imparting increased pressure on market rates and crowding out private investors.

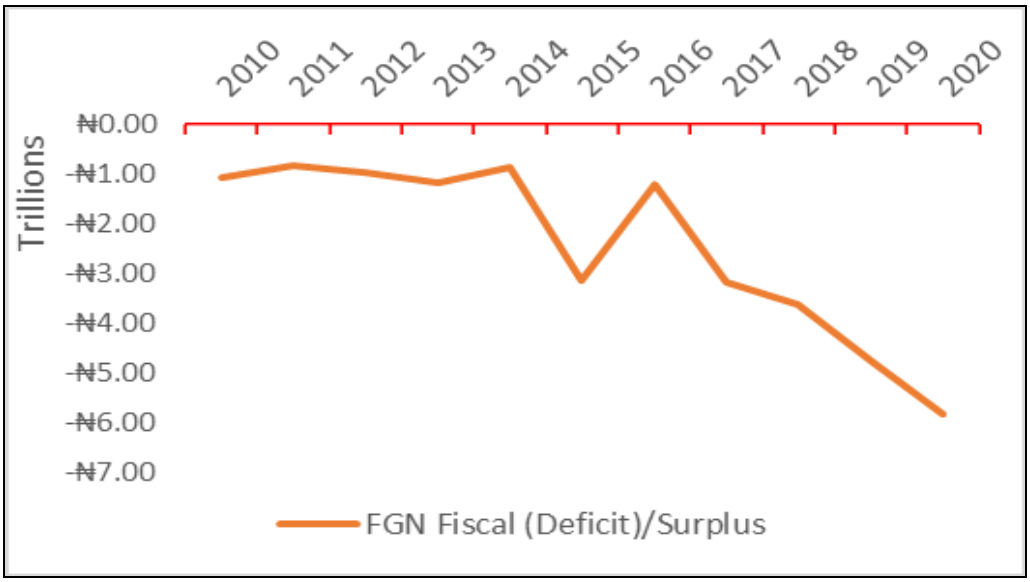

Fig 5

Interest Rates

The Open Buy Back rate peaked between Q1 2017 and Q1 2018. Recently however, the OBB rate has been declining due to the increase in system liquidity mainly due to FAAC disbursements, various CBN interventions and the liquidity trap in the Banking System.

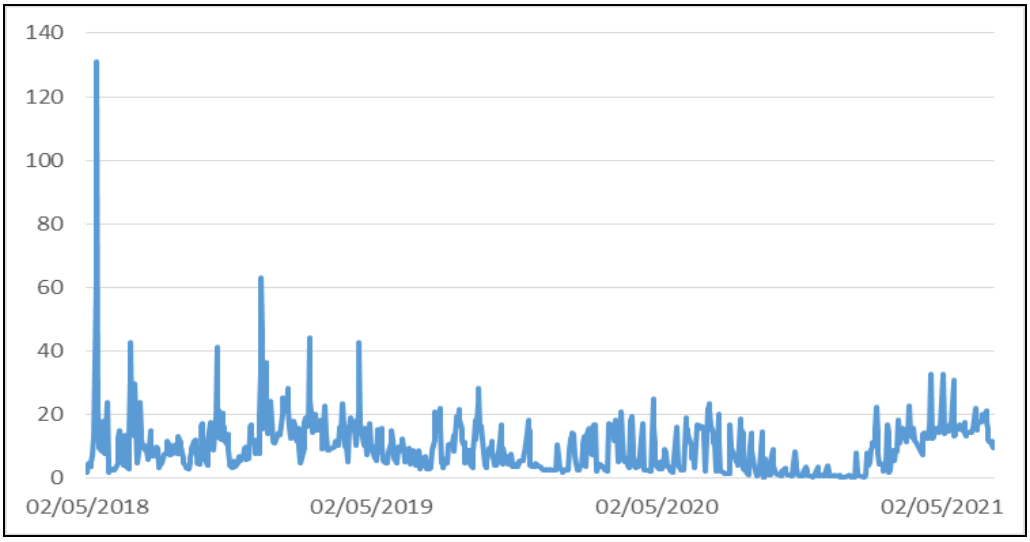

Fig 6

Maximum lending rate was 28.54 as at February 2021. While the Prime Lending rate was 11.21 per cent. Over the decade, the spread between the Maximum lending rate and the prime lending rate has widened. However, in recent months both rates have declined due to increased liquidity from CBN's softer stance. The deposit rate has also declined over the years to hit a low of 1.98 per cent, following a reduction to the rate floor by the Central Bank.

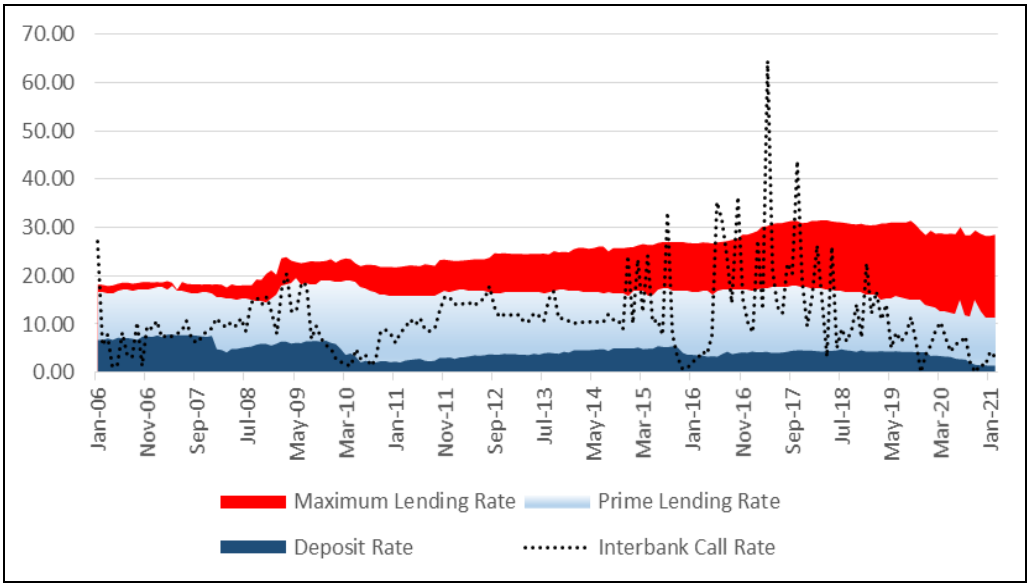

Fig 7

Literature Review

2.0 In dealing with concept issues, we adopt the World Bank definition of fiscal deficit as "the excess of the public sector's spending over its revenue" (World Bank, 1988). In this work, budget deficit and fiscal deficit is used interchangeably Economists believe that deficit financing can accelerate the pace of economic growth and development. The underlying presumption is that the rate of growth and development achievable through reliance on public revenue alone would be inadequate for meeting the yearnings and aspirations of the populace especially in developing nations. Ariyo and Raheem (1990, 1991) [4] and Tanzi (1985) agree with this and are of the opinion that fiscal deficit is now a permanent feature of Nigeria fiscal policy that has generated mixed effect on several macroeconomic aggregates. Of greater concern, however, are the findings reported by Ariyo and Raheem (1990) [5] and Ariyo (1993) [6] which show that the level of fiscal deficit in Nigeria is no longer sustainable given the identified lack of configuration between its revenue and expenditure profiles. Ariyo (1993) [6] also used the litmus test developed by Blinder and Solow (1973), Buiter (1983) Zee (1983), Modified by Rutayasire (1990) to test the sustainability of the Nigeria fiscal deficit profile between 1970 and 1990. The findings show that the fiscal deficit in Nigeria has been unsustainable since 1980. This is also the experience of other developing countries who undertook tax reforms as a corrective measure. Osoro (1991) [23] observed that the focus was on tax structure rather than tax administration geared towards generating revenue from existing tax sources. According to Murray

(2008) [19] the increased oil revenue in Nigeria gave impetus to the government to increase public expenditure, leading eventually to a deficit in 1980 primarily because the oil boom could not generate enough revenue to keep public expenditure.

3.0 Ijewere (1991) observed that successive governments have expressed concern over the low levels of productivity of the Nigeria tax system, which is the basis of the non-oil revenue of the government. The non-productivity of the Nigeria tax system has been attributed largely to the deficiency in tax administration and collection system, complex legislation and apathy, especially on the part of those outside the tax net, In 1997, the Federal government of Nigeria set up the Philips commission on the review of the Nigerian tax system and administration owing to the fact that an accurate estimation of the optimal level of expenditure requires a knowledge of the productivity of the tax system management and the administration. A behavioural explanation for this fiscal stance, had been elaborated upon by Olopoenia (1991) in his discussion of the impact of a sudden surge in the oil revenue in the context of the "Dutch Disease syndrome" Corden and Neary (1982), Herberger (1983), Olopoenia (1991) explained how the confidence of wealth influences government's expenditure.

4.0 Iganiga and Ogieriakhi (2002) investigated the causes of fiscal deficit and its impact on some economic development indicators and observed that fiscal deficit is strongly and negatively correlated with macroeconomic instability, but positively related to gross domestic product. Murray (2008) [19] opines that deficit budgeting is caused by desire to expand the economy in the presence of limited revenue. Political budget cycles; the desire of politicians to stay in power according to Gill and Pinto (2005) [24] compels them to expand spending in favour of observable consumption expenditure and away from investment.
Adeyemi (1991) [2], John (2003), Anyanwu (2006) [3], (Femi, 2007) [14] attribute it to corruption. Gill and Pinto (2005) [24] further observed that inflation obscures the information content of relative prices and hurts investment which increases the cost of development projects which is financed by borrowing. Others think volatile exchange rate may also contribute to fiscal deficit.

5.0 Armed with the above information, Ariyo (1993) [6] opines that fiscal deficit can be corrected through reduction in government expenditure. Nwankwo (1981) [21] also observed that fiscal deficit can be corrected through domestic borrowing, foreign borrowing and currency creation. Iganiga and Ogieriakhi (2002) [15] suggested that investment should be geared towards creating infrastructure and allied productive ventures that will increase the revenue base of the nation.

A good number of research studies have investigated the relationship between public debt, savings mobilization and interest rates in both the developing and advance economies. Turner and Spinelli (2013) investigate the interest rate growth differential and government debt dynamic using panel estimation on selected OECD countries for the period of 1980 to 2010. The results of their finding show that the decline in interest rate differential is partly justified by lower inflation volatility combined with the implementation of monetary policy regimes reliably targeting low inflation. This could also be as a result of the very low policy rate and the "global savings glut". However, the interest rate differential might increase in the future due to the debt to GDP ratio of number of countries rising above the threshold. Blanchard (2019) focused on the fiscal and welfare costs of higher debt in an economy where the safe interest rate is lower than the growth rate of public debt in the United States of America and came up with the following conclusions. Firstly, he argued that public debt may have no fiscal cost should the trend in the past continue into the future, issuance of debt with no future increase in taxes is attainable. Secondly, public debt lessens capital accumulation in the situation where there is no fiscal cost and may thus have lower welfare cost that assumed. Thirdly, he argues that the lower the marginal product of capital the lesser the welfare cost of debt and lastly, he argued against a high debt profile. Nwachukwu and Odigie (2011), using an error correction model, examined the drivers of private savings in Nigeria from 1970 to 2007. The result of the investigation revealed that real interest rate increases as disposable income grows. Their result also showed that public savings appears not to crowd out private savings. Assuming that government policies are directed towards improving fiscal balances, there is the tendency for considerable increase in the general savings rate. They therefore concluded that the depth of the financial system has a negative but inconsequential impact on the savings culture in Nigeria. Essien *et al*., (2016) used a VAR model to look at the impact of public sector borrowings on prices, interest rates and output in Nigeria using annual data from 1970 to 2014. They consider such variables as inflation, GDP growth and prime lending rate in their analysis. Their result showed that a shock to the stock of external debt raises the lending rate with a lag. They also observed that the level of both internal and external debt had no meaningful impact on inflation and economic growth and concluded that government borrowing should be channeled towards capital investments rather than recurrent expenditure to increase economic activities. Gamber and Selisk (2019) examines the effect of government debt on interest rate using a simple model with an aggregate production function to show the theoretical link between interest rate, government debt and crowding out of private sector. They also employed a reduce form regression to measure the relationship between interest rate and debt. In addition to the reduced form model, they made use of dynamic stochastic general equilibrium (DSGE) model to illustrate interest rate response to different types of fiscal policies. Their findings show that fiscal policies that gives motivations on investment in private capital by households and firms produce a lower interest rate response than that recommended by the reduced-form model, which does not control or change the nature of the fiscal policy. On The Contrary, it was found that fiscal policy with little or no incentives for households and corporations to invest in extra private capital prompts a higher

interest rate response than was indicated by the reduced-form model. Gale (2019) illustrates fiscal policy with high debt and low interest rate using data from the United States of America. In his analysis on the high and rising US debt profile and the expectation of low interest rates on the debt, he demonstrated that future growth in debt will cause output growth to fall and obstruct efforts to enact new policy schemes. His results recommended that short-term policy reactions should not concentrate on debt-financing but an investment that are preferably tax-financed and government should ratify a medium- to long-term debt reduction strategy gradually bring down the stock of public debt. Strauch *et al*. (2006) investigated public debt and long-term interest rates in the Case of Germany, Italy and the USA from 1983 to 2003. Their major focus was to address how accretion of government debt influences interest rate at the domestic and international level. They employed a small multivariate econometric model and found out the at all levels, prolonged debt accumulation produced at least in the short term, higher long-term interest rates and with a transitory impact from the United States to at least two other European countries.

The Nigerian experience with budget deficit and economic growth in the last 5 decades is illustrated with Table 1 below. Real GDP tend to increase with decreasing budget deficit but growth in real GDP and GDP in current prices is decreasing with decrease in budget deficit. In 1970 real GDP was N4219M it grew to N31546.76M; N267550M; N329178.70M and N716947.70M respectively in successive decades. In the same vein, budget deficit was declining appreciably by the decade while growth in real GDP was falling alarmingly from approximately 31% in 1970 to 5%, 13%, 5% &7% respectively in 1980, 1990, 2000, and 2009. Corresponding values of growth in GDP at current price are; 49%, 185, 23%, 43% and 1.7% respectively.

Table 1

Year	Real GDP (N bn)	Budget Deficit (N BN)	Growth In Real GDP (%)	Growth In GDP (at Current Prices %)
2010	54,612.26	-1,105.40	5.31	
2011	57.511.04	-1,158.52	5.31	
2012	59,929.89	-975.78	4.21	
2013	63,218.72	-1,153.49	5.49	
2014	67,152.79	-835.71	6.22	
2015	69,023.93	-1,557.83	2.79	
2016	67,931.24	-2,673.84	-1.58	
2017	*68,490.98	-3,609.37	0.82	
2018	*69,799.94	-3,628.10	1.91	
2019	*71,387.83	*-4,913.82	2.28	

Methodology

This paper adopts the augmented growth model of the Cobb- Douglas form. Nonetheless, the model is subjected to standard econometric techniques. Informed of the macroeconomic variables that may affect growth along with Budget deficit; we posit herein that;

$$GDP = f(BD, M2, CEX, NOR, ECHR, LR) \quad (1)$$

Where
GDP_g = Growth of GDP
BD = Budget Deficit
M2 = Money Supply
LR = Lending Rate
ECH = Exchange rate
NOR= Non oil Revenue
CEX= Capital Expenditure

The data set for the work are extracted from Central Bank of Nigeria, statistical Bulletin December 2009. Applying the assumed Cobb-Douglas model

$$GDP = A(BD)^{a1}(M2)^{a2}U \quad (2)$$

and

$$A= a_0(NOR)^{a3}\, a_4^{(ECH)}\, (CEX)^{a5} a_6^{(LR)}\, (BD)^{a7}\, U \quad (3)$$

such that;

$$\text{Log (GDP)} = \log(A) + a_1 \log(BD) + a_2 \log(M2) + \log U \ldots\ldots\ldots\ldots \quad (4)$$

$$\text{Log (GDP)} = \log a_0 + a_3 \log(NOR) + (\log a_4)\, ECH + a_5 \log(CEX) + (\log a_6)\, LR + a_7 \log BD + a_2 \log(M2) + \log U.. \quad (5)$$

$$\text{Log (GDP)} = a_0^* + a_3 \log(NOR) + a_4^* ECH + a_5 \log(CEX) + a_6^* LR + a_7 \log BD + a_2 \log(M2) + U^* \ldots \quad (6)$$

where a_i; i = 0,2,3,4,5,6,7 are constants and U* is the random term.

The unit root test was conducted before estimating the regression coefficients in equations (2). The model for unit root tests and dynamic representation of the error correction model (4.22) is specified as:

$$\Delta Y_t = b_0 + b_1 T + b_2 Y_{t-1} + \sum \Psi_i \Delta Y_{t-i} + e_t \ldots \quad (7)$$

$$\Delta GDP_g = \Psi_0 + \Psi_1 L(\Delta Z) + \Psi_2 ECM_{t-1} + u_t \ldots \quad (8),$$

Where Y_t is the variable under investigation for stationarity, Δ denote change, and e_t is a random error term. The null hypothesis of non-stationarity is rejected if the t-statistics is greater than the critical t-value. However, vector error correction model was used for our estimation so as to incorporate the error correction dynamic specification where ECM is the error correction variable, Z is the vector of variables that cointegrate with growth of GDP, L is the lag operator. ECM is the time series residuals from the cointegrating vector of the long run equation. We test the hypothesis that u_t is non-stationarity, i.e the hypothesis of no cointegration. If the coefficient of the error correction (ECM) variable is negative and statistically significant we reject the hypothesis of no cointegration. That is, the result supports the existence of cointegration. Similarly, directions of causality among the variables in the model are investigated using a Granger causality test of the form:

$$GDP_{gt}=\sum a_i GDP_{gt-i} + \sum b_j BD_{t-j} + u_{1t}.... \quad (9)$$

Tests for the other paired variables can be represented as in (5) by simply substituting the variables accordingly. The statistical package Eviews 4.1 is used for the analyses.

Presentation and Analysis of Results

The result of the unit root test is summarized and presented in Table 2 below. Growth of GDP (GDP_g), Budget Deficit (BD), Capital Expenditure (CEX), Broad money (M2) and Non-Oil Revenue (NOR) are found to be while Lending Rate (LR) and Exchange rate (ECH) are integrated of order zero, I(1). This confirms that OLS method is not suitable for this study. Provision must be made for error correction mechanism in model. Vector Error Correction Model is suitable for providing us with cointegrated equations that can explain both the long run and short run equilibrium conditions.

Table 2: Result of Augumented Dickey-Fuller Unit Root Test

Variable	ADF Statistics		5% Critical Value		Integration Order
	Level	1ST DIFF	Level	1ST DIFF	
GDP_g	-5.749	-	-2.923780		I(0)
BD	9.505	-	-2.926622	-	I(0)
CEX	9.275	-	-2.926622	-	I(0)
M2	3.497	-	-2.926622	-	I(0)
NOR	4.647	-	-2.926622	-	I(0)
LR	-1.225	-7.933	-2.926622	-2.926622	(1)
ECH	1.231	-6.432	-2.923780	-2.925169	I(1)

Compiled by author

The granger causality test summarized in Table 3 did not show that Budget deficit drives Economic Growth or vice versa but economic rationality suggests that budget deficit should have effect on growth of an economy. This is pointing to the Richardian neutrality proposition. Despite this result it is expected that the VEC model will throw more light into the relationship between economic growth and the selected macroeconomic variables.

Table 3: Result of Significant Pairwise Granger Causality Test

Paired Variable		F-STATS (5%)		PROB		Decision
		FWD	BWD	FWD	BWD	
GDP_g	LR	0.10793	5.0017	0.99	0.01	LR=f(GDP_g)
BD	CEX	2.1006	3.57861	0.126	0.037.	CEX=f(BD)
ECH	BD	3.7043	0.59245	0.033	0.558	ECH=f(BD)
M2	BD	17.0136	46.3156	0.000	0.000	2-waycausality
NOR	BD	21.3585	12.9926	0.000	0.000	2-waycausality

Compiled by author

The full result of the error correction estimate of our model is presented as an appendix to this work. It shows that there is one cointegrating equation for the model. Below is an extract from the result for discussion.

Table 4: Regression Result

Error Correction	D(LOG(GDP))
CointEq1 (ECM)	-0.575938* (0.15028) [-3.83240]
D(LOG(GDP(-1)))	0.712761* (0.18699) [3.81178]
D(LOG(BD(-1)))	-0.046179 (0.03972)

	[-1.16254]
D(LOG(CEX(-1)))	-0.152987*** (0.08753) [-1.74773]
D(ECH(-1))	0.003175 (0.00263) [1.20957]
D(LR(-1))	-0.013990** (0.00541) [-2.58696]
D(LOG(NOR(-2)))	-0.153140*** (0.08414) [-1.82004]
D(LOG(M2(-1)))	0.020934 (0.24087) [0.08691]
C	0.141538 (0.07005) [2.02065]
R-squared	0.599900
Adj. R-squared	0.439860
Sum sq. resids	0.360469
S.E. equation	0.134251
F-statistic	3.748437
Log likelihood	22.47164
Akaike AIC	-0.929078
Schwarz SC	-0.504745
Mean dependent	0.220637
S.D. dependent	0.179379
Determinant Residual Covariance	
Log Likelihood	
Log Likelihood (d.f. adjusted)	
Akaike Information Criteria	
Schwarz Criteria	

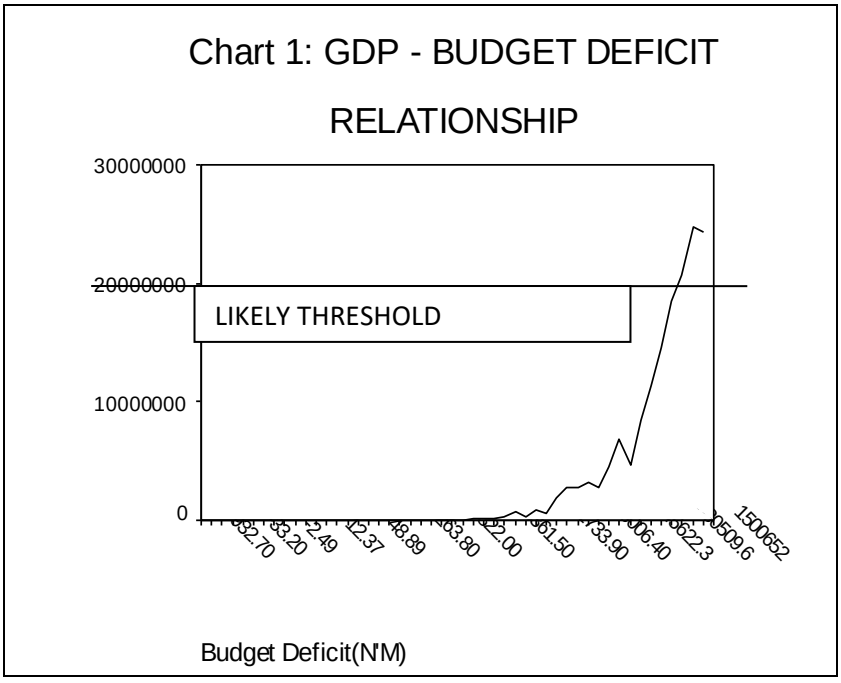

Chart 1

Chart I above is graph of the relationship between GDP and budget deficit. It can be seen that GDP grows gradually with increasing budget deficit. Then it begins a sharp rise and at bout N140B, it begins a decent. A horizontal line is used to indicate this. This may suggest to us that there is a limit to which budget deficit can help in budget planning.

Discussion

The coefficient of the ECM as shown in Table 4 above, is negative are statistically significant at 1%. The return rate is about 57%. This indicates that the model is good for both long run and short run equilibrium stable relationship for policy formulation. We interpret the log difference as growth in GDP which measures economic growth. Lags have the general meaning of one time period behind, in this case 1 year. The standard error ( ) and t-statistic [] are given below each coefficient. *, **, *** implies that the coefficient is significant at 1%, 5% and 10% respectively. It is noticed that the independent variable impact on growth over time lags. In particular, a one year lag in growth (D (log GDP (-1), capital expenditure D (logCEX(-1)), lending rate D(LR(-1)) and two year lag of D (logNOR (-2) are statistically significant. However, budget deficit is not significant in the model. Since the result of VEC is usually normalized to "0", the signs of the coefficient will change and the result is interpreted with this in mind.

Thus, a 1 unit increase in last year's growth is expected to bring about 0.7unit increase of economic growth. Similarly, 1 unit increase in Capital expenditure and lending rate in the last year will result to about 0.15and 0.013 unit increase respectively to growth. A unit increase from non-oil revenue in the last 2 years is expected to increase growth of GDP by 0.15unit. Although, budget deficit is not statistically significant, it has a positive sign, which implies that an increase in budget deficit is expected to positively increase growth.

Summary, policy implication and conclusion

Summary

This paper in section 1, sort to examine if; fiscal deficit, Capital expenditure, exchange rate, lending rate, money supply (M2) and non-oil revenue contribute to the economic growth of Nigeria. Knowledge gained from the study may provide some understanding to the persistent feature of budget deficit in the budget plan over the years. It further suggested that there may be a threshold to the extent of budget deficit ability to grow GDP.

This was in consonance with the exposition of some reviewed literature in section 2. Given that the time frame of 1961 – 2009, and that most of the works used different data set and methods, we used the vector Error Correction model for estimation and analyses as enunciated in section 3. The issue of existence of threshold in the GDP-budget deficit was examined graphically.

The results showed that; a one year lag in growth (D (log GDP (-1), capital expenditure D (log CEX (-1), lending rate D(LR(-1)) and two year lag of D (log NOR(-2) are statistically significant at 10% and below. However, budget deficit is not statistically significant in the model, the positive influence notwithstanding. The model was found to be good for both long run and short run equilibrium relationship and hence good for policy formulation and implementation. The graph of GDP against budget deficit showed sign of possible threshold after 140B mark.

Policy Implication

We cannot overstate the danger in Nigeria remaining dependent on oil revenue to the neglect of the non-oil sector. This sector has suffered neglect since the discovery of oil. It is perhaps time to return attention to it especially as we have evidence that growth in that sector will grow the economy.

Also capital expenditure contributes substantially to the growth of the economy. It is recommended that capital expenditure be concentrated on the development of capital goods that will promote the non-oil sector and boost industrial development. This is another sector that should be encouraged to pick up again. In this regard, it not welcomed that growth will have to grow with increase in lending rate. This will discourage the industrialists. However, some other benefits such as subsidy may be introduced to moderate the effect of increasing lending rate. There is the need to take note of the fact that previous year growth positively grows the next year growth. Budget planners can predicate future plans on that by way of ensuring sustainability.

Although, we did not find budget deficit impact significantly to growth, it remains an option whose alternative is difficult to find. Planners therefore must use it cautiously as we know that there may be the existence of a threshold beyond which its use will become injurious to the growth and development aspirations of the nation.

Conclusion

In the presence of the above result, we conclude that budget deficit do not significantly growth the economy. However, its positive sign suggested that we may say that it does not contribute at all. When we combine it with the knowledge that it may have a limit to the extent it helps the economy grow, it can only be said that we strike a balance between its use as a planning tool and the returns to the society.

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