DOI: 10.21276/sjbms.2017.2.3.25

Saudi Journal of Business and Management Studies **ISSN 2415-6663 (Print)**
Scholars Middle East Publishers **ISSN 2415-6671 (Online)**
Dubai, United Arab Emirates
Website: http://scholarsmepub.com/

Budget Deficit and Economic Performance in Nigeria

Momodu Ayodele A[1], Monogbe Tunde G[2]
[1]Department of Banking and Finance, Rivers State University of Science and Technology, Nkporlu, Port Harcourt, Rivers State Nigeria
[2]Department of finance and banking, faculty of management science university of Port Harcourt rivers state, Nigeria

***Corresponding Author:**
Monogbe Tunde G
Email: olatundebusayo19@gmail.com

Abstract: Since the past year budget deficit is corrected in the current year, this study seek to examine the lag effect of previous year's budget deficit on performance of the Nigeria economy in the contemporary year using VAR estimation between the periods 1981 to 2015. From the foregoing statistical output, findings established that Budget deficit significantly stimulate economic performance. The output of the granger causality test shows that budget deficit statistically granger cause economic performance and viz versa while the result of the multiple regression of the ordinary least square report a significant but negative relationship to economic performance. The negative response of budget deficit to economic performance could be attributed to moral hazard, mismanagement of fund and financial indiscipline which prevent the country from enjoying the sustainable level of expected growth overtime. The output of the VAR estimate established that the lag value of federal government budget deficit has contributed to performance of the economy in the current year although the contributive quadrant is not been felt to a reasonable extent. This empirical findings support the Keynesian postulation of significant relationship between budget deficit and economic performance. Prior to our findings, study recommends that Policy makers should ensure effective utilisation of borrowed fund and maintain a sporadic evaluation and supervision of such project in which borrowed fund are channelled into in order to achieve a profitable returns which will help in servicing of such debt and also stimulate economic performance.
Keywords: Budget Deficit, Vector Auto Regression, Economic Performance

INTRODUCTION

One of the dominant economic concerns in the current decade is the tenacity and size of the government budget deficits. The reason for this concern varies from the general public feelings that it is irresponsible for government to 'live beyond its means'. Deficit budget is a famous instrument of fiscal policy used to increase the rate of economic performance of a country. Deficit as a means of financing was introduced in Nigeria after the civil wars, oil crisis and current financial and economic issues. Since independent, over 85% of Nigerian budget are on deficit Akinmulegun [1]. However, despite the extended expansion of government expenditure in Nigeria over the years, the expected level of economic development is not been achieved as Larger percentage of the Nigeria citizens are still living in chronic poverty, persistent high mortality rate, low life expectancy due to inaccessibility to standard medical facilities; poor road network, shortage of food, and embarrassing high rate of unemployment Ogunleye and Simon [2].

Sequel to these, government resorted into budget deficit to fill the resource gap. Notably, many economic policies of the government, including the well celebrated SAP of 1986 were implemented with the help of budget deficit. Not only this, the financing of the so called oil subsidy, the perennial insecurity problems as well as other engagements of the government such as the 2011 and 2015 general elections were financed courtesy budget deficit Akinmulegun [1]. Budget Deficit in this context refers to a situation where government expenditure exceed government spending in the process of ensuring economic performance Monogbe, *et al*. [3]. In order to measure the extent to which government has borrowed, it requires that all revenue and expenditure be taken into account so as to ascertain its deficit or surplus. Inability of the government in paying up her debt transpires increases debt servicing cost.

Mine while, series of empirical studies has been done on this subject matter and quite a number of results emerged. For instance, Ricardian Equivalence Theorem emphasis that increases in the budget financed by fiscal spending will be matched with a future increase in taxes and so they leave interest rates and private investment unchanged Banerjee, *et al*. [4]. That is, In an attempt to repay the borrowed fund, tax which was cut in the previous years will eventually be raised higher than what was supposed to be paid earlier which implies that the accumulated private savings during

increase in government spending will be used in setting off the borrowed fund in the future. The choice is therefore between taxes now OR tax later.

However, the Keynesian economics opined that there is a positive nexus between budget deficit and economic performance. Their however argue that budget deficit stimulate domestic production, trigger aggregate demand, increase level of savings , promote investment trends at any given level of interest rate and hence crowd in private investment. At this point Persistence increase unemployment is presumed in the economy and that the sensitivity of interest rate to investment is minuet. In addition, this view assumes that budget deficit increases private investment due to the positive effect of government spending on investors' expectations. Therefore, there is crowding-in rather than crowding-out [5,6]. Consequently, Empirical findings of Osuka and Achinihu [7], Onuorah and Ogbonna [8] and Monogbe, *et al.*, (2015) reported that budget deficit has a positive nexus to economic performance in Nigeria thus canvas support for the Keynesian crowding in preposition.

The neoclassical school opined that excessive budget deficit leads to crowding out effect. Their argue that government excessive spending stimulate aggregate demand and hence create a high level of competition in demand for loan between government and private investor given a fixed money supply which will in turn skyrocket interest rate, and finally crowd out private investors. Empirical evidence like that of Isah [9], and Akinmulegun [1] report that budget deficit does not stimulate economic performance in Nigeria and hereby canvas support for the neoclassical. At this junction, One wonder why empirical evidence and theoretical underpinning justifies the fact that budget deficit stimulate economic performance especially when an economy is facing persistence unemployment like Nigeria but, in the practical sense, reverse is the case in the Nigeria context.

It is in light of the underlined observation that this study seek to investigate whether or not budget deficit stimulate economic performance in Nigeria and to identify its direction of causality into the economy using the Granger Causality in VAR univariate Model

THEORETICAL UNDERPINNING

Lerner's View

Lerner argues that if borrowed fund from abroad is used in financing current consumption, it is possible that intergenerational effect is likely to take place. That is, if the government of a country borrows to finance present consumption of her economic like payment of salary, and all other recurrent activities that does not yield profitable returns, then future generation will be burden in repaying such debt. Conversely, if borrowed loan is used to finance capital investment where the generated returns from such investment is great than the borrowed fund, then no debt burden will be transfer to the future generation.

The researcher here is of the opinion that, the irrelevance of government fiscal policy as opined by Barro's [33] provocative hypothesis is not justifiable enough. Whether or not the debt burden will be transfer to the future generation is a function of expected returns on the investment in which the fund (borrowed fund) is lunch into. Consider a situation where the borrowed fund is centred on a capital investment which contribute to increase productive capacity such that the generated revenue from such investment is greater than the borrowed fund, then debt burden is not transferred to the future generation. Therefore, government budget deficit policy is relevant while Ricardo theory will only hold when returns from investment are less than the borrowed fund.

Keynesian School vs Neoclassical School of Though

The Keynesians provide a counter argument to the crowd-out effect by making credence to the expansionary fiscal policy. They argue that leads to increase in domestic production, which makes private investors more optimistic about the future course of the economy resulting in them investing more. This is known as the crowding-in effect. The theory suggested that active government policy could be effective in managing the economy. Rather than seeing unbalanced government budgets as wrong, Keynes advocated what has been called countercyclical fiscal policies, that is, policies which acted against the tide of the business cycle. Budget deficit is appropriate when a nation's economy suffers from recession or when recovery is long delayed and unemployment is persistently high and the suppression of inflation in boom times by either increasing taxes or cutting back on government outlays. Keynes argued that governments should solve problems in the short run rather than waiting for market forces to do it in the long run, for in the long run, we are all dead.

The neoclassical economist proposes a negative relationship between budget deficits and economic performance. They argue that increase in government spending stimulate aggregate demand and hence bring about high level of competition between government and private investors in demanding for loan leading to higher interest rates and further discourages the issue of private bonds, private investments, private spending, increases inflation level, and cause a similar increase in the current account deficits and finally slows the performance rate of the economy through resources crowding out. The Neoclassical school considers individuals planning their consumption over their entire cycle. By shifting taxes to future generations, fiscal deficits increase current consumption. By assuming full employment of resources the neoclassical school argues that increased consumption implies a decrease in savings. Interest rate must rise to bring equilibrium in the Capital markets.

Loan-Able Funds Theory

This theory considers interest rate mechanism as the major determinate of savings and investment in a given economy. That is, a sustainable level of investment and savings can only be achieved through interest rate mechanism. Increase in government spending automatically skyrocket interest rate for capital market to achieve equilibrium, which has a ripple effect on the private investors. In this case, malfunctioning of the mechanism is of no advantage to the private investors as the price for loan is on the increase. This implies that private investors are crowd out. This theory specified that increase in Budget deficit will stimulate aggregate demand for loan-able fund hence, bring about high competition between government and private investor leaving interest rate on the increase and thereby crowd out private investors. However, savings are determined by the household consumption-savings decision at full employment income thus it is aggregate supply which places a constraint on the supply of loan able funds.

The New Performance Theory

This theory was developed in the 1980's as a response to criticism of the neoclassical performance model. The endogenous performance theory holds that policy measures can have an impact on the long run performance rate of an economy. The main implication of recent performance theory is that policies which embrace budget deficit and external debt will promote performance. Conversely, policies which have the effect of restricting or slowing change by projecting or favouring particular industries or firms are likely over time to slow performance to the disadvantage of the community Olamuyiwa [10].

REVIEW OF RELATED LITERATURE

Ekperiware and Oladeji [11] examined the structural break relationship between budget deficit and economic performance in Nigeria. The study employed a quarterly time series data of budget deficit, budget deficit service and real GDP from 1980-2009. An empirical investigation was conducted using the chow test technique of estimation to determine the structural break effect of budget deficit on economic performance in Nigeria as a result of the 2005 Paris Club debt relief. The result of their findings revealed that the 2005 budget deficit relief caused a structural break effect in the relationship between budget deficit and economic performance. Balance and long term relation of five variables (GDP, private investment, public investment, budget deficit and imports). Time series data covering the period 1974-2007 was used and the vector autoregressive model (VAR) technique of estimation was employed. Their findings revealed that external that has a negative effect on GDP and private investment and pubic investment has a positive relationship with private investment. Abell [12] estimates a seven-variable VAR model using monthly data for the period 1979:02 – 1985:02, the variables included in the system are the federal government budget deficit, the U.S. Merchandise trade balance, the MI money supply, Moody‟s AAA bond yield, the Dallas Federal Reserve Bank's 101 Country trade-weighted dollar exchange rate, real disposable personal income, and the Consumer price index (CPI) Abell [12]. This study concluded that budget deficits influence trade deficits indirectly rather than directly.

Onufowara and Owoye [13] using quarterly data tested for deficit hypothesis in the U.S spanning form 1974-1998 they also investigated the nexus between trade deficit using three other independent variables. The result of the findings shows no co-integration link between budget deficit and current account. According to Tallman and Rosensweig [14] they investigates the link between deficits and trade deficits in the U.S spanning over the period of 1971-1989, they found that government deficit (as a ratio to GNP) Granger causes the trade deficit (as a ratio of GNP) but not vice versa.

Another prominent scholar Komain [15] investigate the trend between governmental spending and economic performance in Thailand by adopting the Granger causality test, the result shows that government spending and economic performance do not have long run equilibrium. Consequently, the result unveils a unidirectional association, as causality runs from government spending to performance. The World Bank [16] is of the opinion that a country whose financial market is not comprehensively regulated, more deficit finance through local or national or national debt will stimulate prime interest rate and as such foreign borrowing became difficult if not impossible. Mine while, when financial market is fairly integrated with the world capital market, higher domestic borrowing will stimulate foreign direct investment and hence promote huge capital inflows.

Ejigayehu [17] also analysed the effect of budget deficit on the economic performance of eight selected heavily indebted African countries (Benin, Ethiopia, Mali, Madagascar, Mozambique, Senegal, Tanzania and Uganda) through the debt overhang and debt crowding out effect with ratio of budget deficit to gross national income as a proxy for debt overhang and debt service export ratio as a proxy for debt crowding out. Panel data covering the period 1991-2010 was used. The empirical investigation was carried out on a cross-sectional regression model with tests for stationary using Augmented Dickey Fuller tests, Heteroscedasticity and ordinary regression. The concluding result from estimation showed that budget deficit affects economic performance through debt crowding out rather than debt overhang.

Somia *et al*., [18] investigate the linkage between the current account deficit and budget deficit in Pakistan with the intension of testing the validity of

Keynesian stance, which states that there is positive and significant relationship between the said variables. Autoregressive distributed lag model (ARDL) is used for the robustness of long-run relationship between current account deficit and budget deficit in the presence of control variables. For short run dynamics ECM (Error Correction mechanism) is applied. To test the validity of the Keynesian proposition and the Ricardian equivalence in the case of Pakistan multivariate Granger causality test was applied. The empirical analysis in this paper partially supports the Keynesian view that there is a positive relationship between current account deficit and budget deficit. In terms of policy implication, it is recommended that any policy measures to reduce the budget deficit in Pakistan could well assist in reducing the Pakistan's current account deficit, which will ultimately leads to sustain economic performance.

Samah *et al*. [19], statically investigate if budget deficit crowd out private credit from the banking sector using Egypt as a case study. Finding reveals that government borrowing crowds out private investment through its dampening effect on private credit. The study estimates a VAR model using quarterly data spanning for almost four decades. The estimated model has unearthed a number of interesting results. As the government issues more debt instruments to finance its deficit, banks shift their portfolio away from risky private loans and opt for lazy behaviour characterized by a shrinking overall credit tilted more and more toward government debt-instruments. This behaviour not only limits their exposure to the private sector, hence reducing private investment, but also adversely affects investment and hence overall performance potential. In addition, evidence shows that output performance positively impacts the willingness of the banking sector to extend more credit to both the government and the private sector. Finally, and consistent with the lazy bank model, impulse response functions show that the effect of a government borrowing shock is contractionary (as opposed to the effect of private credit shock which is slightly expansionary) with regard to the overall banking sector credit.

Eisner [20] suggests that increased aggregate demand enhances the profitability of private investments and leads to a higher level of investment at any given rate of interest. Hence deficits may stimulate aggregate savings and investment, despite the fact that they raise interest rates. He concludes that evidence is thus that deficits have not crowded-out investment. There has rather been crowding-in. Heng [21] utilized an overlapping-generations (OLG) model to provide a theoretical framework to analyse the "crowding-in" issue of private capital by public capital.

Vamvoukas [22] examined the linkage between budget deficits and interest rates in Greece over the time periods 1949-1994, 1953-1994 and 1957-1994. With an ECM strategy, the empirical findings support the Keynesian model of a significant and positive relationship between budget deficits and interest rates. Modeste [23] utilized the loan-able funds model of interest rate determination to investigate the relationship between budget deficits and interest rate movements. A basic tenet of that model is that interest rates would rise (fall) as economic forces either increase (decrease) the demand for loan-able funds or reduce (increase) the supply of such funds. The study applies loan-able funds framework and error correction on Jamaican data over the period 1964-1996. This study has found that the government's budget deficits have exerted a significant positive effect on the long-term interest rate. Adding to this result, a major implication of this study is that budget deficits, to the extent that they force up interest rates, can cause "crowding-out" of private investment.

According to fayed [24], he investigated the nexus between private credit and government borrowing in Egypt using quarterly data spanning from 1998 to 2010 and a co-integration approach, and concluded that government borrowing from domestic banks leads to more than one to one crowding out of private credit. Recently, World Bank [16] shows that the rise of commercial bank credit to the government during the recent capital outflow episode after 2011 was coupled by an accelerated decline in the fraction of credit to the private sector. The study found that the economic slowdown accounts for between 15 and 20% of the predicted total fall in credit, while the expansion of credit to the government accounts for the remaining fraction. This serious finding implies that extending domestic borrowing could probably have serious short-term as well as long-term implications.

Joseph and Uma [25], empirically examine the nexus between interest rate and budget deficit in the context of Nigeria applying error correction model (VECM) Spanning from 1970 to 2010. From the findings it was discover that budget deficit has a positive and significant impact on interest rate in the long run implying that rising interest rate occur as a result of higher budget deficit hereby canvassing support for the Keynesian proposition. Sequel to this, the researcher postulate that appropriate monetary – fiscal policies mix should be put in place.

Ogunmuyiwa [26] examined whether budget deficit promotes economic performance in Nigeria using time-series data from 1970-2007. The regression equation was estimated using econometric techniques such as Augmented Dickey-Fuller test, Granger causality test, Johansen co-integration test and Vector Error Correction Method (VECM). The results revealed that causality does not exist between budget deficit and economic performance in Nigeria.

Ayadi and Ayadi [27] examined the impact of the huge budget deficit, with its servicing requirements on economic performance of the Nigerian and South African economies. The Neoclassical performance model which incorporates using both Ordinary Least Square (OLS) and Generalized Least Square (GLS) techniques of estimation. Their findings revealed that debt and its servicing requirement has a negative impact on the economic performance of Nigeria and South Africa. equation was estimated using econometric techniques such as Augmented Dickey-Fuller test, Granger causality test, Johansen co-integration test and Vector Error Correction Method (VECM). The results revealed that causality does not exist between budget deficit and economic performance in Nigeria.

Faraji and Makame [28] investigated the impact of budget deficit on the economic performance of Tanzania using time series data on budget deficit and economic performance covering the period 1990-2010. It was observed through the Johansen co-integration test that no long-run relationship existed between budget deficit and GDP. However the findings show that budget deficit and debt service both have significant impact on GDP performance with the total budget deficit stock having a positive effect of about 0.36939 and debt service payment having a negative effect of about 28.517.

Chandy *et al*. [29], emphatically carry out a study and analyse the effects of unsustainable public debt on technology choice and economic performance. His finding reveals that the different choice of technology inefficiency made by firms was as a result of lack of commitment. He then opted that sick implementation of different policy settings in the modified model fiscal consolidation will restore credibility and performance.

Suliman *et al*., [30] study the effect of budget deficit on the economic performance of Nigeria using Annual time series data spanning from 1970-2010. The empirical analysis was carried out using econometric techniques of Ordinary least squares (OLS), Augmented Dickey-Fuller unit root test, Johansen Co-integration test and error correction method. The co-integration test shows long-run relationship amongst the variables and findings from the error correction model revealed that budget deficit as contributed positively to performance of the Nigerian economy. They hence recommend that political and economic stability should be embraced to ensure effective debt management.

METHODOLOGY

This research work utilizes the Ex-poste Facto Research Design also known as the Investigative econometric research design as it undertakes the examination of a data-set and looking for potential relations between variables, Due to unknown direction and strength of the relation. The data were sourced and extracted from existing documents and materials. These include the Central Bank of Nigeria (CBN) statistical Bulletin, CBN Annual Report and Statement of Account, CBN Bullion.

Model Estimation

Following the lead of classical linear regression model assumption (CLRM) in line with the models of Monogbe, *et al*. [3] we formulate our model in functional form thus

$FGDB_t = f(GDPR_t)$…… (3.1)

We convert the above model into econometrics form by introducing constant term (α0) and error term (μ)

Since the past year budget deficit is corrected in the current year, this study tend to examine the lag effect of previous year's budget deficit on performance of the Nigeria economy in the contemporary year using VAR estimation thus;

$GDPR_t = c_1 + \alpha_1 GDPR_{t-1} + \alpha_2 FGDB_{t-1} + \alpha_1 GDPR_{t-2} + \beta_2 FGDB_{t-2} + e1_t$ ……(3.2)

$FGDB_t = c_2 + \alpha_1 GDPR_{t-1} + \alpha_2 FGDB_{t-1} + \beta_1 GDPR_{t-2} + \beta_2 FGDB_{t-2} + e2_t$……(3.3)

A priori Expectation

Based on theories and empirical studies, we expect the predictor variables to have direct relationship with the dependent criterion variables which is therefore mathematically states as:

A priori expectation $\alpha_1 > 0$

The above signifies a positive relationship and movement of exogenous variables on Gross Domestic Product.

Where

GDPR =Real Gross Domestic Product

FGDB = Federal Government Deficit Budget

α0 =Constant Term

α1 = Coefficients of Predictor

Estimation Tools For Analysis

Co-integration

The study applied Johansen Co-integration Rank Test in order to determine the co-integration rank of variables as the prerequisite or condition to examine Vector Error Correction Model is that there must exist a co-integration relationship Adbullahi *et al*., [31] Co-integration test is used to ascertain the presence of potential long run equilibrium relationship between two variables Awe (2012) and expressed as:

$Yt = \mu + T\ Yt\text{-}1 + \text{Ɛ}t$

$\Delta xt = k\ X{-}1\ i{=}1\ \Gamma i \Delta xt{-}i + \Pi xt{-}1 + \mu 0 + \Psi Dt + \varepsilon t.$

Decision rule

The decision criterion holds that the null hypothesis will be rejected when the trace statistic is greater that the critical value followed by the ranking order of the model which suggest presence of long run association and co-integration amongst the variable employed. Testing sequence terminates if the null hypothesis cannot be rejected for the first time.

Johansen's estimate is used to ascertain π matrix form of unrestricted VAR and to identify the null hypothesis which is occasioned by the restriction curtesy a reduced rank of π matrix Omoke and Ugwuanyi (2010). If the stationarity tests are co-integrated we then utilize VAR which is expressed as follows

$$\Delta y_1 = \pi y_{i-1} + \sum_{i=1}^{p-1} \Gamma_1 \Delta y_{i-1} + Bx_i + \varepsilon_1 \qquad (3.4)$$

$$where,\ \pi = \sum_{i-1}^{p} A_1 - 1, and\ \Gamma = -\sum_{j=i+1}^{p} A_1 \qquad (3.5)$$

Granger Causality

According to Omoke and ugwuanyi [32], "Granger causality tests are conducted to determine whether the current and lagged values of one variable affect another". Grange theory also establish that "when two variables, Y_t and X_t are co-integrated and each is stationary, then either Y_t must Granger-cause X_t or X_t must Granger-cause Y_t.". In absence of co-integration with stationarity at first difference the unrestricted VAR takes the following form:

$$\Delta FGDB_t = \sum_{i=1}^{n} b_{1t}\,\Delta GDPR_{t-1} + \sum_{i=1}^{n} c_{1t}\,\Delta FDBB_{t-1} + \sum_{i=1}^{n} d_{1t}\,GDPR_{t-1} + e_{1t} \qquad (3.6)$$

$$\Delta GDPR_t = \sum_{i=1}^{n} b_{2t}\,\Delta FGDB_{t-1} + \sum_{i=1}^{n} c_{2t}\,GDPR_{t-1} + \sum_{i=1}^{n} d_{2t}\,FGDB_{t-1} + e_{2t} \qquad (3.7)$$

PRESENTATION OF RESULT AND INTERPRETATION

Before going into proper integration, we subject our data set to stationality test using Philip Perron unit root test in order to avoid having spurious result.

Table-1: Presentation of PP Unit Root Test Results

Variables	PP-statistic	Test Critical Values	Order of Integration	Prob.
D(RGDP)	-3.473293	1% level = -3.26616 5% level = -2.957158 10% level = -2.617867	I(1)	0.0155
D(FGDB)	-4.903886	1% level = -3.653730 5% level = -2.95711 10% level = -2.61743	I(1)	0.0004

Source: Extraction from e-view Output

The result of the Phillip perron unit root test presented above reveals that all variable were not stationary at level, further research reveals that data became stationary at first differencing in the order of 1(1) integration. Having established stationality among the variable employed, we can proceed to test for long run nexus between the variable employed using johanson co-integration tests.

Table-2: Multiple Regression Result

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/21/17 Time: 11:17				
Sample: 1981 2015				
Included observations: 35				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	838.6406	1975.220	0.424581	0.6739
FGDB	-60.35743	3.837804	-15.72708	0.0000
R-squared	0.882286	Mean dependent var		17827.15
Adjusted R-squared	0.878719	S.D. dependent var		28092.36
S.E. of regression	9783.280	Akaike info criterion		21.27018
Sum squared resid	3.16E+09	Schwarz criterion		21.35906
Log likelihood	-370.2282	Hannan-Quinn criter.		21.30086
F-statistic	247.3409	Durbin-Watson stat		1.536740
Prob(F-statistic)	0.000000			

Source: Extraction from e-view Output

The result presented above captures the short run influx among employed variable and thus shows the strength of the model. From the relative statistics, federal government budget deficit exhibit a significant P-value of 0.0000 with a corresponding negative coefficient of -60.35743 which suggest an inverse relationship. Excessive government spending significantly stimulate economic performance but a negative coefficient is reported. This by implication implies that government budget deficit would have

enormously promote economic performance if it is properly structured on capital annex of the economy. The global statistics report that the adjusted R^2 exhibit a coefficient of 0.8787 suggesting that about 88% variation in dependent variable is explained by the explanatory variables while the Durbin Watson statistics shows a value of 1.5367 suggesting absence of auto correlation. The F-statistics and P-value shows the overall fitness of the model in the short run stances.

Table-3: Presentation of Co-Integration Test Result

Hypothesized No. of CE(s)	Eigenvalue	Trace stat	0.05 Critical Value	Prob	Max-Eigen stat	0.05 critical Value	Prob
None	0.323714	13.25461	15.4947	0.1058	12.5164	14.2646	0.0927
At most 1	0.022804	0.738175	3.84146	0.3902	0.73818	3.84147	0.3902

Source: Extraction from E-views 9 output

The result presented above represent the co-integration test, hoping to examine the long run association among employed variables. From the foregoing, we found absence of co-integrating equation among employed variables judging by their respective ranking level and the critical value which is greater than the trace statistics. This suggest that there exist no long rum association among employed variables and as such we proceed to the unrestricted VAR estimate to examine the lag effect.

Table-4: Presentation of VAR Lag Length Selection Criteria Output

VAR Lag Order Selection Criteria						
Endogenous variables: FGDB RGDP						
Exogenous variables: C						
Date: 10/02/16 Time: 22:56						
Sample: 1981 2015						
Included observations: 32						
Lag	Log	LR	FPE	AIC	SC	HQ
0	-544.1412	NA	6.88e+12	35.23492	35.32743	35.26508
1	-467.6606	138.1585	6.41e+10	30.55875	30.83630	30.64922
2	-445.6760	36.87742*	2.02e+10	29.34845*	29.86103*	29.54924*
3	-440.9169	7.369031	1.94e+10*	29.39948	29.99708	29.56058
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level) FPE: Final prediction error AIC: Akaike information criterion SC: Schwarz information criterion HQ: Hannan-Quinn information criterion						

Source: Extraction from e-view Output

Judging by the VAR Lag Order Selection Criteria using Akaike criterion, we choose lag two as it appear to be the most appropriate lag length on the employed variable. Having ascertained the appropriate lag length, we proceed to VAR estimation using lag order two. The results are presented in the Table below;

Table-5: VECTOR AUTOREGRESSION ESTIMATES

Vector Autoregression Estimates		
Date: 10/02/16 Time: 22:13		
Sample (adjusted): 1983 2015		
Included observations: 33 after adjustments		
Standard errors in ( ) & t-statistics in [ ]		
	FGDB	RGDP
FGDB(-1)	0.750816	-6.284447
	(0.18706)	(1.29795)
	[4.01384]	[-4.84181]
FGDB(-2)	-0.402052	8.079080
	(0.19228)	(1.33423)

	[-2.09093]	[6.05524]
RGDP(-1)	-0.021446	1.067822
	(0.01784)	(0.12377)
	[-1.20232]	[8.62735]
RGDP(-2)	0.005273	0.058206
	(0.01959)	(0.13595)
	[0.26915]	[0.42815]
C	6.714135	384.7937
	(33.1037)	(229.701)
	[0.20282]	[1.67519]
R-squared	0.881457	0.995895
Adj. R-squared	0.863896	0.995287
Sum sq. resids	557410.2	26837875
S.E. equation	143.6831	996.9932
F-statistic	50.19154	1637.616
Log likelihood	-201.6512	-263.6395
Akaike AIC	12.91570	16.78997
Schwarz SC	13.14472	17.01899
Mean dependent	-258.8840	11640.42
S.D. dependent	389.4658	14522.47
Determinant resid covariance (dof adj.)		1.40E+10
Determinant resid covariance		9.96E+09
Log likelihood		-459.1671
Akaike information criterion		29.32294
Schwarz criterion		29.78099

Source: *Extraction from e-view output*

The lagged value of FGDB maintains a positive and significant relationship to economic performance at one lag as the P-value stood at (0.000). Minewhile at lag 2, the lagged value of FGDB is negatively significant to economic performance (-0.4060/0.0413) while the lagged value of RGDP itself at lag one and two appear to be insignificant (0.997) to lag value of exogenous variable. Imperatively, since the budget deficit of the past year is corrected in the current year, the observed result from this study establishes that the lag value of federal government deficit budget has contributed to the performance of the economy in the preceding year although the contributive quadrant is not been felt to a reasonable extent as reported by Monogbe, et al (2015) due to moral hazard, financial indiscipline, fund diversion and mismanagement of funds.

Table-6: Granger Causality Test Result

Pairwise Granger Causality Tests			
Date: 02/21/17 Time: 14:01			
Sample: 1981 2015			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
FGDB does not Granger Cause RGDP	33	45.6087	2.E-09
RGDP does not Granger Cause FGDB		7.58404	0.0023

Source: Extraction from E-view 9 output

Obviously, the report of the causality result reveals two way direction of relationship. We found the existence of bi-directional relationship between government budget deficit and gross domestic product and vice versa. This suggests that budget deficit and gross domestic product promote each other.

DISCUSSION OF FINDINGS

From the foregoing analytical statistical output, it was established that Budget deficit significantly stimulate economic performance. The output of the granger causality test for instance shows that budget deficit statistically granger cause economic performance and viz versa while the result of the multiple regression of the ordinary least square report a

significant but negative relationship to economic performance. The negative response of budget deficit to economic performance could be attributed to moral hazard mismanagement of fund and financial indiscipline which prevent the country from enjoying the sustainable level of expected growth overtime. The output of the VAR estimate established that the lag value of federal government budget deficit has contributed to performance of the economy in the current year although the contributive quadrant is not been felt to a reasonable extent. The economical implication of this is that further increase in budget deficit as a supplement in financing government expenses will only stimulate economic performance if and only if it is effectively utilised towards the capital sector of the economic otherwise, increase in budget deficit will debar economic performance in Nigeria in the long run. This empirical findings support the Keynesian postulation of significant relationship between budget deficit and economic performance.

Prior to our findings, study recommends that

- Policy makers should ensure effective utilisation of borrowed fund and maintain a sporadic evaluation and supervision of such project in which borrowed fund are channelled into in order to achieve a profitable returns which will help in future servicing of such debt and also stimulate economic performance.
- Policy makers should endeavour to mop the linkages in accrued foreign loans, eliminate room for misappropriation of borrowed funds and hence foster the influence of this resource on the economy so as to achieve better growth.

REFERENCE

1. Akinmulegun, S. O. (2014). Deficit Financing and Economic Performance in Nigeria: A Preliminary Investigation. 1Department of Banking and Finance, Adekunle Ajasin University, P.M.B. 001, Akungba Akoko, Ondo State, Nigeria.
2. Ogunleye, E., & Simon-Oke, O. (2004). "The Impact of Public Sector Performance of Socio-Economic Welfare in Nigeria 1982-2002)" *The Nigeria Journal of the Social Sciences*, 3(1),73-88
3. Monogbe, T.G, Dornubari I.G., & Emah D.S. (2015). Deficit finance and the Nigeria economic performance: International Journal of Advanced Academic Research | Social Sciences and Education | 1(3) (December)
4. Banerjee, A., Dolado, J.J., Galbraith, J.W., & Hendry, D.F. (1993). Co-integration, Error Correction and the Econometric Analysis of Non-stationary Data. Oxford University Press, Oxford.
5. Aschauer, D. A. (1989). Is public expenditure productive?. *Journal of monetary economics*, *23*(2), 177-200.
6. Baldacci, M. E., Cui, Q., Clements, M. B. J., & Gupta, M. S. (2004). *Social spending, human capital, and growth in developing countries: Implications for achieving the MDGs* (No. 4-217). International Monetary Fund.
7. Osuka, B.O., & Achinihu, J.O. (2014) impact of budget deficits on macro-economic variables in the Nigeria economy (1981-2012): *International Journal for Innovation Education and Research.* 2(11), 2014.
8. Onuorah and Ogbonna (2014). Deficit financing and the performance of Nigeria economy: International Journal of Management Sciences and Business Research, 2013 ISSN (2226-8235) 3(2)
9. Isah, I. (2012), Deficit financing and its implication on private sector investment: the Nigerian experience: Arabian Journal of Business and Management Review (OMAN Chapter) 1(10); May.
10. Olamuyiwa, O. S (2013). Impact of Foreign Direct Investment Inflow on Economic Performance In A Pre And Post Deregulated Nigeria Economy: A Granger Causality Test (1970-2010), *European Scientific Journal*, 9(25), 335 – 356.
11. Ekperiware, M.C., & Oladeji, S.I. (2012). "Budget deficit Relief and Economic Performance in Nigeria": American Journal of Economics. 2(7).
12. Abell, J. D. (1990). Twin deficits during the 1980s: An empirical investigation. *Journal of macroeconomics*, *12*(1), 81-96.
13. Onafowora, O. A., & Owoye, O. (2006). An Empirical Investigation of Budget and Trade Deficits: The Case of Nigeria, *The Journal of Developing Areas* 39(2), 153-174.
14. Tallman, E. W., & Rosensweig, J. A. (1991). Investigating US government and trade deficits. *Economic Review-Federal Reserve Bank of Atlanta*, *76*(3), 1.
15. Komain J, & Brahmasrene T, (2007). The relationship between government expenditures and Economic performance in Thailand. Journal of Economics and Economic Education Research. (http://findarticle.com/p/articles/mi_qa552a)
16. World Bank (WB) (2013). Macroeconomic Shocks and Banking Sector Developments in Egypt. Policy Research Working Paper no.6314
17. Ejigayehu, D. A. (2013). The effect of external debt on economic growth. *a panel data analysis on highly indebted African countries, Soderton University*.
18. Iram, M. P. S., Shadid, A., Mahpara, S., & Fazli, R. (2011). Old Wine in New Bottles: Testing the Keynesian Preposition of Twin Deficit in Case of Pakistan. *International Journal of Business and Social Science*, *2*(5), 209.
19. Samah, S., & Ahmed, K. (2014). Does the budget deficit crowd out private credit from the banking sector? 5the case of Egypt. *Topics in Middle Eastern and African Economies, 16,(2), September 2014*
20. Eisner, R., & Pierper, P. J. (1984). A New View of the Federal Debt and Budget Deficits: American Economic Review, 74, 11-29.

21. Heng, T. K. (1997), Public Capital and Crowding in, the Singapore Economic Review, 42(2), 1-10.
22. Vamvoukas, G. A. (2000). Short- and Long-Run Effects of Budget Deficits on Interest Rates, Spoudai, 50(1-2), 58-73.
23. Modeste, N. C. (2000). The Impact of Budget Deficits on Long-Term Interest Rates in Jamaica, 1964-1996: An Application of the Error Correction Methodology, International Review of Economics and Business, 47(4), 667-78.
24. Fayed, M. (2012). Domestic Credit: Between Demand and Supply and Crowding Out Effect, Conference On Egypt's Future: Political and Economic Issues: Faculty of Economics and Political Sciences, Cairo University [In Arabic].
25. Joseph, C., & Uma, K. (2013), relationship between budget deficit and interest rate: evidence from Nigeria.
26. Ogunmuyiwa, M.S. (2011). "Does Budget deficit Promote Economic Performance?" *Current Research Journal of Economic Theory.* 3(1), 29-35
27. Ayadi, F.S., & Ayadi, F.O. (2008). Impact of budget deficit on economic performance: A comparative study of Nigeria and south Africa Journal of Sustainable Development in Africa 10(3)
28. Faraji, K., & Makame, S. (2013). "Impact of Budget deficit on Economic Performance: A Case Study of Tanzania". Advances in Management and Applied Economics. 3(4), 59-82.
29. Chandy, L., Hosono, A., Kharas, H., & Linn, J. (Eds.). (2013). *Getting to scale: how to bring development solutions to millions of poor people*. Brookings Institution Press.
30. Sulaiman, L.A., & Azeez, B.A. (2012). "Effect of Budget deficit on Economic Performance of Nigeria": *Journal of Economic and Sustainable Development.* 3(8).
31. Abdullahi, O., Karani, A., Tigoi, C. C., Mugo, D., Kungu, S., Wanjiru, E., ... & Scott, J. A. G. (2012). Rates of acquisition and clearance of pneumococcal serotypes in the nasopharynges of children in Kilifi District, Kenya. *Journal of Infectious Diseases*, jis447.
32. Omoke, P. C., & Ugwuanyi, C. U. (2010). Money Price and Output: Causality Test for Nigeria. *American Journal of Scientific Research*, *8*, 78-87.
33. Barro, R. J. (1974). Are Government Bonds Net Wealth? Journal of Political Economy, 82, 1095-1117.