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THE RELATIONSHIP BETWEEN BUDGET DEFICIT AND INTEREST RATE: EVIDENCE FROM NIGERIA

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ABSTRACT

This research empirically examines the relationship between budget deficit and interest rate in Nigeria using Vector Error Correction model (VECM) for the period of 1970:1-2010:4. In the long run co-integrating equation, budget deficit reported a positive and significant impact on interest rate implying that a high budget deficit will increase interest rate in the country. The result supported the Keynesian proposition. Also the evidence from Johansen co-integration result indicates that there is a long run relationship between budget deficit and interest rate. From these aforementioned findings, this research suggests appropriate monetary- fiscal policies mix should be pursued. These include among other things, the right combination of appropriate internal- external debt ratio, the ways and means and bond to finance budget deficit in the country with close monitoring of rate of inflation.

Key words: Budget deficit, interest rate, Vector Error correction model.

1.0 Introduction

The relationship between budget deficit and interest rate dated back to Mundel-Flemming model which assumes that an increase in budget deficit causes an increase in interest rate with exchange rate appreciation and capital inflows. This has therefore attracted much empirical and theoretical debate since the mid 1970s on the effects of government deficit on real economic activity in advanced and emerging economies of the world. Despite the theoretical link between budget deficit and interest rate, there is no general consensus on relationship between them. Two diverging viewpoints exist namely the Ricardian Equivalent hypothesis (REH) and the Conventional Keynesian proposition (CKP). According to Ricardo, budget deficit does not matter, because an increase in government budget deficit is effectively equivalent to a future increase in tax liabilities. Taking into account that lower taxation in the present is offset by higher taxation in the future, it means that budget deficits do not influence the macroeconomic variables. Authors such as: Barro (1974, 1987), Evans (1987), Darrat (1990) Beard and McMillan (1991) and Cheng (1998) support the Ricardo view that government deficits have no impact on key macroeconomic variables. Conversely, the Keynesian absorption theory posits that changes in budget deficit influence interest rates and other macroeconomic variables. This diverging view has had a long history in the United States of America. Some authors such as Bovenberg (1998), Laumas (1989), Dua (1993) and others support this view.

In response to these controversies, so many theoretical and empirical have examined this crucial relationship for the advanced countries and the growing economies of the world and yet most pertinent conclusion from all of these work remain the heterogeneity of their findings and because so many models and findings of the economies exit, the findings offer several lots of arguments about the interaction between budget deficit and interest rate regarding its effects, magnitude or degree, significance or insignificance as the case may be.

Budget deficit in Nigeria witnessed a little swing since early 1990s. It was -N7, 414.3m in 1991 and rose to –N53, 233.5m in 1993 and frog leaped to -N70, 270.6m in 1994. Between 1999 and 2008 budget deficit were –N133, 389.2m, -N285, 104.7m, -N108,777.3m, -N221, 048.9m, -N301, 401.6m, -N202, 724.7m, -N172, 601.3m, -N161, 406.3m, -N101, 397.5m, -N117, 237.1m, -N47,378.50m respectively.

Interest rate rose from 27.7 in 1990 to all high of 36.09 in 1993 and thereafter declined nose-dived to 21.0 in 1994. This represents 41.9% decline within period of one year. Between 1999 and 2008 interest rate were 27.19, 21.55, 21.34, 30.19, 22.88, 20.82, 19.47, 18.70, 18.24 and 21.18 respectively (CBN, 2010).

Despite and given the relationship between budget deficit and interest rate, the alleged interactions between the two variables in the economy of Nigeria are still not obvious from the trend evidence and this remains unclear despite the fact that this study has already been investigated intensely. Arguably, this inconclusiveness originates from the composition of composed kind of empirical studies, considering different data and estimation techniques used in Nigeria and other various economies of the world.

Most of the studies reviewed were cross-country based analysis and thus produce mixed results which gave credence to country specific study because of country peculiarities. In all of these it made it difficult in having general consensus as to the exact relationship between the variables, especially in emerging economies such as Nigeria. To overcome this problem, this study will focus on Nigeria to know the exact relationship between budget deficit and interest rate in Nigeria.

Other studies that were country specific like that of Obi and Nuruden (2008) and Chimobi and Igwe (2010) all in Nigeria employed VAR model and Granger Causality test using annual data. One major problem of Granger Causality test is that the outcome is sensitive to number of lags introduced in the model (Gujarati and Sangeetha, 2007; Bekiros and Dick, 2008). Thus, to overcome this problem, we use the AIC, SBC and minimum R^2 criteria to determine the optimum lag length. In addition, we shall use the impulse response function and variance decomposition to determine the effect of shocks in the model cause by budget deficit.

This study departs fundamentally from existing studies like Obi and Nuruden (2008) and Chimobi and Igwe (2010) all for Nigeria in three main respects. First, two relevant variables (inflation rate and money supply) have been included to illuminate the co-integration and causality inferences. According to Laua et al (2002) cited in Chukwu (2009), “it is well known that the causality and co-integration inferences are

strongly influenced by omission of relevant causing variables''. Secondly, high frequency data is employed. Thirdly, Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) shall be used to trace the effect of shock to the innovations of current and future values and testing the transmission of periodic shocks respectively.

Against this backdrop, it becomes relevant to investigate the nature of relationship between budget deficit and interest in Nigerian economy using quarterly data in a multivariate framework. The remaining parts of this paper are as follows: sections 2 reviews related literature, sections 3 discusses data features and methodology, section 4 analyzes the empirical results and discussions and section 5 is the summary and policy recommendations.

2.0 Literature Review

Haan and Zelhorst (1990) analyzed the relationship between budget deficit and money growth in the developing countries. The overall conclusion of their study did not provide much support for the hypothesis that government budget deficit influences monetary expansion and therefore create inflation.

Chaudhary and Parui (1991) used a rational expectation macro model of inflation to find that that there is anticipated effect of budget deficit on inflation rates for Peruvian economy. They concluded that the country's huge budget deficit as well as high rates of growth of money did have a significant impact on the inflation rates.

Mohammed and Ahmed (1995) studied money supply, budget deficit and inflation in Pakistan based on the monetary quantity theory approach to inflation and came out with the findings that suggest that the domestic financing of budget deficit, particularly from the banking sector is inflationary in the long run.

On their own Cevdet, Emre and Suleyman (1996) using annual data studied the causal relationship between budget deficit, money supply and inflation rate in Turkey. They employed unrestricted VAR and ARIMA model and concluded that a significant impact of budget deficit on inflation cannot be refuted under the assumption of long run monetary neutrality. In the same country, Tekin- Kuru and Ozmen (1998) investigated the long run relationship between budget deficits, money supply and inflation. They found that while the endogeneity of supply of money and inflation rejects the validity of the monetarist view, lack of direct relationship between inflation and budget deficit makes the pure fiscal theory explanations illegitimate for the Turkish case.

Lazano (2008) analyzed the evidence of causal long run relationship between budget deficit, money growth and inflation in Columbia considering the standard (M1), the narrowest (M0) base and the broadest (M3) definition of money supply. He employed Vector Error Correction Model (VECM) with quarterly data for the period of 25 years. His study found a close relationship between the variables.

In the case of Nigeria, Onwioduokit (n. d) studied the causal relationship between inflation and fiscal deficits in Nigeria using annual data from 1970 to 1994. He employed Granger Causality Test. The variables in his model were ratio of fiscal deficit to gross domestic product, level of fiscal deficit and inflation rate. He found evidence that fiscal deficit caused inflation without a feedback effect but however feedback existed between inflation and the ratio of fiscal deficit to gross domestic product.

Chimobi and Igwe (2010), on their own studied the causal long term effect relationship between budget deficit, money supply and inflation. They employed Vector Error Correction Model (VECM). Their studies show that there is a long run relationship between the variables and that money supply Granger causes budget deficit.

Obi and Nurudeen (2008) conducted an empirical test on the "effects of fiscal deficits and government debt on interest rate in Nigeria". The objective of the study was to investigate the effect of fiscal deficits and government debt on interest in Nigeria. They employed Vector Auto-regression approach (VAR).Their empirical conducted focused on interest rate as being captured by the lending rate earlier specified by Bhalla (1995) and Deepak Lal et al (2002) and the major findings of their study show that the explanatory variables account for approximately 73.6 percent variation in interest rate in Nigeria. The estimation also shows that fiscal deficits and government debt (our variable of interest) are statistically and economically significant.

3.0 Data and methodology

High frequency (quarterly) series from 1970: Q_1 to 2004: Q_4 were employed. These series were sourced from Central Bank of Nigeria Statistical (2010) bulletin and interpolated from annual series to quarterly. To fully explore the data generating process, we first examined the time series properties of the model variables using Augmented Dickey-Fuller test in a regression with a drift.

The ADF test regression equations with constant are:

$$\Delta BOD_T = \alpha_0 + \alpha_1 BOD_{T-1} + \sum_{j=1}^{k} a_j \, \Delta BOD_{T-1} + \varepsilon_T \ldots \quad (1)$$

$$\Delta MOS_T = \beta_0 + \beta_1 MOS_{T-1} + \sum_{j=1}^{k} b_j \, \Delta MOS_{T-1} + \varepsilon_T \ldots \quad (2)$$

$$\Delta RIR_T = \gamma_0 + \gamma_1 \, RIR_{T-1} + \sum_{j=1}^{k} \varphi_j \, \Delta RIR_{T-1} + \varepsilon_T \ldots \quad (3)$$

$$\Delta INF_T = \lambda_0 + \lambda_1 \, INF_{T-1} + \sum_{j=1}^{k} \sigma_j \, \Delta INF_{T-1} + \varepsilon_T \ldots \quad (4)$$

where Δ is the first difference operator, ε_T is random error term that is iid k = no of lagged differences. In equations (1) through (4), the null hypothesis holds as:Ho: $\alpha_i = \beta_i = \gamma_i = \lambda_1 = 1$ (unit root) H1: $\alpha_i \neq \beta_i \neq \gamma_i \neq \lambda_1 < 1$ (level stationary). The long run equilibrium relationship between budget deficit and interest rate was investigated using Full Information Maximum Likelihood (FIML) Multivariate Johanson cointegration procedure. The Johansen co-integration test is given as

$$Y_t = A_1 Y_{t-1} + \ldots + A_p Y_{t-p} + BX_t + \varepsilon_T \ldots \quad (5)$$

Where Y_t is a vector of non stationary I(1) variables; X_t is a vector of deterministic variables and ε_T is a vector of innovations. We may rewrite this as in VAR form as:

$$\Delta Y_t = \pi Y_{t-1} + \sum_{i=1}^{p-1} \delta_i \, Y_{t-p} \, A_p \, Y_{t-p} + BX_t + \varepsilon_t \ldots \quad (6)$$

where

$$\pi = \sum_{i=1}^{p} A_t - 1, \quad \delta_i = - \sum_{j=i+1}^{p-1} A_p + BX_t + \varepsilon_t \ldots \quad (7)$$

If the coefficient matrix π has reduced rank r < k, then there exist k < r, matrices α and β each with rank r such that $\pi = \alpha\beta$ and βY_t is I(0) (Granger 1987). r is the number of co-integrating relation (the co-integrating rank) and each column of β is the co-integrating vector. Johansen's method is to estimate the π matrix from unrestricted VAR and to test whether the rejection implies by the reduced rank π.

The Vector Autoregressive (VAR) model was employed. The choice of a VAR model to be transformed into a vector error correction mechanism (VECM) is made because it is one of the models that is not vulnerable to simultaneity bias. It offers an easy solution in explaining, predicting and forecasting the values of a set of economic variables at any point in time. It has the ability to test for weak exogeneity and parameter restrictions. It also assumes there is no priory direction of causality among variables. A good attribute of the VAR model is that it obviates a decision as to what contemporaneous variables are exogenous with only lagged variables on the right-hand, and all variables are endogenous.

The model in its general form is:

$$y_{1T} = \alpha_i + \beta_i \sum_{J=1}^{K} y_{t-1} + \partial_i \sum_{J=1}^{K} X_{1T-1} \, V_J \ldots \quad (8)$$

where y_{1T} = 4 x 1 vector of endogenous variables (ie. y_{1t} = BOD_t, RIR_t, MOS_t, and INF_t)

α_i = 4 x 1 vector of constant terms. β_i = 4x4 coefficient matrix of the autoregressive terms

∂_i = 4x4 coefficients matrix of the explanatory variables (vector of coefficients). V_i = vector of innovations.

Transforming equation (1) into VAR models we have.

$$RIR_T = \alpha_0 + \alpha_1^1 \sum_{J=1}^{K} RIR_{T-1} + \alpha_2^1 \sum_{J=1}^{K} BOD_{T-1} + \alpha_3^1 \sum_{J=1}^{K} INF_{T-1} + \alpha_4^1 \sum_{J=1}^{K} MOS_{T-1} + \varepsilon_{1T} \ldots \quad (9)$$

$$BOD_T = \beta_0 + \alpha_1^1 \sum_{J=1}^{K} BOD_{T-1} + \alpha_2^1 \sum_{J=1}^{K} RIR_{T-1} + \alpha_3^1 \sum_{J=1}^{K} INF_{T-1} + \alpha_4^1 \sum_{J=1}^{K} MOS_{T-1} + \varepsilon_{2T} \ldots \quad (10)$$

$$INF_T = \gamma_0 + \alpha_1^1 \sum_{J=1}^{K} INF_{T-1} + \alpha_2^1 \sum_{J=1}^{K} BOD_{T-1} + \alpha_3^1 \sum_{J=1}^{K} MOS_{T-1} + \alpha_4^1 \sum_{J=1}^{K} RIR_{T-1} + \varepsilon_{3T} \ldots \quad (11)$$

$$MOS_T = \varphi_0 + \alpha_1^1 \sum_{J=1}^{K} MOS_{T-1} + \propto_2^1 \sum_{J=1}^{K} BOD_{T-1} + \propto_3^1 \sum_{J=1}^{K} RIR_{T-1} + \propto_4^1 \sum_{J=1}^{K} INF_{T-1} + \varepsilon_{4T} \ldots \quad (12)$$

Where j is the lag length, K is the maximum distributed lag length α_0, β_0, γ_0, ϕ_0,are the constant terms ε_T is independent and identically distributed error term.

In matrix form, the above can be compactly specified as in equation (13)

$$\begin{bmatrix} SMP_T \\ EXR_T \\ INF_T \\ RIR_T \end{bmatrix} = \begin{bmatrix} \alpha_0 \\ \beta_0 \\ \gamma_0 \\ \varphi_0 \end{bmatrix} + \sum_{J-1}^{K} \begin{bmatrix} RIR_{T-1} & BOD_{T-1} & MOS_{T-1} & INF_{T-1} \\ BOD_{T-1} & MOS_{T-1} & INF_{T-1} & RIR_{T-1} \\ INF_{T-1} & BOD_{T-1} & MOS_{T-1} & RIR_{T-1} \\ MOS_{T-1} & BOD_{T-1} & RIR_{T-1} & INF_{T-1} \end{bmatrix} \begin{bmatrix} \alpha_1 \\ \alpha_2 \\ \alpha_3 \\ \alpha_4 \end{bmatrix} + \begin{bmatrix} \varepsilon_{1T} \\ \varepsilon_{2T} \\ \varepsilon_{3T} \\ \varepsilon_{4T} \end{bmatrix} \ldots \quad (13)$$

Transforming the VAR equations into VECM specifications correspond to:
The VECM for this work corresponds to

$$\Delta RIR_T = \alpha_0 + \alpha_1^1 \sum_{j=1}^{k} \Delta RIR_{T-1} + \alpha_2^1 \sum_{j=1}^{k} \Delta BOD_{T-1} + \alpha_3^1 \sum_{j=1}^{k} \Delta INF_{T-1} + \alpha_4^1 \sum_{j=1}^{k} \Delta MOS_{T-1} + \delta_5 ECM_{T-1} + \varepsilon_{1T} \ldots \quad (14)$$

$$\Delta BOD_T = \beta_0 + \alpha_1^1 \sum_{j=1}^{k} \Delta BOD_{T-1} + \alpha_2^1 \sum_{j=1}^{k} \Delta RIR_{T-1} + \alpha_3^1 \sum_{j=1}^{k} \Delta INF_{T-1} + \alpha_4^1 \sum_{j=1}^{k} MOS_{T-1} + \Pi ECM_{T-1} + \varepsilon_{2T} \ldots \quad (15)$$

$$\Delta INF_T = \gamma_0 + \alpha_1^1 \sum_{j=1}^{k} \Delta INF_{T-1} + \alpha_2^1 \sum_{j=1}^{k} \Delta BOD_{T-1} + \alpha_3^1 \sum_{j=1}^{k} \Delta MOS_{T-1} + \alpha_4^1 \sum_{j=1}^{k} \Delta RIR_{T-1} + \lambda ECM_{T-1} + \varepsilon_{3T} \ldots \quad (16)$$

$$\Delta MOS_T = \varphi_0 + \alpha_1^1 \sum_{j=1}^{k} \Delta MOS_{T-1} + \alpha_2^1 \sum_{j=1}^{k} \Delta INF_{T-1} + \alpha_3^1 \sum_{j=1}^{k} \Delta BOD_{T-1} + \alpha_4^1 \sum_{j=1}^{k} \Delta RIR_{T-1} + \psi ECM_{T-1} + \varepsilon_{4T} \ldots \quad (17)$$

Where α^s are parameters to be estimated, Δ is the difference operator, ε_T, k are as defined above. The parameter estimates of δ, Π, λ and ψ should be negative (<0). Equations 14, 15, 16 and 17 can be summarized in the form;

$$y_{1T} = \alpha_i + \beta_i \sum_{J=1}^{K} y\gamma_{t-1} + \partial_i \sum_{J=1}^{K} X_{1T-1} \varphi.ECM_{T-1} + \varepsilon_Y \ldots \quad (18)$$

4.0 empirical results and Discussions

4.1 Unit Roots Test Result

In this study, the Augmented Dickey Fuller (ADF) unit roots tests was employed to test for the time series properties of model variables. The null hypothesis is that the variable under investigation has a unit root against the alternative that it does not. The decision rule is to reject the null hypothesis if the ADF statistic value exceeds the critical value at a chosen level of significance (in absolute term). These results are presented in table I below.

Table 1: Unit Roots Test Result

Variable	ADF statistics		ADF statistics	
	Level	**Critical values**	**1st difference**	**Critical values**
MOS	-0.362170	1% -3.4717 5% -2.8793 10% -2.5761	-14.14705	1% -3.4720 5% -2.87934 10% -2.5762
BOD	-1.688224	1% -3.4717 5% -2.8793 10% -2.5761	-13.64260	1% -3.4720 5% -2.87934 10% -2.5762
RIR	-1.694317	1% -3.4717 5% -2.8793 10% -2.5761	-15.14111	1% -3.4720 5% -2.87934 10% -2.5762
INF	-2.827889	1% -3.4717 5% -2.8793 10% -2.5761	-13.36230	1% -3.4720 5% -2.87934 10% -2.5762

The results of table 1 above show that all the variables are non-stationary in level form since their ADF values are less than the critical values at 1%, 5% and 10%, the null hypothesis of no unit root was accepted for all the variables but was rejected in 1st difference. Thus, we conclude that the variables under investigation are integrated of order one. (i.e. I(1)). Since the variable are integrated of the same order. We therefore, examine their co-integrating relationship using Johansen co-integration procedure.

4.2 Co-integration Test Result

A necessary but not sufficient condition for co-integrating test is that each of the variables be integrated of the same order. The Johansen co-integration test uses two statistics test namely: the trace test and the likelihood eigenvalue test. The first row in each of the table test the hypotheses of no co-integrating relation, the second row test the hypothesis of one co-integrating relation and so on, against the alternative of full rank of co-integration. The results are presented in table 2 below.

Table 2: Co-integrating Test Result between the Variables: RIR BOD MOS INF

Eigen value	Likelihood Ratio	5% critical value	1% critical value	Hypothesized No of CE(s)
0.210061	66.17208	47.21	54.46	None*
0.142796	29.15160	29.68	35,65	At most 1
0.022316	4.961167	15.41	20.04	At most 2
0.008991	1.41794	3.76	6.65	At most 3

***(**) denotes rejection of the hypothesis at 5% (1%) significance level.**
L.R. test indicates 1 co-integrating equation(s) at 5% level of significance

4.2.1 Interpretation of co-integrating results

From table 2 above, the likelihood statistics indicates the presence of one co-integrating equation at 5% significance level which implies that budget deficit (BOD) and interest rate (RIR) are co-integrated. This shows that there is a long-run relationship between budget deficit and interest rate in Nigeria.

4.3 Vector Error Correction Model (VECM) Result

Since there is co-integration, the vector error correction model is estimated. The results are presented in table 3 below.

Table 3: Variables included in the VECM: RIR and BOD, INF, MOS

Variable	α's	ECM
D(RIR (-1))	1.0000	-0.370534
		(-2.76681)
D(BOD (-1))	0.48570	
	(3.62681)	
D(MOS (-1))	7.20E-05	
	(0.38053)	
D(INF (-1))	2.371175	
	(0.37165)	
C	-23.85451	

Note: The t-statistics are in Parentheses

4.3.1 Interpretation of VECM Results

From table 3, we can formally state the normalized long-run co-integrating equation between interest rate and budget deficit.

RIR =-23.85 + 0.486 BOD + 7.2E-05 MOS + 2.37 INF---------- (19)

From equation (19) as in table 3, the VECM result shows that there is a significant positive long-run relationship between budget deficit and interest rate suggesting that an increase in budget impacts positively on interest rate. Specifically, 1% increase in budget deficit will lead to 48.6% rise in interest rate. This is in line with "a priori" expectation validating the Keynesian proposition which says that increase in budget deficit increases interest rate and other macroeconomic variables since deficit is mostly financed through bond.

Money supply had positive but insignificant impact on interest rate. This suggests that a rise in interest rate will increase money supply in the country. This is consistent with theory postulates.

Inflation rate (INF) had positive but insignificant impact on interest rate. This is inconsistent with economic theory which postulates that during inflationary period, there is a shift from investment to consumption which leads to a fall in demand for market instrument and hence a fall in interest rate.

4.3.2 Interpretation of Vector error correction term

The vector error correction term is -0.371. This speed of adjustment suggests that about 37.1% of the previous period's disequilibrium in budget deficit is corrected every quarter. The implication is that it will take more than two quarters for any disequilibrium in the economy caused by budget deficit to be corrected.

The optimum lag length of 8 was selected based on AIC and SBC information criteria. This means that the convergence between the variables is not instantaneous.

4.4 Impulse Response Function

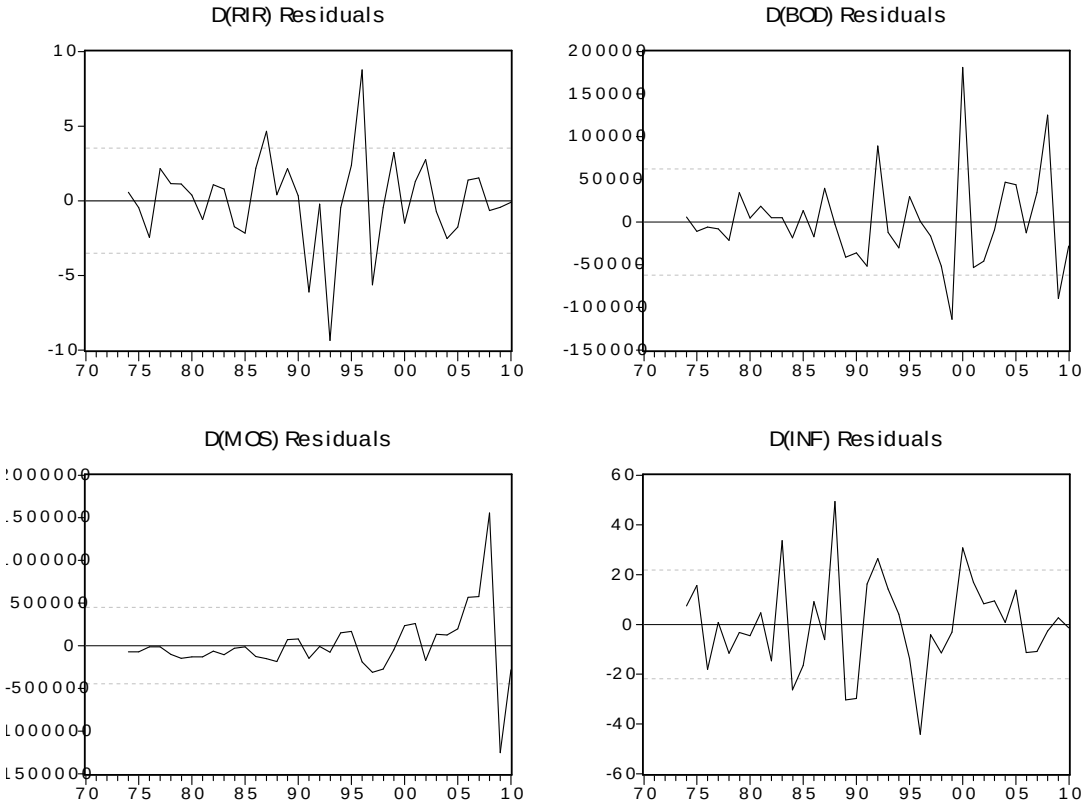
Impulse Response Function (IRF) is used to trace the transmission of periodic shocks between budget deficit and interest rate for over 10 years. The impulse response graph (see appendix VIII) represents various response of interest rate to a one standard deviation (0.25 percentage point) shocks in budget deficit. Shocks in budget deficit seem to worsen macroeconomic environment like inflation rate and interest rate. The response of interest rate to budget deficit is oscillatory implying that there is no definite pattern of response of interest rate to budget deficit in Nigeria. Between the first and the second year, interest rate responded negatively to budget deficit but responded positively after the second year with fluctuation exhibiting bear postures. Though response of budget deficit to interest rate follows the oscillatory pattern, it is marginally equal to zero implying that shocks in interest rate insignificantly impact on the budget deficit.

4.5 Forecast Error Variance Decomposition

The forecast error variance between budget deficit and interest rate was examined using Cholesky Forecast Error Variances Decomposition (FEVD) for a period of ten years (see appendix VII). This is computed by orthogonalizing the innovations with Cholesky decomposition. After ten periods, the budget deficit accounted for 19.3% of the forecast error in interest rate, while money supply and inflation rate accounted for 30.8% and 6.2% respectively accounted for the error variance in interest rate in Nigeria.

On the other hand, interest rate, money supply and inflation accounted for 4.2%, 47.9% and 13.4% respectively for the variance in budget deficit in Nigeria. This suggests that money supply and inflation rate seem to be the driving force behind budget deficit variance.

4.6 The Graphical Trend of the Residuals of the Variables used



The residuals trend above for interest rate (RIR) maintained the interval of ± 5 between 1970 and 1985 but drifted away from the interval between 1986 and 1995 and thereafter moved back to the interval. Budget deficit residuals moved within the interval of ± 2000 but started oscillating from 1992 to 2010. While residuals of inflation rate was oscillatory during this period, that of money supply maintained an interval of ± 3000 and became explosive after 2006.

5.0 Summary and Policy Recommendations

The main findings are itemized below as follows: 1) The ADF results show that the series are non stationary in their level form and are integrated of order one. 2) Johansen co-integration test result shows evidence of co-integration implying that there is a long run relationship between budget deficit and interest rate in Nigeria. 3) The VECM result shows that there is a significant positive long-run relationship between budget deficit and interest rate suggesting that an increase in budget deficit impacts positively on interest rate. This validates the Keynesian Proposition. 4) Money supply had positive but insignificant impact on interest rate. This suggests that a rise in interest rate will increase money supply in the country. 5) Inflation rate (INF) had positive but insignificant impact on interest rate contrary to economic theory which postulates that during inflationary period, there is a shift from investment to consumption which leads to a fall in demand for market instrument and hence a fall in interest rate

Based on the research findings, the following recommendations were made to arrest the enumerated problems. Since there is a long run positive impact of budget deficit on interest rate in Nigeria, appropriate monetary- fiscal policies mix should be pursued. To achieve this, focus should be the on the following: 1) Policy makers should focus on the right combination of appropriate internal- external debt ratio, the ways and means and bond to finance budget deficit in the country with close monitoring of inflation. 2) Restrictive monetary, fiscal, and exchange rate policies should be maintained in order to fight highly pervasive and persistent increase in the general price level and increasing interest rate. 3) Inflation-adjusted interest rate policy should be pursued in order to reduce the cost of servicing debt and the budget deficit

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