
ANALYSIS OF DEFENSE SPENDING AND MACROECONOMIC PERFORMANCE IN NIGERIA

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ABSTRACT

The study examined the trend and patterns of defense spending and macroeconomic variables in Nigeria, and investigated the relationship between defense spending and selected macroeconomic variables in Nigeria. It also estimated the sustainable level of defense spending for the macroeconomic variables (exchange rate, inflation rate, interest rate and gross domestic product) in Nigeria. These were with a view to providing insight to the dynamics of defense spending and macroeconomic fundamentals in Nigeria. The study adopted a descriptive research design and annual secondary data covering the period between 1986 and 2017. Data on gross domestic product and inflation rate were sourced from Central Bank of Nigeria (CBN) statistical bulletin while data on exchange rate and defense spending were sourced from World Bank Development Indicators (WDIs) and Stockholm International Peace Research Institute (SIPRI) military expenditure. Vector Autoregressive (VAR) and Structural VAR (SVAR) were econometric models employed for the analysis of data. The result showed a direct relationship among defense spending and the selected macroeconomic fundamentals. Secondly, the results revealed that defense spending had a significant relationship with macroeconomic performance by indicating a negative effect on exchange rate ($t=3.87$, $p<0.05$), a negative effect on inflation rate ($t=2.52$, $p<0.05$) and a positive effect on gross domestic product ($t=2.68$, $p<0.05$). Lastly, it was found that shocks to defense spending relatively explained variations in macroeconomic performances and that for exchange rate and inflation rate to be affected positively by defense spending, the threshold values of exchange rate and inflation rate must not exceed 28% and 19% respectively in Nigeria. The study concluded that there was a positive relationship between defense spending and macroeconomic performance in Nigeria.

Keywords: Defense Spending, Exchange rate, Inflation, Gross Domestic Product, Interest Rate.

INTRODUCTION

Security of lives and properties is the primary responsibility of the government of any nation (developed or developing). This has made defense spending an issue of concern to researchers and policy makers (Teboho and Keabetswe, 2014). In recent years, there has been growing interest in addressing the macroeconomic effects of insecurity and global terrorism. Insecurity is one of the major obstacles to economic growth and development of many countries. This has slowed down the pace of development and diverted resources from important sectors of the economy to defense spending (Benoit, 1987; Dunne and Uye, 2010). Hence, insecurity has drawn global attention as it had been highlighted by the United Nations that; one of the major obstacles to global development is defense spending (Jolly, 1978). Yakovlev (2007) rightly asserted, that the pursuit of achieving a peaceful socio-economic environment has made terrorism prone countries to devote significant percentage of government expenditure to defense (i.e purchase of military hardware and logistics). In view of the aforementioned, the Stockholm International Peace Research Institute (SIPRI, 2018) estimates the military expenditure on hardware and logistics to be on the increase year on year, having the total military expenditure stood at \$1.8 trillion in 2018 at the rate of 2.3% of Global Gross Domestic Product (GDP), (SIPRI, 2018).

Therefore, it is against this background that this study tends to consider how the increase in military expenditure in Nigeria due to incessant internal insurgencies, affect the movement of exchange rate due to demand for foreign currencies, which subsequently affect the growth of Nigerian economy

STATEMENT OF THE RESEARCH PROBLEM

After thorough survey of the empirical literatures on the relationship between defense spending and economic growth, despite a large body of empirical evidence focusing on the subject matter, we discovered that, there are several shortcomings of previous empirical studies on the subject which this study tries to solve. There is little work exploring the significant role of defense expenditure on open macroeconomic indicators such as exchange rate, inflation, interest rate and economic growth, unlike Apanisile and Okunola (2015) and Olofin (2012) which took a cursory look at the relationship between defense spending and economic growth in Nigeria. This study (as distinct from previous empirical works) will concentrate on the level effect of defense spending on macroeconomic variables which has been largely neglected in empirical literature in Nigeria.

RESEARCH QUESTIONS

In order to put this study in the right perspective, the following issues are raised for investigation:

- i. What are the trends and pattern of defense spending and macroeconomic variables in Nigeria?
- ii. What is the relationship between defense spending and selected macroeconomic variables (exchange rate, inflation, interest rate, and economic growth) in Nigeria?
- iii. What is the level effect of defense spending on the selected macroeconomic variables in Nigeria?

RESEARCH OBJECTIVES

The broad objective of this study is to examine the relationship among defense spending and macroeconomic variables in Nigeria. The Specific objectives are to:

- i. Examine the trends and pattern of defense spending and macroeconomic variables in Nigeria from 1986-2021.
- ii. Investigate the relationship between defense spending and selected macroeconomic variables in Nigeria, and
- iii. Estimate the sustainable level of defense spending for the macroeconomic variables (exchange rate, inflation, interest rate, and Gross Domestic Product) in Nigeria.

This study will provide policymakers with details on the dynamics of exchange rate on the defense spending-growth relationship and develop appropriate policy measures. To policymakers, it will help to know the gross effects of arms and ammunitions importation through defense spending, and this will also assist in informed decision making to encourage domestic production of arms and ammunitions to reduce importation as well as pressure on demands for foreign exchange and its long-term effect on economic growth.

METHODOLOGY

This study hinges on the Solow model (1956). Solow assumed an economy with a Standard Cobb-Douglas production function. With decreasing marginal return to capital and a fixed level of technology. A variant of the Solow growth model as employed by knight et al. (1956) and Dunne et al. (2004) will be used in this study in estimating the effect of defense spending on macroeconomic fundamentals. First, we can assume that defense spending (as a share of aggregate output) affects factor productivity through a level effect on the efficiency parameter.

Achieving the Study Objectives, the following techniques were used:

- i. ***Objective one:*** examine the trend and pattern of defense spending in Nigeria.

Technique: In order to examine the trend and pattern of defense spending in Nigeria, the simple trend equation:

$Y_t = \alpha + BT_t$ was employed to examine the direction of the movement of the variable of interest.

We used descriptive technique such as stable graphs and charts.

- ii. ***Objective Two:***To investigate the relationship between defense spending and macroeconomic variables in Nigeria.

Technique: Structural Vector Autoregressive Technique (SVAR) was used with lagged endogenous variables. Weestimated the following equation:

$$B_0 Y_t = B_1 Y_{t-1} + \dots + B_p Y_{t-p} + \varepsilon_t$$

Where $Y_t = (DS, EXR, INTR, INFR, G)$ vector of $K=5$ variables. β_0 is an invertible (nxn) matrix of coefficients of contemporaneous relations on the endogenous variables; $\beta_1, \dots, \beta_p$ are (nxn) matrices which capture dynamic interactions between the K variables in the model, ε_t denotes a mean zero $(nx1)$ vector of structural error terms, also referred to as a structural innovation or structural shock and P is the number of lags.

DS = Defense spending

EXR = Exchange Rate
INTR = Interest Rate
INFR = Inflation Rate
G = Economic Growth

Model specification for the interaction effect of defense spending and exchange rate on economic growth of Auto Regressive Distributed Lag (ARDL) model of Pesaran, Shin and Smith (2001) will be used by this study to investigate the effect of defense spending and exchange rate on economic growth.

iii. Objective three: To estimate the sustainable level of defense spending for the macroeconomic variables (inflation, interest rate, exchange rate, and economic growth).

Technique: The third objective was obtained from the estimation of the threshold model as suggested by Hansen (1999) to determine the threshold effect.

ESTIMATION TECHNIQUES

The study employed both descriptive and econometric techniques to achieve the stated objectives. To achieve objective one, descriptive statistics such as trend analysis, graphs and tables were used to depict the trend and pattern of defense spending, exchange rate and economic growth in Nigeria between 1981 and 2016. Objective two of this study which is the effect of defense spending on exchange rate and economic growth, was achieved using Structural Vector Autoregression (SVAR) technique. The third objective which is to investigate the interactive effect of defense spending and exchange rate on economic growth was achieved using Autoregressive Distributed Lag (ARDL) technique. In order to avoid spurious results, this study tested for the stationarity of all the variables because recent discovery in econometric modelling has shown that most macroeconomic time series are not always at level and first difference of the variables might be sufficiently represented.

Thus, this study made use of unit root tests such as Fischer-ADF (1979) and the Fischer Philips-Perron (1988) unit root test to test for the presence of unit roots in the series and they also correct serial correlation that might exist in the series by including lagged changes of the residual in the regression. Though the specification of P-P test is also the same as the ADF test, the only difference is that P-P test uses non-parametric statistical methods to take care of the serial correlation in the error terms without adding lagged differences. An important concept underlining time series process is that of stationarity. A time series is adjudged to be stationary when it portrays the following three attributes. First, if it exhibits mean reversion such that it fluctuates around a constant long-run mean, that is, $E(Y_t) = \text{constant}$ for all t ; secondly, if it has a finite variance that is time-invariant, $\text{Var}(Y_t) = \text{constant}$ for all t and thirdly, if it had a theoretical correlogram that diminishes as the lag length increases, that is, $\text{Cov}(Y_t, Y_{t+k}) = \text{constant}$ for all t and all $k \neq 0$.

The ADF and Philips-Peron were used to test for unit root in the following equation ADF model:

$$\Delta Y_t = C_t + bY_{t-1} + C_{21} + \sum_{k=1}^p d_k \Delta Y_{t-k} + V_t; H_0: b = 0; H_t: b > 0$$

P-P model:

$$\Delta Y_t = \mu_1 + pY_{t-1} + \varepsilon_1; H_0: p = 0; H_t: p > 0$$

Where, Y_t = relevant time series, Δ = an operator of the first difference, t = linear trend, V_t and ε_t = error terms.

If the null hypothesis is not rejected, then further differencing will be done until stationary is reached and null hypothesis is rejected. The study will make use of the Akaike Information Criterion (AIC) or Schwarz Bayesian Criterion (SBC) to determine the lag selection criteria.

DATA ANALYSIS AND PRESENTATION OF RESULTS

This section presents and discusses the results of the empirical analysis based on econometric frameworks given in the previous section.

TEST FOR STATIONARITY

Testing for non-stationarity in the form of unit roots has become a clip of time series econometrics (Engle and Granger, 1987). Macroeconomics have been aware that most macroeconomic time series or variables are non-stationary in their levels and that several of these series are most adequately represented by first difference. These time series are therefore said to be integrated of order one and are denoted by $I(1)$. The level of such variables can become arbitrary large or small so that there is no tendency for them to revert to their mean level. Test for stationarity of variables is therefore known as the unit root test. Since, the issue of stationarity of time series affects the consistency of data estimates, it becomes essential therefore to examine the order of integration of data employed in this study as failure to do this can lead to estimates that appear to be significant and meaningful but in reality, are meaningless and insignificant (Hamilton, 1994).

Formal testing for stationarity and the order of integration of each variable are therefore undertaken mainly, using Augmented Dickey Fuller (ADF) and Phillips-Perron methods of unit roots test with intercept only and intercept with trend using automatic lag length selection based on Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC).

UNIT ROOT TEST

The results of the unit roots test are presented in Table 1 and Table 2 respectively. Table 1 presents the results of the unit roots using (ADF) for SVAR data series, the test with intercept only and intercept and trend. The results showed that all variables were stationary at first difference and at 5% level of significance as well with intercept alone and with intercept and trend respectively.

However, the second table displays Phillip-Perron results which confirmed the series to be Stationary at first difference and at 5% level of significance as well as when trend was included for the variable. Thus, it can be concluded that all data series for SVAR analysis were integrated of order one (i.e. $I(1)$) by considering the unit root test with an intercept and linear trend for both the ADF and PP.

Table 1: Unit Root Test Result (ADF)

VARIABLES	ADF Statistic (Constant and Trend)		Order of Integration
	LEVEL	1 ST DIFFERENCE	
DFS	-2.1152	-3.8268**	(1)
EXR	-2.3092	-5.6222*	(1)
INTR	-5.9082*	-	(1)
GDP	-2.5055	-5.2994*	(1)
INF	-3.5133	-4.7075*	(1)

Source: Author's Compilation, (2021)

NOTE: *** Denotes rejection of null hypothesis of unit root at 1% and 5% level of significance respectively.

Critical value (constant and trend): level (-3.5684); 1st difference (-3572).

The lags are selected automatically based on the optimal lag length selection of the AIC criteria.

The unit root test result shows that at first difference DFS, exchange rate, GDP, inflation rate and inflation rate become stationary. It can therefore be concluded that all the variables employed in the model are stationary variables. Since the order of integration of the variables are I(1) variables, it is necessary that we test for the existence of co-integration among the variables using the Structural VAR approach.

Table 2: VAR lag order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-387.232	NA	14289.32	13.156	25.1677	22.09533
1	-264.561	68.44539	1672.521	14.00888	22.2336	21.46551
2	-189.12	47.61233*	1189.223*	11.00639*	22.56112	21.90383*

Source: Author's Compilation based on E-views estimation.

* 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

The test for stability in Table 3 shows that all roots of characteristic polynomial lie inside the unit circle; which suggests that the VAR is stable. Stability of the system confirms that impulse response functions can be used to examine the effects of defense expenditure on macroeconomic indicators. Concerning other diagnostic tests, the LM test indicates that the model is free from autocorrelation problem while the Jarque-Bera test rejects the null hypothesis of normality indicating residual normality problem as seen below.

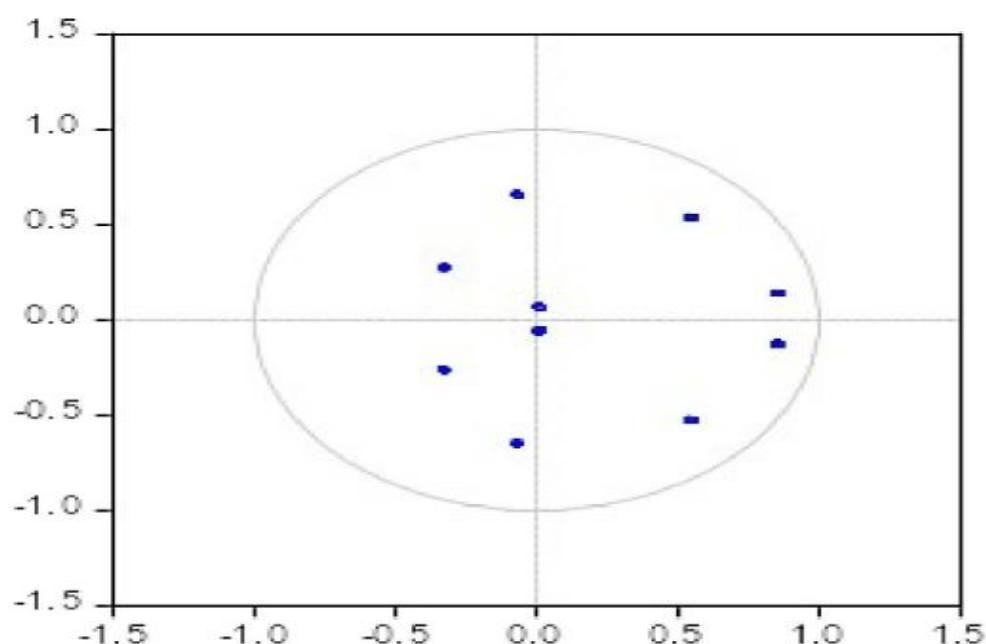
Table 3 Roots of Characteristic Polynomial

Root	Modulus
$0.73178 - 0.142473i$	0.698199
$0.73178 + 0.142473i$	0.698199
$0.528861 - 0.472221i$	0.679333
$0.528861 + 0.472221i$	0.679333
$-0.056113 - 0.635544i$	0.621429
$-0.056113 + 0.635544i$	0.621429
$-0.320565 - 0.266573i$	0.389362
$-0.320565 + 0.266573i$	0.389362
$0.018102 - 0.078548i$	0.045311
$0.018102 + 0.078548i$	0.045311

No root lies outside the unit circle.
VAR satisfies the stability condition.

Table 4:

Inverse Roots of AR Characteristic Polynomial



THE RELATIONSHIP BETWEEN DEFENSE EXPENDITURE (DES) AND MACROECONOMIC VARIABLES: RECURSIVE AND SVAR APPROACH

In an attempt to investigate the relationship between Defense Expenditure (DFS) and macroeconomic variables in Nigeria, this study employed both Recursive VAR and Structural Autoregressive (SVAR) approach as used by Lozano and Rodriguez (2008); Caldara and Kamps (2008); Stulz (2006); Kilian (2011) based on the following ordering: exchange rate, inflation rate, Interest Rate and Growth of GDP.

RECURSIVE VECTOR AUTOREGRESSIVE APPROACH

Table 5 displays the results of the recursive VAR model where the exchange rate is significant but the coefficient is negatively signed. Inflation is also significant at 5% level of significance and negatively signed. Whereas, interest rate is significant and positively signed while growth rate of GDP is significant but negatively signed. This shows that exchange rate with coefficient of -3.9% signifies a negative shock of 3.9% to GDP and we can conclude that will influence growth rate of GDP by 3.9% while the probability values signify the level of shock to other variables are not significant. It should be noted that interest rate that signifies a significant and positive shocks of 2.3% to inflation and can efficiently determine the level of inflation in Nigeria. Furthermore, growth rate of GDP determines inflation by 7% although exerts negative influences on inflation as the coefficient is negative but significant at 10% level of significance.

However, we proceeded by testing for the joint significance of the variables using Gauss-Newton/Margardt steps and Wald Test. It was discovered that none of the VAR systems are jointly significant except first and second lag of inflation. Therefore, we can conclude that other variables (such as exchange rate, Interest Rate and GDP) are not jointly significant and as well cannot influence the dependent variables of the equations jointly.

Table 5: VAR Analysis of the relationship between DFS and Macroeconomic variables

Variables	EXR	INF	INT	GDP
LEXR (-1)	0.330582	-3.31664	-0.87152	-3.86211***
LEXR(-2)	0.105971	-5.04631	-0.13575	2.47342
INF(-1)	0.003846	0.52658*	0.065004	0.0894
INF(-2)	0.017994	-0.37634**	-0.08795**	0.010988
INTR(-1)	0.04728	-1.21154	0.30969	-0.43604
INTR(-2)	0.028102	2.344805**	0.16527	0.678447
GDP(-1)	-0.02597	-0.52704	0.00214	0.022003
GDP(-2)	-0.01259	-0.71141***	0.03618	-0.15933
C	-1.32163	-1.62325	9.154846	3.18578

Note: *** and ** implies 1%, 5% and 10% level of significance respectively.

Source: Author's compilation based on E-views estimation.

THE RELATIONSHIP BETWEEN DFS AND MACROECONOMIC VARIABLES: IMPULSE RESPONSE ANALYSIS

The Impulse Response Function (IRF) enables one to analyze the response of one variable to a random shock in another variable while maintaining the original units of the data as well as decomposition of the estimated residual covariance matrix of the estimated SVAR. Substantively, the (IRF) is useful because it provides a more statistically principled means of measuring a variable's response to changes in another. In the present context, the IRF helps in determining how quickly macroeconomic variable adjusted after being shocked by an

unanticipated change in DFS variable. Such tests provide support for substantive hypothesis tests with respect to variable dynamics over time. If for example, theory suggests that a change in the DFS should enhance macroeconomic variables over time; this expectation can be tested using the IRE. It is important to remember, however, that the results presented here were purely exploratory and were intended to assist with theoretical development by giving an account of the dynamic behavior of DFS and macroeconomic variables.

Theory and evidence regarding the relationship between DFS and macroeconomic variables are not concluded in the previous empirical studies.

RESPONSE OF DFS TO MACROECONOMIC VARIABLES (STRUCTURAL ONE STANDARD DEVIATION INNOVATION SHOCKS)

The impulse response further corroborates the findings from the variance decomposition. The first row of the graph shows the direction of impact or effect of random shocks or innovation to other variables in the system on defense expenditure. It is revealed that defense expenditure responds positively to own shock which constitute the greatest impact. The effect of exchange rate was not felt until towards the end of the period when the response was significantly positive. Response to shock in interest rate was negative all through the periods. Inflation rate shock also has a little positive effect on defense expenditure and approaches zero towards the end of the period. This result suggests that the response of defense expenditure to random shock in exchange rate is fairly elastic, while it is highly inelastic to other variables.

The second row of the impulse response graph shows the response of exchange rate to random shocks or variations in other variables. The result shows that own shock positively affect exchange rate all through the period. Shock to defense expenditure did not have impact on exchange rate until the tenth period where the impact started to be negative till the end of the period. Meanwhile, the response of exchange rate to shocks in interest rate was close to zero all through the period. Response to shocks in inflation rate was positive but inelastic all through the period. This also suggests that the response of exchange rate to shocks in other variables is highly inelastic.

The impact or random shocks to defense expenditure, exchange rate volatility and inflation rate on interest rate is shown in the third row of the impulse response graph. From the graph it is evident that own shock exerts the greatest impact and is positive from the beginning to the end of the period. The impact of shock to defense expenditure is negative and to an extent significant in all the periods. The impact of exchange rate was slightly positive at the early periods but became negative towards the end of the period. However, the impact was insignificant all through the period. Response to inflation rate shocks was not significant all through the period.

Lastly, the fourth row of the impulse response graph shows the response of inflation rate to random shocks or innovations in other variables in the model. From the graph it is shown that own shock exerts the greatest impact on fluctuation in inflation rate and the impact was positive all through the period. Meanwhile, the response of inflation rate to shocks in defense expenditure, exchange rate volatility and interest rate and GDP was low at the beginning of the period but increases negatively towards the end of the period. Also, shocks to exchange rate exerts more influence than other variables

Evidence from the forecast error variance decomposition and impulse response function of the variables in the model has shown that shocks in each of the variable is majorly accounted for by own shocks. This indicates that there is a high level of independence between the

financial markets and defense expenditure both in the short run and in the long run. This finding is contrary to the assumption that volatility in macroeconomic variables affects the defense expenditure by government. It however, point to the fact that, the variations in defense expenditure are majorly caused by the internal factors and operations within the system itself.

Defense Spending has also been found to exert more influence on GDP, interest rate than in exchange rate, while for inflation rate, the impact of exchange rate is more. Particularly, defense Expenditure has significant negative impact on interest rate and an insignificant negative impact on inflation rate. Meanwhile, exchange rate has a significant negative impact on inflation rate and insignificant impact on interest rate. However, to a large extent shocks in the domestic price level has been found to be independent of the shock to GDP, exchange rate and interest rate.

THE SUSTAINABLE LEVELS OF THE DEFENSE SPENDING FOR THE MACROECONOMIC VARIABLES (SUCH AS INFLATION, INTEREST RATE AND GROSS DOMESTIC PRODUCT) IN NIGERIA: THRESHOLD REGRESSION ANALYSIS

This study reports the threshold level of DFS in relation to macroeconomic variables in Nigeria. The task of identifying a precise level of DFS which have implications for macroeconomic variables (such as inflation, interest rate and growth of GDP) involves estimating the threshold level of DFS beyond which it begins to have a positive or adverse effect on macroeconomic variables in Nigeria. The optimal threshold is the level orpoint at which there is a break point. The estimation of the regression model in equation 3.30 presented in section three of the studywas carried out and the summary of the threshold results for the variables examined are presented in the table below.

SUSTAINABLE LEVEL OF DFS FOR INFLATION, INTEREST RATE AND GDP

Table 6 shows the computed threshold specificationtest in relation to the Bai-Perron (Econometric Journal 2003) critical values According to Bai-Perron critical value with threshold test of two (2) regimes, at 5% Level of significance. Since the F-statistic is greater than the critical values, therefore, we can conclude that the computed value of F-statistic as 15.5 is greater than the critical value of 8.58 bound at 5% levels of significance. This helps us toestablish a statistically significant threshold value of35% for DFS using inflation as dependentvariable. Whereas, the threshold specification test of the relationship between DFS and interestrates as indicated in table 6 showed four (4) regimes of which the first regime is the mostsignificant with computed value of F-statistic as 81.5 against the critical value of 8.57. Hence, we established a threshold point for DES that corresponded to the most significant threshold specification regime and thereby conclude that the statistically significant threshold value of23% for DFS using interest rate as dependent variable.

Table 6 displays the threshold points of the DFS for inflation in Nigeria. It indicates the threshold point of DFS (<35%) at which inflation will be sustained or affect negatively. The threshold regression results show two (2) regimes of which only the 1 regime was statistically significant at 5% level. This implies that the threshold level of DFS at 35% is the DFS break-even/sustainable level of DFS, above which DFS has a negative impact on Inflation. It should be noted that, for the sample period which DFS rates higher than the breakeven point of 35%, annually inflation rate was hindered by 11.2%. Therefore, the results show that DFS rate of 11.2% with a threshold value of 35% annually is the optimal level of DFS for Nigeria basedon the data spanning from 1986 to 2021. Thus DES rates higher than this calculated threshold level (35%) negatively affect inflation. Meanwhile for DES rates less than the

threshold level, DFS does not hinder inflation in Nigeria. This finding supports the empirical result brought by Khan and Senhadji (2013) for a panel of developing countries. They found that the optimal level of DFS for developing countries is 11% for an average country from the panel.

Table 6: **Threshold Specification**

Threshold Test	F-statistic	Scaled F-statistic	Critical Value**
0 vs. 1*	15.58331		8.58
1 vs. 2	0.697879		10.13
Threshold values:			
	Sequential	Repartition	
1	0.3578221	0.3578221	

Variable	Coefficient	Std. Error	t-statistic	Prob.
1 st Regime <0.3578221 - - 18 obs				
C	11.2528792	3.677545357	3.059888631	0.00484
2 nd Regime 0.3578221 <= - - 12obs				
C	34.2068575	4.504054815	7.594680541	2.84E-08

Note: *, ** and *** implies 1%, 5% and 10% level of significance respectively.

Dependent Variable: INF

Threshold value used: 0.3578221

Source: Author's computation based on E-views

Figure 1: **Plot of Cumulative sum of Recursive Residuals**

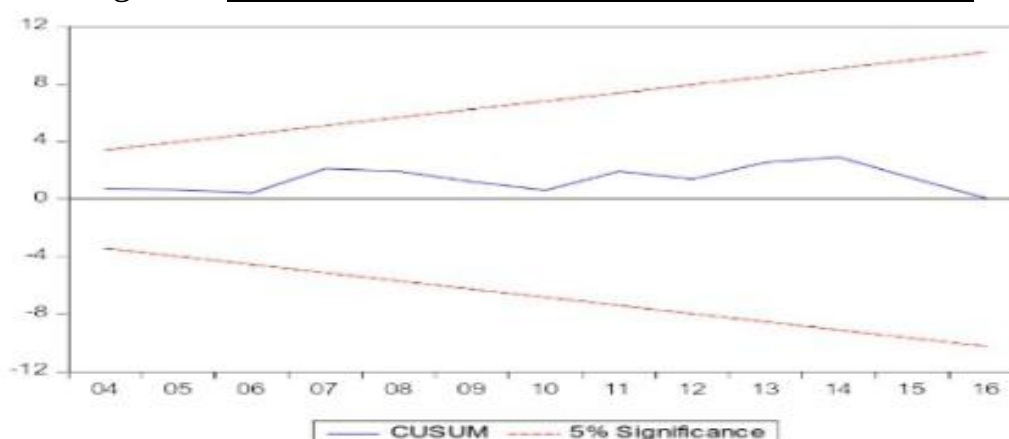
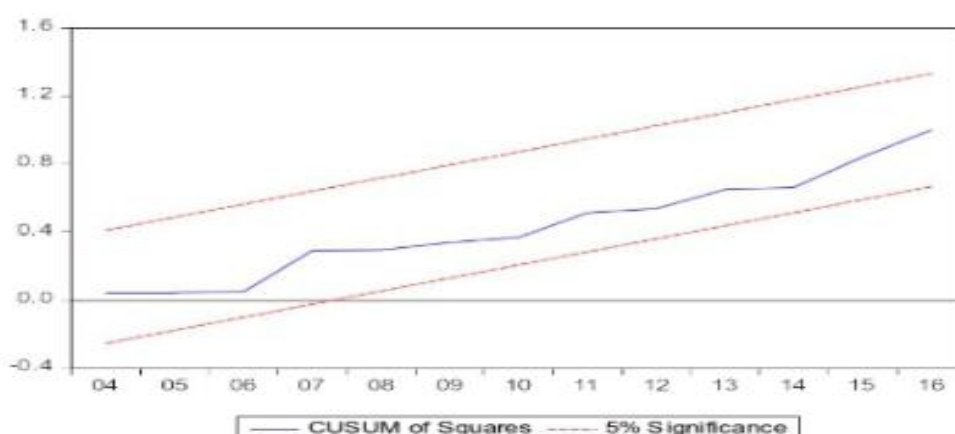


Figure 2: **Plot of Cumulative Sum of Recursive Residuals (CUSUM)**

Source: Author's compilation, (2021) using E-views 9.0



Figures 1 and 2 above show a graphical representation of the Cumulative Sum (CUSUM) and Cumulative Sum of Square (CUSUMSQ) plots applied to the error correction model. Both plots are within the critical bounds and so we can conclude that the model is structurally stable.

CONCLUSION

Nigeria has come a long way in evolving in her defense structure over the years, and we have, no doubt made no appreciable progress in this regard. Indeed, defense spending in Nigeria over the past decades seems to have been predicated on various factors that are yet to yield the desired goal. This is demonstrated in the increasing defense allocation which shows that Nigeria is still militarized under democracy and that military spending in Nigeria increases even in peace times and such militarization leads to declining Gross National Product, increased inflation and unfavorable balance of payment. In spite of these, the objective of a realistic growth rate has turned out to be abstract.

However, in this study, the empirical results of the dynamic relationship between defense spending and macroeconomic variables based on Structural Vector Autoregressive estimates, on the other hand, showed that the defense spending has a direct and significant effect on macroeconomic variables. This is due to the fact that the Structural innovation shocks to

defense spending on average explained more variations in macroeconomic variables as indicated by both the Impulse Response Function and Variance Decomposition.

In addition, the empirical evidence on the fundamental question of whether defense spending causes Macroeconomic variables or macroeconomic variables cause the defense spending using VAR Granger Causality Test (GCT). The test carried out revealed that no short-run unidirectional causality existed between defense spending and macroeconomic variables. Only inflation was seen to be granger causing defense spending but not the other way round. The implication of the result is that inflation has facilitated the growth of defense spending in Nigeria. Furthermore, the result of the threshold regression for the sustainable levels of the defense spending for the macroeconomic variables in Nigeria indicated that defense spending has a threshold value of 35% (inflation) and 23% (interest rate) respectively, for which above this sustainable level, inflation and interest rate will be affected negatively in Nigeria. This analysis concludes, therefore, that the best approach to constraints to the effective functioning of the defense expenditure on economic growth in Nigeria need to be eliminated through further stability of foreign exchange rationing gradually in the official market, starting with commercial transactions and accompanying the liberalization with devaluations with the pace of the reform being set by the speed and credibility of the monetary policy and as well as liquidity controls which are important for stabilizing anticipations, prices in Nigeria.

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