Defence Spending, Unemployment and Poverty in Nigeria: An Econometric Analysis

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ABSTRACT

This paper empirically looks at the effect of government defense spending on unemployment and poverty in Nigeria between 1980 and 2017. The data utilized were sourced from the secondary sources like Central Bank of Nigeria publications, National Bureau of Statistics, World Bank World Development Indicators (WDI). The defense expenditures (independent variables) were disaggregated into capital and recurrent components while unemployment rate and poverty rate served as the dependent variables. The outcome of the unit root tests showed that Capital defense expenditure (CDEX), Unemployment rate (UNEMPR) and Poverty rate (POVT) were stationary after first difference while recurrent defense expenditure (RDEX) was stationary at level thereby informed the use of the Auto Distributed Lag (ARDL) Bound Testing approach. The results of the analyses revealed that inconsistency in the federal government defense expenditures (capital and recurrent components) have led to a rise in both the unemployment rate and poverty rate in Nigeria. The policy implications of these findings are that government spending on defense has not seemingly played the role of providing the desired level of security of lives and property. This perhaps had impacted on job creation and attracted rising unemployment and poverty rates so far experienced. The paper therefore recommends that the federal government should urgently adopt fiscal discipline options that will guarantee job creation and reduce poverty levels. This can be achieved through the enforcement of Nigeria's local content policies options especially as relate to local production of military and other civilian items.

Keywords: *Government Defense Spending, Unemployment and Poverty.*

INTRODUCTION

Primarily, the government has been saddled with two major functions of ensuring that the law and order are maintained and making available the desired social infrastructure. But these activities have taken a different shift in this modern time to include ensuring there are economic growth, inflation control, and equilibrium in balance of payments, full employment, and equitable distribution of income (Ofanson, 2007). For the government to achieve either of these macroeconomic goals, fiscal policy stands tall. Fiscal policy entails government's manipulation of its spending and taxes to achieve desired macroeconomic goals. In the view of this paper, Nigeria can use her defence spending-social infrastructure- to address the issue of growing deficit in provision of social goods and by extension reduce the rising pace of unemployment and poverty rates.

As noted by Elaigwu (2005:57-76), it is of a serious concern to note that, since Nigeria as a nation returned to civil rule in 1999, it has witnessed more than ninety cases of violent ethnic-religious, communal, and socio-political conflicts of various magnitude. Other instances of insecurity in Nigeria is evidence in the pronouncement of the May 2011 election results

led to several fatalities in various parts of the country, some of whom were National Youth Service Corps Members (a compulsory year-long service to Nigeria after the successful completion of undergraduate courses) volunteering in the elections (Mohammed 2005 cited in Mijah; 2007:1).

Aside reported cases of insecurity experienced during the general elections in 2011, there had been increasing cases of such in the crude oil and gas industry in Nigeria too. For instance, Alapiki, Ekewe and Job-Peterside (2015) observed that, from a height of 2.6 million barrels per day in 2006, the activities of MEND reduced oil production to 1.6 million barrels per day by April 2009. The unrest has turned into a criminal movement that feeds on massive theft of crude oil. The insecurity in the Niger Delta forced many multinational oil companies to abandon their operational bases in Nigeria. Today, the rising cases of criminal activities in Nigeria from the South-South to North-East regions seems unabated and have taken a strange dimension to the extent that Nigerians are becoming worried as it poses a danger to the overall unity of the nation. As Otuya and Iwundu (2016) noted, the existence of the Nigerian people is seriously being jeopardized due to continual insecurity.

In a bid to overcome the diverse security challenges facing Nigeria in recent years, the government had variously adopted several measures to curb the trend. One of such is to raise her defence budgets as a means of taming the menace of insecurity. In the global rating on defence spending, Nigeria happens to be in the 57th position. It maintains the seventh position in Africa as a continent and she is regarded as the largest in military spending in the sub-region of West Africa. Nigeria's defence spending in

2009 also ranked her the seventh largest on military expenditure in the African continent. Reports have it that Nigeria had spent $1.864 million (or ₦233 billion) in 2009, which is 0.90 per cent of the Gross Domestic Product (GDP) from ₦444.6 billion in 2008.As critical as defence sector is, it has enjoyed favorable consideration in funding, especially in recent years. Furthermore, the defence ministry in 2010 got ₦264 million and this rose to ₦348 billion in 2011 budgetary allocation. This increment from ₦384 billion in 2011, to₦921.91 billion in 2012.In 2013,the allocation to the defence sector hit ₦1.055 trillion. Another dominance of the defence budget allocation in Nigeria was in 2014.The national budget shows that out of a total of ₦4.962 trillion; the allocation to the defence sector took about 20 per cent, totaling ₦968.127.In 2016, the defence sector got recurrent expenditure as high as ₦294.556 billion and ₦134.572 billion as capital vote. In 2017 budget allocation, defence sector is one of the four sectors that got the highest allocation. A total of ₦465.87 billion was allocated to defence breaking down into ₦325.87 billion as recurrent vote and ₦140 billion as capital allocation (Reformer Newspaper, 2015).

Looking at the huge amounts that are yearly budgeted for military-related spending in Nigeria, therefore present an interesting public discourse. Itseems to suggest a paradoxical situation between the increase defence expenditure and social economic indicators such as unemployment and poverty rate. Perhaps, this disconnect had made it very difficult to ascertain the actual relationship between defence spending and unemployment on one hand and between defence expenditure and poverty rate on the other hand. This is shown in Table 1.

Table1. *Average Summary of Unemployment and Poverty Rates in Nigeria, 1980-2017*

Year	Unemployment Rate (%)	Poverty Rate (%)
1980-1989	7.1	39.17
1990-1999	6.99	52.19
2000-2009	11.15	59.87
2010-2017	21.9	57.12

Source: *Authors' Computation (2021)*

The average unemployment rate and poverty rate between 1980 and 1989 stood at 7.1 per cent and 39.17 per cent respectively. From 1990 to 1999, the unemployment rate and poverty rate showed an average of 6.99 per cent and 52.19 per cent. A geometric increase was observed between 2000 and 2009 as unemployment rate

averaged 11.15 per cent while the poverty rate averaged 59.87 per cent. In 2010 and 2017, the unemployment rate average stood at 21.9 per cent and the poverty rate averaged 57.12 per cent respectively.

Thus, the objective of this paper is to empirically examine whether government

defence spending reduces unemployment and poverty in a developing economy like Nigeria between 1980 and 2017. Aside this introduction, section two of the paper covered literature review while section three dwells on method of study. Thereafter, Sections four and five focus on results and discussion and concluding remarks.

REVIEW OF LITERATURE

Theoretically, there are diverse theories that explain the role of government spending in promoting economic progress of countries. However, this paper adopts amongst others the theory of increasing state activities proposed by Adolph Wagner. The Wagner's increasing state activities theory, assumes a functional relationship between the growth of an economy and government activities such as expansion in social services, provision of public utilities, War, and prevention of War, increase in public revenue, etc., resulting in government sector growing faster than the economy(Ajie,2014).

An attempt to justify the potency of Wagner's thesis has given credence to several empirical studies in recent years. One of such is scholars was Henderson (1998) who examined the military spending-poverty nexus in the United States; from 1959 to 1992.The study employed the Generalized Least Square(GLS) method of estimation. The findings showed that increased military spending is associated with increasing poverty, which shows that a negative association exists between wartime military spending and poverty and a direct relationship between peacetime defence expenditure and poverty.

Ozigbu (2018) examined the implications of public debt sustainability on poverty incidence in Nigeria. The study employed Stock-Watson Dynamic Least Square (DOLS) as a technique of analysis. The estimated co integrating regression model shows that external debt stock as a share of GNI has significant positive relationship with poverty headcount as 10 percent increase in external debt stock induces 7.59 percent increase in poverty headcount. The study recommended for improved fiscal consolidation across various levels of government in Nigeria with a view to keeping the economy on the path of sustainability in terms of external debt management.

Zaghdoudi and Hakimi (2017) researched on the impact of external debt on poverty for a panel of 25 developing countries over the period 2000-2015.By performing cointegration model, we found strong evidence of a positive and significant long-run relationship between poverty, external debt, GDP per capita, gross domestic and fixed investment. The results of the study show the existence of negative and significant association between poverty, infrastructure, health and openness. The Granger Causality results indicate bidirectional causality between external debt and poverty in both short- and long-run. The paper agrees with the view that external debt increase poverty in developing countries. The study recommended with respect to external debt to be contracted to a reasonable level and canalized in productive activities like investment.

Khalid and Tamer (2016) understudied the effect of public debt on unemployment and domestic product on the Palestinian economy. The study employed simple regression analysis as a method of analysis. The outcome of the study revealed that there is a connection of statistical effect between public debt and unemployment and gross domestic product. The study recommends amongst others that the rate of public debt to gross domestic product must be lowered as it poses danger to economy and that it doesn't help reduce unemployment.

Ogbonna et al (2016) investigated the implications of rising public debt on unemployment in Nigeria. The study made use of the Autoregressive Distributed Lag model and Wald Test econometric analytic tools as techniques of analysis. The results of the study indicate a long run relationship between public debt and unemployment. It equally revealed a positive relationship between public debt and the level of unemployment, where a 1% increase in public debt on the average, will bring about 1.6% increase in unemployment rate. The study therefore recommended that public borrowing should strictly be for capital projects that have the capacity to create jobs only.

Omari and Muturi (2016) investigated the sectoral effect of public spending on poverty level in Kenya from 1964 to 2010.The study applied the Vector Autoregressive Model in its analysis. The results brought to the fore that expenditure on agriculture and health positively and significantly affect poverty level and sectoral expenditure of government in Kenya. It therefore suggested an increase in government allocation to agriculture and health in Kenya. Obayori (2016) also examined fiscal policy and unemployment in Nigeria from 1980 to 2013.The study employed the Co-integration

and Error Correction Modeling (ECM) methods as techniques of analysis. The finding of the work revealed that fiscal policy is effective in unemployment reduction in Nigeria. The study posits that there is need for expansionary fiscal policy should be encouraged as it plays a major role in the development process of an economy. Korkmaz (2015) undertook a study on how military spending affects the growth of the economy and unemployment in Mediterranean countries. The study employed the panel data analysis from 2005 to 2012.The findings of the work concluded that security spending triggers economic growth negatively and increases unemployment. The study therefore recommended that nations should ensure a more peaceful spending and shift their investment resources to other areas which will stimulate their economic growth.

Qiongand Junhua (2015) researched on the expenditure on military and the level of unemployment in China using data between 1991 and 2013.The study made use of the Autoregressive Distributed Lag Model (ARDL) estimation technique found that military expenditure pushes up unemployment rate, whereas the increase in its non-military segment presses down the rate. The study recommended for deeper exploration into the defence-unemployment nexus as it is still necessary, with more available data and a longer time span. Kalim and Hassan (2014) interrogated the study on public defence spending and poverty in Pakistan. The study applied the Ordinary Least Square technique of analysis. The result of the study showed that, public expenditure on defence increases poverty in Pakistan. The study therefore proposed for the government to allocate its resources more towards social sector development from defence expenditure. Osundina *et al* (2014)'s work understudied the nexus between government spending and social infrastructure and the rate of poverty in Nigeria. The study applied the estimation method of Ordinary Least Square (OLS).The result brought to notice that government expenditure on social infrastructure impact positively and significantly on poverty reduction in Nigeria, while government spending on transportation has an inverse and significant impact on poverty reduction. The study suggested for an increase spending on social overheads in solving the problem of poverty.

In Nigeria, Nwosa (2014) examined government expenditure, unemployment, and poverty rate between 1980 and 2011.The study made used of

the Ordinary Least Square (OLS) technique of estimation to achieve the objective of the study. The outcome of the study has it that the impact of government spending on unemployment rate is positive and significant with an insignificant and negative impact on poverty rate. The study suggests that attention to be given to the rising rate of unemployment and poverty level, as a step in achieving the Millennium Development Goals (MDGs) of the United Nations in Nigeria. Kalim (2013) evaluated the relationship between defence expenditure and poverty in Pakistan from 1972 to 2009.The study made use of Ordinary Least Square method to achieve the objective and determine the long run equilibrium among the variables. The short run dynamics was computed by applying the Error Correction Mechanism. The findings of the study posit that expenditure on military and inflation are significantly increasing poverty in the short and long run, whereas the growth of industrial and non-industrial sectors helps in reducing poverty in Pakistan. The study recommended the need for the volume of government expenditure to be reallocated from defence expenditure to the expenditure on social development of the economy.

Awe (2013) equally researched on the impact of government expenditure on poverty rate in Nigeria. The study used the descriptive statistics of frequency count with percentage used to explain the demographic nature of the respondents with the Chi-Square test to test each of the hypotheses. The results bring to understanding that spending on education, health and agriculture has significant impact on poverty reduction. The study recommended for increased funding in education, health and agriculture in order to raise the productive capacity and address the problem of poverty. Dahmardeh and Tabar (2013) studied how government expenditures affect poverty reduction in Iran. The study used of the Autoregressive Distributed Lag (ARDL) technique of analysis. The findings are of the view that expenditure on construction has positive effect on poverty level. Olabode(2012) inquired into the relationship existing among the components of defence expenditure and the rate of poverty in Nigeria between 1990 and 2010. The author employed the Dynamic ordinary least squares (DOLs) method. The results portrays that a positive relationship exists between the indicators of poverty and military expenditure, the defence spending per soldier, trade population and output per capita. Whereas

there exist a negative relationship exists between enrolment rate to secondary school, per capita output, and the rate of poverty. It therefore suggested to policy makers on the need to weigh the cost of the classic choice of spending between guns and butter.

Based on the survey of extant of literature so far reviewed, there seems to be divergent views amongst scholars. Thus, this paper deviates from them by relying mainly on the Wagner's Increasing State Activities as the theoretical framework. Furthermore, it shed lights on existing literature by disaggregating the data set on defence spending into capital and recurrent and viewed how each component affects macroeconomic goals of unemployment and poverty reduction.

METHOD OF STUDY

Explanation of Variables in the Model

Unemployment Rate (UNEMPR): This is situations in which people that are willing and able to work cannot find jobs at the prevailing wage rate. Thus, this paper adopts CBN (1993) definition of unemployment as the percentage of individuals among the labour force (15-65 years) excluding pensioners, students, housewives and medically unfit persons, who are available for work but cannot find a benefiting job. It serves as the dependent variable in the first model. The data was sourced from World Bank Development Indicators (2017)

Capital Expenditure on Defence (CDEX): This serves as a regressor in the model. It is measured as the amount spent on the acquisition of fixed assets (new or second-hand) assets mainly for defence purposes. It is expected to have a negative relationship with unemployment and poverty rates. The data was sourced from the Central Bank of Nigeria Statistical bulletin (*Various issues*).

Recurrent Expenditure on Defence (RDEX): This refers to the government expenditure on acquisition of goods and services, payment of salaries and wages and also in the settlement of depreciation or fixed asset in Nigeria's defence sector. It equally serves as a regressor in the model and is expected to have a negative relationship with the unemployment and poverty rates. The data were gathered from the Central Bank of Nigeria Statistical bulletin (*Various Issues*).

Poverty Rate (POVR): This is general scarcity or the state of one who lacks the basic necessities of life such as food, shelter and clothing. This paper adopts the UNDP (1998) second definition of poverty which views poverty as deprivation of material requirements for minimal acceptable fulfilment of human needs, including foods, basic health, education, essential service, employment, and participation. The data was accessed from World Bank Development Indicators (2017)

Analytical Framework

According to Seer's (1979:12) reasoning about development, the question to ask about a country's development is to know, what has been happening to poverty? What has been happening to unemployment and inequality? Thus, this paper investigated the case of unemployment and poverty in Nigeria.

Specifically, the baseline Unemployment model and Poverty model followed the earlier works of, Korkmaz, (2015), Olabode, (2012), Apansile and Okunlola, (2014).However, the present study deviates from them by disaggregating the government's defence expenditure into Capital and Recurrent expenditures. The behavioral form of the models is that an increase in government's capital and recurrent defence expenditure is expected to reduce the unemployment rate and poverty rate. The functional forms of the models are expressed below.

UNEMPR= f (CDEX, RDEX, PUBD) (1)

POVR = f (CDEX, RDEX, PUBD) (2)

The multiplicative forms of equations (1) and (2) are stated as:

$$UNEMPR = \alpha_0 CDEX_t^{\alpha 1} RDEX_t^{\alpha 2} PUBD_t^{\alpha 3} e^{\mu 1t} \qquad (3)$$

$$POVR = \beta_0 CDEX_t^{\beta 1} RDEX_t^{\beta 2} PUBD_t^{\beta 3} e^{\mu 2t} \qquad (4)$$

Mathematically, the exact form of equations (3) and (4) could be expressed in the linear form:

$$UNEMPR = \alpha_0 + \alpha_1 log CDEX + \alpha_2 log RDEX + \mu_{1t} \qquad (5)$$

$$POVR = \beta_0 + \beta_1 log CDEX + \beta_2 log RDEX + \mu_{2t} \qquad (6)$$

Where: UNEMPR = Unemployment Rate, POVT= Poverty Rate, CDEX= Capital Defence Expenditure and RDEX =Recurrent Defence Expenditure (both CDEX and RDEX served as independent variables in the models). Again, α_0 and β_0= Constant terms while α_i and β_i are Coefficients of the explanatory variables, while μ_{1t} and μ_{2t} = error terms

RESULTS AND DISCUSSIONS

The analyses of the variables in the models were done in four stages. The first stage was to carry out the pre-estimation tests such as the descriptive statistics and Unit root test. The reason was to as certain if exist stationarity exists and proffer an explanation to the behavior of data sets. The unit root test was carried out using the Augmented Dickey Fuller (ADF) and Philip-Peron (PP) test. The second stage estimated the Autoregressive Distributed Lag (ARDL) Bound test co integration test to ascertain if the variables have long run relationship. The final analysis was to ascertain whether the variables in the model meet the BLUE (Best Linear Unbiased Estimators) criteria following the Gauss-Markov theorem by estimating the post estimation diagnostic tests such as Autocorrelation, Heteroscedasticity, Ramsey Reset and Normality tests.

Pre-Estimation Tests

Descriptive Statistics Test Analysis

The synopsis of the descriptive statistics results as seen in Table 2, suggests that the variables show great disparity in terms of sizes. For example, the mean value of UNEMPR and POVT within the period 1980-2017 stood at 10.96 and 51.68 units respectively. The calculated mean for the variables differs from that of the median values, suggesting the presence of skewness in the models. This is not a surprising incidence, since times series variables have proven to always be highly trended. The implication of this is that any attempt to make use of the data at their level form might result in misleading policy outcomes. These observations amongst others necessitate the need for unit root test.

Table2. *Descriptive Statistics Test Results*

	UNEMPR	POVT	CDEX	RDEX
Mean	10.96541	51.68132	6.86E+09	7.23E+12
Median	8.800000	51.50000	4856.300	15130.80
Maximum	29.50000	72.00000	1.31E+11	2.66E+14
Minimum	5.300000	27.20000	18.50000	535.4000
Std. Dev.	6.170100	12.18368	2.39E+10	4.38E+13
Skewness	1.620649	0.182727	4.187728	5.833296
Kurtosis	4.836097	2.256999	21.11562	35.02749
Jarque-Bera	21.39412	1.056977	614.0828	1791.216
Probability	0.000023	0.589495	0.000000	0.000000
Sum	405.7200	1912.209	2.54E+11	2.67E+14
Sum Sq. Dev.	1370.525	5343.918	2.06E+22	6.91E+28
Observations	37	37	37	37

Source: *Authors' Computation (2021)*

Unit Root Test Analysis

The unit root test for stationarity was conducted using the Augmented Dickey Fuller (ADF) test and Philip Peron (PP) test. The essence was to check whether each data series is integrated and has a unit root. The ADF unit root result for the variables, UNEMPR, CDEX and RDEX in the model is presented in Table 2.

Table3. *ADF and PP Unit Root Test Results For Model one*

Variables	ADF Statistics Level	ADF Statistics First Difference	PP Statistics Level	PP Statistics First Diff.	Order of Integration
UNEMPR	-1.564918	-6.169985*	-2.670966	-5.411869*	I(1)
CDEX	- 1.316747	-7.429233*	- 2.281478	-9.347377*	I(1)
RDEX	4.550113*	------	-6.569183*		I(0)
PUBD	-2.210119	-6.202385*	-2.259787*	-7.065945	I(1)

Note: *i)*indicate rejection of the null hypothesis at 0.05 level*

Source: *Authors' Computation (2021)*

From the results presented in Table 2, UNEMPR, CDEX and PUBD were not stationary at level except RDEX which assumed stationary at level. However, UNEMPR and CDEX became stationary after first differencing. Thus, the variables are integrated at different order i.e. I (1) and I (0). Therefore, this necessitated the employment of Autoregressive Distributed Lag (ARDL) Bound Test to ascertain the relationship between the variables in the model.

Autoregressive Distributed Lag (ARDL)

On the basis that almost all the variables do not have the property of Unit root at level, they cannot be used for regression in the level form because of the spurious regression problem (Grayer, 1979). However, regressing on difference variables would not capture the effect of the long run. Hence, we examined the integrated variables for co integration to ascertain if a long run relationship exists among the variables. Autoregressive Distributed Lag (ARDL) co-integration test method was employed in this study to examine if long run relationship exists among the variables in the models (See Table 4).

Table4. *Co integration Test Result*

Summary of Co-integration Results for Model One

ARDL Bounds Test					
Null Hypothesis: No long-run relationships exist					
Test Statistic					
Significance Level		10%	5%	2.5%	1%
I(0) Lower Bound Limit		2.72	3.23	3.69	4.29
I(1) Upper Bound Limit		3.77	4.35	4.89	5.61
F-statistic =14.89827			K=	3	

Source: *Authors' Computation (2021)*

The test method reported the null hypothesis of no co-integration among the series. Thus, it is expected that we reject the null hypothesis of no co-integration if the F-statistic is greater than the upper bound (i.e., I (1) Bound limit) at 5%, the test is inconclusive if the F-statistic lies between the lower bound and upper bound limit.

From Table 4 above, the F-statistic is 14.89827 which is above the probability of the upper

bound limit at 5%. Our results for co-integration test indicate that there is a long run relationship among the variables in the model. On the premise of the existence of co-integrating relationship among the series, we would go further to estimate the dynamic and static model relationship between the variables using the ordinary regression analysis.

Table5. *Long Run Coefficients, dependent variable is UNEMPR*

Panel A: Long Run Coefficients

ARDL (3, 2, 2, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CDEX	0.000401	0.002597	0.154595	0.8784
RDEX	-0.000000	0.000000	-0.154595	0.8784
PUBD	0.013613	0.083474	0.163079	0.8718
C	0.311799	44.710115	0.006974	0.9945

Source: *Authors' Computation (2021)*

The result shows that the relationship between capital defence expenditure and unemployment is positive and statistically insignificant in the long run model. This suggests that, an increase in government capital expenditure on defence

especially in the acquisition of the military hard wares increases the level of unemployment in Nigeria. This result is in line with the findings of Qiong and Junhua (2015) and Nwosa (2014).However, the relationship between

unemployment rate and defence recurrent expenditure is negative. This implies that, recurrent expenditure on defence reduces the rate of unemployment in Nigeria. This finding contradicts the finding of Korkmaz (2015). The relationship between public debt and unemployment rates is seen to be a direct and significant one. This is in line with economic theory, as an increase in the level of government debt profile is expected to increase the rate of unemployment. This result could be attributed to the fact that, a large sum of government allocation goes into servicing of domestic and foreign debt other than the real sector of manufacturing that creates employment.

Therefore, this has affected the level of output and cost of production in the manufacturing sub sector leading to a rise in the level of unemployment in Nigeria. It is also important to note that in Nigeria, a larger chunk of the defence expenditure is allocated to the capital components especially in the acquisition of military hardware and not in the recurrent component. Therefore, we conclude that, defence expenditure in the long run increases the rate of unemployment in Nigeria through the crowding of resources that would have been channeled to the real sectors that increases production and creates employment of human resources.

Table6. *Error Correction Model for selected ARDL Model*

ARDL (3,2,2,0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNEMPR(-1))	-0.413847	0.190984	-2.166921	0.0404
D(UNEMPR(-2))	-0.228490	0.177403	-1.287974	0.2100
D(CDEX)	-0.000004	0.000001	-5.567825	0.0000
D(CDEX(-1))	-0.000016	0.000003	-5.567795	0.0000
D(RDEX)	0.000000	0.000000	5.567768	0.0000
D(RDEX(-1))	0.000000	0.000000	5.567854	0.0000
ECM(-1)	-0.348423	0.120127	-2.900449	0.0067

Source: *Authors' Computation (2021)*

Table 6 above showed the results of the short run coefficients associated with the long run relationship. The capital defence expenditure showed a negative and significant relationship with the rate of unemployment after a one-year lag period, while the recurrent defence expenditure revealed a positive and significant impact on the rate of unemployment in Nigeria. These suggest that the impact of defence expenditure in reducing the rate of unemployment is only felt in the short run and also implies that the allocation of a large chunk of the budgetary allocation to defence sector is not sustainable in the long run, as it tends to crowd out private domestic investments which serves as the productive base of every economy. The public debt shows a positive and insignificant relationship with unemployment

rate which also agrees with the economic theory and in tandem with the long run result and reasons for such outcome. The error correction coefficient, estimated at -0.348423 is significant and negative as expected, showing the rate of adjustment to equilibrium.

Post Diagnostic Testing

It is also very important in any empirical study such as this, to evaluate the model and the parameter estimates for robustness. In order to justify the empirical method and build confidence in the parameter estimates, the researcher conducted the various diagnostic tests such as the heteroscedasticity test, serial correlation test, normality test and the Ramsey Reset test.

Table6. *Diagnostic Test Results Model One*

Hypothesis	Test statistic	Cal-Stats	Prob.	Remark
Residual normally distributed	Jacque Bera (JB)	1.839454	0.3986	Accepted
No Serial correlation	Breusch Godfrey (BG)	0.701656	0.2306	Accepted
Homoscedasticity	Breusch-Pagan-Godfrey	0.619407	0.7012	Accepted
No specification error	Ramsey RESET	2.481742	0.1067	Accepted

Source: Authors' Computation (2021)

The model one diagnostic test results in above shows that there is no specification error or bias in the model employed, and that the estimates are independently and identically distributed with mean zero

and constant variance. Drawing from the Gaus-Markov theorem, the estimates are declared as the Best Linear Unbiased and Efficient (BLUE) estimators.

Table7. *ADF and PP Unit Root Test Results for Model Two*

Variables	ADF Statistics Level	ADF Statistics First Difference	PP Statistics Level	PP Statistics First Diff.	Order of Integration
POVT	-2.18536	-6.873279*	-2.855111	-7.651132*	I(1)
CDEX	- 1.316747	-7.429233*	- 2.281478	-9.347377*	I(1)
RDEX	4.550113*	------	-6.569183*		I(0)

Note: *(i)*indicate rejection of the null hypothesis at 0.05 level.*

Source: *Authors' Computation (2021)*

From the result presented in Table 6, POVT, CDEX and PUBD were not stationary at level except RDEX which assumed stationary at level. However, POVT, CDEX and PUBD became stationary after first differencing. Thus, the variables are integrated at different order i.e. I (1) and I (0). Therefore, this necessitated the employment of ARDL Bound Test to ascertain the relationship between the variables in the model.

Table8. *Co integration Test Result for Model Two*

Summary of Co-integration Results for Model Two

ARDL Bounds Test				
Null Hypothesis: No long-run relationships exist				
Test Statistic				
Significance Level	10%	5%	2.5%	1%
I(0) Lower Bound Limit	2.72	3.23	3.69	4.29
I(1) Upper Bound Limit	3.77	4.35	4.89	5.61
F-statistic =2.118822		K=	3	

Source: *Authors' Computation (2021)*

From table the F-statistics is 2.118822 which is below the probability of the upper bound limit at 5%.Our results for co-integration test also indicate that there is no co-integrating relationship among our variables. On the premise that no co-integrating relationship exists among the series, we would go no further in estimating the dynamic model but rather we interpret the static model relationship between the variables using the ordinary regression analysis.

Table9. *Long Run Coefficients, dependent variable is POVT*

Panel A: Long Run Coefficients

ARDL (1,0,0,0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CDEX	-0.000000	0.000000	-1.829853	0.0766
RDEX	-0.000000	0.000000	-1.665337	0.1056
PUBD	0.002871	0.001256	2.285552	0.0290
C	48.382065	4.827298	10.022597	0.0000

Source: *Authors' Computation (2021)*

The result above shows that the relationship between capital and recurrent defence expenditure and poverty are negative and statistically insignificant in the long run model. This suggests that, an increase in government expenditure on defence especially in the acquisition of the military hard wares decreases the level of poverty rate, but this reduction is not significant enough to bring people out of their poverty state. This is evidenced as a larger proportion of Nigeria population still lives below the poverty line of $1per day. This result is not in line with the findings of Kalim and Hassan (2014), Olabode (2012) and Henderson (1998), but agrees with the findings of Osundina et al(2014).As can be deduced from the result, and which also agrees with economic theory, public debt is seen to be positively related to the

rate of poverty in Nigeria justifying the crowding out effect of the defence sector. Therefore, we conclude that, defence expenditure does not significantly reduce the rate of poverty in Nigeria as its increased budgetary allocations crowd out resources that would have been channeled to the real sectors to boost production and curb the incidence of poverty.

Table10. *Diagnostic Test Results for Model Two*

Hypothesis	Test statistic	Cal-Stats	Prob.	Remark
Residual normally distributed	Jacque Bera (JB)	1.051760	0.6045	Accepted
No Serial correlation	Breusch Godfrey (BG)	0.086025	0.9657	Accepted
Homoscedasticity	Breusch-Pagan-Godfrey	4.728368	0.3415	Accepted
No specification error	Ramsey RESET	2.224226	0.1460	Accepted

Source: *Authors' Computation (2021)*

The model two diagnostic test results in above shows that there is no specification error or bias in the model employed, and that the estimates are independently and identically distributed with mean zero and constant variance. Drawing from the Gaus-Markov theorem, the estimates are declared as the Best Linear Unbiased and Efficient (BLUE) estimators.

CONCLUSION

In this paper, we set out to empirically investigate the relationship between defence spending, unemployment rate and poverty rate in Nigeria, using annual time series data from 1980 to 2017. Based on the findings, growth in the federal government defence expenditure led to a rise in both the unemployment rate and poverty rate within the period under review in Nigeria. The policy implication of these findings is that government spending on defence crowds out private domestic investments in the real sectors resulting in the rising unemployment and poverty rate being experienced and retards the industrial development process of the Nigerian economy. We therefore recommend that the federal government should adopt fiscal discipline policy options that will enhance the local production of both the military and civilian components/items. This would give footing to the nation's local content policies, thereby stimulating the level and capacity of the nation's industrial process and reduce the economy's expenditure in the acquisition of these items and transform the defence sector into a real sector in her strive to achieve sustainable inclusive growth and development.

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