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Military Expenditure and Economic Growth: Evidence from Nigeria

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Abstract The impact of military expenditure on economic growth has continued to be a subject of debate in the literature. In several African countries, military expenditure has been on the increase in the last few decades making it imperative to explore the impact of military expenditure on the growth of the economy. This study investigates the relationship between military expenditure and economic growth in Nigeria using annual time series data from 1981 – 2017. In achieving this objective, the study adopted a simple growth model that incorporates military expenditure as a share of government expenditure for the period of study. The autoregressive distributed lag (ARDL) estimation technique was used in testing the relationship between the variables in the model. The result of the study shows that there is a significant positive long-run relationship between military expenditure and economic growth.

Keywords Military expenditure, Defense, Military industry, Security, Government spending

1. Introduction

The relationship between military expenditure and economic growth is a major debate in the development literature. There is evidence that a significant fraction of the fiscal provision of developing economies is expended on the military at the expense of other social needs (Khalid and Mustapha, 2014). The main motivation for testing the relationship between military expenditure and economic growth is to enable policymakers judge the economic impact of the government expending their scarce resources and revenue for military and defense purposes. Military expenditure can affect an economy positively through an expansion of aggregate demand or through increased security or negatively through crowding out of investment (Enimola and Akoko, 2011). The levels of fiscal provision for the various sectors of the economy have varied implications for them. A disproportionately large military expenditure would usually be at the cost of social service provision and also impact on other critical sectors of the economy that require significant fiscal provisions. For instance, on the one hand, a disproportionate military expenditure impedes economic efficiency, although it is important to highlight the importance of stability for economic development (Deger and Sen, 1995; Pieroni 2009). On the other hand, authors such as Benoit (1978) and Alptekun and Levine (2012) provide evidence that military spending can accelerate economic growth in less developed countries (LDCs). The debate has therefore centred around whether or not military expenditure has a positive impact on economic growth.

Using annual time-series data for Nigeria from 1981 – 2017, this article explores the impact of military expenditure on economic growth in a developing country. The case of Nigeria is significant due to a steady increase in the country's military expenditure in the last decade as well as the country's position as a regional power. The country has at almost every point in time continued to be plagued with different security challenges such as a Boko Haram insurgency in the North-Eastern part of the country, unrest in the Niger Delta (the oil-producing region of the country) as well as other issues such as kidnapping, armed banditry and clashes between herdsmen and farmers in several states of the country (Ajala 2018 and Abbass, 2012). These issues have contributed to the rise in military expenditure in Nigeria in more recent times.

The choice of Nigeria is premised on the unique dynamism in the trend of its military spending as a fraction of aggregate government spending. Nigeria had in previous years maintained high military spending as a fraction of aggregate government spending ranging from 20 to above 50 per cent from the 1980s through to the early 2000s, however, by mid-2000s after the country had begun consolidating on its return to civilian rule there was a sharp drop to below 10 per cent of aggregate government expenditure (see figure 1 below).

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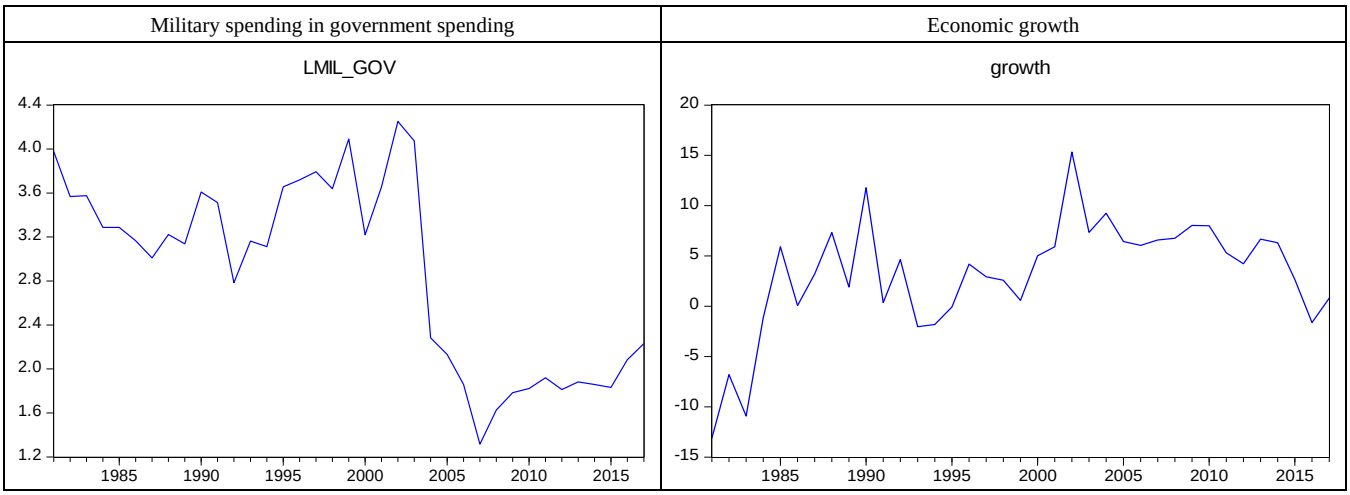

Figure 1. Trend of Military Spending in Government Spending and Economic Growth in Nigeria

While there was the possibility of a shift in government focus on delivering the returns of democracy to citizens, the difference could also reflect a spike in aggregate revenue and expenditure. It is important to note that this reflects the percentage of military spending in aggregate government spending and not absolute figures, therefore a sizeable increase in aggregate government spending to other sectors can dwarf the percentage of military spending but not necessarily reduce the absolute figures. In recent times, however, a gradual rise in military spending has been witnessed as the country has continued to face even more security challenges on numerous fronts.

Using an Autoregressive distributed lag (ARDL) estimation technique, the long-run relationship of the underlying variables is detected through the F-statistic (Wald test). The ARDL estimation technique is robust when estimating the long-run relationship between variables in a small sample size. The long-run relationship of the underlying variables is detected through the F-statistic (Wald test). According to Ghatak and Siddiki (2001), the ARDL technique provides a more statistically significant approach to determine the co-integration relationship in small samples as in this study (with 37 annual observations per variable) while the Johansen co-integration techniques often require large data samples for validity. Harris and Sollis, (2003), posited that the ARDL generates unbiased long-run estimates and valid t-statistics, even if there are some endogenous regressors in the model. The study argues that there is a significant long-run relationship between military expenditure and economic growth in Nigeria, but inverse in the short-run. The study found a similar relationship between government spending and economic growth in the country. The study also found a positive long-run relationship but no short-run relationship between the level of investment and economic growth. In the case of the level of human capital development, the study found an inverse long-run relationship and no short-run relationship with the economic growth of Nigeria.

The remainder of the study is distributed as follows: the second section discusses the theoretical framework on which the analysis of this study is built, the third section focuses on the data and methodology as well as the estimations, while the fourth section presents a discussion of the findings and the fifth section concludes the study.

2. Theoretical Framework

Theoretically, the relationship between military expenditure and economic growth has mainly been debated along three strands. The first strand highlights how military expenditure stimulates economic growth through security, technological and aggregate demand effect.

In this Keynesian type submission, defense expenditure is viewed as an integral part of government expenditure which serves as an injection to the economy, and as such through its multiplier effect, positively stimulates the economy. The increase in any of the aggregate demand variables will increase the capital stock in the society, which will lead to higher profit and may induce higher investment, thus generating short-run multiplier effects and higher growth rates on the aggregate economy. Benoit (1973, 1978) argued that with an increase in military expenditure, economic growth can be promoted by increasing human capital capabilities of the workforce through the provision of education and the military industries can provide valuable skill. There are also externalities in defense spending that are crucial to economic growth like the provision of road infrastructure which can be used by both the military and civilians (Barro and Sala-i-Martin 1995).

Proponents of this strand posit that military expenditure helps in stabilizing a country both internally and externally as well as provides much-needed infrastructures such as road and communication infrastructures needed for military operations, but, also critical for economic activities. More importantly, they posit that countries can benefit from spillover effects of investments in research and development (R&D) in the military industry, bearing in mind the

well-established R&D-Growth relationship within the economic growth literature. According to Yakovlev (2012), military R&D can result in the development of new technology such as radar, jet engine, nuclear technology which could spill over for economic development and eventually economic growth. Leading proponents of this strand include (Benoit, 1973; 1978; and MacNair et al., 1995). Critics of this perspective have, however, often argued that military expenditure could channel human and monetary resources away from civilian research and development activities (Levine and Renant, 1992). Defense spending may also crowd out not only private investment but other government spending that could stimulate human capital formation (Shieh et at, 2002). Given that the government sector is prone to low productivity, the diversion of resources away from civilian to military purposes may impede long term country productivity, technological projects and growth (Enimola and Akoko, 2011).

The second strand argues that military expenditure hinders economic growth through its private investment crowding out effect. This framework posits that increased military expenditure uses up scarce revenue from taxpayers which could have been used for other socio-economic purposes such as health and education services. In achieving its other non-military obligations, the government would tend to increase the tax burden, incur deficit or a combination of both thereby frustrating savings and private investment. Leading proponents of this strand include (Deger and Smith, 1983 and Huang and Mintz, 1990). Using a case study of Turkey and utilising the Granger causality test to analyze the direction of the causal relationship between the variables, Gokmenoglu et al (2015) argue that military expenditure hinders economic growth. The authors argue that two main reasons explain the lack of equivalent economic growth in the country as military expenditure increases. First, in a developing country with limited resources, military spending is constrained by low income and growth and extra military spending hinders economic growth. Second, when a country is a net arm importer as in the case of Turkey, military expenditures will be financed by scarce resources and foreign exchange reserves putting additional economic stress on the country (Gokmenoglu et al, 2015).

The third strand argues that there is a lack of a significant relationship between military expenditure and economic growth. The proponents argue that both the positive spillover effect and negative crowding-out effect are vague and ambiguous at best. Leading proponents of this strand include (Biswas and Ram, 1986; Alexander, 1990 and Adams et al., 1991). The lack of consensus on the nature of the relationship between military expenditure and economic growth as well as the variations in interpretations of empirical findings have often been linked to country and study-specific contexts such as methodology and techniques employed. Quite a lot of existing empirical evidence have utilized cross-sectional and panel data set (Yildirim et.al, 2005; Chang et.al, 2011 and Hou and Chen, 2013). Because, socio-economic and security challenges of countries vary, it is almost impossible to expect the same impact of military expenditure on economic growth across the board. This, therefore, provides justification for country-specific studies using time-series data such as this, which focuses on Nigeria using annual data from 1981 – 2017 based on data availability. According to Ram (1995), the examination of the relationship between military expenditure and economic growth within country-specific contexts provides findings with higher explanatory powers.

Overall, while some studies have argued that military expenditure stimulates economic growth through security, technological and aggregate demand effect, a second strand have argued that military expenditure hinders economic growth through its private investment crowding out effect and a third strand have argued that there is a lack of a significant relationship between military expenditure and economic growth claiming that both the positive spill-over effect and negative crowding-out effect are vague and ambiguous at best.

Pivotal to the observable divergence in the three strands is the choice of methodology and approach used. For instance, Sala-i-Martin et al. (2004) considered 67 variables, including the initial share of military spending, as possible determinants of growth for 1960 – 1996 in a cross-section of 88 countries. Using Bayesian averaging, they found 18 variables that appear significant, with a posterior inclusion probability of better than 10%. The share of military spending ranks 45, with a probability of 2.1%. Dunne et.al (2005) posits that there are many similar findings. They however, argued that on the contrary, many papers in the defense economics literature have found military expenditure to be a significant determinant of growth. The difference seems to come largely from the use of different models. In defense economics, the Feder–Ram model is quite widely used, on the other hand in the economic growth literature variants of the Solow growth model is widely used. In a recent defence-growth literature survey, Dunne and Tian (2013) found that out of the about 168 studies conducted since the seminal study of Benoit (1973), military spending had negative effects on economic growth in 44% of cross-country studies and 31% of case studies. Only 20% of studies found positive results, while about 40% reported mixed and unclear results.

On the one hand, time series studies such as Karagol and Palaz (2004) using a cointegration framework found a long-run equilibrium relationship between GNP and defense expenditures in Turkey, although, the long-run coefficients suggest that defense expenditures can reduce growth through a crowding-out effect on investment which could have had other alternative uses. Shabaz et.al (2013) using the ARDL cointegration framework found a similar relationship for Pakistan. On the other hand, studies such as Wijeweera and Webb (2009) found a positive relationship between military spending and economic growth albeit minimal when compared to non-military spending in Sri Lanka. Tiwari and Shahbaz (2013) using the ARDL cointegration framework for India found a positive relationship between defense

spending and economic growth. Dunne et.al (2005) presents a robust critical review on the various models and channels through which the military expenditure and economic growth relationship could be examined. They argued that the ambiguity in the mainstream growth literature on the role of military expenditure is a function of specification challenges. They suggested two alternative theoretical approaches; the Augmented Solow and the Barro models, which they suggested provides a more promising avenue for future research.

For this study, we adapted existing theoretical framework for investigating the relationship between military spending and economic growth which is a Barro (1990) type model as put forward by D'Agostino et.al, (2017). The D'Agostino et.al, (2017) model characterizes some broad principles with an optimal government size that maximizes economic growth. They argued that some "public" components of government spending can influence the long-run growth rate. These components are modelled as inputs influencing private production function (D'Agostino et.al, 2016). They specified an estimable form of the model, using a general formulation of the endogenous growth model of Devarajan, et.al (1996).

$$g_t = \beta_1(\frac{gov}{Y})_t + \beta_2(\frac{mil}{gov})_t + X'\varphi + n_t + \varepsilon_t \qquad (1)$$

Where, g_t is the growth rate of GDP in the country at time t, n_t is the time fixed effect and ε_t is the error term. The variables $(\frac{gov}{Y})_t$ and $(\frac{mil}{gov})_t$ are government spending in GDP and military expenditure in government spending. A set of control variables are also introduced; Gross capital formation as a share of GDP to proxy for the level of Investment $(\frac{INV}{Y})$ and gross school enrolment to proxy for the level of human capital development (HC).

The model describes an endogenous growth specification with permanent fiscal policy growth effects. D'Agostino et.al, (2017), however, highlighted the importance of the persistent Solow-type transitional dynamics, and mean reversion particularly in the case of annual data as suggested by Gemmel et.al (2016). In a similar manner to D'Agostino et.al, (2017), we specify an autoregressive distributive lag ARDL [(p, q)] model, in an error correction model (ECM) form. The ECM form of the ARDL (p, q) is stated in the equation as below:

$$g_t = \emptyset(g_{t-1} - \beta_1(\frac{gov}{Y})_{t-1} - \beta_2(\frac{mil}{gov})_{t-1} - \sum_{j=3}^{m}\beta_j X_{t-1}) + \sum_{j=1}^{p-1}\alpha_j^*\Delta g_{t-j} + \sum_{j=0}^{q-1}\beta_j^*\Delta\bar{X}_{t-j} \qquad (2)$$

Where the error correction term $\emptyset$ measures the speed with which the model returns to equilibrium after a shock $\beta_j\ (j = 1, \dots, m)$, explains the long-run equilibrium relationships between g and X ($(\frac{gov}{Y})$, $(\frac{mil}{gov})$,X), α_j^* and β_j^* are the short-run parameters. $\Delta\bar{X}$ includes both $(\frac{gov}{Y})$, $(\frac{mil}{gov})$, and the vector of control variables X in difference form.

It is important to note that since the equation above is specified in ARDL form when estimated, the result will account for the effects in the long-run level.

3. Data and Methodology

The annual time-series data for the period 1981–2017 for the underlying study have been extracted mainly from the World Development Indicator of the World Bank Data Bank. Data were log-transformed to stabilize the variance of the series except for the GDP growth rate. The use of eviews-10 statistical package was utilized in analyzing the data used in the study. The summary statistics of all the variables used in the analysis are presented in table 1.

Table 1. Descriptive statistics

	growth	$(\frac{INV}{Y})$	*hc*	$(\frac{gov}{Y})$	$(\frac{mil}{gov})$
Mean	3.208542	3.485407	3.418091	0.994803	2.890693
Median	4.230061	3.600746	3.298907	0.730981	3.162452
Maximum	15.32916	4.492909	4.075492	2.245839	4.250579
Minimum	-13.12788	2.701623	2.833717	-0.092955	1.316359
Std. Dev.	5.610974	0.518939	0.297571	0.776632	0.859648
Skewness	-0.878156	-0.009786	0.644121	0.370347	-0.231912
Kurtosis	4.453574	2.079501	2.678064	1.669848	1.636906
Jarque-Bera	8.012825	1.306874	2.718284	3.573477	3.196116
Probability	0.018199	0.520255	0.256881	0.167506	0.202289
Sum	118.7161	128.9601	126.4694	36.80772	106.9556
Sum Sq. Dev.	1133.389	9.694722	3.187741	21.71367	26.60380
Observations	37	37	37	37	37

Investigating the time series properties before analyzing the relationship among variables is very crucial owing to the challenges that non-stationary series do present in regression analysis. It is well established in the literature that an ordinary least square (OLS) regression estimate produces spurious regression when the data used contains a unit root. Therefore, an insufficient investigation of the existence of unit root may result in estimates that may appear meaningful but are meaningless or inaccurate at best (Hamilton, 1994). To avoid this type of spurious estimates, stationarity

properties are checked using the Phillips–Perron (PP) test (Phillips and Perron, 1988). Results of unit root tests are reported in table 2.

Table 2. Stationarity test result

	PP						
	Level			1st Difference			Order of Integration
	None	Intercept	Intercept with Trend	None	Intercept	Intercept with Trend	
growth	-2.95***	-4.06***	- 3.78**	-9.92***	-9.86***	-11.30***	I_0
$(\frac{INV}{Y})$	-2.94***	-1.37	-3.13	-5.23***	-6.21***	-6.24***	I_1
hc	1.25	-1.80	-2.28	-4.55***	-4.60***	-4.45***	I_1
$(\frac{gov}{Y})$	-0.45	-1.32	-2.06	-6.06***	-6.01***	-5.92***	I_1
$(\frac{mil}{gov})$	-1.14	-1.74	-2.21	-6.23***	-6.21***	-6.24***	I_1

****, **, * denote significance at 1%, 5% and 10% respectively*

Also, investigating for the presence of unit root gives an insight into the order of integration of the variables. Although, the ARDL technique does not require the same order of integration for all regressors as against other techniques and estimations can proceed with or without the knowledge of variables order of integration be it an order of integration one I(1) and/or level I(0). It is, however, crucial to note that this technique crashes in the presence of a variable integrated of order two I(2). To avoid a wrong application of the ARDL technique, we therefore, conduct a test for unit root.

The PP unit root test reveals a mixed level of stationarity. Variables growth was stationary at the level, while, others were stationary at first difference. In the case of the level of investment, it was stationary at level, but when intercept and trend were introduced it was no longer stationary at level. Therefore, the unit root results confirm that some variables are stationary at level {i.e., I (0)} and others at first difference {i.e., I (1)}. This indicates that the considered variables may have a long-run relationship (Jawaid, and Saleem, 2017). Knowledge of this helps to ensure the best fit estimation technique is applied. For example, it is argued that in the presence of I (2) variables, the computed F-statistics provided by Pesaran et al. (2001) are not valid because the bounds test assumes that the variables are either I (0) or I (1) therefore suggesting that a combination of I (0) and I (1) is valid for the bound test (Ouattara, 2004).

Table 3. Estimation result for the ARDL Bounds Test

		F-statistics
		10.3368****
Critical Values		
Significance (%)	I (0) Bound	I (1) Bound
10	2.08	3.0
5	2.39	3.38
2.5	2.7	3.73
1	3.06	4.15

*****, ***, **, * denote significance at 1%, 2.5%, 5% and 10% respectively*

The co-integrating result reveals that the calculated F-statistics for the model to be estimated on the relationship between military expenditure and economic growth in Nigeria is higher than the upper bounds levels at 1 per cent level of significance in table 3.

Next, we examined the nature of the relationship between military expenditure and economic growth. A direct regression of dependent on independent variables of interest is likely to produce biased estimates due to the well-known problems of time-series regression. To deal with these issues, the study utilizes the autoregressive distributed lag (ARDL) framework of Pesaran, Shin, and Smith (2001). This framework is known to possess several advantages over the traditional co-integration models (such as Engle and Granger, 1987, and Johansen and Juselius, 1990) some of which include; (1) appropriate for modelling limited data (2) applicability in data with a mixture of I (0) and I (1). (3) Different variables in the model can be assigned different lag-lengths (4) involves a single-equation set-up making it simple to interpret. In specifying the choice of lag length, considering our sample size, we rely on Narayan (2005), which posits a maximum of two lags for a small sample size. The long and short-run form results are presented in table 4.

Table 4. Long and Short Run Relationships

REGRESSOR	**Long-Run**		**Short-Run**
$(\frac{INV}{Y})$	0.728*** (0.114)	D($\frac{gov}{Y}$))	-0.8038 (0.1367)
hc	-0.655** (0.265)	D($\frac{gov}{Y}$) (-1))	-0.1165* (0.0368)
$(\frac{gov}{Y})$	0.592*** (0.116)	D($\frac{mil}{gov}$)	-0.1320** (0.0444)
$(\frac{mil}{gov})$	0.546*** (0.090)	D($\frac{mil}{gov}$) (-1))	-0.9175*** (0.0751)
C	-15.129 (2.826)	$(ECT)_{t-1}$	-1.318*** (0.137)

****, **, * denote significance at 1%, 5% and 10% respectively and S.E in parenthesis*

The result shows that military expenditure has a positive significant long-run relationship and significant negative short-run relationships with economic growth in Nigeria.

The findings of the results revealed that a 1% increase in military expenditure generates approximately a 0.55% increase in long-run economic growth at a 1% significance level. The result for government spending in GDP is quite similar to that of military expenditure in government spending. We found a positive significant long-run relationship and significant short-run negative relationships between government spending and economic growth in Nigeria. The findings of the results revealed that a 1% increase in government spending generates approximately 0.59% increase in long-run economic growth at a 1% significance level.

The result shows that the level of investment reveals a positive significant long-run relationship but no short-run relationship between the level of investment and economic growth in Nigeria. The findings of the results revealed that a 1% increase in the level of investment generates approximately 0.72% increase in long-run economic growth at 1% significance level. In the case of the level of human capital development, the result for the level of human capital development reveals a negative significant long-run relationship but no short-run relationship between the level of human capital development and economic growth in Nigeria. The findings of the results revealed that a 1% increase in the level of human capital development generates an approximately 0.65% inverse long-run relationship with economic growth at a 5% significance level.

Having estimated the ARDL framework, the lagged value of all variables (a linear combination denoted by the error-correction term ECM_{t-1}) is retained in the ARDL model. The error correction term indicates the speed of adjustment to adjust to equilibrium in the dynamic model. The ECM coefficient shows how quickly variables converge to equilibrium. It is expected to be negatively signed and significant. Bannerjee et. al (1998), noted that an error correction term with high significance levels further confirms the existence of a long-run relationship that is stable. Table 4 shows the expected negative signs of ECM are highly significant. This, therefore, further confirms the existence of the co-integration relationship among the variables in the model. The coefficient of ECM_{t-1} is -1.318 and highly significant at 1 per cent. Finally, the stability of the model was checked using the CUSUM and CUSUMSQ tests.

In both tests, the straight lines represent critical bounds at 5% significance. The results of the CUSUM test for both models show that the model is stable in the short and long-run. The plots of Cumulative sum (CUSUM) and the plot of the cumulative sum of squares (CUSUMSQ) tests are presented in figure 2.

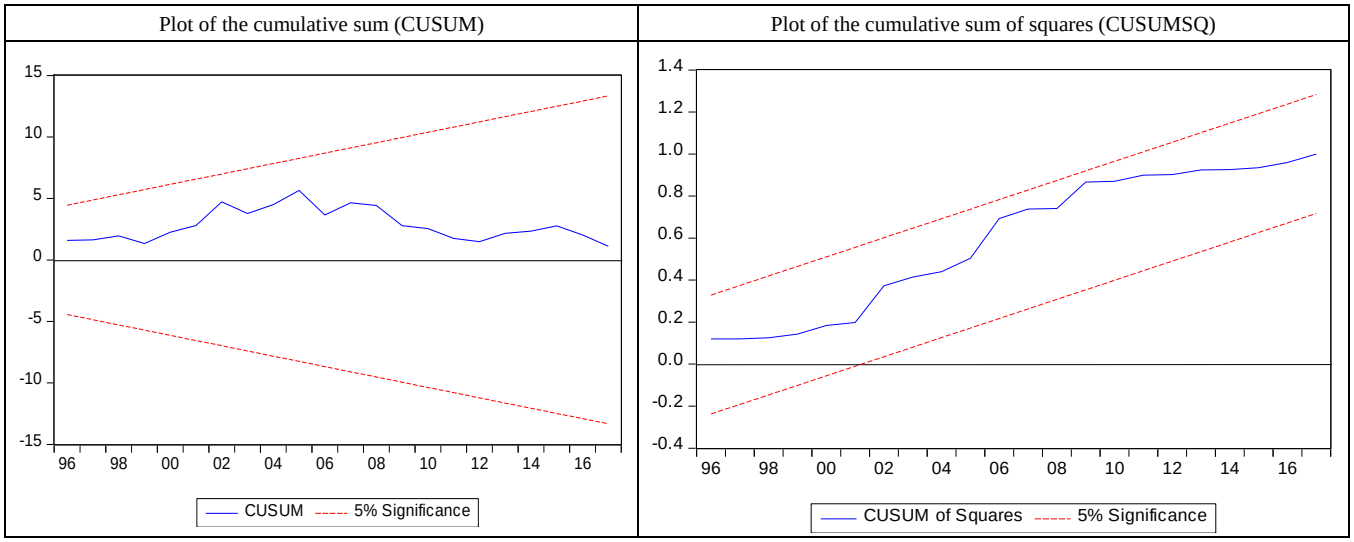

Figure 2. Plots of Cumulative sum (CUSUM) cumulative sum of squares (CUSUMSQ)

4. Discussion

Because of the increase in the level of threats faced by Nigeria, as well as the resultant increase in military expenditure in the face of dwindling economic growth in some instances, it becomes imperative to explore the impact of military expenditure on economic growth. Key issues neccessitating exploring the relationship between military expenditure and economic growth in Nigeria include; First, there has been a relatively high level of military expenditure in Nigeria. This spendings in some instances can be said to be disproportionate when considering the economic standing of the country and other competing needs. Second, different methodologies used previously have produced different and sometimes contradictory results, making it imperative to explore a more nuanced methodology that could adequately explore the relevant variables. Third, the argument by policy makers that the prevailing security situation requires an increase in military expenditure to strengthen the economy is worth exploring.

Our finding presents an interesting outcome where there is an initial negative relationship between military spending and economic growth in the short-run and a positive relationship in the long-run. This finding corresponds with

the findings of previous studies such as Wijeweera, and Webb, (2009), although their long-run positive impact is small and diminishing. Our findings may be explained by country-specific factors that obtain in Nigeria and the differences between Nigeria and the countries used in other studies. For example, Madden and Haslehurst, (1995) explained that in countries with a defense industry, military expenditure exerts a greater positive impact on economic growth.

In the case of Nigeria, the lack of a domestic arms industry means that it must purchase almost all its military equipment from overseas suppliers. Consequently, any increase in military spending will be more likely to bloat Nigeria's current account deficit than its GDP. Also, Wijeweera, and Webb, (2009) explained that studies that found an outright positive relationship between economic growth and military expenditure were mostly conducted during stability time and not in the middle of security challenges. However, in developing economies faced with security challenges like Nigeria, the prerequisites for defense spending to boost the economy may be absent. For instance, skilled military personnel may be killed before they have a chance to transfer their acquired knowledge to the private sector and the depreciation rate of military hardware and infrastructure improvements may be accelerated (Sarvananthan, 2004).

In essence, there are at least two possible explanations for our findings: First, Nigeria, as a developing country with limited resources, is still in a position that military spending is constrained by the low income and growth. So, only when the economy grows can the government increase its expenditures to strengthen its military power or otherwise, source fund for military expenditure which may have an initial unfavorable impact on the economy such as the crowding out effect. The second explanation is related to the first one. According to the Stockholm International Peace Research Institute, Nigeria is a net arms importer which means military expenditures would be financed by the scarce resources and foreign exchange reserves of the country. So, military expenditure is an initial leakage to the country as it imports almost all military equipment and expends funds to bring the technical know-how to make use of the new equipment into the country. However, the economy can benefit from the military expenditure in the long-run not necessarily because of the spending effect on the economy, but rather possible security and safety effects on the economy.

Furthermore, while our estimates suggest that increased military expenditure as a share of total government spending has a positive effect on GDP in the long-run, more interesting is that public spending on the military has better long-run returns than public spending on human capital. This is quite counterintuitive to neo-classical assumptions that posit human capital as a progressive contributor to economic growth. Indeed, the role of improved schooling as a proxy for human capital has been central to the economic growth and development discuss at both national and international levels. This has led to improvements in enrolment numbers and narrowing the enrolment gap between the developed and developing world, however, this has not necessarily guaranteed the much-needed improved economic conditions in the developing countries (Easterly, 2001; Pritchett, 2006). According to Hanushek (2013), developing countries have over the years obsessed with increasing school attainment which entails improving enrollment numbers and spending as against improving educational achievement, or cognitive skills. These countries, while, improving school attainment, have not necessarily improved in quality terms, hence, low cognitive ability, which essentially should drive economic growth and productivity. More recent empirical evidence from some Asian countries suggests that human capital alone may not be a significant contributor to economic growth. According to Aslam (2020), institutions reinforce the impact of human capital on economic growth; as they provide necessary conditions to amplify the impact of human capital development. Situating this into the Nigerian context, the possibility of the counterintuitive finding, therefore, becomes clear as institutions in Nigeria have largely remained weak (Laniran, 2018; Sala-i-Martin, X. and Subramanian, A., 2013).

5. Conclusions

This study investigates the relationship between military expenditure and economic growth in Nigeria since 1981. The study utilized the Bounds test/ARDL estimation technique. From the estimates generated, the study found that there is a significant long-run relationship between military expenditure and economic growth but found an inverse relationship in the short-run. The study found a similar relationship between government spending and economic growth. The study also found a positive long-run relationship but no short-run relationship between the level of investment and economic growth, however in the case of the level of human capital development, the study found an inverse long-run relationship and no short-run relationship with the economic growth of Nigeria. The results from the ARDL estimation, therefore suggest that in the short-run, there might not be immediate positive economic growth gains from government military expenditure, however, in the long-run, the positive impact of such military expenditure on economic growth will be gained. This corresponds with expectations from previous studies as highlighted earlier that for net arms importing countries that are faced with insecurity challenges and are forced to spend on their military in the face of other competing needs, suchj expenditure may not drive growth in the immediate short term, but may have a long run growth effect.

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