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Military Expenditure and the Growth of Nigerian Economy

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ABSTRACT: This study aims to examine the relationship between military expenditure and economic growth in Nigeria from 1970 to 2018, using the ARDL vector error correction mechanism. The variables in this study include Real Gross Domestic Product (RGDP), Government Expenditure on Fixed Capital Formation, Community and Social Services, Defense, Education, and Population. The findings, with RGDP as the dependent variable, indicate a long-run cointegrating relationship among these variables. The findings indicate a cointegrating relationship among the variables, with Defense as the dependent variable. The vector error correction analysis reveals that when RGDP is considered as the dependent variable in the first and third periods, there is a positive and significant relationship with its own lagged value, suggesting that changes in RGDP during these periods stimulate growth. However, government expenditure on defense shows a positive and significant effect only in the third lagged period, while its relationship to growth in the second and third lagged periods is negative and insignificant. Overall, this suggests that government investment in defense does not have a significant impact on growth in Nigeria. Therefore, it is recommended that the government exercises caution when considering increases in military expenditure.

Keywords: ARDL vector, expenditure, growth, military, Nigerian economy

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INTRODUCTION

One of the fundamental functions of any government is to ensure the security of the lives and property of its citizens and residents. According to Section 14(2)(b) of the Constitution of the Federal Republic of Nigeria 1999 (as amended), “the security and welfare of the citizens shall be the primary purpose of government.” The military is an integral part of the security architecture of any sovereign nation, playing a crucial role in protecting the nation's territorial integrity. In Nigeria, the military complements the efforts of other security forces in maintaining internal security and is involved in various aspects of the country's security initiatives. The nature of security challenges in Nigeria is dynamic and has consistently reflected the country's socio-economic and political conditions at any given time. The civil war in the late 1960s highlighted the challenges of Nigeria's early democratic experiment following independence, with the subsequent surge in armed robbery emerging as a post-civil war dilemma (Nkpa, 1976). The kidnappings, Niger Delta unrest, herdsmen attacks, banditry, and Boko Haram insurgency all reflect the current and past socio-economic and political realities and frustrations within the country (Ali, 2013). The dynamic nature of these security challenges necessitates continuous combat readiness, strategic adaptations, and attention to personnel welfare, all of which significantly influence total defense expenditure and overall government spending. Defense expenditure is a major component of the Nigerian budget, largely comprising military spending. Since gaining independence in 1960, Nigeria has seen a consistent increase in defense expenditure. The civil war of 1967, coupled with periods of military rule, paved the way for substantial and sustained increases in military spending. According to statistics from the Nigerian Budget Office of the Federation, total defense expenditure was N817.7 million in 1970, and by 1990, this figure had surged to

N11.6 billion. By 1999, defense spending had risen further to N83,674 million, and by 2015, it had reached N319,455.2 million. Between 2016 and 2018, Nigeria's defense budget averaged 6.3% of the total federal government budget and accounted for approximately 21.8% of total capital expenditure during this period. The defense expenditure of N576.3 billion in 2018 represented 1.6% of Nigeria's Gross Domestic Product (GDP).

The amount budgeted for defense in Nigeria has maintained an upward trajectory, particularly during what can be described as peacetime. The percentage of military spending as a share of GDP has steadily increased, especially when compared to budgeting for health or education. This rise in military expenditure has remained a significant impediment to economic growth and development (Kayode and Oyewole, 2022).

As mandated by the Nigerian Constitution, the military is allocated funds in the national budget annually. The military also plays a crucial role in supporting Nigeria's leadership and participation in international peacekeeping operations, particularly in the Sub-Saharan region of Africa.

These responsibilities, among others, have justified the continued increase in military expenditure, which security experts still deem inadequate, even though these substantial expenditures often come at the expense of critical human development sectors such as education, health, and social services. This raises the question of whether such high military spending is justified, especially during peacetime (Ishola, 2022). Recent studies have shown no consensus on the relationship between military expenditure and economic growth. While studies such as Benoit (1973) established a positive relationship between military expenditure and economic growth, other studies like Ali and Mohammed (2014) found a negative relationship.

The objective of this study is to evaluate the relationship between military expenditure and economic growth in Nigeria, considering macroeconomic variables such as defense expenditure, government spending on education, total expenditure on gross fixed capital formation, government expenditure on social and community services, and population growth.

Empirical review

The impact of military expenditures on economic growth has produced varying results both within and among nations. Internal and external threats have been found to positively influence military expenditure (Dunne and Perlo-Freeman, 2003). Several studies have identified a positive relationship between military expenditure and economic growth, including those by Benoit (1973), Muller and Atesoglu (1993), Yildirim et al. (2005), Yildirim and Sezgin (2002), Mac Nair et al. (1995), Chletsos and Kollias (1995), Anfofun (2013), Mosikari and Maltwa (2014), Korkmaz (2015), and Sezgin (1999, 2000). Similarly, Tangguh et al. (2013) studied the relationship between military expenditure and economic growth in ASEAN, with evidence from Indonesia using an augmented Solow growth model. Their findings indicate that, for Indonesia, military expenditure positively affects economic growth, likely due to the development of human capital as a result of military spending.

On the other hand, several studies have identified a negative relationship between military expenditure and economic growth, highlighting that increased military spending can reduce public funds available for other social and productive sectors, such as education and health. Studies in this category include those by Deger (1986), Lim (1983), Deger and Sen (1983), Korkmaz (2015), Amjad and Ather (2014), Mosoud et al. (2014), and Deger and Smith (1985). A similar study by Khalid and Mustapha (2014) on military expenditure and economic growth in China used autoregressive distributed lag and Granger causality techniques. Their findings indicate an inverse relationship between military expenditure and economic growth in the short run, while the long-run results show that the correlation among the variables is inconclusive.

The Granger causality test revealed a unidirectional relationship running from GDP to military expenditure. Other studies have found that military expenditure can have both positive and negative impacts on economic growth. Benoit (1978) employed a neoclassical approach to examine the relationship between military expenditure and economic growth, concluding that the effects could be both positive and negative. The negative effects stem from the diversion of productive resources away from other sectors, while the positive effects include job creation, increased employment, and advancements in research and development. Similar studies in this category include those by Anfofu (2011) and Apansile et al. (2014).

In Nigeria, studies by Amuka and Asogwa (2019) examined the relationship between military expenditure and human capital development from 1970 to 2014 using autoregressive distributed lag models. They found that military expenditure had an insignificant negative impact on the education sector of human capital development and a negative impact on health. Similarly, Mohammed (2016) studied the impact of defense expenditure on arms and economic growth, analyzing the short- and long-term effects of arms importation on Nigeria's economic growth.

The findings revealed a negative impact of the defense-arms interaction on economic growth. The reviewed literature presents an ongoing and inconclusive debate on the impact of military or defense expenditure on economic growth across emerging economies. This study aims to contribute to this debate, with a focus on the Nigerian context.

Theoretical framework

Public expenditure growth model

The inefficiency of market economics in effectively distributing social and economic infrastructural development led to the emergence of public expenditure theories. This failure gave rise to welfare economics, which advocates for state intervention in economic activities, resulting in the expansion of the government sector and growth in public expenditure (Agbonkhese and Asekome, 2014). Government expenditure can be categorized into two main forms: a) securing lives and property, and b) providing public goods such as roads, hospitals, schools, and other essential services. The importance of public expenditure in both developed and developing countries cannot be overstated. However, rising government expenditures in developing economies may not necessarily lead to improved growth and development in these economies (Okoro, 2013).

There is a widespread perception that substantial military expenditure contributes to low economic growth by diverting resources away from other productive sectors like education, health, and development projects, ultimately leading to reduced economic growth (Amjad and Muhammad, 2014). Collier (2016) argued that increasing military expenditure has negative consequences for development. Therefore, the primary focus of the government should be on providing public services and developing human capital rather than increasing defense spending. Consequently, most theorists have found that military expenditure negatively impacts economic growth by drawing resources away from more productive sectors.

Macroeconomic models often emphasize the long-term growth in public expenditure driven by factors that enhance economic spillover. Variables such as GDP (Gross Domestic Product) or income per capita are commonly used to determine government expenditure. Consequently, the size of public funding is linked to economic endowment and GDP growth rates. Over time, the proportion of GDP allocated to public consumption and investment has increased, with higher rates observed in most developed nations compared to developing ones. The primary focus of these models has been the differences in spending over time across various units. Therefore, empirical analysis typically involves cross-sectional and time series analyses of government expenditure on defense.

METHODOLOGY

Sources and nature of data

The data for this study were obtained from secondary sources, including various publications such as the CBN Statistical Bulletin, the Stockholm International Peace Research Institute (SIPRI) Yearbook, World Development Indicators (WDI), as well as libraries of the National Defense College Abuja and the Nigerian Defense. Academy and National Bureau of Statistics (NBS). The data was collected from the period of 1970-2018. The data used were annualized and in an aggregated form. Annual time series data on sectoral expenditure and growth were generated from the Central Bank of Nigeria Statistical bulletin, 2018 edition while gross fixed capital formation (GFCF) and total population (POP) were generated from the World Development Database for the period of forty-nine (49) years, 1970-2018. Economic growth, measured by the real GDP, as well as sectoral expenditure on defense (DEF), social and community services (GSC) and education (EDU) were adopted for this study. The variables were expressed in natural logarithms

Model specification

The macro-econometric model specification for this study is adapted from Mosikari and Matiwa (2014), who examined the relationship between public expenditure on defense and economic growth. This study adopts a similar model specification to determine the relationship between military expenditure and economic growth in Nigeria. The authors utilized a single-equation model, with military expenditure as the dependent variable and GDP as the explanatory variable. This model is utilized with slight modifications as follows.

$$RGDP = f\,(DEF, EDU, GFCF, GCS, POP) \quad 1$$

From the above analysis, the re-specified model is stated as;

$$RGDP = \alpha_0 + \alpha_1 DEF + \alpha_2 EDU + \alpha_3 GFCF + \alpha_4 GCS + \alpha_5 POP + \mu \quad 2$$

The a priori expectation is given as;

$$\alpha_1 > 0, \alpha_2 > 0, \alpha_3 > 0, \alpha_4 > 0, \alpha_5 > 0$$

Where:

RGDP = The total production of goods and services in a given period of time which is normally one year. GDP growth rate shows the average change in GDP during one year. Increase in GDP shows that there is positive economic growth. This study will use Real Gross Domestic Product (RGDP) which serves as proxy for economic growth.

DEF = Government expenditure on defense (military) within the period of one year. This is expressed in millions of naira.

POP = Total population within the period of a year which serves as proxy to labor force. GSC = Government expenditure on social and community service within the period of one year expressed in millions of naira.
GFCF = Gross fixed capital formation. It refers to the net increase in physical assets (investments minus disposals) within a period of one year expressed in millions of naira.

Estimation technique

This study employed the Autoregressive Distributed Lag (ARDL) modeling technique, as proposed by Pesaran and Shin (1995) and further developed by Pesaran et al. (1996, 2001). The ARDL approach offers the advantage of not requiring the classification of variables by their order of integration, unlike standard cointegration tests. Pesaran and Shin (1999) demonstrated that estimates based on the ARDL model are super-consistent, allowing for valid inferences on long-run parameters using standard normal asymptotic theory. Moreover, this technique not only provides evidence of long-run cointegration but also offers long-run coefficients. Additionally, it addresses issues of residual serial correlation and the problem of endogenous regressors. Therefore, the general ARDL model adopted for this study is stated as follows:

$$D(\ln(RGDP_t)) = \phi_0 + \phi_1 \ln(RGDP_{t-1}) + \phi_2 \ln(DEF_{t-1}) + \phi_3 \ln(EDU_{t-1}) + \phi_4 \ln(GFCF_{t-1}) + \phi_5 \ln(GSC_{t-1}) + \phi_6 \ln(POP_{t-1}) + \sum_{t=1}^{p} \ell_{1i} D(\ln(RGDP_{t-i})) \quad 3$$
$$+ \sum_{t=1}^{q} \ell_{2i} D(\ln(DEF_{t-i})) + \sum_{t=1}^{q} \ell_{3i} D(\ln(EDU_{t-i})) + \sum_{t=1}^{q} \ell_{4i} D(\ln(GFCF_{t-i})) + \sum_{t=1}^{q} \ell_{5i} D(\ln(GSC_{t-i})) + \sum_{t=1}^{q} \ell_{6i} D(\ln(POP_{t-i})) + \varepsilon_t$$

Where all variables are previously defined, $\ln(.)$ is the logarithm operator, D is the first difference, and ε_t is the error term.

Empirical finding and discussions

The first step involved determining the order of integration for each variable under study to identify potential correlations between consecutive variables. The ARDL bounds test assumes that the variables are either I(0) or I(1). The objective was to ensure that the variables are not integrated of a higher order to avoid spurious results, as such results cannot be interpreted using the F-statistics provided by Pesaran et al. (2001). The results in Table 1 indicate that none of the variables were stationary at level, as determined using the ADF unit root test technique. The ADF test, when applied to the first differences of the data, rejects the null hypothesis of non-stationarity for all variables under consideration. Based on these results, it can be concluded that the null hypothesis of unit roots is rejected using the ADF test, guided by the Akaike Information Criterion (AIC) and the serial correlation diagnostic test results.

The first step in the ARDL bounds approach involves estimating the six equations (1, 2, 3, 4, 5, and 6) using Ordinary Least Squares (OLS). This estimation tests for the existence of a long-run relationship among the variables by conducting an F-test to determine the joint significance of the coefficients of the lagged levels of the variables, that is, $H_0 : \phi_1 = \phi_2 = \phi_3 = \phi_4 = \phi_5 = \phi_6 = 0$ against the alternative one; $H_0 : \phi_1 \neq \phi_2 \neq \phi_3 \neq \phi_4 \neq \phi_5 \neq \phi_6 \neq 0$ for $i = 1, 2, 3, 4, 5, 6$. The F-statistics which normalizes on $F_{RGDP}(F_{RGDP} | DEF, EDU, GFCF, GSC, POP)$ is denoted by the F-statistics. As outlined by Pesaran et al. (2001), two sets of critical values can be determined for a given significance level. The first set is calculated under the assumption that all variables in the ARDL model are integrated of order zero, while the second set assumes that the variables are integrated of order one. The null hypothesis of no cointegration is rejected if the test statistic exceeds the upper critical bounds value; conversely, it is accepted if the F-statistic falls below the lower bounds value.

The maximum lag order for the conditional ARDL Vector Error Correction Model is determined using the Akaike Information Criterion (AIC) for lag selection. Table 2 reports the ARDL bounds test for cointegration of the selected variables. A critical examination of (Table 2) shows that the calculated F-statistics $F_{RGDP}(F_{RGDP} | DEF, EDU, GFCF, GSC, POP)$ = 2.574 is higher than the upper and lower bound critical value of 2.45 at the 10 percent significant level respectively. This supports the assertion that a long-run cointegration relationship exists between growth and expenditures on defense, education, social and community services, gross fixed capital formation, and population, with growth as the dependent variable.

Similarly, using expenditure on defense as the dependent variable, the calculated F-statistics $F_{DEF}(F_{DEF} | RGDP, EDU, GFCF, GSC, POP)$ = 2.743 is found higher and statistically significant than the upper and lower bound values. This is also confirmed by the t-statistic at the 5 percent significance level. Therefore, growth, expenditure on education, gross fixed capital formation, government expenditure on social and community services, and population are found to be cointegrated, implying a long-run cointegration relationship among these variables. In Model 3, where expenditure on education is the dependent variable, a long-run cointegration relationship is observed with expenditure on defense, growth, gross fixed capital formation, expenditure on social and community services, and population. Models 4 portray a similar result as shown in previous results Thus, the calculated F-statistics with gross fixed capital formation as the dependent variable;

Table 1: Results of unit root tests

Augmented Dickey-Fuller Unit Root Test (at level)			
Variable	t-statistics	Prob.	Decision
DEF	-0.551	0.977	Not stationary
EDU	3.305	1.000	Not stationary
GFCF	-5.567	0.000**	I(0)
GSC	-4.042	0.013**	I(0)
POP	-0.026	0.994	Not stationary
RGDP	-1.219	0.894	Not stationary
Augmented Dickey-Fuller Unit Root Test (at first difference)			
	t-statistics	Prob.	Decision
DEF	-7.727	0.000**	I(1)
EDU	-8.058	0.000**	I(1)
POP	-4.130	0.012**	I(1)
RGDP	-5.645	0.000**	I(1)

Source: Author's Computation (using E-views 10)
N.B: DEF = expenditure on defense (N' billion), EDU = expenditure on education (N' billion), GFCF = Gross fixed capital formation (current $US), GSC = expenditure on social and community services, POP = Population, RGDP = Real gross domestic product (current $US) ** indicates significant at the 0.05 level

Table 2: Results of the bounds tests.

Models	AIC Lags	F-Statistics	t-statistics	Decision
$F_{RGDP}(F_{RGDP} \mid DEF, EDU, GFCF, GSC, POP)$	3	2.574***	-1.015	Cointegration
$F_{DEF}(F_{DEF} \mid RGDP, EDU, GFCF, GSC, POP)$	3	2.743**	-3.960**	Cointegration
$F_{EDU}(F_{EDU} \mid DEF, RGDP, GFCF, GSC, POP)$	3	2.717**	-3.471**	Cointegration
$F_{GFCF}(F_{GFCF} \mid DEF, EDU, RGDP, GSC, POP)$	3	5.077**	-4.186**	Cointegration
$F_{GSC}(F_{GSC} \mid DEF, EDU, GFCF, RGDP, POP)$	3	4.960**	-5.038**	Cointegration
$F_{POP}(F_{POP} \mid DEF, EDU, GFCF, GSC, RGDP)$	4	18.599**	0.690	Cointegration

Source: Author's Computation (using E-views 10)

$F_{GFCF}(F_{GFCF} \mid DEF, EDU, RGDP, GSC, POP)$ greater than the lower bound value at 5 percent significant level, This suggests a reverse cointegration relationship between gross fixed capital formation, defense expenditure, education, economic growth, expenditure on social and community services, and population. When government expenditure on social and community services is the dependent variable, a long-run cointegration relationship is observed, with an F-statistic of 4.960, which exceeds the upper bound value at the 5 percent significance level. Additionally, there exists a long-run association between population, defense expenditure, education, social and community services, gross fixed capital formation, and economic growth when population is treated as the dependent variable. Based on the cointegration results across all estimated models, the long-run coefficients were calculated using the ARDL model to capture the long-run cointegration relationships. Table 3 (refer to appendix) presents the error correction results with variables such as growth (RGDP), government expenditure on education, government and social services, defense, gross fixed capital formation, and population as dependent variables.

From the results in Table 3, when RGDP is used as the dependent variable, it is observed that the lagged values of RGDP in the first and third periods exhibit a positive and significant relationship with the current period's growth. This indicates that changes in RGDP during the first and third periods lead to a positive and significant increase in growth in the current period. Government expenditure on defense demonstrates a positive but insignificant effect on growth in the first lagged period. However, in the second and third lagged periods, its relationship to growth turns negative and remains insignificant. This suggests that, overall, government investment in defense does not have a significant impact on economic growth in Nigeria in the short run. This finding implies that while defense spending might have some immediate effects, these do not translate into substantial economic growth, highlighting the need for careful consideration of defense budgets, particularly in relation to other sectors that could more directly influence growth. Government expenditure on education in the second lagged period exhibits a negative and significant effect on economic growth. This suggests that investment in education has not positively influenced growth, and in fact, may have a retarding effect on the economy during this period. Additionally, gross fixed capital formation across all three lagged periods shows a positive but insignificant impact on economic growth, indicating that capital investments have not substantially contributed to growth. Furthermore, government expenditure on social and community services in the second lagged period also reveals a negative and significant effect on growth, further emphasizing the lack of positive impact from these expenditures. Lastly, the effect of total population on economic growth is found to be insignificant. These findings highlight the challenges associated with the current allocation and effectiveness of public spending in Nigeria. Investments in key areas like education, capital formation, and social services are not translating into the expected economic growth, suggesting a need for policy reassessment and more efficient allocation of resources.

The coefficient of the lagged error term is statistically significant at the 5% level and has the expected sign, confirming the results of the bounds test for cointegration. The estimated value is -1.142, indicating a relatively high speed of adjustment to equilibrium following shocks. Specifically, approximately 114% of the disequilibrium from the previous year's shocks converges back to the long-run equilibrium in the current year.

From Appendix Table 4, with government expenditure on defense as the dependent variable, the lagged values of RGDP show an insignificant relationship with defense expenditure, indicating that changes in RGDP during the period under study have had a negligible impact on current defense spending. Government expenditure on defense itself exhibits an insignificant effect across all periods, suggesting that overall government investment in defense has not significantly influenced current defense spending in Nigeria in the short run. However, government expenditure on education in the first lagged period shows a positive and significant effect on defense spending, implying that investment in education in the previous period positively impacts current defense expenditure. In contrast, gross fixed capital formation across three lagged periods has an insignificant effect on defense spending. Similarly, government expenditure on social and community services across all lagged periods, as well as total population, shows an insignificant effect on defense expenditure.

Overall, the coefficient of the lagged error term is significant at the 5% level and has the expected sign, which confirms the results of the bounds test for cointegration. The estimated value of -1.116 indicates a relatively high speed of adjustment to equilibrium aftershocks, with approximately 111% of the disequilibrium from the previous year's shocks converging back to the long-run equilibrium in the current year. When gross fixed capital formation (GFCF) is used as the dependent variable, as shown in Appendix Table 5, the lagged values of GFCF exhibit a significant relationship with itself, reflecting the importance of government spending in the economy. Changes in government spending in previous periods can trigger immediate changes in the current spending pattern, although the direction and magnitude of these changes may vary. Government expenditure on defense in the first lagged period has a negative and significant effect on GFCF, implying that increases in defense spending lead to a decline in fixed capital formation by approximately 7.7%. Similarly, government expenditure on education in the first lagged period also shows a significant negative effect on GFCF, with a coefficient value of -2.5%. Government expenditure on social and community services in the third lagged period shows a significant but negative effect on gross fixed capital formation (GFCF), with a coefficient value of -7.8%. This indicates that changes in government spending on social and community services have a relatively negative impact on GFCF in the current period. Economic growth, as detailed in Appendix Table 5, shows insignificant effects on GFCF across all periods, with all three periods reflecting negative effects. Additionally, total population has an insignificant effect on GFCF. Overall, the coefficient of the lagged error term is significant at the 5% level and has the expected sign, confirming the results of the bounds test for cointegration. The estimated value of -1.284 indicates a relatively high speed of adjustment to equilibrium aftershocks.

With government expenditure on social and community services as the dependent variable, the analysis shows that expenditure on social and community services has an insignificant effect on itself in the first and second lagged periods, except for the third period, where a significant but negative effect is observed. This suggests that changes in expenditure on social and community services do not immediately impact itself in the first and second periods. Gross fixed capital formation (GFCF) exhibits an insignificant relationship with expenditure on social and community services across all periods. In contrast, expenditure on education in the first lagged period has a significant positive effect on expenditure on social and community services, with a coefficient value of 0.527%. This indicates that changes in expenditure on education have an immediate and significant impact on expenditure on social and community services. Overall, the coefficient of the lagged error term is significant at the 5% level and has the expected sign, confirming the results of the bounds test for cointegration. The estimated value of -0.991 indicates a relatively high speed of adjustment to equilibrium aftershocks.

Conclusion

This study analyzes the relationship between military expenditure and the growth of the Nigerian economy, using data from the period 1970 to 2018.

The theoretical framework is based on the public expenditure growth model, which provides insights into how government expenditures affect economic growth. The variables analyzed in the study include Real Gross Domestic Product (RGDP), Government Expenditure on Fixed Capital Formation, Community and Social Services, Defense, Education, and Population. The ARDL estimation technique was employed to analyze the data, and the findings indicate a long-run cointegrating relationship among the variables. Specifically, the results reveal a cointegrating relationship with defense expenditure as the dependent variable. The Vector Error Correction analysis shows that RGDP, when considered as the dependent variable in the first and third lagged periods, has a positive and significant relationship with its own lagged values, indicating that changes in RGDP during these periods stimulate economic growth. However, government expenditure on defense shows a positive and significant effect only in the third lagged period, while its impact on growth in the second and third periods is negative and insignificant. Based on these findings, the study recommends that the government exercise caution when considering increases in military expenditure.

REFERENCES

Agbonkhese, A. O. and Asekome, M.O. (2014). *Impact of Public Expenditure on the Growth of Nigerian Economy European Scientific Journal*. 10 (28) 1857-7881.

Ali A. and Mohammed A. (2014). Impact of Defense Expenditure on Economic Growth: Time Series Evidence from Pakistan. Global Journal of Management and Business Research: 13, 14 Issue 9.

Ali, A. D. (2013). Security and economic development in Nigeria since 1960.Kuwait Chapter Journal of Arabian Journal of Business and Management Review, 2(6), 1-7.

Amjad, A. and Ather, M (2014). Impact of Defense Expenditure on Economic Growth: Time Series Evidence from Pakistan. Global Journal of Management and Business Research: 13, 14 Issue 9

Amuka, J. and Asogwa, F. (2018) Military Expenditure and Human Capita Development in Nigeria. https://doi.10.5923/j.economics.20180805.03 retrieved February 2024

Anfofun, A. A. (2013). The impact of Defense expenditure on Economic Growth in Nigeria 1970-2008. A Simulation Approach. A PhD Dissertation, Ahmadu Bello University, Zaria

Benoit, E. (1973) Defense and Economic Growth in Developing Countries. Lexington Books, Lexington.

Benoit, E. (1978). Growth and Defense in Developing Countries. *Economic Development and Cultural Change,* 26(2).

Chlestos, M. and Kollias, C. (1995). Defense Spending and Growth in Greece: Some preliminary econometric results, *Applied Economics*, 27(9), 361-373.

Collier, P. (2006). War and military Expenditure in Developing Countries and their Consequences for Development. *The Economics of Peace and Security Journal*. 1(1) Constitution of the federal republic of Nigeria (Nigeria) Section 14 (2) (b), 5 May 1999 https://www.google.com/url?sa=t&opi=8997844&url=https://nigeriarights.gov.ng/files/constitution.pdf&ved=2ahUKEwj9-pbHulqEAxWKUEAHfXADW0QFnoECBwQAQ&usg=AOvVaw19Wt9QmqjzTd_VLwRiunNe

Deger, S. (1986). Economic development and defense expenditure. *Economic Development and Cultural Change*. 35(1)

Deger, S. and S. Sen (1995). Military Expenditure and Developing Countries. Handbook of defense economics 1:275-307

Deger, S. and Sen, S. (1983). Military Expenditure, Spin-off and Economic development. *Journal of development Economics*, 13 (1-2): 67-83

Deger, S. and Smith, R. (1985). Military Expenditure and Growth in less Developed Countries; *Journal of Conflict Resolution*. 27, 2: 35-353

Dunne, P. and Perlo-Freeman, S. (2003) The demand for military spending in developing countries. *International review of applied statistics* 17, 23-48.

Ishola, A. H. (2022). Insecurity as an Impediment to Development in Nigeria. *Veritas Journal of* Humanities *1(1)*

Kayode, J. A. and Oyewole, O. (2022). Nexus between Military Expenditure, National Security and Economic Growth in Nigeria. International Journal of Economics, Commerce and Management, vol X (9), pp. 290-298.

Khalid M. A., and Mustapha, B. A. (2014). Military expenditure and economic growth in the case of China: Using ARDL approach. *International Journal of Developing and Emerging Economies.*

Korkmaz, S. (2015) The Effects of Military Spending on Economic Growth and Unemployment in Mediterranean Countries. *International Journal of Economics and Financial Issues*. **5**(1) pp 273-280.

McNair, E. S. (1995). Growth and Defense: Pooled estimates for the NATO Alliance. *Southern Economic Journal*: 846-860.

Mosikari T. J., and Mattwa, K. (2014). An analysis of Defense Expenditure and Economic Growth in South Africa. *Mediterranean Journal of Social Sciences*. **5**(20)

Mosoud A. K and Ali, M. A. (2014). The Impact of military spending on Economic Growth: Evidence from the US Economy. *Research Journal of Finance and Accounting*. 6(7).

Nkpa, K. U. (1976). Armed Robbery in Post-Civil War Nigeria - The Role of The Victim. *Victimology - An International Journal*. 1(1).

Okoro A. S. (2013). Government Spending and Economic Growth in Nigeria. *Global Journal of Management and Business Research*. 13(5).

Pesaran, M. H. and Shin, Y. (1995). Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis. DAE Working Paper Series No.9514, department of Economics, University of Cambridge, Cambridge.

Pesaran, M. H. and Shin, Y. (1999). An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis. In: Strom, s., Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium, Cambridge University Press, Cambridge, Chapter 11. https://doi.org/10.1017/CCOL521633230.011.

Pesaran, M. H., Shin, Y.and Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, Vol 16(3), pp. 239-326.

Sezgin, S. (1999). Defense expenditure and economic growth in Turkey and Greece: A disaggregated analysis, paper presented at the Arms Trade, Security and Conflict conference, Middlexsex University Business School, London. 11-12 June.

Sezgin, S. (2000). An Empirical analysis of turkey's defense-growth relationships with a multi-equation model. *Defense and Peace Economics*, 11(1)63-80.

Yildirim, J, Sezgin S. and Ocal, N. (2005). Military Expenditure and Economic Growth in the Middle Eastern Countries: *A Dynamic Panel Data Analysis, Defense and Peace Economics*, 16(4).

Yildirim, J. and Sezgin, S. (2002). Military Expenditure and Economic Growth in Turkey. *Defense and Peace Economics*. 14(2).

Appendix

Table 3: Summary of the error correction.

Model 1			**Model 2**		
Variables	**Coefficient**	**T-statistics**	**Variables**	**Coefficient**	**T-statistics**
$\Delta LNDEF_{(t-1)}$	0.028	1.223	$\Delta LNDEF_{(t-1)}$	0.672	1.495
$\Delta LNDEF_{(t-2)}$	-0.011	-0.478	$\Delta LNDEF_{(t-2)}$	0.132	0.687
$\Delta LNDEF_{(t-3)}$	-0.0006	-0.027	$\Delta LNDEF_{(t-3)}$	0.021	0.125
$\Delta LNEDU_{(t-1)}$	-0.004	-0.240	$\Delta LNEDU_{(t-1)}$	0.442	3.427**
$\Delta LNEDU_{(t-2)}$	-0.031	-1.841***	$\Delta LNEDU_{(t-2)}$	-0.082	-0.507
$\Delta LNEDU_{(t-3)}$	0.016	0.678	$\Delta LNEDU_{(t-3)}$	0.156	0.937
$\Delta LNGFCF_{(t-1)}$	0.079	1.268	$\Delta LNGFCF_{(t-1)}$	-0.809	-1.230
$\Delta LNGFCF_{(t-2)}$	0.097	1.580	$\Delta LNGFCF_{(t-2)}$	-0.393	-0.811
$\Delta LNGFCF_{(t-3)}$	0.029	0.408	$\Delta LNGFCF_{(t-3)}$	0.912	1.704
$\Delta LNGSC_{(t-1)}$	-0.002	-0.183	$\Delta LNGSC_{(t-1)}$	-0.036	-0.328
$\Delta LNGSC_{(t-2)}$	-0.032	-2.226**	$\Delta LNGSC_{(t-2)}$	0.142	1.238
$\Delta LNGSC_{(t-3)}$	0.009	0.610	$\Delta LNGSC_{(t-3)}$	-0.188	-1.474
$\Delta LNPOP_{(t-1)}$	46.357	0.968	$\Delta LNPOP_{(t-1)}$	-184.516	-0.483
$\Delta LNPOP_{(t-2)}$	-83.355	-0.937	$\Delta LNPOP_{(t-2)}$	454.929	0.639
$\Delta LNPOP_{(t-3)}$	28.544	0.559	$\Delta LNPOP_{(t-3)}$	-267.339	-0.675
$\Delta LNRGDP_{(t-1)}$	0.643	2.261**	$\Delta LNRGDP_{(t-1)}$	0.126	0.103
$\Delta LNRGDP_{(t-2)}$	-0.031	-0.249	$\Delta LNRGDP_{(t-2)}$	-0.381	-0.374
$\Delta LNRGDP_{(t-3)}$	0.243	2.037**	$\Delta LNRGDP_{(t-3)}$	-0.617	-0.666
ECM_{t-1}	-1.142	-3.331**	ECM_{t-1}	-1.116	-2.173**
C	0.225	0.825	C	-0.121	-0.067
R-Squared	0.734	1.961	R-Squared	0.532	2.078
Durbin Watson stat.			Durbin Watson stat.		

Source: Author's Computation

Table 4: Summary of the error correction.

Model 3			Model 4		
Variables	Coefficient	T-statistics	Variables	Coefficient	T-statistics
$\Delta LNDEF_{(t-1)}$	0.219	1.152	$\Delta LNDEF_{(t-1)}$	-0.077	-2.030**
$\Delta LNDEF_{(t-2)}$	-0.294	0.195	$\Delta LNDEF_{(t-2)}$	-0.019	-0.518
$\Delta LNDEF_{(t-3)}$	0.357	1.874***	$\Delta LNDEF_{(t-3)}$	0.051	1.429
$\Delta LNEDU_{(t-1)}$	0.305	1.641	$\Delta LNEDU_{(t-1)}$	0.091	3.495**
$\Delta LNEDU_{(t-2)}$	-0.306	-2.263**	$\Delta LNEDU_{(t-2)}$	-0.025	-0.982
$\Delta LNEDU_{(t-3)}$	-0.206	-1.164	$\Delta LNEDU_{(t-3)}$	0.035	1.068
$\Delta LNGFCF_{(t-1)}$	-0.992	-1.893***	$\Delta LNGFCF_{(t-1)}$	0.328	2.768**
$\Delta LNGFCF_{(t-2)}$	0.765	1.442	$\Delta LNGFCF_{(t-2)}$	-0.186	-1.850***
$\Delta LNGFCF_{(t-3)}$	-0.625	-1.097	$\Delta LNGFCF_{(t-3)}$	0.583	5.213**
$\Delta LNGSC_{(t-1)}$	0.145	1.233	$\Delta LNGSC_{(t-1)}$	0.031	1.369
$\Delta LNGSC_{(t-2)}$	0.211	1.750***	$\Delta LNGSC_{(t-2)}$	0.009	0.394
$\Delta LNGSC_{(t-3)}$	-0.0005	-0.004	$\Delta LNGSC_{(t-3)}$	-0.078	-3.314**
$\Delta LNPOP_{(t-1)}$	-62.144	-0.161	$\Delta LNPOP_{(t-1)}$	66.400	0.901
$\Delta LNPOP_{(t-2)}$	53.637	0.077	$\Delta LNPOP_{(t-2)}$	-47.611	-0.360
$\Delta LNPOP_{(t-3)}$	29.211	0.079	$\Delta LNPOP_{(t-3)}$	-12.089	-0.171
$\Delta LNRGDP_{(t-1)}$	1.582	1.229	$\Delta LNRGDP_{(t-1)}$	-0.248	-1.035
$\Delta LNRGDP_{(t-2)}$	0.234	0.221	$\Delta LNRGDP_{(t-2)}$	-0.094	-0.461
$\Delta LNRGDP_{(t-3)}$	-3.070	-3.111**	$\Delta LNRGDP_{(t-3)}$	-0.083	-0.429
ECM_{t-1}	-1.017	-3.586**	ECM_{t-1}	-1.284	-5.714
C	-0.417	-0.223	C	-0.169	-0.485
R-Squared	0.668	1.999	R-Squared	0.796	2.089
Durbin Watson stat.			Durbin Watson stat.		

Source: Author's Computation

Table 5: Summary of the error correction

Model 5			Model 6		
Variables	**Coefficient**	**T-statistics**	**Variables**	**Coefficient**	**T-statistics**
$\Delta LNDEF_{(t-1)}$	0.326	1.228	$\Delta LNDEF_{(t-1)}$	-6.44E-05	-1.304
$\Delta LNDEF_{(t-2)}$	-0.200	-0.718	$\Delta LNDEF_{(t-2)}$	-3.90E-05	-0.813
$\Delta LNDEF_{(t-3)}$	0.195	0.756	$\Delta LNDEF_{(t-3)}$	-6.00E-05	-1.319
$\Delta LNEDU_{(t-1)}$	0.527	2.811**	$\Delta LNEDU_{(t-1)}$	-2.86E-05	-0.866
$\Delta LNEDU_{(t-2)}$	-0.212	-1.056	$\Delta LNEDU_{(t-2)}$	4.17E-06	0.123
$\Delta LNEDU_{(t-3)}$	0.160	0.673	$\Delta LNEDU_{(t-3)}$	2.28E-05	0.546
$\Delta LNGFCF_{(t-1)}$	-0.594	-0.802	$\Delta LNGFCF_{(t-1)}$	-0.0002	-2.088**
$\Delta LNGFCF_{(t-2)}$	0.034	0.047	$\Delta LNGFCF_{(t-2)}$	-0.0002	-1.884***
$\Delta LNGFCF_{(t-3)}$	0.989	1.229	$\Delta LNGFCF_{(t-3)}$	-0.0002	-1.848**
$\Delta LNGSC_{(t-1)}$	0.374	1.432	$\Delta LNGSC_{(t-1)}$	8.64E-06	0.296
$\Delta LNGSC_{(t-2)}$	-0.011	-0.064	$\Delta LNGSC_{(t-2)}$	9.32E-06	0.313
$\Delta LNGSC_{(t-3)}$	-0.402	-2.345**	$\Delta LNGSC_{(t-3)}$	4.33E-05	1.429
$\Delta LNPOP_{(t-1)}$	201.882	0.379	$\Delta LNPOP_{(t-1)}$	2.607	20.807**
$\Delta LNPOP_{(t-2)}$	-273.388	-0.284	$\Delta LNPOP_{(t-2)}$	-2.549	-11.290**
$\Delta LNPOP_{(t-3)}$	102.420	0.197	$\Delta LNPOP_{(t-3)}$	0.945	7.872**
$\Delta LNRGDP_{(t-1)}$	0.249	0.143	$\Delta LNRGDP_{(t-1)}$	0.0002	0.688
$\Delta LNRGDP_{(t-2)}$	-0.480	-0.319	$\Delta LNRGDP_{(t-2)}$	0.0005	2.077**
$\Delta LNRGDP_{(t-3)}$	-0.808	-0.583	$\Delta LNRGDP_{(t-3)}$	0.0003	1.350
ECM_{t-1}	-0.991	-3.105**	ECM_{t-1}	-0.496	-2.075**
C	-0.775	-0.306	C	-6.20E-05	-2.075**
R-Squared	0.548	2.003	R-Squared	0.997	1.585
Durbin Watson stat.			Durbin Watson stat.		

Source: Author's Computation