

Implication of Public Expenditure on Economic Growth in Developing Nations, (A Study of Nigerian Economy) 2006 -2024

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Cross Ref DOI: [10.66694/siar.gjefa2026004](https://doi.org/10.66694/siar.gjefa2026004)

ABSTRACT

This study examined implication of public expenditure on economic growth in Nigeria. The ordinary least square (OLS) technique, unit root test (ADF), regression (LRGDP) and error correction model (ECM) were adopted in the research analysis. The findings show that there is a positive and significant effect of government spending on education, economic growth in Nigeria. There is a positive and significant effect of government spending on health, economic growth in Nigeria. There is no negative but significant effect of government spending on power, economic growth in Nigeria. There is a negative and insignificant effect of government spending on defense, economic growth in Nigeria. Public expenditure in Nigeria had some mixed results, because at some points it played major key roles for growth but at other times it did not contribute much for economic growth. But, conclusively, public expenditure had tremendous implication on economic growth in Nigeria. Therefore, the study recommended that government should increase its spending on education, also increase its spending on power and be prudent in its spending on defense.

Keynotes: *Implication, Expenditure, Economy, Growth, Developing.*

INTRODUCTION

In 1930s, the role of government received much attention through the works of John Maynard Keynes who argued that government spending, particularly increases in government spending boosts growth by injecting purchasing power into the economy.

Government expenditure also called public expenditure simply refers to the value of all goods and services provided by the public sector. This kind of expenditure is directed towards accelerating economic growth and development with the ultimate aim of transforming the nation into an industrialized successful economy as well as raising standard of living of the people.

Public expenditure is an important instrument for government to control the economy. It plays an important role in the functioning of an economy whether developed, developing or underdeveloped nation. Perhaps, it is argued that Public expenditure was born out of revenue allocation which refers to the redistribution of fiscal capacity between the various levels of government or the disposition of responsibilities between tiers of the government.

In Nigeria, total government expenditure in terms of capital and recurrent expenditures have continued to rise over the last three decades. Expenditures on administration, economic, social and transfer sectors are proportionately rising overtime. The government total recurrent expenditure in Nigeria increased from N4, 805.20 million in 1980 to N36, 219.60 million in 1990 and further to N1, 589,270.00 in 2007 and later by 2011, it stood at N2, 632,876.50 on the other hand, government capital expenditure rose from N10, 163.40 million in 1980 to N24, 048.60 million in 1990. It stood at N239, 450.90 million and N759, 323.00 million in 2000 and 2007 respectively and by 2011, it stood at N1,934,524.20 (Oni and Adeyinka, 2018).

Thus, the rising government expenditure in Nigeria is expected to translate into meaningful growth and development but there are evidences showing that the country has not shown any positive integer towards growth not to mention development since over the last thirty years. Paradoxically, the rising government expenditure, both recurrent and capital showed no appreciable signal to growth and development. It is crystal clear that majority of Nigerian citizens, over 50 percent are poverty ridden and lives under US \$1 per day.

Noticeably is the fact that public infrastructures in Nigeria are in dilapidated state while industries are collapsing due to epileptic power supply, insecurity, inflation rate, interest and exchange rates, corruption, unpredictable and unplanable economy and poor road network among others, all leading to higher rate of unemployment and insecurity, (CBN, 2022).

In recent time, Nigerian economy has metamorphosed from the level of Billion Naira to Trillion Naira about approaching Zillion Naira in no due course on public expenditure side of the budget. The effects of this expenditure are largely unnoticeable on the citizenry. The high rates of unemployment, illiteracy rate, poverty, insecurity, emigration, poor standard of living, lack medical care, portable water and other basic needs of live are evidences that macro-economic indicators do not favour Nigeria.

Ordinarily, an increase in public expenditure should lead to an increase in economic growth and development, which ought to record a multiplier effect on the generality of the economy. But, Nigeria which is public sector driven, imperatively, increasing government expenditure has not yielded any desired growth nor development, why?

Objectives of the Study

Hence, this study tends to examine the implications of public expenditure on economic growth in developing nations, using Nigerian economy as a study. Specifically, the objectives include to:

1. Evaluate the implication of government spending on Education on the economic growth in Nigeria.
2. Examine the implication of government spending on Health on the economic growth in Nigeria.
3. Ascertain the implication of government spending on power on economic growth in Nigeria
4. Determine the implication of government spending on defence on economic growth in Nigeria.

Research Hypotheses

- i. Government spending on Education has no implication on the economic growth in Nigeria.
- ii. Government spending on Health has no implication on the economic growth in Nigeria.
- iii. Government spending on power has no implication on the economic growth in Nigeria.
- iv. Government spending on defence has no implication on the economic growth in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Review

Public Expenditure

The concept of Public Expenditure is often used to denote government expenditure. According to Akrani (2020), any expenditure incurred by such public authorities as local, state and central governments to meet the joint social wants of the general public is recognized as public expenditure.

Akrani (2020), refers to the systematic arrangement of different items on which the government incurs expenditure. The author further identified these arrangements by different economists as: revenue and capital expenditure; functional classification; transfer and non-transfer expenditure; development and non-development expenditure; productive and unproductive expenditure; grants and purchase price; Hugh Dalton's classification of public expenditure and classification according to benefits.

According to Taiwo (2019), public expenditure in Nigeria is broadly categorized into recurrent and capital expenditure, and whereas the recurrent expenditure are government expenditures incurred on such administrative items as wages and salaries, maintenance, interest on loans, etc., capital expenditure are expenses on such capital projects as roads, education, airports, electricity generation and telecommunication, etc. These public expenditures are often expected to drive economic growth.

Economic Growth

Tucker (2018), economic growth is an increase in the nationwide output often calculated using the annual percentage rise in a given nation's real GDP. The author further states that economic growth is the capacity of any given economy to produce higher levels of output which is often represented through an outward shift of her production possibility curve.

In the words of Colander (2018), "economists measure growth with changes in real GDP – the market value of the final goods and services produced in an economy, stated in the prices of a given year". The author views real GDP as any GDP adjusted for changes in price.

Ofilu (2020), listed the approaches to compilation of GDP as: expenditure approach; Production approach and income approach. Expenditure approach, according to the author, involves measuring GDP as the sum of final consumption, gross fixed capital formation and net export. Depending upon the situation on the ground, governments can shape and reshape their economic objective to suit that situation.

To achieve this objective, government makes use of economic instruments. As an example, to realize high employment objective, government might boost the national economy by means of fiscal policy instruments (Milward, 2018).

Components of Government Expenditure

i. Public Spending on Health:

The state of health of the population of a country is a major factor driving productivity as only a healthy labour force can make meaningful contributions to production and growth of national output.

A country that has a health system, has a better performance than another country, if, for the same level of resources, it generates better health outcomes, or if it generates the same outcomes but with fewer resources (Elola, 2020). Health systems are financed either through taxes, in the case of healthcare services owned by the state (national health services), or through income-related social contributions (social security systems) (Elola, 2020). The contribution of social security to the sustenance of the finance of the health system is phenomenal in countries with high income per capita.

ii. Public Spending on Defence:

The role of government in an economy cannot be over-emphasized. Two amongst these important duties as noted by Adam Smith are to protect the society from the violence and invasion of other independent societies and; protect every member of the society from the oppression of every member of it. War and lack of security are some of the major obstacles to development (Dunne,2017).

Many countries of the world commit huge resources such as human, mental and even financial to bring and maintain peace and tranquility in their country. National and international organizations have committed huge resources towards bringing and maintaining peace all over the world. The United Nation spends about US \$5billion yearly on peacekeeping all over the world (Carnahan, 2017).

Military spending is an important issue for the international world. It is an expenditure by governments that has influence beyond the resources it takes up, especially when it leads to or facilitates conflicts (Collier, 2018). At the same time most countries need some level of security to deal with internal and external threats, but these can certainly have opportunity costs as they can prevent money from being used for other purposes that might improve the pace of development (Dunne, 2017).

The huge financial commitment into military expenditure in Nigeria recently has been a thing of concern. Military expenditure in Nigeria has been on the increase over the last few decades. Defence expenditure, for instance, as a percentage of the total Federal Government budgetary provision was 10.13 percent in 1974 and 11.99 percent in 1975. However, it declined to about 11.21 percent in 1976 but rose again to 14.69 percent in 1977 (Akpan, 2020). In 1988, military expenditure in Nigeria was N1.2 billion, this constitute about 0.8% of the total GDP. It increased to N15.4 billion in 1996 and later N45.4 billion in 1999. Since then, the trend of military expenditure has taken an upward drift. In 2012, it rose to about N345 billion. This upward trend provoked public outcry in the country since the country has not been fighting major war, until recently with the advent of insurgency and terrorism. It is believed that the unprecedented upward trend of military expenditure is not justifiable given the level of insecurity in the country.

Public Spending on Power:

The demand for energy is increasing quickly in this globalizing world. Most countries in world including Nigeria are facing scarcity of energy and consequently it is brutally affecting the

economic growth. Now, the search for alternative and renewable sources of energy has become the need of hour for countries (Nijkamp& Lewis 2020).

Energy has remained one of the main inputs to production. Therefore energy is vital for both developed and developing countries. The oil crises during the 1970's and the abnormal increases in oil prices in 1990's and 2000's verified the importance of energy also making energy as a fundamental resource in the economy. Consequently, economic growth is directly related to energy consumption.

Abu (2018), puts it, "energy is the indispensable force driving all economic activities". Energy is one of the most imperative resources used in all production processes and this has increased the foreign income of countries that export energy products. Most countries especially the less developed countries have benefited from transfer of technology in the process of exploration, production and marketing.

The energy industries have also provided jobs to a good number of people who were unemployed. There have been improvements in infrastructure and socioeconomic activities of communities in the process of energy resource exploitation. Base on the above arguments, consistence supply of energy, thus becomes central to economic and infrastructural transformation of the most nations' economy (Sama,2017).

Thus, various studies have been conducted on the relationship between economic growth and energy consumption (Cozier, 2019). According to Deger (2020), energy consumption runs hand in hand with the national product. His study revealed that energy consumption per capita is an important indicator of economic growth. Continuous increase in production in the world has increased the need of energy, but the insufficiency of oil and natural gas resources in the world poses an obstruction for the sustainable economic growth.

Public Spending on Education:

It is widely accepted that education creates improved citizens and helps to upgrade the general standard of living in a society. Therefore, positive social change is likely to be associated with the production of qualitative citizenry, It would seem to follow naturally that if more individuals are educated, the wealth of nation would rise, since more education attracts higher wages and aggregate higher national income. And if there are positive externalities of education, national income would increase by even more than the sum of the individual benefits.

This increasing faith in education as an agent of change in many developing countries including Nigeria has led to a heavy investment in it, and thus the delegation of manpower development to the schools. The pressure for higher education and even school education in many developing countries has undoubtedly been helped by public perception of financial reward from pursuing such education. Generally, this goes with the belief that expanding education promotes economic growth.

Theoretical Framework

The Theory of Expenditure Growth

In 1978, Rostow propounded a theory on expenditure growth and posted that income elasticity of demand for public services may be altered at three stage of people's per capita income (Todaro, 2019). First, is the preindustrial society stage called the lower stage? At the lower stage demand for public service would be relatively low at very lower ebb. Udoffia (2016), the reason is that people's income is channeled towards satisfying their primary needs. Second, at lower level of

public expenditure per capita income begins to rise, demand for public goods such as health, education, electricity, transport and communication, defence and the likes as supplied by the government will start to rise, this will force government to raise the expenditure on such goods. The final stage is typical of the advanced economics. This stage is characterized by high level capita income. At this stage the rate of public sector growth do falls because more of the basic needs of the people must be satisfied. According to Rostow (2017), all these stages do exert some level of influences on government expenditure and public sector management. At the lower level high level of investment is required to ginger up accelerated economic development so as to provide the basic and necessary infrastructural facilities to aid economic growth and breakthrough.

Musgrave Theory of Public Expenditure Growth

The Musgrave's theory (1961) enunciates that changes income elasticity for public expenditure is in three distinct but related series of per-capita income. One in the lower level of per capita income, the demand for services has a tendency to be small. The reason for this is that such income is channeled to satisfy the initial needs of the people and if these per capital income strive to surpass the level of income of the lower income earners, the demand for services supplied by the public sector will increase most importantly in the areas of health, education and transportation. The result is that government will be constrained to gear up expenditures on those services. At the higher level of per-capita income, most importantly in developed economies, once the basic needs are provided and satisfied, the rate of public expenditure do have the habit of decreasing more and more, Musgrave and Musgrave (1969).

Wagner's Law of Expanding Public Activity

This law is postulated by a German economist in the 19th century. He expressed that as per capita income grows, growth is witnessed in the society through rapid urbanization and increase enlightenments from the people. This will automatically causes an increase in relative share of public sector in national output. To Wagner, the public's resultant increased in the relative share of public sector resulting from inevitable centralization of economic functions is due to growing needs for economic development vis-à-vis an increasing need for government to improve agriculture and social welfare of the people. In his own opinion towards the end of his analysis, Wagner contends that in a situation where market failure is evident, government expenditure must be geared up in order to accentuate economic development of the state (Wagner, 1883).

Empirical Review

Mitchell (2020), empirically investigated the relationship between public education expenditure and defence spending in Nigeria. The study employed the error correction mechanism and the vector autoregressive (VAR) model and found a negative tradeoff between defence spending and public education expenditure. Analysis of the impulse response functions derived from the VAR model reveals that past public education expenditure shocks has a positive but declining relationship with current public education expenditure in the first $t'M:>$ years after which it turns negative.

Udoka (2018), carried out an empirical investigation on the relationship between investment in education and economic growth in Nigeria, using annual time series data from 1997 to 2007. The paper employs Johansen cointegration technique and error correction methodology. Empirical results indicate that there is indeed, a long-run relationship between investment in education and economic growth. All the variables used including gross fixed capital formation and educational capital are statistically significant (except labour force) in the Nigerian economy. The findings have a strong implication on educational policy in Nigeria.

Verbeek (2020), adopted the pooled OLS, fixed effect and random effect models to examine the relationships between health spending, medical innovation, health status, growth and welfare and found that health spending triggers technological progress, which is a potential source of better outcomes in terms of longevity and quality of life, a direct source of growth for the bio-tech industries and an indirect source of growth through improved of human capital. The latter contributes to GDP per capita through two main channels: higher participation of the population in the labour force and higher labour productivity levels.

Bleaney and Gemmell (2019), studied the data from 10 Asian countries. Bivariate causality was seen to exist in the panel. However the causality went from GDP per capita to electricity consumption per capita under the heterogeneous causality approach, reported that if the electricity consumption rises by one percent, then this would result in a 0.04 percent rise in the GDP.

Barro (2016), used the Feder-Ram and augmented Solow models to investigate the relationship between defence and growth in China and found that the Feder-Ram model poorly explained economic growth in China. But the augmented Solow model showed that a 1% increase in defence expenditure raises the economic growth rate by approximately 0.15–0.19%.

Tang (2018), investigated whether military spending promotes social welfare in the BRICS (Brazil, Russia, India, China, South Africa) and G7 (the US, Japan, Germany, the UK, France, Italy, Canada) countries and found that military spending enhances social welfare expenditures in developed countries, while the effect is ambiguous in emerging economies. The comparative analysis indicated that unlike in the G7 countries, the effect of the growth of military spending on the growth of social welfare expenditures is negative and shorter in the BRICS.

Dumas (2018), used asymmetric causality tests for top six defence spenders and found that the military expenditure growth-led hypothesis holds for China and Japan while the growth military expenditure-led hypothesis holds for France, Russia, Saudi Arabia, and the United States.

Levine (2016), found a significant and negative relationship between military spending and economic growth, using the Autoregressive Distributed Lag (ARDL) modeling approach to co-integration and error correction model (ECM) to determine the relationships between oil revenues, defence spending and macroeconomic stability in Nigeria. They found that a significant inverse relationship exists between military spending, GDP per capita and macroeconomic stability where inflation and unemployment are used as proxies.

METHODOLOGY

Model Specification

The functional form of the model is specified as:

$$RGDP = f(FGEE, FGEH, FGEP, FGED) \dots \dots \dots 3.1$$

This econometric form of the model is specified as:

$$RGDP = \beta_0 + \beta_1 FGEE + \beta_2 FGEH + \beta_3 FGEP + \beta_4 FGED + \mu \dots \dots \dots 3.2$$

$$\beta_0 > 0, \beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 < 0,$$

Where

RGDP = Real Gross domestic product

FGEE = Federal government expenditure on education

FGEH = Federal government expenditure on health

FGEP = Federal government expenditure on power

FGED = Federal government expenditure on defence

β_0 = Constant
 β_1 and β_2 , are the parameters to be estimated
 μ = stochastic term

Descriptive Statistics for variables under study

	LFGED	LFGEE	LFGEH	LFGEP	LRGDP
Mean	5.732333	5.847147	25.91958	25.63728	5.960625
Median	6.061755	5.971772	25.96915	25.29170	6.003146
Maximum	6.875363	6.538241	26.99263	27.27900	6.303900
Minimum	0.053541	4.923478	24.97176	22.35837	5.464255
Std. Dev.	1.619455	0.514688	0.794392	1.312128	0.235337
Skewness	-3.121832	-0.421550	0.002716	-0.682203	-0.610070
Kurtosis	11.61312	2.003792	1.224776	3.638238	2.606937
Jarque-Bera	70.73073	1.064530	1.969656	1.418095	1.027025
Probability	0.000000	0.587273	0.373504	0.492113	0.598390
Sum	85.98500	87.70720	388.7937	384.5591	89.40937
Sum Sq. Dev.	36.71687	3.708657	8.834822	24.10354	0.775370
Observations	15	15	15	15	15

Source: E-view 9.0 software output, 2024.

Summary of Unit Root Result

Augmented Dickey-Fuller					
S/No	Variables	ADF Values	5% Critical Values	Order of Integration	Test Result
1	LnRGDP	-2.717179	-1.951000	I(1)	Stationary at 1st difference
2	LnFGEE	-7.359557	-3.548490	I(1)	Stationary at 1st difference
3	LnFGEH	-6.448194	-3.548490	I(1)	Stationary at 1 st difference
4	LnFGEP	-2.757989	-2.481038	I(1)	Stationary at 1 st difference
5	LnFGED	-3.025504	-2.948404	I(0)	Stationary at level

SOURCE: Author's Compilation from E-views 9, (2024)

The Regression Result

Dependent Variable: LRGDP
Method: Least Squares
Date: 10/29/24 Time: 04:05

Sample: 2006 2024
 Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.001261	0.799386	6.256379	0.0001
LFGED	-0.007438	0.020662	-0.359970	0.7264
LFGEE	0.519873	0.093491	5.560687	0.0002
LFGEH	-3.34E-13	3.21E-13	-1.041147	0.3223
LFGEP	-0.076391	0.025091	-3.044565	0.0124
R-squared	0.849409	Mean dependent var	5.960625	
Adjusted R-squared	0.789173	S.D. dependent var	0.235337	
S.E. of regression	0.108057	Akaike info criterion	-1.351109	
Sum squared resid	0.116764	Schwarz criterion	-1.115092	
Log likelihood	15.13332	Hannan-Quinn criter.	-1.353623	
F-statistic	14.10126	Durbin-Watson stat	2.639117	
Prob(F-statistic)	0.000406			

Source: E-views 9 output, 2024

ECM Test Result

Dependent Variable: D(RGDP)
 Method: Least Squares
 Date: 08/15/24 Time: 04:22
 Sample (adjusted): 2006 2024
 Included observations: 10 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FGEE)	0.446161	0.164368	2.714411	0.0111
D(FGEH)	0.037481	2.113264	0.017736	0.9860
D(FGEP)	4.915062	1.414490	3.474794	0.0016
FGED	18.48580	10.27781	1.798613	0.0825
ECM(-1)	-0.322693	0.301787	-1.069274	0.2938
R-squared	0.191063	Mean dependent var	1557.240	
Adjusted R-squared	0.079486	S.D. dependent var	1532.667	
S.E. of regression	1470.493	Akaike info criterion	17.55964	
Sum squared resid	62708124	Schwarz criterion	17.78410	
Log likelihood	-293.5138	Hannan-Quinn criter.	17.63618	
Durbin-Watson stat	1.940502			

Discussion of Findings

1. There is positive and significant implication of government spending on education on economic growth in Nigeria, as the t-test of significance obtained 0.519873 which is greater than the p-value figure of 0.0002.

2. There is positive and significant implication of government spending on health on the economic growth in Nigeria, as the t-test of significance 7.856021 which is greater than p- value of 1.96.
3. There is no positive and significant implication of government spending on power on economic growth in Nigeria, as the t-test of significance 6.7649 which is greater than the tabulated value of 1.96.
4. There is insignificant implication of government spending on defence on economic growth in Nigeria, as the t-test of significance -1.910354 which is less than the tabulated value of 1.96.

Summary of Findings

1. There is a positive and significant implication of government spending on economic growth in Nigeria.
2. There is a negative and insignificant implication of government spending on economic growth in Nigeria.
3. There is negative and significant implication of government spending on economic growth in Nigeria.
4. There is a negative and insignificant implication of government spending on economic growth in Nigeria.

Conclusion

Public expenditure in Nigeria has some mixed results. At some points it plays major key roles for growth but at other times it does not contribute much for economic growth. But, conclusively, public expenditure has a tremendous implication on economic growth in Nigeria as the period under review.

Recommendations

1. Government should increase its spending on education as it has a long run effect on economic growth.
2. Government should also increase its expenditures on health by increasing health allocations in the budget
3. Government should however, monitor the disbursement of any fund to all sectors of the economy especially power.

4. Government should be prudent in its spending on defence, so as to record positivity in economic growth.

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