

IMPACT OF GOVERNMENT EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA (1981-2014)

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Abstract

Studying the empirical relationship between government expenditure and economic growth is a fundamental step to understanding the economy on the basis of Keynesian theory or Wagner's law, and Peacock and Wiseman revenue spending and hypothesis. In an attempt to investigate the effect of government expenditure on economic growth, the author ran a regression analysis to establish a relationship between government expenditure and Gross Domestic Product at the current and real prices. The real prices of government expenditure were gotten by subtracting the yearly inflation rate from the yearly expenditures, while the real GDP was gotten by making the current GDP a percentage of the consumer price index. The result obtained from the analysis, revealed that a strong positive relationship exists between the real GDP and real government expenditure. It was found in the study that government expenditure increases economic growth and as a result improves the living conditions and standard of people in the society.

Key words: Government Expenditure, Economic Growth, GDP & ECM

Introduction

No phase of public finance, perhaps, has received so much fallacious reasoning as the economic effects of government expenditures on growth. In the past decade or more, the pace of economic relationship between government expenditure and economic growth has continued to generate series of debate among scholars. Over the past decade and a half, a substantial volume of empirical research has been directed towards identifying the element of public expenditure (at its aggregated and disaggregated levels) that bears significant association with economic growth.

This research work purports to examine the role of government expenditure on the economic growth in Nigeria. The role of government in developed and developing countries are markedly different. In both developed and developing countries, there is a concern for rising living standards over time, but this need is more pronounced in developing countries. In the relative absence or perpetual weakness of institutions to mobilize and direct savings, the role of the state is crucial in harnessing the resources for the development (Gwartney,

1998). Since the regulatory apparatus is weak and market signals imperfect, the state has an important role to play in allocating investment funds. Furthermore, with wide spread poverty, there is the expectation that fiscal expenditures would play a major role in anti poverty programs.

Government performs two basic functions; Protection (security) and Provision of certain public goods (Abdullah and Al-Yousif, 2000). Protection consists of the creation of rule of law and enforcement of property rights. This helps to minimize risk of criminality, protect life and property and the nation from external aggression. Under the provision of goods are education, health, power, defense and good roads to mention a few. Komain & Brahasrene (2007), Nworji & Oluwalaiye (2012) argue that increase in government expenditure on socio economic and physical infrastructures encourages economic growth. For example, government expenditure on health and education raises the productivity of labour and increases the growth of national output. Similarly, expenditure on infrastructures such as roads, communication and power reduce production cost, increases private sector investment and profitability of firms thus fostering economic growth. Supporting this view are scholars such as Al-Yousif (2000). However, some authors like Mitchell (2005) did not support the claim that increasing government expenditure promotes economic growth. For instance, in an attempt to finance rising expenditure, government may increase taxes and/or borrowing. Higher income taxes discourage individuals from working for long hours or even searching for jobs. This in turn reduces income and aggregate demand. In the same vein, higher profit tax tends to increase production cost and reduce investment expenditure as well as profitability of firms. Moreover, if government increases borrowing (especially from the banks) in order to finance its expenditure, it will compete (crowd-out) away the private sector, thereby reducing private investment.

Therefore, the relationship between economic growth and public spending is an important subject of analysis and debate (Mitchell, 2005). A central question is whether or not public sector spending steadily increases the long-run growth rate of the economy. Some scholars are of the opinion that public sector spending, notably on physical infrastructure and human capital can be growth enhancing, although the financing of such expenditures can be growth retarding in the short-run.

In Nigeria, government expenditure has continued to rise due to huge receipts from production and sales of crude oil and the increased demand for public goods, like good roads, power, education, health and communication. Besides, there is an increasing need to provide both internal and external security for the people and the nation. Available statistics show that government expenditure (capital and recurrent) and its components increase continuously. However, Government expenditure has not translated into meaningful growth and development as Nigeria still ranks amongst the poorest countries in the world. The relationship between public expenditure and growth is essentially important for developing counties, most of which have experienced increasing levels of public expenditure over time. There is evidence that unlike in the case of developed countries, consumption is not negatively related with economic growth. This study, empirically investigates this relationship in the case of Nigeria, with a view to explaining the reason behind the observed causality between them.

This research work is guided by the following research questions

1. What impact has the government expenditure on economic growth in Nigeria?
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2. What is the trend of government expenditure in Nigeria?
3. How would the government expenditure be made to stimulate economic growth in Nigeria?

The main objective of the study is to appraise the relationship between government expenditure and economic growth over the years in Nigeria. The trend of government expenditure will be assessed with reference to the Nigerian economy. The specific objectives of the study are:

1. To obtain an estimate (that is the trend) of the relationship between government expenditure and economic growth.
2. To examine the constraints limiting the effectiveness of public expenditure as an engine of economic growth.
3. provide solution to the problems identified in 3 above

This study covers from 1984-2014 data on government expenditure to assess the impact of public expenditure on economic growth. Whilst acknowledging the fact that this study is not the first of its kind using Nigerian data, however it shall go a little further than earlier works to correctly capture and pay more attention to the aggregate government expenditure for more recent years and thereby analyze their impact on growth.

The relationship between government spending and growth is especially important for developing countries, as Mitchell (2005) finds a significant positive relationship between public sector growth and economic growth only for developing nations, but not for developed countries. Most of which have experienced increasing levels of public expenditure over time. This has tended to be associated with rising fiscal deficit suggesting their limited ability to raise sufficient revenue to finance higher level of expenditure. By raising deficits, it tends to retard economic growth in developing countries because of the inability of such countries to check inflation during deficit years. Thus, this study gives a good insight into problems created by rising government expenditure and how the same impact on growth.

Also, this study will enable policy makers to promote economic growth without recourse to huge deficit finance. This often results in inflation particularly when increase in government expenditure is not matched by corresponding increase in output.

Review of Literature in the Study

Government expenditure is a major component in determining economic growth in Nigeria. Government expenditure in its simplest meaning is the expenses incurred by the government of a state or nation in running the affairs of the state. That is government carries on three (3) major macroeconomic activities: spending on goods and services (G) and transfers (R), taxing (T), and lastly borrowing (B). Government expenditure is therefore of two forms; spending on goods and services and transfer payments (Anyanwu,Oaikhenan, 1995).

Government expenditure involves all the expenses which the government incurs for its own maintenance, for the benefit of the economy, external bodies and for other countries. Government spending can be categorized into government recurrent expenditure and government capital expenditure. Government expenditure takes into consideration a lot of components such as defense, agriculture, health communication and transportation and lots more.

Government expenditure is incurred based on the revenue available to the government. Government revenue has to do with the sources of funds for the government in other to finance its expenditure. The main source of revenue for the government of Nigeria, have been from the exportation of crude oil. Before the discovery of crude oil, agriculture was the main source of revenue for the government. The manufacturing sector since the independence till date has not picked up therefore, it contributes little to the government revenue in Nigeria (CBN statistical bulletin 2010).

Government expenditure translates into economic growth, as a large expenditure serves as a boost to economic growth, because it puts money into circulation, increases the demand for labour, relieves the poor by giving them employment, removes the objection to taxes when the state returns much to its citizens (A.S Aruwa, 2008). An increase in government expenditure leads to increase in economic growth; however the expenditure in Nigeria is not commensurable with the increase in growth.

Therefore, the size of government expenditure and its impact on economic growth has emerged as a major fiscal management issue facing economies in transition, previous research focused predominantly on size of government expenditure in industrialized countries. However, given the openness of most developing countries, trade dependency, the vulnerability in external shocks, and volatility of finances, the role of the size of government expenditure became germane to adjustment and stabilization programmes.

Economic theory does not automatically generate strong conclusions about the impact of government outlays on economic performance. Indeed, almost every economist would agree that there are circumstances in which lower levels of government spending would enhance economic growth and other circumstances in which higher levels of government spending would be desirable.

Wagner's law suggests that the share of the public sector in the economy will rise as economic growth proceeds, owing to the intensification of existing activities and extension of new activities. According to Wagner, social progress has led to increasing state activity with resultant increase in public expenditure. He predicted an increase in the ratio of government expenditure to national income as per capita income rises. It is the result of growing administrative and protective actions of government in response to more complex legal and economic relations, increased urbanisation, and rising cultural and welfare expenditures. Another reason is the decentralisation of administration and the increase in the expenditure of local bodies.

The law predicts that the development of an industrial economy will be accompanied by an increased share of public expenditure in gross national product. Musgrave and Musgrave (1988) opined that as progressive nations industrialize, the share of the public sector in the national economy grows continually Wagner identified three main factors for increased government spending. First, administrative and protective role of government will increase as a country's economy develops. Second, with the expansion of an economy, government expenditures on "culture and welfare" would rise, particularly on education and health. He implicitly assumed that the income elasticity of demand for public goods is more than unity. Finally, progress in technology of developed nations requires government to undertake certain economic services for which private sector may shy away from (Khan, 1990).

While Wagner postulated that causality runs from national income to public expenditure, that is, there is tendency for public expenditure to grow relative to some national aggregates like gross domestic product; Keynes posited that causality runs from public expenditure to income, implying that public expenditure is an exogenous factor and a public instrument for increasing national income.

Peacock and Wiseman based on a study entitled "The Growth of Public Expenditure in the UK, 1961", provided an explanation for fluctuations in public expenditure over time. The hypothesis put forward is that public expenditure grows due to growth in revenue. During settled times, people can be expected to develop notions of acceptable rates of taxation. This can be known as the tolerable level of taxation and this level cannot be high. With real economic growth, the more or less stable level of taxation will produce increasing amounts of revenues as well as expenditure. This, however, does not explain the relative increasing growth in public expenditure.

Large scale social disturbances, like wars, influx of refugees change the tolerance limit of people to the burden of taxation which arises as a result of increased spending. The result is called a "displacement effect" which shifts expenditures and revenues to new higher levels. So a displacement effect is created when the earlier lower tax and expenditure levels are displaced by new and higher budgetary levels. Even after the event is over, new levels of tax tolerance change and the society feels capable of carrying a heavier tax burden. The level of public expenditure does not return to the low level it was before the event.

According to Buchanan "the single best explanation for tremendous growth in the public sector of the economy and also for the increased concentration of expenditure in federal government is provided by the predominant importance of expenditures, direct or indirect made necessary by wars and threats of war". While war and military measures are the most important factors responsible for an increase in public expenditure, other "social upheavals" and natural calamities like droughts, famine can cause a substantial upward shift in public expenditure. These events create new contingency demands on government -new social welfare schemes, war pensions, affordable previously all leading to maintaining the level of expenditure.

Keynes was of the opinion that increase in government expenditure (on infrastructures) leads to higher economic growth. The theory demonstrates a long- term full employment which requires that two fundamental conditions be met: The ratio of investment to income must equal the full employment savings ratio, and the economy's rate of growth must equal the natural rate of growth (Wikipedia, free encyclopedia 2010). Keynes has asserted in his book that a key factor that could account for an economy's stagnation and unemployment was the deficiency of aggregate effective demand. Keynes view was that the solution to the problem of economic stagnation rested on expansion of aggregate demand through massive increase in government expenditure.

Worthy of note is the fact that Harrod- Domar model was drawn from the experience of Keynesian growth model. While the Keynesian model is a short run analysis, the Domar model is a long- run analysis. It should be noted also that what is saved had to be invested for growth to be realized. The accounting growth model advocated for both government intervention and the market forces in order to achieve growth as these led to invention of new technology and in the long run resulted to growth. The endogenous growth theory is

very similar to the Keynesian and Harrod- Domar growth theory. However, the difference is that it is a three sector model (includes government), while Keynesian theory and Harrod-Domar are two sector models. Both Harrod- Domar and Endogenous growth theory are long run analysis.

Empirical studies of the flow relationships as well as the impact of government expenditure on economic growth are numerous. For instance, Kelly (1997) by exploring the effects of public expenditures on growth among 73 countries over the period 1970-1989 found that the crowding-out and rent-seeking concerns might have been overstated in the literature. According to the evidence obtained the contributions of public investment and social expenditures to growth is rather significant

Grier and Tullock (1987), using pooled cross- section/ time series data (115 countries including 24 OECD countries in the post- World War II period), found a significantly negative relationship between the growth rate of real GDP and government consumption share of GDP. Olugbenga and Owoye (2007) investigated the relationship between government expenditure and economic growth for a group of 30 OECD countries during the period of 1970- 2005. The regression results showed the existence of a long-run relationship between government expenditure and economic growth. The authors observed a unidirectional causality from government expenditure to growth, thus supporting the Keynesian hypothesis. Komain and Brahmasrene (2007) examined the association between government spending and growth in Thailand, by employing the Granger causality test. The result revealed that government expenditures and economic growth are not co-integrated. Moreover, the results indicated a unidirectional relationship as causality runs from government expenditures to growth.

In Saudi Arabia, Abdullah (2000) analyzed growth and government expenditure for the country, and reported that the size of the government is very important in the economy's performance. Niloy et al (2003) used a disaggregated approach to investigate the impact of public expenditure on economic growth for 30 developing countries in 1970s and 1980s. The author confirmed that government capital expenditure in GDP has a significant positive association with economic growth, but the share of government capital expenditure in GDP was shown to be insignificant in explaining economic growth. At the sectoral level, government investment and expenditure on education are the only variables that had significant effect on economic growth, especially when budget constraint and omitted variables are included.

Folster and Henrekson (2001) studied the relationship between government expenditure and economic growth for a sample of rich countries for the 1970- 1995 period, using various econometric approaches. The author submitted that more meaningful (robust) results are generated, as econometric problems are addressed. In India, Ranjan and Sharma (2008) examined the effect of government development expenditure on economic growth during the period 1950- 2007. The authors discovered a significant positive impact of government expenditure on economic growth. They reported the existence of co-integration among the variables. Al- Yousif (2000) indicated that government spending has a positive relationship with economic growth in Saudi Arabia. On his part, Ram (1986) studied the linkage between government expenditure and economic growth for a group of 115 countries during the period 1950- 1980. The author used both cross section and time series data in his analysis and confirmed a positive influence of government expenditure on economic growth.

Daniel Mitchell (2005) purported that the American government spending has grown too much in the last couple of years and has contributed to a negative growth. He suggested that government should cut its spending, particularly on projects/ programmes that generate benefit or impose highest cost. In Sweden, Peter Sjoberg (2003) examined the effect of government expenditure on economic growth during the period 1960- 2001. The author emphasized that government spends too much and it might slow down economic growth. Cooray (2009) used an econometric model that takes government expenditure and quality by governance into consideration, in a cross- sectional study that includes 71 countries. The results revealed that both the size and quality of the government are associated with economic growth.

In Nigeria, many authors also attempted to examine government expenditure-economic growth relationship. For instance, Oyinlola (1993) examined the relationship between the Nigeria's defense sector and economic development and reported a positive impact of defense expenditure on economic growth. Ogiogio (1995) revealed a long term relationship between government expenditure and economic growth. His findings showed that recurrent expenditure exert more influence than capital expenditure on growth.

Michael Adebayo Adebiyi (2002), using an autoregressive model concluded that there was no significant association between components of government expenditure such as defense, human capital, education, and economic growth in Nigeria, thus a negative relationship between government spending and growth existed. Akpan (2005) used a disaggregated approach to determine the components (that include capital, recurrent, administrative, economic service, social and community service, and transfers) of government spending that enhances growth, and those that do not. The author concluded that there was no significant association between most component of government expenditure and economic growth in Nigeria.

Aregbeyen (2006) using Johansen co- integration and standard causality test found a unidirectional causality from national income to total public expenditure i.e. a support for Wagner's law. There is bi- directional causality between non transfer public expenditure and national income. In contrast, the causality from national income to non transfer public expenditure was found to be stronger than the reverse direction following variance decomposition analysis. Babatunde (2007) tests Wagner's law for Nigeria using annual time series data between 1970 and 2006. It adopts the bounds test approach based on unrestricted error correction model and Granger causality tests. Empirical results from the bounds indicate that there exists no long-run relationship between government expenditure and output in Nigeria but found a weak empirical support in the proposition by Keynes.

More recently, Aruwa (2008) established the fact that public expenditure is relegated to a passive role and revenue continues to drive public expenditure growth pattern in Nigeria with attendant fiscal stocks. He laid emphasis on diversifying the revenue base into fiscal sources and other non- oil revenue sources. Nurudeen and Usman (2010) also studied the effect of government expenditure on economic growth; the result revealed that government total capital expenditure, total recurrent expenditure and government expenditure on education and defense have positive effect on growth. Oga (2012) showed that government expenditure had a significant and positive impact on economic growth, while imports, savings

and unemployment rate had a negative impact on economic growth. Oil revenue also had a positive but insignificant impact on economic growth.

Nworji & Oluwalaiye (2012), showed the impact of government spending on road infrastructure development on economic growth in Nigeria for the period 1980-2009. Indicators used for government spending are values for defense, transport /communication, and inflation rate as the explanatory variables, while gross domestic product constituted the explained variable. The outcome showed that transport and communication, including defense individually exerted statistically significant impact on growth. Chude & Chude (2013), made use of Error correction model (ECM), the study used ex-post factor research design and applied time series econometrics technique to examine the long and short run effects of public expenditure on economic growth in Nigeria. The results indicate that total expenditure on education is highly and statistically significant, and have positive relationship on economic growth in the long run.

Methodology of the Study

In econometrics, different techniques can be used to show the relationship between variables (i.e. dependent and independent). However, the technique of analysis that was used in this quantitative analysis is the ordinary least squares (OLS) method. This is because the computational procedure of OLS is fairly simple, as compared with other econometric techniques and the data requirements are not excessive. Diagnostic test, such as the unit root test, making use of the Augmented Dickey Fuller is used to test the stationarity of data used. Time series data are known and characterized by fluctuations thus making results spurious as a result of its non stationarity.

From the discussion so far, the level of government expenditure are important determinants of economic growth. Thus our model expresses economic growth (GDP) as a function of total government expenditure, since they have lasting impact on economic growth. U_t = error term. Thus, the growth model is specified as:

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + U_t \quad (1)$$

$$\text{Therefore, } GDP_t = \alpha_0 + \alpha_1 GRE_t + \alpha_2 GCE_t + U_t \quad (2)$$

Where

GDP_t = GDP at constant prices

GRE_t =government recurrent expenditures

GCE_t =government capital expenditures

α_0 = intercepts

α_1 and α_2 = slopes of the equation

U_t = the error term in the equations

Data Presentation and Analysis

Results presented are the stationarity test and the multiple regression result. Eviews 9.1 is used for the purpose of accuracy and also ensuring results are up to date, thereby having minimal errors.

Figure 1: Unit Root test (Augmented Dickey Fuller test):
ADF UNIT ROOT TEST:GDP

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	2.989726	0.0009
Test critical values:		
1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

ADF UNIT ROOT: GRE

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	3.003256	0.0001
Test critical values:		
1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

ADF UNIT ROOT: GCE

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	3.283696	0.0000
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

Eviews 9.1 (demo)

The stationarity test shows that at 95% significant level, gross domestic product (2.57110), government capital expenditure (2.967767) and government recurrent expenditure (2.971853) were found to be stationary when compared to their T statistics. the prob statistics were also found to be low, indicating that errors were minimal. Therefore data used are said to be stationary and statistically significant.

The result of the analysis for Government expenditure and economic growth are as follows:

Table 2: multiple regression analysis result

$$GDPC=C(1)+C(2)*GOVC+C(3)*GOVR$$

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	228.6202	12.53422	18.23968	0.0000
C(2)	0.358501	0.029507	12.14980	0.0000
C(3)	0.099088	0.013812	7.174283	0.0000

R-squared	0.965877	Mean dependent var	460.0903
Adjusted R-squared	0.963676	S.D. dependent var	298.5356
S.E. of regression	56.89773	Akaike info criterion	11.00449
Sum squared resid	100357.9	Schwarz criterion	11.13916
Log likelihood	-184.0762	Hannan-Quinn criter.	11.05041
F-statistic	438.7411	Durbin-Watson stat	0.722193
Prob(F-statistic)	0.000000		
Eviews 9.1 (Demo)			

The result of regression analysis and the accompanying significant test are presented in the following summary form.

$$Y = 228.6202 + 0.358501 (X_1) + 0.099088 (X_2)$$

R-squared= 0.965877

F- Statistic= 438.7411

Durbin- Watson stat= 0.722193

From the results summarized above, we can therefore analyze the relationship between the variables government expenditure with the Gross Domestic Product. A breakdown of the result can be attempted by describing the components of the regression results.

The interception of the regression line as supplied by the regression is 228.6202. Therefore we accept the intercept because it's a positive value.

The slopes of the regression line are given as 0.358501 and 0.099088. The simple interpretation of this is that, a 10% increase in GDP is as a result of 3.5% increase in recurrent expenditure and 0.9% increase in capital expenditure.

The coefficient of determination of the regression as given by the results is 0.965877; this shows that a unit change in government expenditure accounts for about 96% of the GDP. The closeness of these statistics to one (1) is an indication of goodness of fit of the regression line as the explanatory variables account for about 96% of the explained variations. On this basis, we can conclude by saying that the regression line is well fitted for the equation.

The F-Statistic as a measure of the significance of the explanatory variables, gives an explanation of the explained variable. The F- statistic value is given as 438.7411. The F- statistic is significant at the 5% level, more so the value of the prob (f-statistic) for the model is 0.000000, which is the same as the benchmark.

The value of the Durbin Watson statistic is 0.722193 as gotten from the regression result. It suggests that the regression analysis suffers a problem of positive autocorrelation. That is, the disturbance term co-varies with the explanatory variable.

From the analysis, there is a positive relationship between government expenditure and economic growth. However, recurrent government expenditure has more impact on economic growth than the capital expenditure. This is evidence that, an increase in government expenditure leads to increase in economic growth as purported by the Keynesian model of growth, and this is applicable even in the Nigerian economy. Since they are positively correlated, on this basis we accept the alternative hypothesis ($H_0, \alpha \neq 0$, government expenditure contributes to growth in the Nigerian economy) and therefore reject the null hypothesis ($H_1, \beta = 0$, government expenditure does not contribute to growth in the

Nigerian economy). The conclusion is reached that the fitness is good and also the estimate β_0 is statistically significant at 5% level of significance for a two tail test. Spending on government capital expenditure impacts positively and significantly on the economic growth of Nigeria, while spending on recurrent expenditure has less effect on the economic growth.

Recommendations

1. The finding implies that public expenditure continues to drive growth pattern in Nigeria. There must therefore be strong measures to enhance public expenditure management and implementation of policies to foster growth in Nigeria. Emphasis should be strongly placed on increasing the government expenditure on infrastructural facilities such as roads and electricity, also on defence, education, and health as these help to improve the growth in the economy of countries like Nigeria.
2. However, increasing government expenditure leads to raising rate of inflation and as a result crowds out the private sector thereby resulting to increase in the rate of poverty and low standard of living. Nigeria needs to spend her incomes more on capital goods accumulation as this helps to strengthen the economy and improve the living conditions of the majority in Nigeria. Spending on capital accumulation has a greater impact on economic growth than recurrent expenditure. This will make Nigeria comparable with the developed countries of the world.
3. The need to pursue productive spending is strongly recommended as the amount of government expenditure is not commensurable with the rate of growth. Every form of frivolous spending should be discouraged as this only slows down growth in the economy. Agencies like the EFCC (Economic Financial Crime Commission) should be made to work effectively, so as to curtail corruption. When corruption is minimised, more funds will put into meaningful spending in the economy. Thus this will help to reduce frivolous spending.

Conclusion

It appears that government expenditure plays a major role in the economic growth of Nigeria. Therefore, it appears pointless for a developing economy like Nigeria to make an absolute attempt to curtail its government expenditure. It is clear that knowledge of the true nature of the causative process between total Government Expenditure and Gross Domestic Product will help determine the robustness of the estimated relationship. Either a Wagnerian or Keynesian causality, the knowledge of the precise causative process has important policy implications, particularly the on Nigerian economy.

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