

IMPACT OF PUBLIC EXPENDITURE ON THE GROWTH OF NIGERIAN ECONOMY

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Abstract

This study is an attempt to assess the impact of public expenditure on the growth of the Nigerian economy, and to ascertain whether there is a relationship between gross domestic product (GDP) and government expenditure in Nigeria. It covers the period of 1981 – 2011 and the Ordinary Least Square (OLS) method of econometric technique was used. The econometric analysis indicates that although there is a positive relationship between the dependent and independent variables, the adjustment of economic growth or gross domestic product was a fair one which made it difficult to reject the null hypothesis. The policy implication of the above scenario is that government over the years appears to be bad managers of resources and have failed to play their role in the process of economic growth and development. The study recommended an urgent need to instill fiscal discipline in government expenditure by initiating far reaching effective internal control measures and more proactive economic management coordination and implementation as well as discouraging all non-productive activities and expenditures in all tiers of government forthwith. Also, both the Federal government and Central Bank of Nigeria (CBN) should be more articulate in managing the exchange rate effectively to achieve her macroeconomic objectives. This will stimulate investment surplus thus raising output and enhancing the standard of living of Nigerians.

Keywords: Public Expenditure, Growth and Nigerian Economy.

Introduction

Public expenditure theories evolved out of the perceived failure of market economic to efficiently and equitably allocate economic resources for social and economic infrastructure development. This failure necessitated the

emergence of welfare economics (state intervention in economic activities) leading consequently to the rapid expansion of the government sector, and by implication, growth in public expenditure. As the public sector size continued to grow relatively, the need for an appropriate mechanism that would ensure efficiency in resource allocation arose. In order to fill this perceived gap, the budget, which contained a package of public expenditure plan and tax legislation of the government for the year readily come to be a veritable tool for controlling, monitoring and relating government expenditure plans to polices of finance and taxation.

Government expenditures were usually broadly categorized into recurrent and capital expenditures. The former, according to Lacey (1989), corresponded to government's purchase of current goods and services (labour, consumables, wages and salaries, etc.), while the latter would ideally include not merely investments in infrastructure (roads, schools, hospitals, etc) but also all other expenditures that might contribute to development. In other words, while the recurrent expenditure refers to financial outlays necessary for the day-to-day running of government businesses, the capital expenditure refers to investment outlets that increase the assets of the state. These categorization, however, were not mutually exclusive but were indeed inter-linked. For instance, while capital expenditure gave rise to recurrent expenditure in most cases through the operational and maintenance costs of completed capital projects, the amount available for investment was a function of not only the size of revenue but also the amount that goes annually into the running of government.

From the foregoing, this study aims at the following specific objectives. To examine the impact of public expenditure on economic growth in Nigeria and to ascertain whether there is a relationship between gross domestic product (GDP) and government expenditure in Nigeria. The scope of the study will be limited to the impact of public expenditure on the Nigerian economy spanning a period of 30 years from 1981 to 2011. This study will rely mainly on secondary data from various sources including the Central Bank of Nigeria (CBN) Annual Reports and Statement of Accounts, and Statistical Bulletins of various issues.

Literature review

Over the years, the size, structure and growth of government expenditure have increased tremendously and become increasingly complex. Not only has recent political developments engendered expenditure growth, the challenge of raising additional and identifying alternative sources of revenue to meet the ever increasing needs of governance have made it more imperative to take a more focused look at government activities, especially its expenditures.

Pigou (1928), in his legendary book *Public Finance* noted that in every developed society there is some form of government organization. The governing authority, whether central or local is endowed with functions and duties, the detailed nature of which varies in different places. These duties involve expenditure and, consequently, required also the raising of revenue. Though Pigou's perception of what a government and its accompanying responsibility was, had undergone tremendous transformation, both in size and complexities over time, the underlying concept of public expenditure as a veritable instrument through which government policy choices are carried out remains intrinsically unaltered in today's economies. Hence the continuous postulations of several theories as well as the identification of various variables that purport to explain the growth in the relative size of the public sector. Some of these dominant streams of thought are reviewed here.

What is now referred to, as Wagner's law of Increasing State Activity, was the pioneering work of Adolph Wagner, a German economist, who attempted to scientifically explain the share of GNP taken up by the public sector in some European Countries. Wagner, as cited by Bhatia (1967) postulated that there existed a functional relationship between the growth of an economy and the growth of government activities. Although not expressed in rigorous or objective terms, Wagner's law suggested that, an increase in the relative size of the public sector arise because of rising per capita income, which would induce greater spending (Hartle:1976).

But because Wagner never indicated whether his findings were either in absolute or relative terms, Musgrave (1969), chose to interpret Wagner's law in relative terms as an expression of the growth of the relative size of the public sector. This suggested that as per capita income in an economy grows, the public sector size would also grow in tandem.

Peacock and Wiseman (1961) hypothesis, which was based on the political theory of public expenditure determination, stated that governments like to spend more money, that citizens do not want to pay more taxes, and that government needs to pay more attention to the wishes of their citizens with the assumption that a tolerable level of taxation which according to the authors, acts as a constraint on government behavior.

In the view of Fan et al (1999), Fan et al (2004) and Chemingui (2005), targeting government expenditure simply to reduce poverty was not sufficient. Government expenditure also needed to stimulate economic growth to help generate the resources required for future government expenditures such growth was the only way of providing a permanent solution to the problem and to increase the overall welfare of the people.

Adubi and Obioma (1999) observed that in almost all of these countries, public expenditure usually accounted for over 20 percent of the gross domestic product (GDP) in their study of the expenditure management

in Nigeria. According to Piana (2001), public expenditure played four cardinal roles: contributes to current effective demand, of goods as well as give rise to positive externalities to the economy and society through its capital component. Iyoha (2002) in his findings noted that practically all studies have proved government expenditure to exhibit a tendency to rise at a faster rate than the GDP irrespective of the level of development.

This finding was in tandem with a similar research by Thorn (1967), whose study of government expenditure of 52 countries showed a mean elasticity of central government expenditure to GDP to be 1.22 higher than unity. It was, therefore, paradoxical to observe that despite government's policy tilt toward private sector led economy, empirical findings have always confirmed Wagner's postulation on increasing government expenditure relative to national income.

Aigbokhan (2003) on his part, however, did not see expansion in public expenditure as an inimical development that need to be curtailed so long as it was adequately matched with expansion in government revenue, efficiently managed will not fuel inflation and the composition was productive enhancing and development oriented.

Ram (1986) marked a rigorous attempt to incorporate a theoretical basis for tracing the impacts of government expenditure on growth through the use of production functions specified for both public and private sectors. The data spanned 115 countries sufficient to derive broad generalizations for the market economies investigated.

When investigating the effect of government on economic growth in Saudi Arabia, Al-Yousif (2000) used two different models and reached contradicting results. However, he found the model with positive relationship between government size and economic growth more applicable and therefore concluded that government size could have a positive effect on economic growth. Folster and Henrekson (2000) found a robust negative relationship between government expenditure and growth. Their study was carried out in more developed countries between the years 1970 – 1995. Their estimated coefficients suggested that a 10 percentage increase in government expenditure was associated with a decrease of 0.7 – 0.8 percentage points in growth rate.

In less developed countries like Nigeria, less attention had been given to examining the productiveness of the various components of public spending. This was borne out of the observation that the primary objective of fiscal policy was aggregate demand management (Diamond 1990). By and large, this view placed prominence on aggregate government expenditure and appeared unenthusiastic to differentiate between or among the various components of public expenditures.

Odusola (1996) adopted a simultaneous equations model to capture the interrelationship between military expenditure and economic growth in Nigeria. This was necessary because of the inherent causal relationship between government expenditure and economic growth, making any deductions from a single equation model invalid. The study found that aggregate military expenditure was negatively related to growth at 10 percent significant level; and when decomposed into recurrent and capital expenditure, the former was more growth retarding than the latter.

Examining the growth impact of recurrent, capital and sectoral expenditures over the period 1970 – 1993, Ogiogio (1995) in his study observed the existence of a long-run relationship between economic growth and government expenditure. Contemporaneous government expenditures, however, had more significant effect than the capital expenditures, while five-year lags of capital expenditures were more growth inducing. The study also pointed out that government investment programmes in socio-economic infrastructure provided a better conducive environment for private-sector led growth.

Theoretical framework and model specification

Endogenous growth theory

Endogenous growth theory highlighted the fact that if productivity was to increase, the labour force must continuously be provided with more resources. Resources in this case include physical capital, human capital and knowledge capital (technology). Therefore, growth was driven by accumulation of the factor of production, while accumulation in turn was the result of investment in the private sector. This implied that the only way a government can affect economic growth, at least in the long run, was via its impact on investment in capital, education and research and development. Reduction of growth in these models occurred when public expenditures deter investment by creating tax wedges beyond necessary to finance their investments or taking away the incentives to save and accumulate capital (Folster and Henrekson, 1997).

Starting from the premise that the inconsistency in the results obtained in the past could be associated with the underlying process of generating the data, we tested the extent to which the size of government expenditure would impact on economic growth by:

- (i) Examining the nature of the relevant variables in the study, and
- (ii) Examining whether or not there exists a long-run relationship between economic growth and government expenditure.

On the basis of the above, we were able to deduce from the result if government expenditure promoted economic growth. This study adopts the

Ordinary Least Squares (OLS) econometric technique to examine the impact of public expenditure on the Nigerian economy.

Model Specification

The endogenous model often specified for testing the effects of fiscal variables on growth broadly consists of a regression equation with gross domestic product (GDP) as the dependent variables and a set of conditioning variable as well as the fiscal variables of interest as the regressors. This same broad approach is adopted in this study.

Our model contains gross domestic product as the dependent variable while total public expenditure, credit to the economy, private capital formation and exchange rate are the independent or explanatory variables. Specifically, the equation specified for estimation is as follows:

$$GDP = f(TPE, CDE, PCF, EXR) \dots (1)$$

Equation (1) above can be transformed into an econometric model as follows:

$$GDP = b_0 + b_1 TPE + b_2 CDE + b_3 PCF - b_4 EXR + b_5 GDP_{-1} + U \dots (2)$$

Where:

GDP = Gross Domestic Product

b_0 = Intercept term

b_1 = Coefficient of total public expenditure

b_2 = Coefficient of credit to the economy

b_3 = Coefficient of Private capital formation

b_4 = Coefficient of exchange rate

b_5 = Coefficient of lagged value of gross domestic product

U = Stochastic or disturbance term.

A Priori Expectations

From equation (2) above,

$$b_1, b_2, b_3, b_4, b_5 > 0$$

Therefore, b_1 is expected to be positive because an increase in total public expenditure in form of investment in the economy will increase gross domestic product (thereby enhance the welfare of her citizenry via-a-vis increased standard of living). Also, b_2 is expected to be positively related to the gross domestic product in the sense that an increase in the aggregate net credit to the economy increases the availability of loanable funds, which leads to more investment and in turn raises aggregate demand via the Keynesian mechanism of income determination. This added investment will lead to a higher level of economic activity (that is more employment and a higher GNP). Thus b_3 is expected to be positive because an increase in private capital formation can influence the economic welfare of a country that is the standard of living of the people rises and their economic welfare

increases. Also, b_4 , is expected to have a negative relationship with gross domestic product. A high exchange rate leads to a reduction in growth rate of the economy and a higher cost of living which in turn reduces the standard of living of the people and impact negatively on the GDP. Furthermore, b_5 is expected to be positive since present level of GDP is directly proportional to its past or previous levels.

Analysis of results

The test statistics otherwise called summary statistics include the t-test statistics for ascertaining the statistical significance of the estimated coefficients using 1 percent, 5 percent and 10 percent levels respectively. The Durbin Watson (DW) test statistic is employed to test for the existence of auto-correlation among residuals, while the coefficient of determination (R^2) is to ascertain the percentage of contribution of the independent or explanatory variables on the dependent variables. Finally, the F-statistic is used for the overall significance of the equation.

However, one equation was specified and tested; given as equation (2) in 3.0 and summarized in table 1 in the Appendix.

From table 1, we tried to ascertain the joint impact of total public expenditure, credit to the economy private capital formation, exchange rate and the lagged value of gross domestic product on gross domestic product (GDP). All signs of the explanatory or independent variables except private capital formation had not been correctly signed contrary to a priori expectations, which indicated that private capital formation has a negative impact on gross domestic product (GDP). On the other hand, the other exogenous or explanatory variables with the exception of exchange rate though correctly signed, it has a negative impact on the gross domestic product (GDP) while others have a positive impact on the endogenous or dependent variable.

The result shows that the five regressors or explanatory variables in the equation explain about 97 percent ($R^2 = 0.969$) of the systematic variations in the gross domestic product (GDP) during the period from 1981 to 2011. The F-value of 112.57 was indeed very high at both the 1% and 5% levels of significance which posited that there was a significant linear relationship between the dependent variable (GDP) and the explanatory variables used.

The t-values of the coefficient of all the exogenous variables except private capital formation and exchange rate were statistically significant at the 1% and 5% levels of significance. This was to say that private capital formation and exchange rate have no significant impact on the gross domestic product (GDP) but the other independent variables (total public

expenditure, credit to the economy, and the lagged value of gross domestic product) have positive impact on gross domestic product (GDP).

The result further showed that the Durbin Watson (DW) statistic had a value of 2.29, meaning that autocorrelation was highly minimized. Therefore, we can make valid prediction(s) with the equation. Finally, a unit increase in total expenditure will lead to about 12 percent increase in GDP, a unit increase in credit to the domestic economy will result to about 30 percent in GDP, a unit increase in private capital formation will lead to about 20 percent reduction in GDP, a unit increase in exchange rate will result to about 21 percent decrease in GDP while a unit increase in the lagged value of GDP will lead to about 22 percent increase in GDP respectively.

Policy Implications of Findings

An instrument influence from the analysis was that the explanatory variables have missed impact, that is, some positive while some others were negative, this implied that independent variables have no major impact on economic growth or gross domestic product and the rate of adjustment parameters in the regression re-enforced the position that Government is not a good manager of resources.

The magnitude of the parameters showed that it would take some years for the economy to feel the impact of Government expenditure in the system.

The implication of the above scenario holistically is that Government over the years has not lived up to expectation in efficiently managing public resources. Thus in the past even though Government had budgeted several trillions of naira on various objectives, yet the impact of such public expenditure had not been significant. This would imply that Governments have failed to play their role significantly in the process of economic growth and development. This no doubt brought about global tendencies towards the gradual withdrawals of government and increased participation of the private sector in the developmental process.

Nigeria's experience in public expenditure management has not been quite inspiring. The current economic crises, with the attendant macroeconomic problems – high inflation, exchange rate distortions, debt burden, BOP disequilibrium and high unemployment could be attributed largely to inappropriate or inefficient management of public expenditure, coupled with the much alleged widespread corruption. Rationally, the purpose of public expenditure is to increase economic growth by providing more employment opportunities, raising income and standard of living of the people. Therefore, if public expenditure is well managed it will lead to the desired economic growth and enhance the standard of living of Nigerians.

Conclusion and policy recommendations

This research analyzed the impact of public expenditure on the Nigerian economy using the econometric technique of the ordinary Least Square (OLS). The empirical result on one hand portrayed that total public expenditure, credit to the domestic economy, private capital formation, exchange rate and lagged value of gross domestic product were not quite sensitive to the influence of the explanatory variables. This means that economic growth in Nigeria adjusted fairly to change in the explanatory variables.

The equation in the model demonstrated a good fit from the coefficient of determination (R^2) and the f-statistic. The policy implication(s) of the empirical result revealed that public expenditures over the years have not adequately translated to the desired economic growth and enhancement of the standard of living.

Having taken a hard look at the theoretical nexus and empirical evidence of the impact of public expenditure on the growth of the Nigerian economy, the following policy recommendations could be made to guide government policy decisions.

The study recommended an urgent need to instill fiscal discipline in government expenditures by initiating far reaching effective internal control measures and more proactive economic management coordination and implementation as well as discouraging all non-productive activities and expenditures in all tiers of government forthwith. Government spending should be channeled to have effects on the economy, enhancing and promoting growth and development in the process. All non-productive activities and expenditure need to be reviewed forthwith while the role of government should be reappraised with more emphasis on providing the enabling policy environment for private sector initiatives.

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Appendix

Table 1:The dependent variable was gross domestic (GDP) and 30 observations used for estimation from 1981 – 2011.

Variables or Regressors	Coefficient	Standard Error	T-Statistic	Prob.
C	156169.6	113572.5	1.3751	.180
TPE	1.2016	.39881	3.0130	.005
CDE	2.9955	.71112	4.2123	.000
PCF	-19.6655	5.9293	-3.3167	.002
EXR	-20915.1	10109.3	-2.0689	.048
GDP-1	2.2464	.52506	4.2784	.000
R-Squared	.96925	F-Statistic	F.(7,25)	
R-Bar-Squared	.96064	Prob (F-Statistic)	112.5729	
S.E. of Registration	616859.5	S.D. of dependent Variable	.000	
DW-Statistic	2.2914	Schwarz B. Criterion	3047185	
			-496.4345	

Source: Authors' Estimation, 2012.