Re-Engineering Public Expenditure Patterns for Economic Development in Nigeria

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Abstract

In recent times budget has been recognized as a worldwide tool for economic management. To this end there had been noticeable increase in government spending in virtually all sectors of the various economies due to increased demand for structures and facilities to enhance growth and development. The role and size of government expenditure had generated a great deal of controversy in macroeconomics. Some suggested that government expenditure beyond a certain limit of its core functions would have an adverse impact on economic. Some however, argued that increased government expenditure is a necessary condition for growth in output. In Nigeria, rising government expenditure has not translated to meaningful development because the rate of poverty is still very high, especially in the face of huge corruption and diversion of public funds for selfish purposes. The objective of the study was to first, analyze the impact of public consumption, private investment, public investment and total expenditure on economic growth. Secondly, through the use of the cointegration tests examine the nature of the relationship between economic growth and government consumption, government investment, private investment and total expenditure. Thirdly, determine the causal relationship, if any between economic growth and public expenditure on one hand and public expenditure and private investment on the other by conducting causality tests. The data span is from 1977 – 2008.The findings revealed that private investment and public investment positively impact on economic growth while total expenditure and public consumption impact negatively on economic growth. Also, a long run relationship exists between economic growth and public consumption, private investment, public investment and total expenditure. Again a unidirectional causality existed between economic growth and total expenditure, while there was no causal relationship between private investment and public investment in Nigeria. It is recommended that government should focus on spending on infrastructures and human capital and there is the need for practical complementarities between the private sector and public sector.

Key words: Government Expenditure; Economic Growth; Private investment; Regression

INTRODUCTION

Economic growth is fundamental for sustainable development. It is not possible for a developing country to improve the quality of life of its growing population without economic growth. Economic growth is mainly enhanced by the expansion of repairs on infrastructures, improvement of education, and health services, improvement in transport and communication, encouragement of foreign and local investments, low cost housing, environmental rebuilding and the reinforcement of the agricultural sector. Dealing with all these issues will result in a great amount of money spending by the government and certainly lead to sustainable budget balance. This in turn would generate a large number of socially useful jobs and business opportunities for the populace which all things been equal will bring about economic growth and development.

Government provision of both legal and physical infrastructure for the operation of a market economy and a limited set of public goods can provide a framework conducive for economic growth. This forms the basis of the argument in favor of larger government expenditure especially as government will have to provide certain goods and services that could not be provided by the private sector, in order to place the economy on a predetermined growth path. However, government may be compelled to move beyond performing its traditional function by engaging in the provision of goods and services which will distort the operations of market and the process of wealth creation. Since government is not as good as the market in responding to market situations, adjusting to changing situations and finding innovative ways of increasing the value of resources. The resultant effect is higher production costs and distortion of fiscal and monetary policies. In this way government is detrimental to efficiency, productivity and growth.

According to Kweka and Morrissey (2000), the general view is that public expenditure, notably on physical infrastructure or human capital, can be growth enhancing although the financing of such expenditure can also be growth-retarding (for example, because of disincentive effect associated with taxation). Government activity may directly or indirectly increase total output through its interaction with the private sector. Lin (1994) outlines some important ways in which government can increase growth. These include provision of public goods and infrastructure, social services and targeted intervention (such as export subsidies). Government also performs the function of protection, which consists of the creation of the rule of law and enforcement of property right which helps to protect life and property, minimize risks of criminality and preserve the nation from external aggression. It also performs the function of providing certain public goods like defense, roads, education, health, power etc.

The nature of the impact of public expenditure on growth will depend on its form. Following Barro (1990), expenditure on investment and 'productive' activities (in principle including State –owned production) should contribute positively to growth, whereas government consumption spending is anticipated to be growth retarding. According to Ram (1986), government provides public goods and services which enhance the productivity of private sector inputs, harmonizes conflicts between private and social interests, and prevents exploitation by foreigners. Therefore, government expenditures are critical in the process of economic development and increased government expenditure is a necessary condition for growth in output. Public expenditure in Nigeria is broadly divided into Capital and Recurrent expenditure, the major components of capital expenditure includes; spendings on education, hospitals, roads and bridges, seaports, etc.

While components of recurrent expenditure includes wages and salaries, expenses on repairs and maintenance, general administrative expenses and so on. Expenditure on infrastructure investment and productive activities (in State-Owned Enterprises) ought to contribute positively to growth, whereas government consumption spending is anticipated to be growth retarding (Josaphat & Oliver, 2000).

In Nigeria, like in most developing countries, there has been a continuous increase in government expenditure over the years, both in the recurrent and capital expenditure. This could be attributed to huge receipts from the production and sale of crude oil and the increased demand for public goods like roads, education and health facilities given an ever increasing population. Available statistics show that total government recurrent expenditure increased from N3, 819. 20m in 1977 to N4, 805. 20m in 1980, to N36,219.60m in 1990 and from N461,600.00m in 2000 to N1, 589,270.00m in 2007. Regarding the components of current expenditure, there has also been a continuous rise in defense, transport and communication, education, agriculture, etc. with minor deviations recorded in Agriculture in the year 1999, Education in year 2002 and in Communications in the years 2001 to 2003.

As per capital expenditure, it increased from N5, 004. 60 in 1977 to N10.163.40m in 1980, then to N24,048.60m in 1990 and from N239,450.90m in 2000 to N759,323.00m in 2007. Deviations were experienced in allocations to defense for the years 2001, 2002 and 2005. Agriculture faced serious neglect in 1984 – 1989 and enjoyed government focus in the years 2001, 2002 and 2005. Transportation and Communication faced neglect between the years 1984 – 1992.See appendix 1 for the graph depicting the relationship between current and capital expenditure.

Worthy of note is that recurrent expenditure accounts for about 70% of total expenditure whereas the about 30% is expended on capital expenditure which is expected to foster development,

Unfortunately, rising government expenditure has not translated to meaningful growth and development. Moreover, macroeconomic indicators like balance of payment, import obligations, inflation rate, exchange rate, and national savings reveal that Nigeria has not fared well in the last couple of years. (Abu and Abdullahi,2010).

For instance, the budget submitted to the National Assembly for ratification showed that recurrent expenditure for 2010 budget would gulp N2.23trn while capital expenditure will gulp N1.2trn when focus should be on building physical infrastructures and human development that will help to develop and sustain growth and development.

Nigeria ranks among the poorest countries in the world. In addition, many Nigerians have continued to wallow in abject poverty, while more than 50 percent live

on less than US$2 per day. Couple with this, the neglect of infrastructure (especially roads and power supply) has led to the collapse of many industries, bringing about high levels of unemployment.

In fact it seems as if the more the increase in public expenditure the more the retardation of the economy in terms of public goods provision. The extent of infrastructural decay is grievous, the roads are death traps, electricity supply is next to zero, quality water is virtually nonexistence, budgetary allocations are not disbursed on time, unrealistic inflation of contracts, contracts awarded are poorly executed because those to supervise have received kickbacks and kick fronts, overstaffing of public institutions thereby enlarging the wage bill, corruption and corrupt practices by government officials and the huge expenditure incurred on democratic institutions in Nigeria. Furthermore, public investment and expenditure on some goods and services for the provision of social and physical infrastructures theoretically can indirectly improve productivity in the private sector through a more efficient allocation of resources. But in a case where by the said expenditure is not spent on the supposed goods or people, then, a proper track of the disbursement of public expenditure must therefore be taken for effectiveness and efficiency of the expenditure Also the collapse, misappropriation of funds (the banking sector) or exit of most industries from Nigeria causing huge level of unemployment, the incessant increase in the rate of inflation, the low level of security, exchange rate problems are all indicators that the economy is experiencing a downturn.

Globally, there has been a shift towards a growth strategy underscoring market forces and private sector leadership in many countries. This has led to a curtailment of the public sector from production to a redefinition of its role in the development process, under the guiding principle that the public sector should concentrate resources on areas where it supports rather than replaces the activity of the private sector.

Given the problems enumerated above, the aim of this work is to analyze the impact of public consumption, private investment, public investment and total expenditure on economic growth using ordinary least squares, through the use of the cointegration tests examine the nature of the relationship between the variables and finally, determine the causal relationship, if any between economic growth and public expenditure on one hand (test Wagner's law) and public expenditure and private investment on the other by conducting causality tests. The data span is from 1977 – 2008.

Against this background this study tends to answer the following questions.

What has been the impact of increasing government expenditure on economic growth in Nigeria?

Analyse the trends and effects of expenditure on infrastructure and human capital on economic growth?

What is the place of private investment in economic development in Nigeria?

What is the direction of causality between government expenditure and economic development and between public expenditure and private investment?

1. LITERATURE REVIEW

There is a great controversy on the relationship between government expenditure and economic growth among scholars, while some have asserted that this relationship is a positive one, others have discovered that the relationship is a negative one.

Some of the studies which have shown the negative effects of public expenditure on growth includes the work of Ghura (1995), using pooled time-series and cross-section data for 33 countries in Sub-Saharan Africa for the period 1970-1990 produced evidence that points towards the existence of a negative relationship between government consumption and economic growth. His investigation revealed the fact that higher growth countries experienced higher investment ratios, higher export volume growth, higher life expectancy at birth, lower inflation rates, and lower standard deviations of inflation did not necessarily imply better terms of trade outcome. Knoop (1999) using time series data from 1970 to 1995 found that a reduction in the size of the government would have an adverse impact on economic growth and welfare. Also the research conducted by Fölster and Henrekson (1999, 2001) on a sample of rich countries over the period 1970-1995 gave evidence that supports the notion that large public expenditures affect growth negatively. In another empirical study, Barro (1991) in a cross section study of 98 countries for a period spanning from 1960 to 1985, using average annual growth rates in real per capita GDP and the ratio of real government consumption to real GDP concluded that the relation between economic growth and government consumption is negative and significant. Additional evidence suggested that growth rates were positively related to measures of political stability and inversely related to a proxy for market distortions.

Jong-Wha Lee (1995) produced further evidence on the relationship between government consumption and economic growth. More specifically, by using an endogenous growth model of an open economy, it was found that government consumption of economic output was associated with slower growth. In addition, the composition of investment and the volume of total capital accumulation were also thought to significantly affect economic growth.

Adopting a Granger causality approach, Conte and Darrat (1988), investigated the causal dimension between public sector growth and real economic growth rates

for the OECD countries. On the basis of the yielding evidence, government growth has had mixed effects on economic growth rates, positive for some countries and negative for others. For the bulk of the OECD economies however, no discernable impact of government growth on the rate of real economic growth was perceived. Landau (1986) in addition found that the share of government consumption to GDP reduced economic growth and this was consistent with the pro – market view that the growth in government expenditure constrains overall economic growth, he also found out that education spending was positive and significant in the long run, He made use of data collected from 96 countries. In the same vein Barro (1991) and Aschaueer (2000) found a strong negative correlation between the size of government consumption (expenses on goods and services and wages) and economic growth.

Those in support of the positive effect of government expenditure on economic growth argue that the state can actually, through implementing appropriate policies, nurture productive activities and reduce unproductive ones.

These include the works of Barro and Sala (1992), Easterly and Rebelo (1993), Brons, de Groot, Njikamp (1999). Komain and Brahmasrene (2007) further discovered a strong positive effect of government spending on economic growth in Thailand but that the two variables are not cointegrated and only a unidirectional relationship exists, because causality only runs from government expenditures to growth. Kelly (1997) by exploring the effects of public expenditures on growth among 73 countries over the period 1970-1989 found that the contributions of public investment and social expenditures to growth are rather significant. Alexiou (2007) in a study for the Greek economy, after disaggregating government spending, reported evidence on the basis of which there is a positive association government spending and economic growth: . Aschauer (1990) also documented a positive and significant relationship between government spending and the level of output.

In Nigeria, Ogiogio(1995), discovered a long run positive between government expenditure and economic growth, and went further to conclude that recurrent expenditure exerts more influence on economic growth than capital expenditure. In a similar vein Akpan (2005) using disaggregated approach was able to detect which of the components of public expenditure promotes growth. The components of public expenditure used in the study include capital, recurrent, administrative, economic service, social and community service, and transfers). Also, Oyinlola(1993) using Nigerian data established a positive impact of defense expenditure on economic growth in Nigeria. Futhermore, in the study carried out by Abu and Abdullahi (2010), they also concurred that long run equilibrium exists between the components of public expenditure and economic growth. But among the variables considered agriculture and defense recorded the least impact on economic growth.

In sketch of the preceding exposition it becomes apparent that the relationship between government spending and economic growth is far from clear. Two key points however can be made when reviewing the empirical studies: empirical results are specification sensitive and the relationship between government spending and economic growth is generally negative when the former is expressed as percent of GDP and is generally positive when expressed as an annual percentage change

This study is an improvement on other studies analyzing the relationship between government expenditure and economic growth in Nigeria for three reasons. First it incorporates private investment as an important variable affecting economic growth, secondly, it goes further than other studies in finding out the causal relationship between government expenditure and economic growth and finally it extends the study period to 2008.

2. TRENDS OF ECONOMIC GROWTH, EXPENDITURE ON HUMAN CAPITAL AND INFRASTRUCTURE

Government has not been paying due attention to human capacity development on the training and retraining of workers and this has in turn retarded development in terms of knowledge as compared to their other contemporaries. Human capital promotes economic growth, it's therefore important for the government to invest in it. The quality of human resources has a significant impact on economic growth, this stems from the fact that the quality and quantity of labor determine the level of production since it is a factor of production. Hence, improving the quality of the labor force will be reflected by a positively significant impact on investment and innovation among others (Roux, 1994 and Okojie, 1995). Education is one of the important factors that determine the quality of human capital. Accordingly, developing countries have attempted to enhance the human capital through public education expenditure as well as government spending on health and other social services. Many researchers also assume that education, training, health care and all investments in social services enhance and improve the human capacity and consequently growth. (Yesufu, 2000). Analyzing the trend of public expenditure on education in Nigeria it can be deduced that until the 1990's , the amount of expended on education was so small ranging from N7,386m in 1977 to N19,418m in 1989. The period 1984 – 1989 experienced a setback in terms of educational development. The sector however recorded improvement from the 1990s expenditure ranging from N22, 943m to N2, 240, 819 in 2008.

However, government spending on basic infrastructure plays a crucial role in economic growth. Having, for instance, an efficient road network could reduce the time and the cost to move goods and services across the country. It also felicitates the connection among the different parts of the country and enhances their interaction. In addition, the rehabilitation of electricity and the establishment of efficient project for energy will reduce costs and have positive impact on economic growth (Barro, 1990, 1994: Barro and Sali-i-Martin, 1995, 1999). In Nigeria public expenditure on infrastructures proxied by expenditure on transport and communication the period 1984 – 1989 experienced a setback in terms of infrastrructurral development, with sharp upward deviation experienced in 1996 and gradually recorded slow improvement until 2001 when signifant improvements were recorded ranging from N5,31761m to N231, 400m.

See graph illustrating the relationship between GDP, expenditure on education and expenditure on infrastructure in appendix 1. Thus there is a positive and significant relationship between GDP, expenditure on education and expenditure on infrastructure (Egunjobi 2011). There was a gradual increase in all the variables since 1977 with a sharp decline experienced between 1980 86, the greatest decline experienced in 1986 and a gradual significant increases from the turn of the century till 2008.

3. THEORETICAL FRAMEWORK AND MODEL

Wagner (1883), writing more than one hundred years ago, offered a model of the determination of public expenditure in which public expenditure growth was a natural consequence of economic growth. Before Wagner, there was no model for the determination of public expenditures, though early economists like Adam Smith paid attention to tendencies in the long term trend in public expenditures, but there was no attempt to translate such observations into a general theory (Tarschys, 1975).

Later, his view was formulated as a law and is often referred to as "Wagner's Law of increasing state activities". His main contribution in this field was that he tried to establish generalizations about public expenditures, not from postulates about the logic of choice, but rather by direct inference from historical evidence (Demiras, 1999). Simply put the law states that "as the economy develops over time, the activities and functions of the government increases."

According to Wagner, Public expenditure refers to the expenses which the government incurs for its own maintenance, the benefits of the society and the economy and helping other countries and external bodies. He believes that there is a long run propensity for government expenditure to increase with higher levels of economic development because there are inherent tendencies for the activities of different layers of a government to increase both intensively and extensively since there is a functional relationship between the growth of an economy and government activities, then government sector should grow faster than the economy. However it is not clear whether Wagner was referring to an increase in absolute level of public expenditure, the ratio of government expenditure to GNP or proportion of public sector in the economy.

He states that in the process of economic development, government spending tends to expand relative to national income, and he gave three reasons to justify this assertion;

- Public functions substitute for private activity
- Economic development results in the expansion of cultural and welfare expenditures Government intervention may be needed to manage and finance monopolies
- In other words expanding government spending is seen as the product of economic development and not vice versa.
  Wagner offered some reasons to support his hypothesis
- As nations develop, they experience increased complexity of legal relationships and communications as a result of immerse division of labor that accrues with industrialization. Because of this Wagner envisaged an enlarged role for the state in the form of public, regulatory and protective activity.
- Increased urbanization and population density would lead to greater expenditure on law and other, thus security and defense.

In other words, expanding government spending is seen as the product of economic development and not vice versa. Bird (1971) states that "as per capita income rises in industrializing nations, their public sectors will grow in relative importance". For example, an increase in government expenditure on health and education raises the productivity of labor and increase the growth of national output. Similarly, expenditure on infrastructure reduces production costs, increase private sector investment and profitability of firms, thus fostering economic growth.

In summary, Wagner's law presents the position concerning the relationship between economic growth and government spending. He postulated that causality runs in the opposite direction.

According to the Keynesian school of thought increase in government expenditure leads to higher economic growth, Keynes believes that government spending can make up for the shortfall in private demand and remove or control failures that might arise from market inefficiencies thus public spending can contribute positively to economic growth. An increase in government consumption is likely to lead to an increase in employment, profitability and investment through multiplier effect on aggregate demand.

As a result government spending augments the aggregate demand which provokes an increased output depending on expenditure multipliers. Thus it is necessary to also to analyze the effect of the components of public expenditure in order to ascertain which are productive and which are unproductive. (Abu and Abdullahi , 2010)

As Henrekson (1992) points out, a test of Wagner's Law should focus on the time series behavior of public expenditure in a country for as long a time period as possible, rather than on a cross-section of countries at different income levels, the study employs a time series data spanning from 1977 – 2008. The data is collected from various editions of the National Bureau of Statistics and the Central Bank of Nigeria publications.

$$GDPDEF = \alpha_0 + \alpha_1\ TOEDEF + \alpha_2 TOCEDEF + \alpha_3 TOREDEF + \alpha_4 GOFDEF + \mu$$

Where Economic growth (GDPDEF) is considered as a function of total government expenditure (TOEDEF) public investment (TOCEDEF) public consumption (TOREDEF) and private investment (GOFDEF). The variables are measured as follows.

Economic growth measured as GDP at current market price by the consumer price index (CPI).

TOEDEF is measured by dividing total expenditure by the CPI.

TOCEDEF is measured by dividing total capital expenditure by the CPI.

TOREDEF is measured as government consumption divided by the CPI.

GOFDEF is measured by dividing private investment by the CPI.

μ refers to the error term.

3.1 The Methodology: Cointegration Analysis, ECM and Causality Testing

In order to test for unit root and the order of integration of the variables in our data set, we employed the Augumented Dickey Fuller test. The ADF test for unit roots (Dickey and Fuller, 1979; 1981) indicates whether an individual series, say Y_t , is stationary or not. The investigation of stationarity (or nonstationarity) in a time series is closely related to the tests for unit roots. Existence of unit roots in a series denotes non-stationarity.

The concept of cointegration, introduced by Granger (1981), is perhaps the most appropriate test for the determination of long-run equilibrium relationships in economics because Cointegration is the statistical implication of the existence of a long-run relationship between economic variables (Thomas, 1993). In other words, from a statistical point of view, a long-term relationship means that the variables move together over time so that short-term disturbances from the long-term trend will be corrected (Manning and Andrianacos, 1993). The basic idea behind cointegration is that if, in the long-run, two or more series move closely together, even though the series themselves are trended, the difference

between them is constant. It is possible to regard these series as defining a long-run equilibrium relationship, as the difference between them is stationary (Hall and Henry, 1989). A lack of cointegration suggests that such variables have no long-run relationship: in principal they can wander arbitrarily far away from each other (Dickey et. al., 1991).

The OLS was also carried out on the data to test the type of relationship between the variables whether positive or negative and to find out if the variables are significant or not.

Again, the Error Correction Mechanism specifies the short run adjustments dynamics and is employed to correct any deviations from the long run equilibrium relationship between the dependent variable and the explanatory variables.

In addition, the Granger causality test was applied in this study as a means of ascertaining causality among the two variables- government expenditure and economic growth on one hand and private investment and government investment on the other hand. By definition (Granper, 1969), an economic series X_t is said to granger cause Y if changes in X_t must precede changes in Y_t based on the axiom that the past and present may cause the future but the future cannot cause the past (Granger, 1980). Basically Granger measures precedence and information content.

3.2 Causality Between Public Expenditure and Economic Growth

The original formulation of Wagner's Law appears to imply that in the wake of economic development, government expenditure increases not merely in size but also as percentage of economic growth. Thus, the causality in Wagner's Law runs from economic growth to public expenditure. In other words, support for Wagner's Law requires unidirectional causality from economic growth to public expenditure.

The relationship between public expenditure and economic growth has been treated differently in two major areas of economic analysis. While public finance studies have generally postulated that growth in public expenditure is caused by growth in national income (Wagnerian approach), most macroeconometric models have tended to take the view that income growth is determined, in part, by growth in public expenditure (Keynesian approach). These different views of the causal relation between the two variables, in turn, rest on more basic differences in assumptions. Public finance studies, following Wagner, have considered public expenditure as a behavioural variable, similar to private consumption expenditure. By contrast, macroeconometric models, essentially following Keynes, have treated public expenditure as an exogenous policy instrument designed to correct short-term cyclical fluctuations in aggregate expenditures (Demirbas, 1999).

The standard empirical approach used to evaluate the two different approaches has been to apply causality testing techniques in the Granger (1969) sense.

Granger causality tests have been carried out for both developed and developing countries with mixed results; in some cases, finding unidirectional causality from expenditure to income (or conversely), or finding no causal relationship or finding a bidirectional causality between two aggregate variables, e.g., Ansari et al (1997), Oxley (1994), Khan (1990), Ram (1986), Sahni & Singh (1984), Singh & Sahni (1984), Krzyzaniak (1974) Olugbenga & Owoye (2007).

Table 1
Results of Stationary (Unit root) Test

Variables	ADF – statistics	Critical values	Probability	Order of integration
GDPDEF	-5.345238	1%= -4.3082 5% = -3.5731 10% = -3.2203	0.0000	1 (**T**)
TOEDEF	-4.488730	1%= -4.3082 5% = -3.5731 10% = -3.2203	0.0001	1 (**T**)
TOCEDEF	-4.390024	1%= -4.3082 5% =-3.5731 10% = --3.2203	0.0003	1 (**T**)
TOREDEF	-4.206168	1%= -4.3082 5% = -3.5731 10% = -3.2203	0.0001	1 (**T**)
GOFDEF	-5.289486	1%= -4.3082 5% = -3.5731 10% = -3.2203	0.0001	1 (**T**)

3.3 Discussion of Empirical Results

The unit root test was first conducted using Augumented Dickey – Fuller (ADF) test and the results presented in table one show that all the variables are significant and stationary in their first difference. Accordingly Adebiyi (2002) is of the opinion that it is imperative in a data involving macro time series data to test for unit roots and co integration before a structural relationship I s estimated and reported for potential policy use.

Table 2
Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.036935	0.035496	1.040559	0.0546
DLOG(GOFDEF(-1))	0.038783	0.173278	0.223823	0.8251
LOG(TOCEDEF(-1))	0.323992	0.171253	1.891892	0.0724
DLOG(TOEDEF(-1))	-0.435090	0.256686	-1.695030	0.1048
DLOG(TOREDEF(-1))	-0.219449	0.150823	-1.455014	0.1605
ECM (-1)	-3.15E-07	2.73E-06	-0.251599	0.0038
R-squared	0.227006	Mean dependent var		0.027396
Adjusted R-squared	-0.030658	S.D. dependent var		0.178675
S.E. of regression	0.181394	Akaike info criterion		-0.347344
Sum squared resid	0.690977	Schwarz criterion		0.029841
Log likelihood	13.03649	F-statistic		0.881015
Durbin-Watson stat	1.956249	Prob(F-statistic)		0.537828

Notes:
Dependent Variable: DLOG(GDPDEF)
Method: Least Squares
Date: 07/04/11 Time: 15:54
Sample(adjusted): 1980 2008
Included observations: 29 after adjusting endpoints

The R^2 has a value of about 23% of which depicts that the explanatory variables jointly account for 22.70% changes in economic growth. The estimation results show that all the explanatory variables were not statistically significant in explaining changes in economic growth. In line with expectations, the variables private investment and public investment positively impact on economic growth while public expenditure and public consumption has a negative influence on economic growth. This means that increasing private investment and public investment should speed economic growth and economic development. The most effect will be felt through private investment which is needed to complements efforts by government especially as the nation is geared towards

deregulation and privatization (accounts for about 40%), since a one percent increase in private investment in the previous year is expected to lead to a 0.4% increase in economic growth and a one percent increase in public investment in the previous year should lead to a 0.32% increase in economic growth. Thus investment by both the private and the public sector is required to accelerate the process of development. While a one percent increase in total expenditure in the previous year causes economic growth to decline by 0.44%, and a one percent increase on public consumption in the previous year causes economic growth to decline by 0.21%. The recurrent bill of the government is quite enormous especially the huge wage bill expended on federalism where our leaders get paid

allowances and benefits. This buttress some research findings that increases in public expenditure beyond a certain level can negatively impact on the economy. This is evident in the high rate of corruption and high level of poverty despite huge government expenditure. The Durbin- Watson result of 1.96 implies the absence of autocorrelation.

The short run adjustments dynamics is specified by the error correction mechanism. The result of the Parsimonious error correction model showed that the coefficient of ECM is correctly signed that is it is negative and significant. Therefore the ECM is able to correct any deviations from the long run equilibrium relationship between GDP and the explanatory variables.

Table 3
Cointegration Test Result

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.651618	69.49121	62.99	70.05	None *
0.468953	37.85753	42.44	48.45	At most 1
0.394720	18.87038	25.32	30.45	At most 2
0.119221	3.808448	12.25	16.26	At most 3

Notes:
* (**)denotes rejection of the hypothesis at 5% (1%) significance level.
Series: GDPDEF GOFDEF TOCEDEF TOEDEF
Lags interval: 1 to 1

Table 4
Cointegration Test Result

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
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Notes:
* (**)denotes rejection of the hypothesis at 5% (1%) significance level.
Series: GDPDEF GOFDEF TOCEDEF TOREDEF
Lags interval: 1 to 1

As a result of two variables been correlated namely; public consumption and total expenditure, two separate cointegration tests had to be conducted in order to adjust for autocorrelation (see cointegration matrix table in appendix 3). The Johansen co integration tests reveals that

the variables are cointegrated and thus we conclude that a long run relationship exists between economic growth and the explanatory variables; private investment, public investment, public consumption and total expenditure.

Table 5
Result of Causality Test Between Economic Growth and Public Expenditure

Null Hypothesis:	Obs	F-Statistic	Probability
LOG(TOEDEF) does not Granger Cause LOG(GDPDEF)	31	1.51652	0.22839
LOG(GDPDEF) does not Granger Cause LOG(TOEDEF)		9.34748	0.00487

Notes:
Pairwise Granger Causality Tests
Date: 07/04/11 Time: 14:05
Sample: 1977 2008
Lags: 1

The Pairwise Granger causality tests show that the direction of causality between economic growth and public expenditure is unidirectional and that causality runs from economic growth to public expenditure. The test is statistically significant, we reject the null hypotheses

that Economic growth does not granger cause public expenditure and then accept the null hypotheses that public expenditure does not cause Economic growth because the estimated results is not statistically significant. This implies that there is no reverse causation since the

causation is unidirectional as purported by Wagner's law. This is perhaps the case in Nigeria, because increases in Public expenditure has not translated to economic growth, given the level of corruption, fraud and corrupt practices of government officials, inflation of contracts, diversion of public money for private use, shoddy implementation of government projects and so on.

Table 6
Result of Causality Test Between Public Expenditure and Private Expenditure

Null Hypothesis:	Obs	F-Statistic	Probability
LOG(TOEDEF) does not Granger Cause LOG(GOFDEF)	31	2.04719	0.16355
LOG(GOFDEF) does not Granger Cause LOG(TOEDEF)		0.007664	0.78394

Notes:
Pairwise Granger Causality Tests
Date: 07/04/11 Time: 14:05
Sample: 1977 2008
Lags: 1

The causality result on public expenditure and private investment shows that there is no causal relationship between the two variables, thus we accept the null hypothesis. This result is perhaps due to the fact that the impact of government towards encouraging private investment is very low, the business environment in Nigeria fends for itself in terms of infrastructural facilities like power generation, roads construction, water supply etc. It shows that in Nigeria government has not been able to provide the necessary facilities required to encourage private investment and also the private investors while battling to exist on their own is also not ready to help government in nation building but rather in raising its profit margin.

4. SUMMARY AND POLICY RECOMMENDATIONS

The results of the OLS revealed that there exists a strong positive relationship between economic growth and private investment and public investment while public consumption and total expenditure impact negatively on economic development. Jointly, the variables exhibited a positive effect and significant effect on economic growth. The test for stationarity confirmed that all the variables were stationary at first difference. The results of the cointegration test shows evidence of a long run relationship between economic growth and the explanatory variables. Though both private investment and public investment positively affect economic growth there is no causal relationship between both variables in Nigeria, one does not cause the other indicating that much still needs to be done in aligning the activities of both sectors for maximum productivity. However, Economic growth granger cause government expenditure but not vice versa that is increases in economic growth brings about increase in public expenditure implying that increase in public expenditure does not bring about economic growth since majority of funds disbursed are not spent on productive activities.

In view of the discoveries made the following recommendations are made, there is the need for complementarities between the private and public sector, each has its own role to play in advancing economic growth. Government should invest in infrastructure, education, security and a good judicial system especially as concerns business and property rights. That is to be the bedrock of the nation by providing a good environment for business to thrive and access to capital, these will not only encourage domestic production but also attract foreign investors.

Many industries especially the manufacturing industries had closed shop as a result of the enormous cost of production incurred. The private sector should live up to expectation by creating employment, investing in human training; enlarge output and thus increase the standard of living of the citizens.

Furthermore government should adequately and effectively monitor the economy, a situation where it is only when such sectors have collapsed that we start looking for a fire brigade approach cannot help the economy. The banking sector, the power sector and the oil sector are worthy of mentioning. As discovered, as the economy grows public expenditure expands, there is the need to monitor the disbursement of government expenditure so that it is not diverted to unproductive activities and wasteful spending, some ministries claimed (e.g. water corporation) claimed they were yet to collect their budgetary allocation for 2010 allocation by the last quarter of that year.

Also, accountability is essential, ministries should not only be called to defend budgets but be called to give an account of how the money so disbursed as been spent, probity and accountability is essential if the economy must feel the impact of continuous increase in public expenditure. The creation and activities of the EFCC is a step in the right direction but more stringent penalty has to be undertaken in order to curb financial crime.

Since investment in education (human capital) would accelerate growth the output of our educational systems should be tailored towards meeting the needs and requirements of our industries and not fashioned along the western curriculum which renders our graduates unemployable , also entrepreneurship skills now taught

in our universities should be made more practical where students are allowed to undertake a project and adequately monitored to ensure its success.

Infrastructural development is very essential especially power supply, good roads and transportation network, spending on projects which cannot be accounted for should stop. Examples are the huge amount spent by the Obasanjo administration on power and the money spent on the Lagos –Ibadan Expressway to mention a few.

Foreign investment needs to be attracted but this is only possible when the necessary infrastructures and facilities are put in place.

Finally, the recurrent expenditure is too high, the bulk of such monies is spent on salaries and other administrative expenses especially when compared to capital expenditure which is the basic ingredient required for economic development, it should be seriously reduced. The huge wage bill incurred on our democratic institutions is just too high, there exists duplication of portfolios and capital expenditure should be increased.

In conclusion what Nigeria needs is not planning, we have many paper plans but implementation, consistency and continuity, more importantly prudency and accountability.

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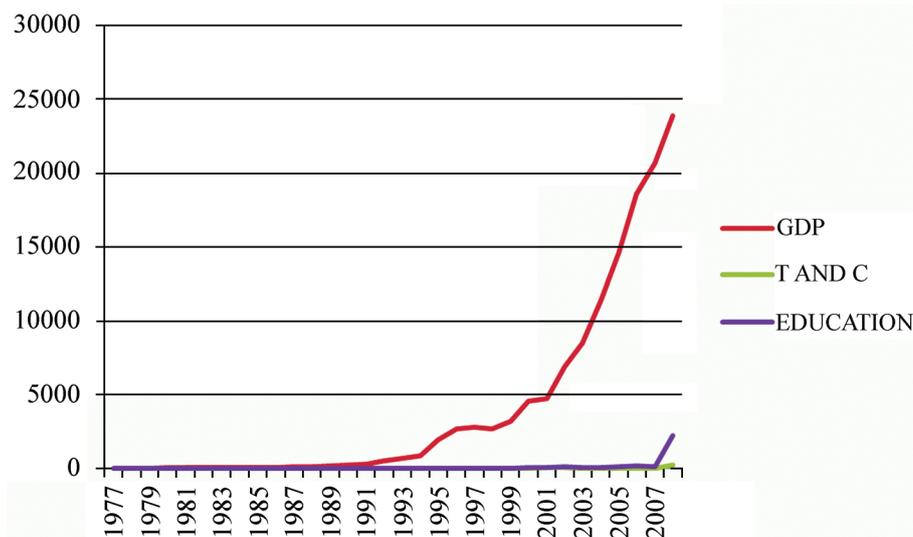
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APPENDIX
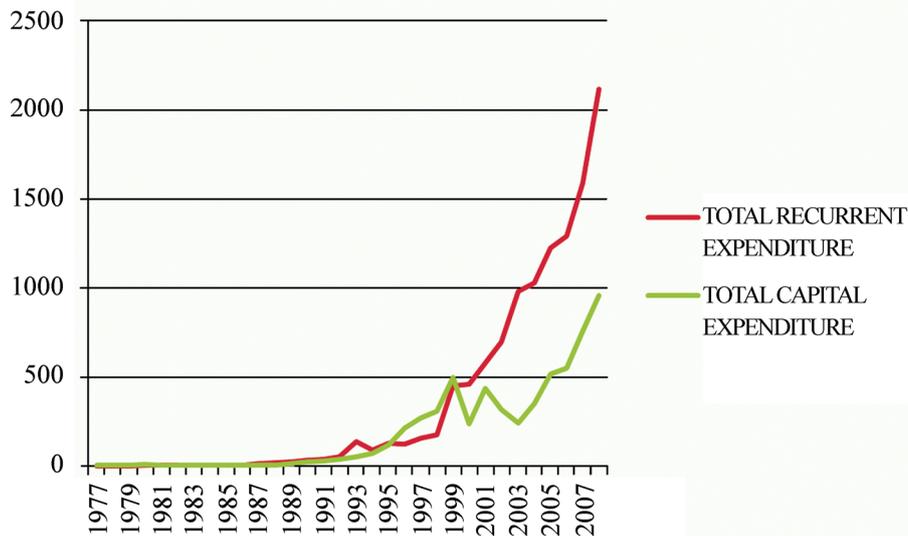
Figure 1
Recurrent Expenditure and Capital Expenditure

Figure 2
GDP, Infrastructure and Education

Table 1
GDP, Transportation and Communication and Education

Years	GDP	Transportation and Communication	Education
1977	31520.3	2300.4	500
1978	34540.1	1331.1	301.4
1979	41947.7	1865.7	533.2
1980	49632.3	2349.3	952.6
1981	47619.7	1625.7	440.9
1982	49069.3	1283.9	488
1983	53107.4	1094.4	346.6
1984	59622.5	261.9	144.9
1985	67908.6	241	180.7
1986	69147	516.1	442
1987	105222.8	375.1	139.1
1988	139085.3	704	281.8
1989	216797.5	683.8	221.9
1990	267550.5	877	331.7
1991	312139.7	353.4	289.1
1992	532613.8	625	384.1
1993	683869.8	1436.7	1563
1994	899863.2	1294	2405.7
1995	1933212	3800.3	3307.4
1996	2702719	8820	3215.8
1997	2801973	7147.7	3808
1998	2708431	6228	12793
1999	3194015	3313.7	8516.6
2000	4582127	3021	23342.6
2001	4725086	19241	19860
2002	6912381	17083	9215
2003	8487032	6639.6	14680.2
2004	11411067	9751	21550
2005	14572239	19982.5	27440.8
2006	18564595	6531	35791.8
2007	20657325	35529.35	48293.51
2008	23842126	67400	2117363

Table 2
Coefficient Covariance Matrix

	C	LOG(TOCEDEF)	LOG(TOREDEF)	LOG(GOFDEF)	LOG(TOEDEF)
C	2.398892	0.314987	0.441206	0.026933	-0.984678
LOG(TOCEDEF)	0.314987	0.380561	0.463624	0.003374	-0.814878
LOG(TOREDEF)	0.441206	0.463624	0.609707	0.013273	-1.049802
LOG(GOFDEF)	0.026933	0.003374	0.013273	0.010536	-0.028599
LOG(TOEDEF)	-0.984678	-0.814878	-1.049802	-0.028599	1.852721

Table 3
Data on the Variables Used in the Model

YEAR	GDPDEF	GOFDEF	TOCEDEF	TOEDEF	TOREDEF
1977	47758.03	30260.77	7582.727	13369.39	5786.667
1978	49343.00	27890.67	7428.571	11428.57	4000.000
1979	55930.27	22294.20	5626.000	9875.600	4249.600
1980	56400.34	21193.44	11549.32	17009.77	5460.455
1981	46232.72	17689.89	6375.728	11081.26	4705.534
1982	44608.45	15587.11	5833.818	10839.27	5005.455
1983	34710.72	8715.902	3193.268	6298.366	3105.098
1984	31883.69	4892.920	2192.567	5308.877	3116.310
1985	35930.48	4655.810	2891.376	6900.053	4008.677
1986	32161.40	5279.749	3965.953	7545.907	3579.953
1987	44585.93	6452.788	2700.212	9329.958	6629.746
1988	36601.39	4621.634	2194.763	7302.500	5107.737

Continued

YEAR	GDPDEF	GOFDEF	TOCEDEF	TOEDEF	TOREDEF
1989	39417.73	4877.365	2733.473	7459.691	4726.218
1990	46938.68	7038.826	4219.053	10573.37	6354.316
1991	44591.39	6455.747	4048.700	9512.057	5463.357
1992	51114.57	6795.505	3816.056	8905.701	5089.645
1993	40706.54	5768.780	3244.155	11382.67	8138.518
1994	30298.42	3554.730	2387.822	5417.279	3029.458
1995	42931.65	3151.682	2690.169	5524.497	2834.328
1996	52510.57	3964.399	4136.901	6555.617	2418.716
1997	49391.38	4281.681	4753.247	7548.302	2795.056
1998	42659.17	3815.660	4867.154	7672.285	2805.132
1999	50196.68	3640.762	7826.931	14893.76	7066.830
2000	62880.84	4543.114	3286.001	9620.570	6334.568
2001	55654.72	4383.223	5167.214	11990.54	6823.322
2002	72609.04	5248.756	3375.820	10695.15	7319.328
2003	71985.00	7344.160	2049.943	10398.54	8348.601
2004	87980.47	6654.376	2708.558	10670.78	7962.221
2005	100706.6	5559.093	3590.187	12046.99	8456.807
2006	118170.6	9844.212	3516.141	11728.76	8212.616
2007	123401.0	11441.75	4535.980	14029.83	9493.847
2008	123790.9	10542.63	4989.097	15982.87	10993.77