

3-1-2005

## Government expenditure and economic growth in Nigeria: a disaggregated approach.

N. I. Akpan

Follow this and additional works at: <https://dc.cbn.gov.ng/efr>



Part of the [Growth and Development Commons](#)

---

### Recommended Citation

Akpan, N. I. (2005). Government expenditure and economic growth in Nigeria: a disaggregated approach. *Economic and Financial Review*, 43(1), 51-69.

This Article is brought to you for free and open access by CBN Institutional Repository. It has been accepted for inclusion in *Economic and Financial Review* by an authorized editor of CBN Institutional Repository. For more information, please contact [dc@cbn.gov.ng](mailto:dc@cbn.gov.ng).

## Government Expenditure and Economic Growth in Nigeria: A Disaggregated Approach

N. I. Akpan\*

---

*This paper represents part of a larger research agenda to assess how fiscal policy influences economic growth in Nigeria. The paper attempts to assess the impact of government expenditure on economic growth in Nigeria by adopting a disaggregated approach to the study. The essence of the study is to determine the components of government expenditure that enhances growth, identify those that do not, and recommend that they should be cut or reduced to the barest minimum. The paper is broadly consistent with literature and it opens new grounds by focusing on the long-run impact of fiscal policy. The analytical framework is based on econometric methodology encompassing, test for stationarity, test for cointegration and the specification of an error correction model. The study found no significant relationship between most of the components of government expenditure and economic growth. The estimation results were mixed, in particular some of the variables were weakly significant. However, it provided important clues to the future direction of research.*

---

**Keywords:** Government Expenditure, Economic Growth, Capital Expenditure, Recurrent Expenditure, Total Expenditure, Gross Domestic Product

**JEL Classification Numbers:** O4; E62; H6

### I. Introduction

Developing economies have been faced with an increasing size of government operations, and its impact on economic growth has become an emerging major public debate. However, the observed growth in public spending appears to apply to most countries regardless of their level of economic development. Indeed as early as (1893) Adolf Wagner had formulated the law of expanding state activity, which states that government spending leads to higher levels of economic development. The postulate

---

\* N. I. Akpan is an Assistant Economist, Research and Statistics Department, Central Bank of Nigeria. The views expressed in this paper are entirely those of the author and do not in any way represent the views of the institution or its policy. The author specially acknowledges the comments and suggestions of colleagues in the department as well as those of the anonymous reviewers.

was derived primarily from the nineteenth century German experience of rapid industrial and economic growth. The basis of this being that sectors with high social priority and low rates of return would not attract private investment and, hence, the need to channel government funds. The aim of government is to attain better allocative and distributional equality through greater disbursement of public and quasi-public goods. Government intervention could be seen as an important part of public expenditure aimed at achieving optimal outcomes with respect to supply of these public goods. However, given the degree of openness of less developed countries, the trade dependency and the vulnerability to external shocks, the role and size of government becomes paramount to adjustment and stabilization programmes. Two school of thoughts exist in the discuss of the size of government. The first argues that larger government participation is inimical to efficiency, productivity and growth in the system. The basis for this view is that the public sector is not responsive to market signals; it has an enormous regulatory process that engenders higher production costs; and is prone to distortions arising from both fiscal and monetary policies. On the other hand, those in favour of government articulate the need for the provision of certain goods and services that would otherwise not be provided by the private sector, in order to place the economy on a predetermined growth path. The premise of the latter position is the failure of the market arising from externalities.

Empirically, there is a lack of consensus on the impact of the size of government on growth. Also, economic theory does not provide a well-developed methodology for incorporating government in standard growth models. Studies that have found a negative relationship between the size of government and growth include Landau (1986) and Barro (1990). Others that have found a positive relationship are those of Enweze (1973), Longe (1984), Ram (1986) and Aschauer (1989).

Majority of the studies have utilized aggregate measures of government size in the form of either growth in government consumption or government consumption as a ratio of GDP. The purpose of this paper is to identify those expenditures that may or may not contribute to economic growth with a view to recommending that such expenditures considered inimical to growth be eliminated or reduced to the barest minimum. The analytical section of the paper will determine which categories of government expenditure are growth inducing, particularly for purposes of fiscal adjustment.

The author recognizes a gap in the study with respect to government expenditure. The author recognizes that there is a need to clearly and properly separate government expenditure into government consumption expenditure and government investment expenditure for a better and meaningful analysis of the impact of government

expenditure on economic growth. This is an area for further studies. The paper is organized into six sections. Following the introduction, Section II provides a brief literature review. Section III gives the structure and trend of government expenditure, and the analytical framework is given in section IV. Empirical results are contained in section V, while the summary of the paper comes in section VI with remarks.

## II. Literature Review

What are the consequences of the expansion of government spending for aggregate economic growth? Although there is no shortage of opinion, theory and evidence are notably sparse.

The provision of social and physical infrastructure through public investment and expenditure on some goods and services theoretically, can increase productivity in the private sector when there is an efficient allocation of resources. Other benefits of government intervention include the correction of market failure and the preservation of property rights through legislation as well as the provision of security services. Conversely, from an accounting perspective, an increase in government consumption is achieved at the expense of capital formation or private consumption. Some development economists of the structuralist school proof that some categories of government expenditure are necessary to overcome constraints to economic growth (Chenery and Syrquin, 1975).

The findings of Landau (1983) indicated that the share of government consumption to GDP reduced economic growth. This is consistent with the pro-market view that the growth in government constraints overall economic growth. These findings were robust to varying sample periods, weighting by population and a mix of both developed and developing countries (104 countries). The conclusions were germane to growth in per capita output and do not necessarily speak to increase in economic welfare. In a later study, Landau (1986) extends the analysis to include human and physical capital, political, international conditions as well as a three-year lag on government spending in GDP. Government spending was disaggregated to include investment, transfers, education, defense and other government consumption. The results in part mirrored the earlier study in that government consumption was significant and had a negative influence on growth. It was not clear why lagged variables were included given that the channels through which government influence growth suggest a contemporaneous relationship.

Hemming (1991), observed that, it is more likely that growth is influenced by the composition of expenditure, since certain types of expenditure may be more growth inducing. Critical among these types of spending are provision of socio-economic infrastructure, operations and maintenance, and general administrative and legal frameworks.

Three studies – Gould (1983), Saunders (1985), and Smith (1985) – explore the first correlation using somewhat different countries and time periods. Smith and Saunders found that higher levels of government spending are associated with slower growth; Gould found a mildly positive correlation. None of the studies is especially rigorous or comprehensive, and all the results are statistically weak or highly sensitive to outliers. For example, Smith no longer finds a strong correlation in the OECD countries if Japan, with its high growth rate and low government expenditure, is excluded.

Dervis and Petri (1987) found that the developing economies that grew the fastest between 1966 and 1984 had low shares of government spending in GDP, although this correlation disappears in regressions that include policy, structural, and external variables.

Barro (1990) further notes that for a broad group of 98 countries, growth in real per capita GDP was positively related to initial human capital and negatively related to share of government consumption in GDP.

The work of Ashauer (1989) focused on a demand side hypothesis that a high marginal productivity of government spending would yield multiple expansions in output. To the extent that these expenditures are productive, a reduction in expenditure may affect longer form movements in productivity. The income effects arising from government expenditures feed into Wagner's law that addresses the income elasticity of public goods. Although his findings, which employed US data, indicated that non-military public capital and, in particular, 'core' infrastructure were important to productivity, they did not support Wagner's hypothesis.

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. The impact of government spending on growth acted through two channels, the "externality" and the "differential productivity" effects related to the relative productivity of factors employed in the public as opposed to the private sector. He attempts to distinguish between these effects in the estimation of a growth

equation using cross-sectional data for 1960-70 and 1970-80 from the Summers and Heston data set, as well as separate time series estimation for individual countries. Real government consumption is his measure of government size. The model finds a positive relation between growth in government and overall economic growth. Ram concludes that the externality and differential productivity effects are positive, so productivity in the government sector appeared to be higher than in the private sector, at least in the 1960s sub sample.

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

Like the rest of the developing countries, in Nigeria, less attention has been given to examining the productiveness of the various components of public spending. This is borne out of the observation that the primary objective of fiscal policy is aggregate demand management (Diamond 1990). By and large, this view places prominence on aggregate government expenditure and appears unenthusiastic to differentiate between or among the various components of public expenditures.

Longe (1984) examined the growth and structure of government expenditures in Nigeria with a view to ascertaining if the pattern fits with the results of similar studies for other countries, which attempt to establish general patterns of government expenditure. His study found that government expenditure has not shown any considerable structural shift over the review period, and that the ratio of government expenditure to GNP has been rising and corresponds with the rising share hypothesis.

Fajingbesi and Odusola (1999) analyzed the existing link between public outlays and economic growth in Nigeria with a view to recommending the appropriate expenditure reforms to embark upon using a vector error correction technique. The findings showed that real capital expenditure positively and significantly affected real output while the effects of real recurrent expenditure was relatively marginal.

Odusola (1996) adopted a simultaneous equations model to capture the inter-relationship 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% significant level; and when decomposed into recurrent and capital expenditure, the former was more growth retarding than the later.

Enweze (1973) in his study of fourteen selected developing countries based on time-series data, also found that the share of total government expenditures in national income was rising but the rising share was not associated with any functional component of total expenditures.

Findings of Ekpo (1995) showed that capital expenditures on transport and communication, agriculture, health and education positively influenced private investments in Nigeria, which invariably enhanced the growth of the overall economy. Government capital expenditure on construction and manufacturing, crowds out private investments. The results were obtained from regressing the disaggregated components of government capital expenditures on private investment; using ordinary least squares approach with annual data for 1960-90.

Examining the growth impact of recurrent, capital and sectoral expenditures over the period 1970-93, Ogiogio (1995) in his study observed the existence of a long-run relationship between economic growth and government expenditure. Contemporaneous government recurrent expenditures, however, had more significant effect than the capital expenditures, while five-year lags of capital expenditures are more growth inducing. The study also pointed out that government investment programmes in socio-economic infrastructure provides conducive environment for private-sector-led growth.

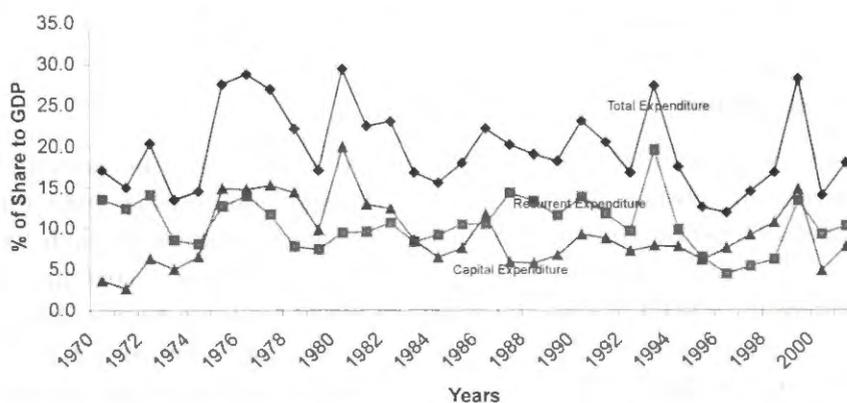
### III. Structure and Trend of Government Expenditure in Nigeria

The structure of government expenditure is now considered by examining the total expenditures and the functional components of expenditures separately. This is as a basis for legislative oversight and a source of information about the end uses of each unit's expenditure. Recurrent expenditure is made up of all "consumption" items such as goods and services, personnel cost, overhead cost, etc; while capital expenditure include all expenses which contribute to long term development such as spending on National priority projects, social and economic infrastructure etc; (Fajingbesi and Odusola 1999).

### III.1 Total Expenditure

The ratio of total expenditure to the gross domestic product has been rather volatile. Between 1970 and 1979, the ratio of total expenditure to GDP averaged 20.3 per cent. Between 1980 and 1989, the ratio oscillated between 15.6 per cent and 29.4 per cent with 1980 recording the peak and the trough in 1984. From the 1990 to 1999, the ratio fluctuated between 11.9 per cent and 28.3 per cent with the peak recorded in 1999 and the trough in 1996. The ratio of total expenditure to GDP was 14.1 per cent and 18.1 per cent for 2000 and 2001, respectively. Figure 1, shows a graphical presentation of the above scenario.

Figure 1. Recurrent, Capital & Total Expenditure as % of GDP



### III.2 Recurrent and Capital Expenditure

Also, a similar pattern is seen when the two components of total expenditure are compared with GDP. The share of recurrent expenditure to GDP averaged 11.0 per cent between 1970 and 1979. It fluctuated between 8.3 per cent and 14.4 per cent between 1980 and 1989 (with 1987 having the highest value and 1983 the lowest). The declining trend between 1980 and 1985 was as a result of the economic stabilization policies (expenditure cutting) embarked upon by the Shagari administration and towed by the Buhari/Idiagbon regime in 1984. The Babangida administration also emphasized expenditure switching and reductions in the Structural Adjustment Programme (SAP). The declining trend between 1986 and 1989 could be explained by SAP. The same trend was seen between 1990 and 2001 with 1996 having the lowest value of 4.4 per cent and 1993 a peak of 19.6 per cent.

A cursory look at the ratio of capital expenditure to GDP also shows a similar pattern. Within the period under review, the ratio was between 2.6 per cent and 20.0 per cent

with an average of 9.1 per cent, showing a sharper cut in the potentially productive public expenditures. As cited in (Fajingbesi and Odusola 1999), this was far below the average of 21 per cent and 16-17 per cent for African Countries and other developing regions as reported by Collier and Gunning (1991), contributing to the disappointing growth performance in the country.

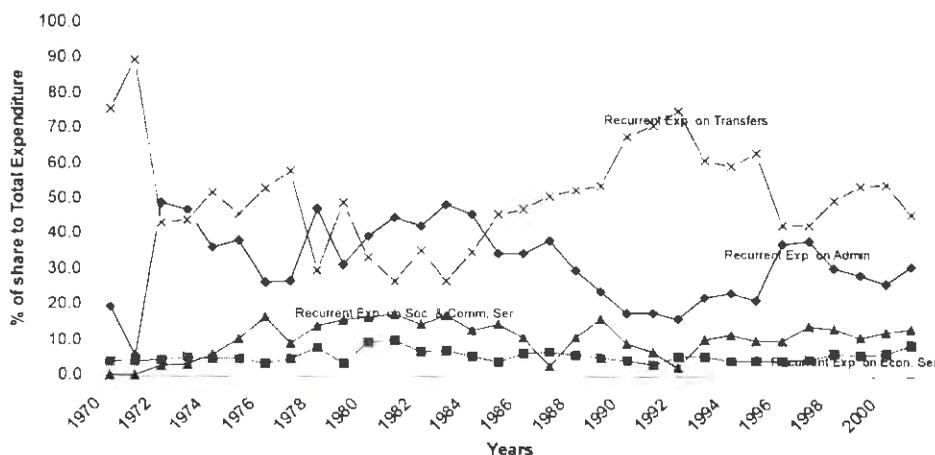
### **III.3 Functional Components of Government Expenditure**

Government expenditure items, whether recurrent or capital, are usually classified into four major groups, namely: administration, economic services, social and community services and transfers. This is to make a clear distinction between productive and unproductive spending, as the second and third categories are considered to be more productive than the others.

#### **Recurrent Expenditure**

Government spending on administration averaged 32.9 per cent between 1970 and 1979, it fluctuated between 24.1 per cent and 48.6 per cent between 1980 and 1989 with a peak of 48.6 per cent in 1983. The increasing trend continued through 2001, but oscillated between 16.4 per cent and 38.7 per cent. Government spending on this component has been rather large. The largest in terms of size is transfer payment; it averaged 54.2 per cent between 1970 and 1979. It fluctuated between 27.0 per cent and 54.1 per cent between 1980 and 1989 with a steady increase especially between 1984 and 1989. The trend fluctuated between 43.0 per cent and 75.3 per cent between 1990 and 2001 with its peak in 1992 and the trough in 1997. Economic services and social and community services, which are required to act as "organs" for achieving economic growth and development and raise the quality of life of the people, averaged 4.8 per cent and 8.0 per cent between 1970 and 1979, respectively. Both components oscillated between 4.2 per cent and 10.3 per cent for economic services, and 3.0 per cent and 17.7 per cent for social and community services between 1980 and 1989. Economic services continued to fluctuate between 3.4 per cent and 9.2 per cent through 2001, while social and community services showed an increasing trend during the same period (1990-2001).

Figure 3. Functional Classification of Recurrent Expenditure as % of Total Expenditure

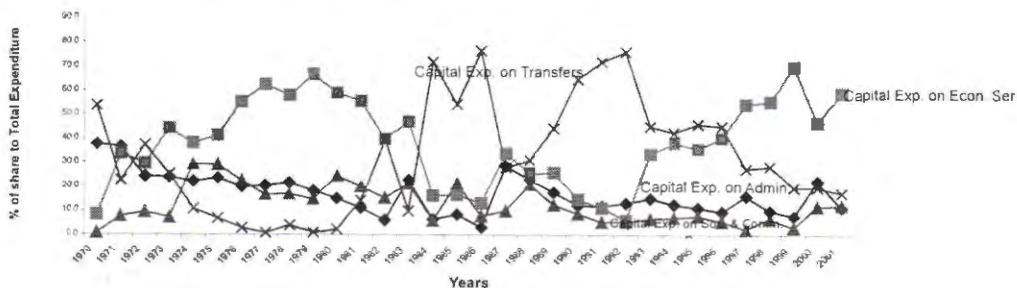


### Capital Expenditure

This is the cost of bringing into existence new institutions, services and projects. Spending on economic services used to take a greater share of the capital expenditure before being taken over by administration in 1991. It declined at a rapid rate before being overshadowed. It showed an increasing trend from 8.3 per cent to 66.6 per cent between 1970 and 1979, and a declining trend from 58.8 per cent to 26.1 per cent between 1980 and 1989, with its lowest value in 1986 (12.9 per cent). During the period 1990 to 2001, it gained momentum again and increased from 14.5 per cent in 1990 to 59.2 per cent in 2001. Following closely are administration and transfers averaging 24.6 per cent and 16.4 per cent between 1970 and 1979. Between 1980 and 1989, both oscillated between 3.1 per cent and 28.5 per cent, and, 2.2 per cent and 76.3 per cent, respectively. Administration fluctuated between 7.5 per cent and 22.2 per cent, while transfer fluctuated between 17.4 per cent and 75.9 per cent from 1990 through 2001.

Social and community services, which is also important, followed slowly with an average of 15.3 per cent between 1970 and 1979. Between the 1980 and 1989 fiscal year, it ranged between 5.8 per cent and 24.2 per cent and 2.2 per cent and 12.2 per cent between 1990 and 2001, respectively. From the foregoing, it is seen that economic services and social and community services that are adjudged to be more development oriented than general administration have more or less not received much attention.

Figure 4. Functional Classification of Capital Expenditure as % of Total Expenditure



## IV. Theoretical and Analytical Framework

This section introduces two different models of economic growth, a simple version of Solow's Neo-classical theory and an endogenous growth model.

### IV.1 Neo-classical Theory of Growth

Most ideas concerning economic growth start from the aggregate production function where factors of production determine the national output. According to the Neo-classical theories, growth comes about in three ways if holding land fixed.

- ▶ Increase in the labour supply
- ▶ Increase in the capital stock
- ▶ Increase in productivity

Increasing labour supply generates a larger output. Real output rises if more people take part in a country's production, i.e. through immigration, or if people who are not a part of the labour force begin working. Capital increase can be divided into two parts, increase in physical and human capital. Physical capital increase output because it enhances the productivity of labour and provides valuable services directly. A productive increase can for instance take place when investment in equipment like computers and machinery, can reduce man-hours. Human capital promotes economic growth because people with skills are more productive than those without skills. Investment in human capital is made through e.g. formal (education) training and on-the-job training. Productivity increases explain the increase in output that cannot be explained by the input increase (labour and capital). This is called the productivity of an input and can be affected by a number of factors. The most important factor is technology change, which affects the productivity in two stages. First, the advance in knowledge called inventions. Second, the use of that knowledge, which if it leads to a

more efficient production is called innovation (Burda and Wyplosz, 2001).

## IV.2 Endogenous Growth Theory

Endogenous growth theory highlights the fact that if productivity is 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 is driven by accumulation of the factor of production, while accumulation in turn is the result of investment in the private sector. This implies that the only way a government can affect economic growth, at least in the long run, is via its impact on investment in capital, education and research and development. Reduction of growth in these models occurs when public expenditures deter investments by creating tax wedges beyond those necessary to finance their investments or taking away the incentives to save and accumulate capital (Fölster and Henrekson, 1997).

We shall start from the premise that the inconsistency in the results obtained in the past was due to the fact that the underlying process generating the data was not considered. We shall then test the extent to which the size of government expenditure would impact on economic growth, using time series data and taking into consideration the data generating process. This would be done by:

- ▶ Examining the nature of the relevant variables in the study for stationarity; and
- ▶ Examining whether or not there exists a long-run relationship between economic growth and government expenditure.

On the basis of the above, we would then deduce from the result which components of government expenditure promotes economic growth. This study will adopt a simple linear model a form similar to that used by Landau (1986) to examine the impact of government expenditure on economic growth.

We specify a functional form thus:

$$Y = f(\text{TOTAL GOVERNMENT EXPENDITURE}) \dots \dots \dots (1)$$

$$Y = f(\text{RE, CE}) \dots \dots \dots (2)$$

Then;

$$Y = f(\text{CE1, CE2, CE3, CE4, RE1, RE2, RE3, RE4}) \dots \dots \dots (3)$$

For the purpose of this study we specify the equation in log form;

$$\ln y_t = a_0 + a_1 \ln \text{LCE1}_t + a_2 \ln \text{LCE2}_t + a_3 \ln \text{LCE3}_t + a_4 \ln \text{LCE4}_t + a_5 \ln \text{LRE1}_t + a_6 \ln \text{LRE2}_t +$$

$$a_7 \cdot LRE3 + a_8 \cdot LRE4 + \epsilon_t \dots \dots \dots (4)$$

Where:  $a_i$  = intercept,  $a_i$  = elasticities of the independent variables,  $i, = 1, 2, \dots, 8$   
 Apriori,  $a_i > 0$ .

While,

LY = Log of Gross Domestic Product;

CE1, CE2, CE3, CE4 = functional components of Capital Expenditure

RE1, RE2, RE3, RE4 = functional components of Recurrent Expenditure

CE1 & RE1 = Administrative component of Capital & Recurrent Expenditure;

CE2 & RE2 = Economic Service component of Capital & Recurrent Expenditure;

CE3 & RE3 = Social and Community Service component of Capital & Recurrent Expenditure;

CE4 & RE4 = Transfer component of Capital & Recurrent Expenditure.

We shall then proceed to test for stationarity in and cointegration among the variables. If cointegrated, implying a long-run equilibrium relationship between the variables, we would then proceed to specify an error correction model.

Engel and Granger (1987), stated that a homogenous non-stationary series, which can be transformed to a stationary series by differencing  $d$  times, is said to be integrated of order  $d$ . Thus,  $Y_t$ , a time series is integrated of order  $d$  [ $Y_t \sim I(d)$ ] if differencing  $d$  times induces stationarity in  $Y_t$ . If  $Y_t \sim I(0)$ , then no differencing is required as  $Y_t$  is stationary. The test proposed by Dickey-Fuller to test for the stationarity properties of a time series is called the Unit Root test denoted by DF. The regression equation for the DF class of unit root test is;

$$\Delta Y_t = \phi Y_{t-1} + \epsilon_t ; \epsilon_t \sim N(0, \sigma^2), Y_0 = 0 \dots \dots \dots (5)$$

The simple unit root test above is valid only if the series is an AR(1) process. If the series is correlated at higher order of lags, the assumption of white noise disturbance is violated. The ADF (Augmented Dickey-Fuller) test uses a different method to control for higher-order serial correlation in the series. The ADF test makes a parametric correction for higher-order correlation by assuming that the  $y$  series follows an AR( $p$ ) process and adjusting the test methodology. It is identical to the standard DF regression, but augmented by  $k$  lags of the first difference of the series as follows;

$$\Delta Y_t = \alpha Y_{t-1} + \sum_{i=1}^k \omega_i \Delta Y_{t-i} + \epsilon_t \dots \dots \dots (6)$$

Where the lag  $k$  is set so as to ensure that any autocorrelation in  $Y_t$  is absorbed and that a reasonable degree of freedom is preserved, while the error term is white noise.

The concept of cointegration derives from the fact that if two series X, and Y, are I(d), then X, and Y, are said to be cointegrated if there exist a unique value b which ensures that the residuals,  $(Y_t - \beta X_t)$  is I(0). Testing for cointegration, therefore, amounts to testing for a unit root in the residuals of regression equation (4). If the residuals are stationary, then the series are cointegrated. The equation of the regression for this test is thus:

$$\Delta \varepsilon_t = \alpha \varepsilon_{t-1} + \sum_{i=1}^k \alpha_i \Delta \varepsilon_{t-i} + \mu_t \dots \dots \dots (7)$$

Where:  $\varepsilon_t$  is the residual from our static regression and test for the null of no cointegration is conducted by comparing the t-statistic of the coefficients,  $\alpha$ , to the mackinnon critical vales. The Null hypothesis of no cointegration is  $H_0: \alpha = 0$ . Significant negative values would lead to a rejection of the null. The stationarity of the residual implies cointegration of the variables.

#### IV.3 Source of Data:

The model uses annual data from 1970 - 2001. These were obtained from the Statistical Bulletin and Annual Report and Statement of Accounts of the Central Bank of Nigeria.

### V. Major Findings

#### Result from Stationarity Test:

Table 4a.

Variable	ADF	Order of Integration
LY	- 0.249645	I(1)
LCE1	- 0.560657	I(1)
LCE2	- 2.227248	I(1)
LCE3	- 2.205324	I(1)
LCE4	- 1.632417	I(1)
LRE1	- 1.023816	I(1)
LRE2	0.392506	I(1)
LRE3	- 2.046066	I(1)
LRE4	0.263082	I(1)

5%ADF Critical Values for the Test is: - 2.954021

Table 4b.

<b>Variable</b>	<b>ADF</b>	<b>Order of Integration</b>
$\Delta LY$	- 4.066244	I(0)
$\Delta LCE1$	- 8.556005	I(0)
$\Delta LCE2$	- 5.236188	I(0)
$\Delta LCE3$	- 7.087903	I(0)
$\Delta LCE4$	- 6.553664	I(0)
$\Delta LRE1$	- 10.78028	I(0)
$\Delta LRE2$	- 7.015117	I(0)
$\Delta LRE3$	- 5.771367	I(0)
$\Delta LRE4$	- 6.526477	I(0)

5% ADF Critical Values for the Test is: - 2.957110

Table 4 a and b shows the result of the unit root tests. At 5% level of significance, all the variables were found to be integrated of order 1. That is, they are I(1) variables. The result from the stationarity test of the residuals from the cointegrating regression is presented in Table 5 below:

<b>Variable</b>	<b>ADF</b>	<b>Order of Integration</b>
ECM	- 4.947504	I(0)

Using the Mackinnon (1991, 1996) critical values for cointegration test, we reject the null hypothesis of no cointegration and conclude that the variables are cointegrated at 5% level of significance. Adopting the general-to-specific framework, we proceed to estimate an overparamaterised error correction model from where a parsimonious error correction model is obtained as shown in Table 6.

A critical look at the parsimonious model above shows that the past value of gross domestic product was negatively related to its current value and significant. Also, the apriori expectation of the signs was met in the past values of administration, economic services, social and community services and transfer components of recurrent expenditure, administration and transfer components of capital expenditure. Also the current value of administration component of recurrent expenditure and the current values of economic service and transfer components of capital expenditure met the apriori expectation of the sign. The other components were not properly signed even though significant.

Table 6

The Parsimonious Error Correction Model:

Dependent Variable: DLY				
Method: Least Squares				
Date: 06/05/03 Time: 13:35				
Sample(adjusted): 1973 2001				
Included observations: 29 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLY(-1)	-0.538295	0.095350	-5.645462	0.0024
DLCE1	-0.129014	0.015510	-8.317984	0.0004
DLCE1(-1)	0.518177	0.051478	10.06600	0.0002
DLCE2	0.150955	0.022340	6.757120	0.0011
DLCE2(-1)	-0.144072	0.028110	-5.125269	0.0037
DLCE2(-2)	-0.238999	0.040768	-5.862353	0.0020
DLCE3	-0.171413	0.026675	-6.425901	0.0014
DLCE3(-1)	-0.063393	0.009865	-6.426040	0.0014
DLCE4	0.036235	0.005641	6.423183	0.0014
DLCE4(-1)	0.182656	0.013977	13.06854	0.0000
DLCE4(-2)	-0.246593	0.029676	-8.309634	0.0004
DLRE1	1.878000	0.163447	11.48998	0.0001
DLRE1(-1)	0.467774	0.047064	9.939136	0.0002
DLRE1(-2)	0.366725	0.033619	10.90827	0.0001
DLRE2	-0.091993	0.023142	-3.975095	0.0106
DLRE2(-1)	-0.791143	0.057116	-13.85150	0.0000
DLRE2(-2)	0.509442	0.071758	7.099418	0.0009
DLRE3	-0.205235	0.033181	-6.185379	0.0016
DLRE3(-1)	-0.086639	0.014337	-6.042998	0.0018
DLRE3(-2)	0.101658	0.017975	5.655419	0.0024
DLRE4(-1)	0.379054	0.043780	8.658206	0.0003
DLRE4(-2)	-0.225204	0.064251	-3.505072	0.0172
C	-1.832925	0.226340	-8.098095	0.0005
ECM(-1)	-4.345981	0.473430	-9.179784	0.0003
R-squared	0.995420	Mean dependent var		1.961693
Adjusted R-squared	0.974350	S.D. dependent var		1.603762
S.E. of regression	0.256853	Akaike info criterion		0.016688
Sum squared resid	0.329867	Schwarz criterion		1.148243
Log likelihood	23.75802	F-statistic		47.24406
Durbin-Watson stat	2.117873	Prob(F-statistic)		0.000216

All the variables were significant at 5%. The coefficient of determination was significantly high and the overall regression was significant. The error correction coefficient was relatively large and highly significant at 1%. Other findings of this study could be summarized as follows:

- ▶ A unit change in gross domestic product in the past year would reduce economic growth in the current period. This result does not hold sway.
- ▶ The current and past (lag 1) values of economic services, current and past (lag 1) values of social and economic services, past (lag 2) value of transfers component of recurrent expenditure; current value of administration, past (lags 1 & 2) values of economic services, current and past (lag 1) values of social and economic services, past (lag 2) value of transfers component of capital expenditure, were negatively signed showing that a unit change in any of these components will impact negatively on economic growth. This is not surprising as the funds allocated to these components are not properly channeled to this expenditure, and transfers are leakage to the system. Also this is not unconnected with the fact that government has proven not to be good investors and managers.
- ▶ The past (lags 1 & 2) values of administration, past (lag 2) value of economic services, past (lag 2) value of social and economic services, past (lag 1) value of transfer component of recurrent expenditure and the past (lag 1) value of administration, current value of economic services, current and past (lag 1) values of transfers component of capital expenditure were properly signed, but their coefficients are rather small. Though they would impact positively on economic growth, the impact would be minimal. The same reason above could be adduced for this. But the current value of the administration component of recurrent expenditure was also properly signed with a very large coefficient.
- ▶ Recurrent expenditure has largely dominated government expenditures for most of the year under review, as shown in the significant components of recurrent expenditure. With respect to the pattern of the major functional components of government expenditure in total expenditure, the relevant factors in explaining their pattern might be political, social and economic.
- ▶ The rate of adjustment parameter was relatively high, significant and appropriately signed, as indicated by the coefficient of the error correction variable. This shows that economic growth in Nigeria adjusts fairly to changes in the explanatory variables. This shows the existence of a long-run equilibrium relationship between economic growth and the variables that influence its short-term movements as used in the model. Thus, economic

growth, the various components of recurrent expenditure and the various components of capital expenditure are cointegrated.

## VI. Policy Recommendations and Conclusion

Governments over the years have proven to be bad managers of resources, which is why there is a global trend towards market-oriented system of economic management. Governments have failed to play their role in the process of economic growth and development; hence, the need for the gradual withdrawal of government and increased participation of the private sector in the developmental process. The role of government should be reappraised with more emphasis placed on providing the enabling policy environment for private sector initiatives. Government should stop capital expenditure on economic services and social & community services, since government is not supposed to make profit in the provision of these services. Government should, therefore, only provide the enabling environment for the private sector to take over the provision of these services, so that there would be efficiency and reduction in cost. The corresponding recurrent expenditure associated with the above mentioned capital expenditure would be eliminated with respect to the above expenditure.

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 overhang, BOP disequilibrium and high unemployment - has been attributed largely to reckless and poor management of public expenditure, coupled with widespread corruption. It is on this note that current literatures are preaching the failure of Keynesian economics. The rate of adjustment parameter in the regression re-enforced the position that government is not a good investor. The magnitude of the parameter shows that it would take approximately four years for the economy to feel the impact of government expenditure in the system. This could also, be justified through the budget where the government expects to execute a budget worth trillions and yet the economy felt no impact of such a budget. There is need for lesser government participation in economic activity and for government to concentrate on the provision of the enabling environment for the direction of economic activities in all sectors of the economy. This, among other things, calls for good governance as well as transparency and accountability in the use of public resources.

## REFERENCES

- Al-Yousif, Y. (2000): "Do Government Expenditure Inhibit or Promote Economic Growth: Some Empirical Evidence from Saudi Arabia" *The Indian Economic Journal*: 48, No. 2
- Aschauer, D. A. (1989): "Is public Expenditure Productive?" *Journal of Monetary Economics*, Vol. 23 (March), PP. 177-200.
- Barro, R. S. (1990): "Government Spending In a Simple Model of Endogenous Growth" *Journal of Political Economy*, Vol. 98 (October), PP. 103-125.
- Burda, M. and Wyplosz, C. (2001): *Macroeconomic a European Text*. 3<sup>rd</sup> ed. Oxford University Press, New York, USA.
- Chenery, H. and Syrquin, M. (1975): "Patterns of Development: 1950-1970". Oxford University Press.
- Dervis, K. and Petri, P. (1987): "The Macroeconomics of Successful Development: What are the Lessons?" *National Bureau of Economic Research (NBER) Macroeconomics Annual*, Cambridge.
- Diamond, J. (1990): "Fiscal Indicators for Economic Growth: An Illusory Search?" *IMF Working Paper* (August).
- Ekpo, A. H. (1995): "Public Expenditure and Economic Growth In Nigeria, 1960-1992" *Final Report*, AERC, Nairobi, Kenya.
- Enweze, C. (1973): "Structure of Public Expenditure In Selected Developing Countries: A Time Series Study" *The Manchester School of Economic and Social Studies*.
- Essien, E. A. (1997): "Public Sector Growth: An Econometric Test of Wagner's Law" *Economic and Financial Review, Central Bank of Nigeria*, Vol. 35, No. 3, September, PP. 332-352.
- Fölster, S. and Henrekson, M. (1997): "Growth and the Public Sector: A critique of the critics" *The Research Institute of Industrial Economics Working paper* No. 492.
- Fölster, S. and Henrekson, M. (2001): "Growth Effects of Government Expenditure and Taxation in rich countries" *European Economic Review*, 45, 8, pp. 1501- 1520.
- Fajingbesi, A. A. and Odusola, A. F. (1999): "Public Expenditure and Growth" Paper Presented at a training programme on *Fiscal Policy Planning and Management In Nigeria*, organized by NCEMA, Ibadan, PP. 137-179.

- Gould, F. J. (1983): "The Development of Public Expenditures In Western Industrialized Countries: A Comparative Analysis" *Public Finance* 38, No. 1, PP. 38-69.
- Hemming, R. (1991): "Public Expenditure, Stabilization and Structural Adjustment" In *Public Expenditure Handbook: A Guide To Public Policy In Developing Countries*. Key-Young Chu and Richard Hemming, eds, Washington, D.C.: IMF.
- Landau, D. (1983): "Government Expenditure and Economic Growth: A Cross Country Study" *Southern Economic Journal* 49, PP. 783-793.
- Landau, D. (1986): "Government and Economic Growth In The Less Developed Countries: An Empirical Study For 1960-1980" *Economic Development and Cultural Change* 35, No. 4 (October), PP. 35-75.
- Longe, J. B. (1984): "The Growth and Structure of Federal Government Expenditure In Nigeria" *The Nigerian Journal of Economic and Social Studies*, Vol. 26, No. 1 (March), Ibadan.
- Odusola, A. F. (1996): "Military Expenditure and Economic Growth In Nigeria" *The Nigerian Journal of Economic and Social Studies*, Vol. 38, Nos. 1, 2 & 3.
- Ogiogio, G. O. (1995): "Government Expenditure and Economic Growth In Nigeria" *Journal of Economic Management* 2(1), October.
- Pindyck, R. S. and Rubinfeld, D. L. (1998): "Econometric Models and Economic Forecasts" Irwin/McGraw-Hill, Singapore.
- Ram, R. (1986): "Government Size and Economic Growth: A New Framework and Some Evidence From Cross-Section and Time Series Data" *American Economic Review* 76, No. 1 (March), PP. 191-203.
- Saunders, P. (1985): "Public Expenditure and Economic Performance In The OECD Countries" *Journal of Public Policy* 5, No. 1 (February), PP. 1-21.
- Smith, D. (1985): "Public Consumption and Economic Performance" *National Westminster Bank Quarterly Review* (November), PP. 17-30.