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Public Expenditures as a Fiscal Policy Tool for Sustainable Economic Growth: Its Quality Achievement and Employability in Nigeria

Anochie, Uzoma .C, Ph.D Ude, Damian Kalu
Department of Economics, Michael Okpara University of Agriculture, Umudike, Nigeria
*E-mail of the corresponding author: damkude@yahoo.com

Abstract
Empirical framework on what makes up Quality Public Expenditure (QPE) has been missing. This paper attempted to bridge this gap by creating and developing an empirical-dimensional approach on QPE. This paper employed Vector Error correction model and broad based framework based on a growth-accounting approach, through causal examination between the productive and protective expenditures and the real Gross Domestic product in Nigeria for the sample period 1979-2012. Results show that productive and protective expenditures grow along with the real GDP with the protective expenditures consistently expanding over productive expenditures. Causality was found to run from Gross domestic product to both productive and protective expenditures in Nigeria. The implication is that public expenditure has not been determined based on their productiveness but passively as a fiscal policy instrument in Nigeria. It is strongly recommended that budgetary decisions should take account of the nature of expenditure with particular allocation of resources to identified productive areas. It is this framework that should drive the Federal government's Medium Term Expenditure framework.
Keywords: Quality, Public Expenditure, Fiscal Policy, Economic Growth, Causality.

1. Introduction:

In many developing countries like Nigeria, spending by the government forms a large portion of the nation's total economic activity. Perhaps, the decisions to mobilize resources and allocate resources remain one of the most pervasive challenges among all levels of government. Governments provide public goods such as roads, military forces, public utilities and schools. Private citizens would not voluntarily pay for these services, and therefore businesses have no incentive to produce them. Public finance also enables governments to correct or offset undesirable side effects of a market economy. These side effects are called spill-overs or externalities (Akpan, 2005).

In spite of the fact that public expenditure has increased rapidly during the last two centuries in almost every country, and is spite of its growing role and importance in national economies, the economic effects of public expenditure remains relatively unexplored. Bhatia, (2008) opines that 'the economists have generally concentrated their attention on the theory of taxation. The theory of public expenditure has been confined to that of generalities in terms of the effects of public expenditure on employment and prices." However, recent research efforts have tried to minimize this deficiency in public expenditure studies.

In most countries, data based on public expenditure as a fraction of national output show that public sector has an inevitable trend of growth in the long run (Scully, 1989). In Nigeria public expenditures have been expanding for decades, as Akpan (2005) opines that the observed growth in public spending appears to apply to most countries regardless of their level of economic development.

Nigeria like other developing countries, spend considerable resources on administration, economic services, social services and transfers. While these public expenditures are obviously fundamental to promote social, human and economic development, it is important to understand the sources of public expenditure growth and whether they also directly contribute to economic growth.

The phenomenon of public expenditure growth has been a subject of interest for researchers to find out what causes it and its effects. Wagner (1890) introduced a model that public expenditures are endogenous to economic development, i.e. growth in the economy also causes public sector expenditures to expand. Keynes (1936) and his supporters, on the other hand, raise the thought that during recession times the use of fiscal policies boosts economic activities, i.e. expansionary fiscal policies, expanding public expenditures, increase national output.

Wagner's law and the Keynesian theory present two opposite perceptions in terms of the relationship between public expenditure and growth in national output. While according to Wagner's approach causality runs from growth in national output to public expenditure, the Keynesian approach assumes that causality runs from public expenditure to growth in national output in times of recessions. Endogenous growth theory gives governments a theoretical basis for actively fostering growth.

This study examined the quality of public expenditures by examining the strength of productiveness and

protectiveness of the public expenditures for the period 1979-2008. The focus is on the growth pattern of the public expenditures in the two categories and to determine whether the quality of public expenditure matter for long-run economic growth in Nigeria.

2. Literature Review

2.1 Nature of public Expenditure:

Bhatia (2008) defines Public expenditure as the expenses which a government incurs for (i) its own maintenance, (ii) the society and the economy, and (iii) helping other countries. Public expenditure refers broadly to expenditure made by local, state and national government agencies as distinct from those of private individuals. Public Expenditure also comprises of government payments for the goods and services acquired and for the works done pursuant to their respective laws, social security contributions, interest payments of domestic and foreign debts, general borrowing expenditures, payments resulting from the discounted sale of borrowing instruments, economic, financial and social transfers, donations and grants, and other expenditures.

It is conventional to classify public expenditure into various economic categories. Accounting classification has been there for centuries because it enables the State Executives to maintain an effective control and check over public expenditure and possible leakages and wastage, diversion and misappropriations (Bhatia, 2008). It may be departmental classification or classification according to heads of expenditure. Such a classification is good for auditing and for safeguarding against misappropriations, etc., but it does not help in the understanding of its effects. It is, therefore, difficult to formulate an appropriate expenditure policy on this basis.

Accordingly,Pigou (1989) opines that a distinction between obligatory (or legally committed) expenditure and optional expenditure can only highlight the constraints under which the government's budgetary policy has to work. It cannot bring out fully the possible effects of different expenditure policies. There is an increasing need for useful classification and effective classification of public expenditure to enable the gauging of the economic effects and proper formulation of policies.

Economists classify government expenditures into three main types (Gerson, 1998): (i) Government purchases of goods and services for current use are classed as government consumption; (ii) Government purchases of goods and services intended to create future benefits, such as infrastructure investment or research spending are classed as government investment; and (iii) payments for debt services are classified as transfer payments. The classification of expenditure involves the division of government transactions into categories that would serve the purposes of government. Anyafo (1996) identifies five ways of classifying public expenditures: by levels of government, by ministries, extra-ministerial departments and parastatals, by economic life span, by object of expenditure and by sectoral economic functions. Public expenditures are functionally classified into four in Nigeria (CBN, 2008): Administration, Economic services, Social and Community services, and Transfers with capital and recurrent expenditure compositions.

Administration expenditure comprises of general administration, National Assembly, defence and internal security. Economic services include agriculture, construction, transport and communication and others; social and community services is made up of education, health and others; and transfer comprises of public debt charges, internal and external debts. Such a functional classification helps in analyzing how much the Government is allocating to different functions or purposes in accordance with the annual priorities (Ukwu, 2002).

Infrastructure expenditures refer to the disbursement of funds for the construction of various basic public works of the country, such as roads, ports, airports, water supply, irrigation, and other capital investments, the benefits of which extend to the general public. In the national budget, infrastructure expenditures generally refer to the capital outlays of the ministries (Anyafo, 1996). An alternative characterization of expenditures divides total expenditure into the absorptive and transfer expenditures (Omoruyi, 1988). Absorptive expenditures are those that involve the transfer of funds from government to the private sector in return for goods and services while transfer payments do not have such *quid pro quo* status. In the Nigerian context transfer payments include debt service, pension and gratuities, external obligations and others; absorptive expenditures are those on administration, economic, social and community services.

As far back as 1909, Ely and Wicker (1909) lend support to classification of public expenditure as: (i) Expenditures for fulfilling the Protective functions of the State. Of the general class of expenditures incurred in fulfilling the protective function of the State, the first to be mentioned are those of external security, internal security and social security expenditures; (ii) Expenditures for fulfilling the Commercial Functions; (iii) expenditures for fulfilling the Developmental function (i.e. education); and (iv) expenditures for the maintenance of Government.

For proper economic understanding of the probable impact of public expenditures on the development process, it is necessary to classify public expenditure in some meaningful way. And since there are varieties of classification system, the most suitable for an analyst would depend on the objectives to be achieved. Aschauer (1989) further recognize classifications of public expenditures in the context of productive and protective

expenditures. Productive expenditure comprises Economic services and Social and Community services, while protective expenditures include Administration and Transfers. Similarly Devarajan, Swaroop, and Zou (1996) note the productive and unproductive public expenditures when they opine that productive expenditures, when used in excess, could become unproductive. The results of their study imply that developing-country governments have been misallocating public expenditures in favour of capital expenditures at the expense of current expenditures.

Productive and unproductive expenditures emphasises that while some expenditures are in the nature of consumption, others are in the nature of investments and help the economy in improving its productive capacity. Bhatia (2008) submits that under the laissez-faire philosophy, the only productive public expenditures are those which are incurred to create and maintain social overheads. Expenditures on administration, defence, justice, law and order, and maintenance of State are unproductive (i.e. protective). It must be noted, however, that these protective expenditures would be really necessary for the productive efficiency of the economy.

Rele and Westerhout (2003) view the classification of public expenditure as clearly of an analytical nature. They distinguish two main categories. Category one includes consumption expenditure, which are the expenditure items that generate benefits in the period in which the expenditure occurs. The second category are investments, which includes all items of public expenditure that generate benefits in the future.

Investment expenditure includes (i) the investments that do not generate a financial return, but rather improve the (future) quality of life; (ii) investments that generate a financial return and lead to an increase of future government revenues (Rele and Westerhout, 2003). These are investments that strengthen the productive capacity of the economy and broaden the revenue base. This expenditure category consists of the investment items that, apart from the initial effect of the expenditure itself, do not affect future budget surpluses. The reason for this is that these investments mainly increase productivity and thus wages. Rele and Westerhout (2003) opine that these investments will increase both expenditure and revenues, leaving (future) primary balances unaffected.

The last of this category consists of the investments that do not lead to an increase of expenditure and therefore improve future government budget balances. There are two types of such investments (Rele and Westerhout, 2003): i) investments that generate a direct financial return through payments by users of the government facilities (e.g. a medical provision that is partially financed by private means); ii) investments that promote labour participation.

The classification of public expenditure into Transfer and non-transfer expenditures was favoured by pigou (1989). Transfer expenditure is a payment without corresponding receipt for goods and services by the State. Examples are interest payments, pensions and unemployment benefits. In these cases, the government is simply transferring the right or claim to use the goods and services to certain sections of the society. In contrast, non-transfer expenditure is that by which the State pays for its purchases or use of goods and services. The use of the resources by the State may be for consumption purposes or for investment purposes. Expenditures on defence and education are non-transfer or real expenditure (Dalton, 1954).

2.2 Public Expenditure and Economic Growth

Public expenditure can help the economy in numerous ways in attaining higher levels of production and growth. The ways in which such effect might be brought about are obviously inter-related. The analysis of these effects can be taken up separately in the context of developed and developing economies (Bhatia, 2008). According to Dalton (1954), public expenditure tends to affect the level of production in three possible ways:

a) Effect on the Capacity to Work and Save: Public expenditure provides various kinds of social and economic facilities stimulating the capacity to work of the people. Increased capacity implies increased efficiency and greater employment. Level of income and saving tends to rise facilitating greater investment and adding the pace of growth. Dalton opines that 'just as taxation reduces an individual's capacity to work, in the same way public expenditure increases the individual's capacity to work.'
b) Desire to Work and Save: Public expenditure induces the public's willingness to work and save. As a result, their income and standard of living rise.
c) Redistribution of Economic Resources: Public expenditure makes the economy balanced by redistributing the income resource from unproductive activities to productive ones. This results in increase in production. This effect varies between development and developing countries.

The developed countries have enough of production capacity, but its optimum utilization because of deficiency of demand does not take place. Consequently, there is low level of production. By increasing public expenditure, aggregate demand can be increased. Wealth can be distributed by increasing public expenditure among those who are willing to spend. Thus increase in demand results in the increase in production. In the event of full employment already existing in the economy, increase in public expenditure will only increase prices instead of production.

In the developing countries, the level of savings being low, investment is low. Social overhead cost such as electricity, transport, irrigation, etc. are underdeveloped. These can be developed by direct public

expenditure. Human capital can be developed by public expenditure on general and technical education, health and medical care facilities. Government can extend it helping hands in promoting capital formation. To the extent this capital formation is financed through foreign aid, the process of economic growth is accelerated. All this would augment production (Jain, Kaur, Gupta and Gupta, 2008).

Bhatia (2008) cautions that to maximize the benefits of public expenditure and to avoid possible harmful incidental effects, firstly, the various projects have long gestation period, in which case the output is delayed. Yet they need to be funded, adding to the inflationary pressures. Care must therefore be taken that inflationary pressures are put under control during the process of development.

Secondly, on account of faulty planning and execution, a lot of wastage can take place in public expenditure. This must be avoided. Thirdly, given the scarce resources, care must be taken to choose the most appropriate and most useful projects. Cost-benefits study may be needed to prioritize the projects. Fourthly, a careful decision has to be taken regarding the volume of public expenditure in various projects and on various measures expected to stimulate investment. The effects of the sources of financing the compositions of public expenditure must be considered.

Public expenditure can also prove helpful in accelerating the rate of economic development. In order to maintain a steady rate of growth in a developed economy, public expenditure can be helpful in maintain the adequate amount of investment and consumption expenditure. So that, the full employment rate of the economic development is steadily maintained.

Jain et al., (2008) aver that in order to accelerate economic development in the developing economies, public expenditure, plays a crucial role. Public expenditure facilitates social overheads, roads, electricity, irrigation, etc. development of private industries and agriculture is thus assisted, markets expand and the rate of investment increases. If public expenditure is made through foreign capital, it may prove more effective. If public expenditure is unproductive, it will only result in price hike.

The dynamic relationship between public expenditure and GDP is relevant for policy in two major respects (Arpaia and Turrini, 2008). First, it improves the understanding of long-term, structural public finance issues. In particular, it could help to assess the impact on public expenditures and then on deficits arising from a structural deceleration in growth or, conversely, from an improvement in the growth potential.

Second, a better understanding of the dynamic relation between government expenditure and GDP helps the comprehension of policy-relevant issues over a short-to medium term horizon. Disposing of a reliable measure of the structural relation between the non-cyclical component of government expenditure and potential output is key to obtain a benchmark against which to evaluate the stance of expenditure policy and then of overall fiscal policy. Arpaia and Turrini (2008) opine that judging whether expenditure policy is expansionary or contractionary requires some idea about how a neutral expenditure policy would look like. However, while there is broad consensus that a neutral revenues policy is such that government revenues move together with output in a proportion depending on structural factors such as the degree of progression of the tax system and the responsiveness of the various tax bases with respect to output (the output elasticity of revenues), no clear a-priori exists for what concerns expenditure policy.

Buti and Van den Noord (2003) adopt a definition of neutral expenditure policy according to which primary public expenditures grow in line with potential output plus expected inflation. Fatas et al. (2003) and Hughes-Hallet et al. (2004) resort to three different definitions of 'neutral fiscal policy': government spending is held constant in volume terms; government expenditures grow in line with revenues; government expenditures grow in proportion with trend GDP.

Thornton (1999) found unidirectional causality from income to public expenditure, Ram's (1986) found some support on the Wagner's proposition. Chang's (2002) study examined five different versions of Wagner's law and found long-run relationship between income and public expenditure with the exception of one sample country. Abizadeh and Gray's (1985) found support on Wagner's law for richer countries. They, however, found no support for the poorest countries.

Ram's (1987) study based on 115 countries over the periods 1950-1980 found that Wagner's hypothesis seems to be supported in about 60 percent of the countries and refuted for the remaining.

On the other hand, Afxentiou and Serletis's (1996) cross-country study analyzed 6 countries and did not find any evidence of Wagner's law. Abizadeh and Yousefi's (1998) study focused on the causality between the growth of public expenditures and economic growth and found no evidence for the proposition. Singh and Sahni's (1984) study based on India over the periods 1950-1981 found no causality to support either Wagner's law or the Keynesian theory.

Fajingbesi and Odusola (1999), in their study 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 were relatively marginal.

Ram (1986) employed granger causality technique for the direct assessment of the relationship. He

found that over eighty percent of the variations in the growth of GDP are explained by the growth in gross capital formation, labour force and government spending. The coefficient of public expenditure was found to be positively significant which suggests positive impact on private sector output. His result therefore was in conformity with Ram (1986) and Ekpo (1996). However, he found that the overall impact of government spending on growth was negative which again was contrary to the prediction by Ram (1986). His causality results revealed a bi-directional relationship between growth and government size. However, the level of significance of the former was higher suggesting the link from growth to government expenditure is stronger as would be expected on the basis of Wagner's hypothesis.

Other studies are more specifically focused at the empirical estimation of elasticity of government expenditure with respect to output, often with the explicit aim of providing an empirical test of the "Wagner law", i.e., the hypothesis that government expenditure increases more than proportionally with economic activity. Bohl (1996), Payne and Ewing (1996), Chang (2002) are among empirical studies on the Wagner's law. The Wagner law has been tested in different ways. In early time series analyses, government expenditure is regressed on GDP without taking into account the dynamic properties of the series (Ram, 1987). More recently, new test specifications have been implemented taking into consideration non-stationarity and co-integration. This allows for a more structured modeling of expenditure dynamics introducing the distinction between a long-term relationship and short term adjustment. Kolluri et al (2000), Akitoby et al. (2004) and Wahab (2004) are among the most recent cross-country analysis allowing for dynamic specifications. These studies include the empirical analyses most closely related to that provided in this research work.

Public expenditures for infrastructures such as transport networks, water and sewer systems, for education and for defence spending are quoted as typical examples of possibly growth-enhancing publicly provided inputs (Nijkamp and Poot, 2004). Apart from these typical examples of potentially growth-boosting public expenditures, other government-provided goods exist that bear a resemblance to Meade's creation of atmosphere. Meade's creation of atmosphere corresponds to a public input that is factor-augmenting. For example, security and social and political stability can create an atmosphere that is favourable to economic growth. Social as well as security measures can contribute to this public input by reducing the risks of criminal offences and social unrest so that a safe and stable institutional environment, e.g. guaranteeing property rights, for economic activity, can be created (Gerson, 1998; Nijkamp and Poot, 2004). Moreover, social expenditure may have a positive impact on human capital accumulation, for example, by providing financial assistance to enable access to the education system. Overall, there is a whole range of types of government expenditures that may be growth enhancing (World Bank, 2002). This supports the assertion that the composition of government outlays may be more relevant than the level (Nijkamp and Poot, 2004).

Empirical estimates from the Aigbokhan (1996) study reports a bi-directional causality between government total expenditure and national income. Using the Engle Granger two step procedure and standard causality tests, Essien (1997) found that the variables (public spending and real income) were not cointegrated and hence could not establish a long run relationship. In addition, causality tests performed on his models confirmed that public expenditure does not cause growth in income and there was no feedback mechanism.

More recently, Aregbeyen (2006) using Johansen cointegration and standard causality tests found a unidirectional causality from national income to total public expenditure i.e. a support for Wagner's Law. There is bi-directional causality between non-transfer public expenditure and national income. In contrast, the causality from national income to non-transfer public expenditure was found to be stronger than the reverse direction following variance decomposition analysis. Babatunde (2007) tests Wagner's Law for Nigeria using annual time series data between 1970 and 2006. It adopts the Bounds Test approach based on Unrestricted Error Correction Model and Granger causality tests. Empirical results from the Bounds Test indicate that there exists no long-run relationship between government expenditure and output in Nigeria but found a weak empirical support in the proposition by Keynes. There is a lack of consensus on both the empirical impacts of public expenditure on growth. In addition, economic theory does not provide a well developed methodology for the incorporation of public expenditures in standard growth models. None of these studies considered the functional composition of public expenditures such as economic services, administration, social services and transfers.

3. Methodology

Public finance data on public expenditure published in the Central Bank of Nigeria (Special) statistical bulletin (2008) was used for the study periods 1979-2008. The stationarity properties of the time series data was investigated using the Augmented Dickey-Fuller (ADF) (1981) test. The Engle-Granger's (1987) cointegration test is conducted to determine whether a group of non-stationary time series variables used for this study is cointegrated or not. Finally, the direction of causality for the hypotheses using Vector Error Correction (VEC) Model based causality test is examined. The Vector Error Correction model specifications for the hypotheses are stated in model 1 and 2 as follows:

RGDP and Productive Expenditure

$$\Delta lnRGDP = \beta_0 + \beta_1 \Delta lnRGDP_{t-1} + \beta_2 lnPRODEX_{t-i} + Ect - 1 + \varepsilon_{t2} \quad (1)$$

$$\Delta lnPRODEX = \alpha_0 + \alpha_1 \Delta lnPRODEX_{t-1} + \alpha_2 lnRGDP_{t-i} + Ect - 1 + \varepsilon_{t1} \quad (2)$$

RGDP and Protective Expenditure

$$\Delta lnRGDP = \beta_0 + \beta_1 \Delta lnRGDP_{t-1} + \beta_2 lnPROTEX_{t-i} + Ect - 1 + \varepsilon_{t2} \quad (1)$$

$$\Delta lnPROTEX = \alpha_0 + \alpha_1 \Delta lnPROTEX_{t-1} + \alpha_2 lnRGDP_{t-i} + Ect - 1 + \varepsilon_{t1} \quad (2)$$

4. Results and Discussion

The magnitude of public expenditure is one of the applied ways to measure the size of government in the whole economy and the real GDP. Figure 1 shows the public expenditure as percentage of the RGDP. From the phenomenal growth between the 1980s and 1990, it began to wittiness a decline since 1993.

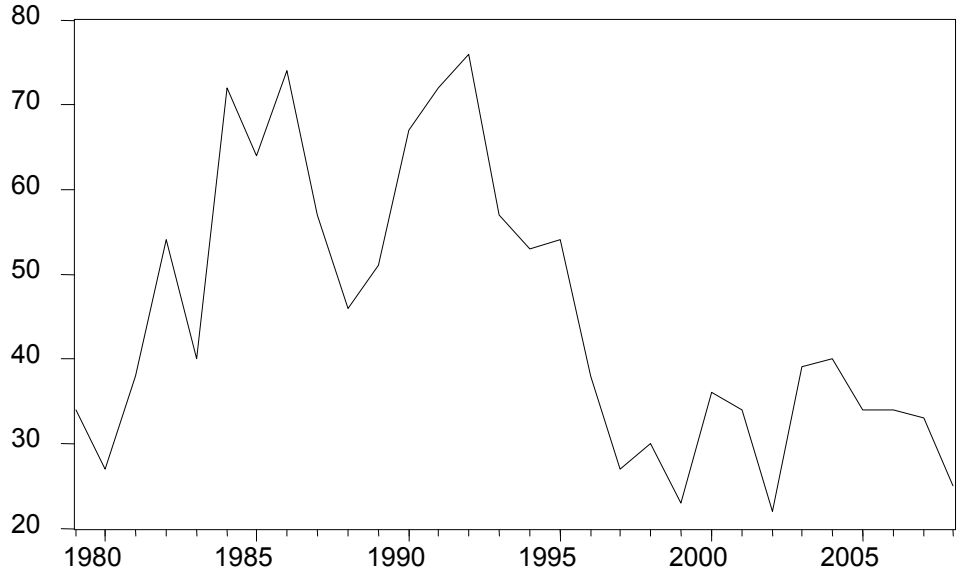

Figure 1 Public Expenditure as percentage of RGDP

Table 1 (see appendix) shows public expenditure compositions of the Federal Government of Nigeria for the period 1979-2008. These data reflect outlays each year for federal expenditures. The ratios of various categories of public expenditures to real Gross Domestic Product (RGDP) in each year provide a rough indication of the relative importance of the public sector's economic activity for each year.

In 1979, public expenditure accounted for 34 percent of RGDP; by 2008, the public expenditure forms 25 percent only. In the 1980s, 1990s, and 2000-2008 public expenditure averaged 52.3, 49.7 and 37.1 percent of RGDP. The average public expenditure of RGDP for the 30-year period is 45 percent. It records its peaks in 1984 (72 percent), 1984 (74 percent), 1991 (72 percent) and 1992 (76 percent). Since the beginning of the period, public expenditure and GDP had experienced with an increasing trend, except in the early 1980's where a decline occurred. Comparing long-run increases in public expenditure (PEXP) with the trend of real gross domestic product (RGDP), it seems that they have a one-way directional trend which gives the impression of what Wagner's law suggests. However, this is an early assumption and cannot here be interpreted further.

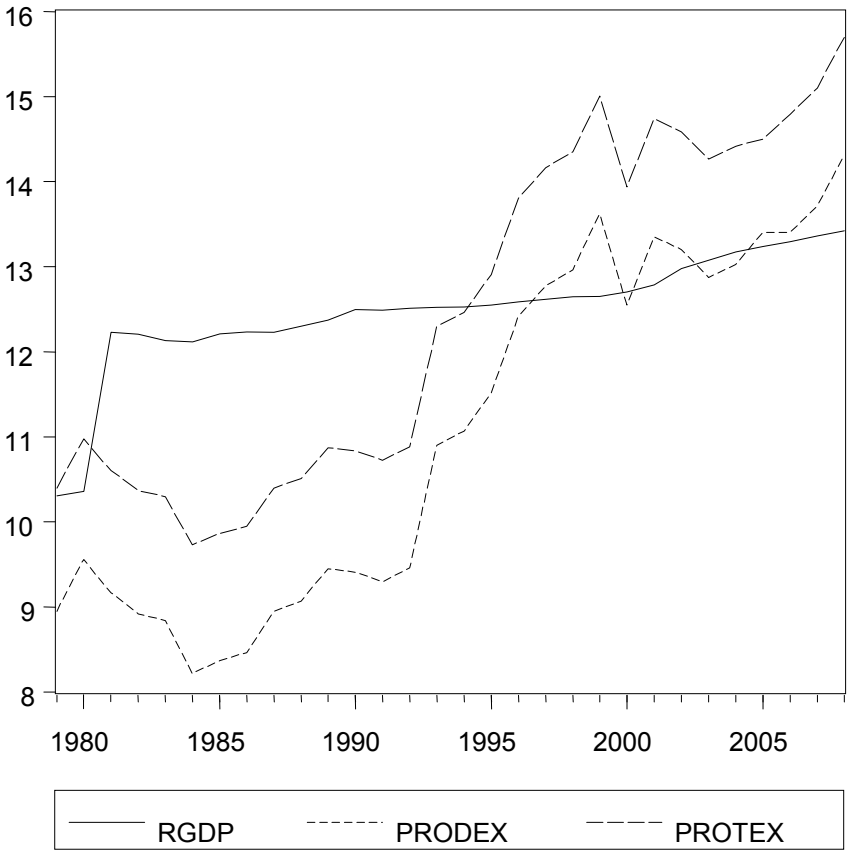

Figure 2: Productive and Protective Expenditures and RGDP

Figure 2 depicts the increasing one-directional trend of both productive (PRODEX) and protective (PROTEX) expenditures, growing along with the real GDP. However, the protective expenditures (i.e. administration and transfer payments) have expanded consistently over productive expenditures (i.e. Economic and social services expenditure) between 1979 and 2008. A casual observation shows that the growth pattern of public expenditure has been more on protective than productive expenditures. This may explain the passive role of public expenditure as instrument of fiscal policy in Nigeria.

Breaking down government expenditures into a few major components will help isolate the kinds of expenditures that are most responsible for the increased importance of the public sector of the economy.

Administrative expenditures recorded its peak of 35 percent of the aggregate expenditure in 2006 and a minimum of 10 percent in 2005. The average administrative expenditure for the 30 years period is 21 percent (Appendix 1, Table 2). Public expenditure on Economic services recorded its peak of 44 percent of the aggregate expenditure in 1998 and a minimum of 6 percent in 1992. The average economic services expenditure for the 30 years period is 22 percent (Appendix 1, Table 3).

Public Expenditure on Social Services recorded its peak of 18 percent of the aggregate expenditure in 1980 and 2002 and a minimum of 4 percent in 1987 and 1992. The average social services expenditure for the 30 years period is 11 percent. Social services expenditure records the lowest among the four functional public expenditure classifications (Appendix 1, Table 4).

Public Expenditure on transfers recorded its peak of 76 percent of the aggregate expenditure in 1992 and 2002 and a minimum of 22 percent in 2002. The average transfers for the 30 years period is 45 percent. Transfers account for the highest public expenditure for the sample period (Appendix 1, Table 5).

The structure of the Nigerian public expenditure has been more on protective services and productive expenditures. Productive expenditure accounts for 20.3 percent of the aggregate expenditures for the period 1979-2008. Protective expenditure accounts for 79.7 percent. This structure has effects on the Nigeria's economic growth and development (Appendix 1, Table 6).

Public Expenditure on infrastructural development recorded its peak of N960, 900 million in 2008 and a minimum of N4, 101 million in 1984 (Appendix 1, Table 7). Recurrent expenditure accounted for 65.3 percent while capital expenditure accounts for 34.7 percent. Recurrent expenditure recorded its peak of N2,117,400 million in 2008 and a minimum of N3, 187 million in 1979 (Appendix 1, Table 8).

4.1 Stationarity test

Table 1 shows the ADF test results of the time series. The results suggest that the null-hypothesis (H0) of unit root can be rejected in the first difference, I(1) and therefore all the series (i.e. LPRODEX, LPROTEX) are stationary in the first difference. Since the all series are clearly stationary in I(1), the variables of each version of Wagner's Law can be integrated of order one.

Table 1: ADF Unit Root Tests

Variable	ADF Test Statistics**	Stationarity
LNPRODEX	-2.627049 [1] (-1.9540)	I(1)
LNPROTEX	-2.507572 [1] (-1.9540)	I(1)

* All regression estimations and test results are obtained by using Eviews 4.0 econometric software.
** ADF statistics with intercept are obtained by taking Akaike Information Criterion (AIC) into account. Lagged differences are shown in brackets and significant. MacKinnon critical values at 5% level are shown in parenthesis.

4.2 Cointegration test result

The results pertaining to cointegration analysis are furnished in Table 2.

Table 2: Engle-Granger Residual Based Co-integration Test Results

Variables	Eigenvalue	Max-Eigen statistic	Trace Statistics**	5 Percent Critical value
LNRGDP LNPRODEX	0.940411	78.96807	86.30692	25.32
LNRGDP LNPROTEX	0.941296	79.38713	86.41485	25.32

* All regression estimations and test results are obtained by using Eviews 4.0 econometric software.
** denotes rejection of the hypothesis at the 5%.
Trace test indicates 1 cointegrating equation(s) at 5%

The cointegration test results suggest that the null-hypothesis of no cointegration between PRODEX, PROTEX and RGDP is rejected. Since the variables are stationary, integrated of order one, and cointegrated. Both Akaike Information and Schwartz Bayesian criteria suggest adequacy of setting the order of VAR at 1. Generally they exit cointegration between all the variables.

4.3 Vector Error Correction Model-Based Causality Result

The estimated cointegrating vectors in Table 3 indicate that causality runs from real GDP to both productive and Protective expenditures.

Table 3 Vector Error Correction Model-Based Causality

MODEL 1	LNRGDP	LNPRODEX	Causality runs from RGDP to PRODEX
	-0.752765	0.343877	
	(0.08035)	(0.23041)	
	[-9.36849]	[1.49246]	
MODEL 2	LNRGDP	LNPROTEX	Causality runs from RGDP to PROTEX
	-0.008205	0.010774	
	(0.00321)	(0.03735)	
	[-2.55997]	[0.28848]	

* All regression estimations and test results are obtained by using Eviews 4.0 econometric software.
* Standard errors in ( ) & t-statistics in [ ]

On the basis of the results we found that there is a long-run relationship between public expenditure and real GDP. They exists causality between real Gross Domestic Product and Productive and Protective expenditures. The relationship is Wagnerian for productive and protective expenditure. Therefore, data based on the periods of 1979-2008 provide evidence, in support of earlier findings of Abizadeh and Gray (1985); Ram (1986, 1987); Thornton (1999); Chang (2002); Aregbeyen (2006). But parallel to Singh and Sahni (1984); Aigbokhan (1996); Abizadeh and Yousefi (1998); and Babatunde (2007).

5. Conclusion

This study examines how quality public expenditure can be attained and how it can be employed as a fiscal policy to support sustained long-run economic growth. The question has been what should be the Federal

government Medium-Term Expenditure Framework (MTEF). This study adopts the clasification of public expenditures into productive and protective expenditures as a framework to resource allocations and determining the impact of public expenditures on long-run economic growth.

The QPE framework focuses on fiscal policy's role for driving the long-run growth potential. The important role that fiscal policy should play in this respect has already been recognized in the MTEF. There is need to check the size of governments and it effects on economic growth, in particular, the productive expenditures should largely determine the size of government than the protective expenditure especially in developing economies. There is need for sound and sustainable fiscal positions as preconditions for growth over the medium and long run.

While the quality of public expenditure can impair growth, an important conditioning factor is the composition and efficiency of public expenditure. Both theoretical and empirical research indicates that growth can be supported when public expenditure is oriented to towards productive investment. This can be particularly relevant for investment in human capital (through education and health spending), technical progress (R&D spending) and public infrastructure. However, evidence also suggests that the link between the amount of spending in these areas and economic growth is not automatic, but depends largely on the ability to achieve the envisaged outcomes (e.g. higher education attainment, more private investment in R&D) and overcoming existing market failures without creating new distortions. Thus, high efficiency and effectiveness of public spending are key to maximizing the potential of government outlays.

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APENDICES

Table 1 Public Expenditures and RGDP of the Federal Government (1979-2008).

Years	Aggregate Public Expenditure (N'Million)	Real GDP (N'Million)	Percentage of RGDP
1979	7407	29948	34
1980	14970	31547	27
1981	11413	205222	38
1982	11923	199685	54
1983	9637	185598	40
1984	9928	183563	72
1985	13042	201036	64
1986	16224	205971	74
1987	22020	204807	57
1988	27750	219876	46
1989	41030	236730	51
1990	60269	267550	67
1991	66584	265379	72
1992	92799	271366	76
1993	191229	274833	57
1994	160893	275451	53
1995	248768	281407	54
1996	337416	293745	38
1997	428215	302023	27
1998	487114	310890	30
1999	947690	312184	23
2000	701052	329179	36
2001	1017997	356994	34
2002	1018176	433204	22
2003	1225988	477533	39
2004	1384001	527576	40
2005	1743200	561931	34
2006	1842588	595822	34
2007	2348593	634251	33
2008	3078300	674889	25

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

Table 2. Public Expenditure on Administration N' Million (1979-2008)

Years	RECUR EXP.	CAPITAL EXP.	Total	% of APEXP
1979	452	770	1222	16
1980	595	1501	2096	14
1981	914	720	1634	14
1982	1039	385	1424	12
1983	897	1098	1995	21
1984	1100	263	1363	14
1985	1430	460	1890	14
1986	1453	265	1718	11
1987	3843	1816	5659	26
1988	5778	1899	7677	28
1989	6271	2618	8889	22
1990	6540	2920	9460	16
1991	6954	3345	10299	15
1992	8685	5119	13804	15
1993	30570	8082	38652	20
1994	20536	8785	29321	18
1995	28758	13338	42096	17
1996	46547	14864	61411	18
1997	56184	49549	105733	25
1998	50679	35270	85949	18
1999	183637	42737	226374	24
2000	144530	53280	197810	28
2001	180801	49255	230056	23
2002	266510	73577	340087	33
2003	307973	87959	395932	32
2004	306831	137776	444607	32
2005	434661	171604	171604	10
2006	458283	185224	643507	35
2007	564512	220900	785412	33
2008	731000	287100	1018100	33

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

Table 3: Public Expenditure on Economic Services N' Million (1979-2008)

Years	RECUR EXP.	CAPITAL EXP.	Total	% of APEXP
1979	48	2812	2860	39
1980	109	5981	6090	41
1981	176	3629	3805	33
1982	200	2543	2743	23
1983	172	2291	2463	26
1984	211	656	867	9
1985	275	893	1168	9
1986	279	1100	1379	8
1987	695	2160	2855	13
1988	1221	2129	3350	12
1989	1419	3926	5345	13
1990	1614	3486	5100	8
1991	1303	3145	4448	7
1992	3080	2337	5417	6
1993	7750	18345	26095	14
1994	3910	27103	31013	19
1995	5918	43149	49067	20
1996	4753	117829	122582	36
1997	6200	169613	175813	41
1998	11575	200862	212437	44
1999	87077	323581	410658	43
2000	28592	111509	140101	20
2001	53009	259758	312767	31
2002	52951	215333	268284	26
2003	96071	97982	194053	16
2004	58779	167722	226501	16
2005	64307	265035	329342	19
2006	67802	262207	330009	18
2007	83518	367900	451418	19
2008	313800	504400	818200	27

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

Table 4: Public Expenditure on Social Services N' Million (1979-2008)

Years	RECUR EXP.	CAPITAL EXP.	Total	% of APEXP
1979	214	613	827	11
1980	271	2457	2728	18
1981	295	1299	1594	14
1982	335	968	1303	11
1983	289	1027	1316	14
1984	354	238	592	6
1985	461	1154	1615	12
1986	468	655	1123	7
1987	298	619	917	4
1988	2114	1726	3840	14
1989	4230	1845	6075	15
1990	3396	2096	5492	9
1991	2677	1492	4169	6
1992	1336	2133	3469	4
1993	14660	3575	18235	10
1994	10085	4994	15079	9
1995	13820	9216	23036	9
1996	15989	8656	24645	7
1997	22060	6902	28962	7
1998	21441	23366	44807	9
1999	71371	17254	88625	9
2000	84785	27965	112750	16
2001	79630	53336	132966	13
2002	152185	32467	184652	18
2003	102608	55736	158344	13
2004	134385	30073	164458	12
2005	151643	71361	223004	13
2006	159884	78681	238565	13
2007	196945	131100	328045	14
2008	332900	152100	485000	16

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

Table 5: Public Expenditure on Transfers N' Million (1979-2008)

Years	RECUR EXP.	CAPITAL EXP.	Total	%APEXP
1979	2473	25	2498	34
1980	3831	225	4056	27
1981	3461	919	4380	38
1982	3932	2521	6453	54
1983	3393	470	3863	40
1984	4162	2944	7106	72
1985	5411	2958	8369	64
1986	5497	6507	12004	74
1987	10811	1778	12589	57
1988	10296	2587	12883	46
1989	14075	6646	20721	51
1990	24670	15547	40217	67
1991	27309	20359	47668	72
1992	39933	30176	70109	76
1993	83747	24500	108247	57
1994	55444	30036	85480	53
1995	79133	55436	134569	54
1996	57201	71577	128778	38
1997	74119	43588	117707	27
1998	94403	49518	143921	30
1999	107577	114456	222033	23
2000	203693	46698	250391	36
2001	265860	76348	342208	34
2002	225153	0	225153	22
2003	477648	11	477659	39
2004	532705	15730	548435	40
2005	573089	11500	584589	34
2006	604234	26273	630507	34
2007	744295	39423	783718	33
2008	739700	17300	757000	25

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

Table 6: Productive and Protective Expenditures N' Million (1979-2008)

	Productive Sector			Protective Sector		
Years	Economic Exp.	Social Exp.	Total	Admin. Exp.	Transfers	Total
1979	2860	4839	7699	12538	20237	32775
1980	6090	8070	14160	22230	36390	58620
1981	3805	5786	9591	15377	24968	40345
1982	2743	4725	7468	12193	19661	31854
1983	2463	4446	6909	11355	18264	29619
1984	867	2851	3718	6569	10287	16856
1985	1168	3153	4321	7474	11795	19269
1986	1379	3365	4744	8109	12853	20962
1987	2855	4842	7697	12539	20236	32775
1988	3350	5338	8688	14026	22714	36740
1989	5345	7334	12679	20013	32692	52705
1990	5100	7090	12190	19280	31470	50750
1991	4448	6439	10887	17326	28213	45539
1992	5417	7409	12826	20235	33061	53296
1993	26095	28088	54183	82271	136454	218725
1994	31013	33007	64020	97027	161047	258074
1995	49067	51062	100129	151191	251320	402511
1996	122582	124578	247160	371738	618898	990636
1997	175813	177810	353623	531433	885056	1416489
1998	212437	214435	426872	641307	1068179	1709486
1999	410658	412657	823315	1235972	2059287	3295259
2000	140101	142101	282202	424303	706505	1130808
2001	312767	314768	627535	942303	1569838	2512141
2002	268284	270286	538570	808856	1347426	2156282
2003	194053	196056	390109	586165	976274	1562439
2004	226501	228505	455006	683511	1138517	1822028
2005	329342	331347	660689	660689	1321378	1982067
2006	330009	332015	662024	994039	1656063	2650102
2007	451418	453425	904843	1358268	2263111	3621379
2008	818200	820208	1638408	2458616	4097024	6555640
Total (30 years)	4146230	4206035	8352265	12226953	20579218	32806171

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition. Author's Classification of Public Expenditure.

Table 7: Capital Expenditures N' Million (1979-2008)

Years	Admin.	Economic	Social	Transfers	Total
1979	770	2812	613	25	4220
1980	1501	5981	2457	225	10164
1981	720	3629	1299	919	6567
1982	385	2543	968	2521	6417
1983	1098	2291	1027	470	4886
1984	263	656	238	2944	4101
1985	460	893	1154	2958	5465
1986	265	1100	655	6507	8527
1987	1816	2160	619	1778	6373
1988	1899	2129	1726	2587	8341
1989	2618	3926	1845	6646	15035
1990	2920	3486	2096	15547	24049
1991	3345	3145	1492	20359	28341
1992	5119	2337	2133	30176	39765
1993	8082	18345	3575	24500	54502
1994	8785	27103	4994	30036	70918
1995	13338	43149	9216	55436	121139
1996	14864	117829	8656	71577	212926
1997	49549	169613	6902	43588	269652
1998	35270	200862	23366	49518	309016
1999	42737	323581	17254	114456	498028
2000	53280	111509	27965	46698	239452
2001	49255	259758	53336	76348	438697
2002	73577	215333	32467	0	321377
2003	87959	97982	55736	11	241688
2004	137776	167722	30073	15730	351301
2005	171604	265035	71361	11500	519500
2006	185224	262207	78681	26273	552385
2007	220900	367900	131100	39423	759323
2008	287100	504400	152100	17300	960900
Total	1462479	3189416	725104	716056	6093055

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

Table 8: Recurrent Expenditures N' Million (1979-2008)

Years	Admin.	Economic	Social	Transfers	Total
1979	452	48	214	2473	3187
1980	595	109	271	3831	4806
1981	914	176	295	3461	4846
1982	1039	200	335	3932	5506
1983	897	172	289	3393	4751
1984	1100	211	354	4162	5827
1985	1430	275	461	5411	7577
1986	1453	279	468	5497	7697
1987	3843	695	298	10811	15647
1988	5778	1221	2114	10296	19409
1989	6271	1419	4230	14075	25995
1990	6540	1614	3396	24670	36220
1991	6954	1303	2677	27309	38243
1992	8685	3080	1336	39933	53034
1993	30570	7750	14660	83747	136727
1994	20536	3910	10085	55444	89975
1995	28758	5918	13820	79133	127629
1996	46547	4753	15989	57201	124490
1997	56184	6200	22060	74119	158563
1998	50679	11575	21441	94403	178098
1999	183637	87077	71371	107577	449662
2000	144530	28592	84785	203693	461600
2001	180801	53009	79630	265860	579300
2002	266510	52951	152185	225153	696799
2003	307973	96071	102608	477648	984300
2004	306831	58779	134385	532705	1032700
2005	434661	64307	151643	573089	1223700
2006	458283	67802	159884	604234	1290203
2007	564512	83518	196945	744295	1589270
2008	731000	313800	332900	739700	2117400
Total	3857963	956814	1581129	5077255	11473161

Source: Central Bank of Nigeria (2008), Statistical Bulletin: 50 Years Special Anniversary Edition.

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