EMPIRICAL ANALYSIS OF PUBLIC EXPENDITURE AND ECONOMIC GROWTH IN NIGERIA.

Onuorah, A. C (MBA, MSc)
Department of Accounting, Banking and Finance,
Faculty of Management Sciences,
Delta State University, Asaba Campus.
Delta State Nigeria.

&

Akujuobi, L.E (Ph.D)
Department of Financial Management Technology (FMT)
School of Management Technology
Federal University of Technology, Owerri (FUTO)
PMB 1526 Owerri, Imo State, Nigeria.

Abstract

Empirical evidence tends to reject the prediction of neoclassical models that fiscal policy cannot affect growth in the long run. However, the results are far from conclusive. This paper aimed at the trend and empirical analysis of public expenditure and its impact on the economic growth in Nigeria. Unit root approach (ADF) was used to investigate the stationarity of the variables. Johansen Co-integration revealed that RGDP, RGPE and RTRF are cointegrated atmost1 with at least 2 cointegrating equations at 5% level. The graphs showed that the growth rates had been unstable over the years and the exogeneous variables decreasingly explained the variation in RGDP by 4%. The VEC result indicated that RGPE established long run relationship with RGDP at 5%. Finally, there is no statistical significance between public expenditure variables and the economic growth in Nigeria. The study recommended that government should embark on realistic policy implementation with sincere fiscal and monetary policies in place that can monitor to greater extend and help in the sustainability for remarkable growth to be recorded in the Nigeria.*

Keywords: ADF, Granger, Expenditure, Normalized, VAR, Growth

Introduction

The term "Public Expenditure" represents government expenditure with the sole financial responsibility of government to facilitate the market economy. This is the pulling together of all financial resources to support the formulation of policies, to enhance economic growth. Osiegbu and Onuorah (2010).

The linkage between public expenditure and economic growth has attracted serious interest on the part of researchers both in the theoretical and empirical level. This interest is as a result of the role of public expenditure on infrastructure such as roads, ports, communication systems, public research spending, provision of essential services, provision of welfare amenities, maintenance of law and order, communication systems, public research spending, provision of basic educational and health services on the economy, providing good roads and bridges, potential of any country to put smiles on the faces of his people. (Irmen and Kuehnel, 2008; Nuruden and Usman, 2010). According to Maku (2009), the general view is that public expenditure either recurrent or capital on social or economic infrastructure can be growth-enhancing although the financing of such expenditure to provide essential infrastructural facilities-including transport, electricity, telecommunications, water and sanitation, waste disposal,

education and health can be growth-retarding. Also Afonso and Furceri (2007), Minea (2008) suggest that public spending on infrastructural facilities is widely seen as having an important role in affecting economic growth.

There are two opposing views on this issue. The Keynesian approach argues that public spending is an important policy tool to be used to ensure a reasonable level of economic activities; correct short term cyclical fluctuations in aggregate expenditure; and secure an increase in productive investment, thus providing a socially optimal direction for growth and development (Jhingan, 2004). The opposite view is that excessive government intervention in economic life affects growth performance in a negative way for two reasons: first, because operations are often conducted inefficiently, hence they reduce the overall productivity of the economic system; second because excessive government spending distorts economic incentives and results in sub-optimal economic decisions (Vaish, 2002). Therefore, empirical evidence on the subject is mixed. Studies like that of Abdullah (2000), Al-Yousif (2000), Ranjan and Sharman (2008) and Coorey (2009) conclude that public expenditure on economic growth is positive. On the other hand, studies like the ones by Barro (1991) and Folster and Henrekon (2001) suggested that public expenditure on economic growth is negative.

Maku (2009) stressed that the structure of public expenditure will determine the pattern and form of growth in output of the economy. According to Anyanwu(1997), public expenditure structure addresses the question of how the expenditure is or should be composed. The structure of public expenditure is usually categorized into recurrent and capital expenditure. The recurrent expenditure is composed of administration (general administration, defense, internal security); economic services (agriculture, construction, transport and communications and others); social and community services (education, health, and others); and transfers. In the same vein capital expenditure includes administration, economic services, social and community services and transfers (Musgrave and Musgrave, 2006; Bhartia, 2004; Anyanwu, 1997; Maku, 2009). Bhartia (2004) says these expenditures can be used to provide necessary economic infrastructure for the development of selected economic activities and can be used to give subsidies for increasing their profitability. Public expenditure has an active role to play in reduing regional disparities, developing social overheads, creation of infrastructure of economic growth in the form of transport and communication facilities, education and training, growth of capital goods, industries, basic and key industries, research and development and so on. This view was supported by Josaphat and Oliver (2000) when they said public expenditure on infrastructure investment and productive activities ought to contribute positively to growth.

However, the arguments above cannot be true in the Nigerian context because public expenditure has continued to rise from #2,800.00 million recurrent expenditure in 1978 to #1,589,270.00 million in 2007 and #5,200.00 million capital expenditure in 1978 to #759,323.00 million in 2007 for defense, education, health, agriculture and transport and communication. Thus, this increase in both recurrent and capital expenditures has not been transformed into economic growth in the country. Therefore, it is on the basis of this situation we face in the country that this paper seeks to investigate the relationship of the various composition of public expenditure on the economic growth in terms of the sectoral economic function classification that is administration, social and community services, economic services and transfers in Nigeria.

THEORETICAL FRAMEWORK AND EMPIRICAL LITERATURE

The long run relationship between public expenditure and economic growth has attracted attention in public finance research. In particular, the ability of public expenditure to influence economic growth is questioned in two levels. First, the nature of the causality pattern is disputed: a number studies adopt the Wagner's law approach which states that public expenditure causes economic growth mainly through an increase in demand for public services (Aregbeyen, 2006; Bhartia, 2004; Maku, 2009). Within this framework, public expenditure is treated as a behavioral variable. On the other hand, a number of macroeconomic models adopt the Keynesian approach to which public expenditure is an important tool able to influence the level of economic growth. More recently, the role of public

expenditure as an output-promoting control variable has been highlighted in the framework of the endogenous growth literature. Endogenous growth models postulates that the economy's output is conditioned not only on the level of physical capital and labour stock but also on additional production factors which may enter the production function with constant returns to scale alone (Afonso and Furceri, 2007).

Empirical evidence tends to reject the prediction of neoclassical models that fiscal policy cannot affect growth in the long run. However, the results are far from conclusive. In particular, with regard to the effects of public expenditure on growth, several studies analyse the growth effects of either total government expenditure or its components. For example, Gupta, Verhoeven and Tiongson (2002), Haque and Kim (2003), Fan and Rao (2003), Ramirez and Nazmi (2003). The results of these studies are often contradictory depending on the assumptions made, methodology used, the country or set of countries studied, and so on. On the other hand, public expenditure can displace private investment, and on the public hand public expenditure can encourage private investment and therefore economic growth. Table one below shows various empirical studies on the relationship between public expenditure and economic growth.

Table 1: Empirical Studies on Public Expenditure and Economic Growth

Author	**Sample and Method**	**Main Result**
Canning and Pedroni (2004)	A panel of countries over the period 1950-1992 using simple panel based tests	*The results show clear evidence that in the vast majority of cases infrastructure does induce long run growth effects. *The results demonstrate that telephone, electricity, generating capacity and paved roads are provided at close to the growth maximizing level of average.
Bose, Haque and Osborne (2007)	A panel of 30 developing countries over the 1970-1990 using OLS regression	*The share of government capital expenditure in GDP is positively significantly correlated with economic growth, while the growth effect of current expenditure is insignificant. *Government investment in education and total expenditure in education are the only outlays that remain significantly associated with growth

		throughtout the analysis.
Bagdigen and Cetintas (2004)	Turkish public expenditure over the period 1965-2000 using co-integration and the Granger causality test.	The result shows no causality in both directions; neither Wagner's law nor Keynesian hypothesis is valid for the Turkish case.
Ando (2009)	A panel data over the period 1995-2003 using OLS economic growth equation based on Feder model.	The result shows that defense expenditure has a positive impact on economic growth.
Maku (2009)	A time series data for 1977-2006 using classical least square, regression model and Durbin Watson test.	The result shows that private and public investments have insignificant effect on economic growth.
Leewen and Foldvari (2007)	A sample of Japan, Indonesia and India for the period 1890-2000 using Johansen cointegration test	The result shows that in India and Indonesia the level of human capital is cointegrated with the level of aggregate income during the whole 20th century. In Japan, the Lucasian approach was verified only for the first half of the century, while after 1950 there is a cointegration between growth rate of aggregate income and the level of human capital.
Yuk (2005)	A time series analysis of the United Kingdom for the period 1830-1993 using a trivariate VAR model, Multiple regression and Dickey-Fuller tests.	The result supports the export-led growth and although the support for Wagner's law is sensitive to the choice of the sample period, there is evidence that GDP growth Granger-causes the share of government spending in GDP indirectly through export share of GDP during the period.
Arpaia and Turrini (2008)	A sample of EU-15 countries over the period 1970-2003 using panel unit root tests and cointegration analysis.	The paper shows that the estimation method matters substantially for the measurement of the relation between government expenditure and potential output.
Yasin (2009)	A panel data from 26 sub-saharan African countries for the period 1987-97 using fixed – effects and random effects estimation technique.	The results from both estimation techniques indicate that government spending on capital formation trade-openness, and the private investment spending all have positive and significant effect on economic growth.
Colombier (2009)	A time series data set using ordinary least square regression	The result provide strong evidence that government

	for the period 1965-2005 in Switzerland.	outlays for transport infrastructure, justice and general government are vital for output growth. Whereas the evidence for a growth effect of education is weak and therefore a reversed causation effect could be ascertained. The evidence concerning the growth effect of social justice and health care are not clear cut.

The Model/Specification: The model for this study are specified and modeled as Real GDP, GPE (government public expenditure) and TRF (Total Transfer).

RGDP=f(GDP)

GPE= f(ADM, SCS, ECS)

TRF= f(TRF)

The data were transformed to reflect the growth rate indices for measuring the trend and changes in the public expenditure and economic growth over the years. The growth rate is measured as RGDP= $\left(GDP_2 - GDP_1\right) \Big/ GDP_1 \; x \;\; 100$ which is applicable to RGPE and RTRF.

The model expression:

$$RGDP = \alpha_0 + \alpha_1 RGPE + \alpha_2 RTRF + \varepsilon \qquad 1$$

$$\Delta RGDP_{t+1} = \alpha_0 + \alpha_1 \Delta RGPE_{t-1} + \alpha_2 \Delta RTRF_{t-1} + \varepsilon_{t-1} \qquad 2$$

Where: GDP = Gross Domestic product; ADM = Administration; SCS = Social and Community services; ECS = Economic services; and TRF = transfer.

Objective

The followings are the research objectives:

1. To evaluate the public expenditure and economic growth
2. To what extent does public expenditure affect the real GDP
3. To examine the stationarity of macro economic variables
4. To investigate existence of long run relationship.

Hypothesis

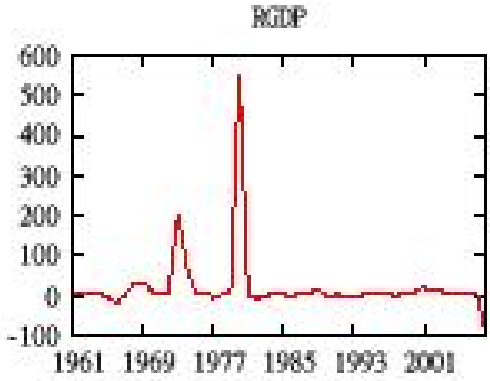
1. Ho: there is no significant relationship among the RGDP, RGPE and RTRF.
2. Ho: there is no significance among the RGDP, RGPE and RTRF in the long run.
3. Ho: there is unit root among the variables (RGDP, RGPE and RTRF)
4. Ho: there is no significant growth in the public expenditure, transfer and Real GDP.

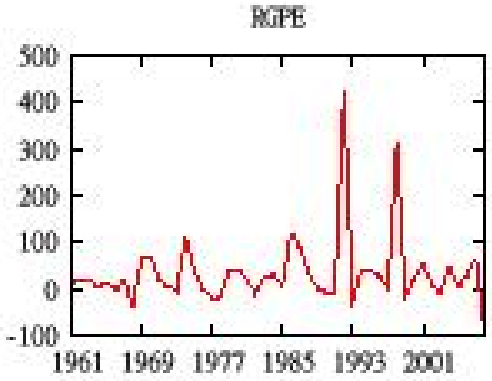
Methodology and Empirical Analysis

In carrying out this study, time series data sourced from Statistical Bulletin, Economic and Financial Review and Annual Reports and Statement of Accounts of the Central Bank of Nigeria (CBN) of various issues were made use of. The macroeconomic data cover gross domestic product (GDP) and capital expenditure and recurrent expenditure (administration, social and community services, economic services) and transfers between 1961 and 2008 in Nigeria. The data gathered were then subjected to various econometric tests using E-views. Other econometric tests such as diagnostic test, unit root test and co-integration test were also performed to determine the stationarity of the data and long run relationship between the variables. In testing for stationarity, we subject the data to stationarity test by using the Augmented Dicker fuller (ADF) tests at level I(0) and order of I(1) using 5% critical level to establish presence of no unit root. The VAR model will help us to examine whether there is a long-run relationship between the variables and test for co-integration using Johansen's (1988) co-integration method. The trend of the growth rate of the macroeconomic variables would be explained using exploratory data analysis through graphs.

Empirical Analysis and Result

The data generated from the CBN 2008 Annual Bulletin was analyzed empirically using Financial Econometrics Software (E-Views). The trend analysis and the OLS result were shown below:





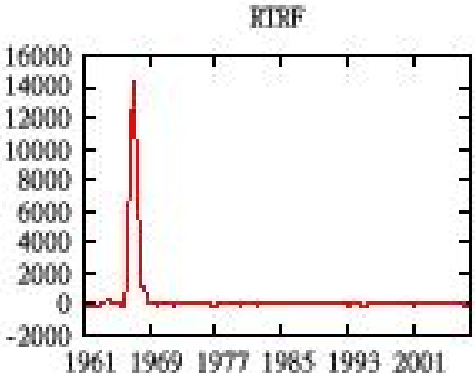


Fig 1,2 and 3 indicated by trend analysis of growth rates in RGDP, RGPE and RTRF from 1961 through to 2008 that high growth rates was significantly recorded in the Nigerian real GDP between 1971 to 1975 but fall between 1976 to 1983 and raised significantly in 1979 through to 1983 while in the other years low raise and fall in growth rates were recorded. In terms of RGPE, growths were steadily recorded with highest rates in 1988 to 1992 and 1995 to 1999 respectively. For RTRF between 1963 to 1969 high growths rate was recorded while in the other years low growth rates were experienced without transfer in 1976.

Table 1 OLS

Dependent Variable: RGDP
Method: Least Squares
Date: 02/18/12 Time: 13:01
Sample: 1961 2008
Included observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGPE	0.052199	0.157692	0.331017	0.7422
RTRF	-0.001161	0.006156	-0.188555	0.8513
C	18.48384	13.75753	1.343543	0.1858

R-squared	0.003302	Mean dependent var	19.75767
Adjusted R-squared	-0.040996	S.D. dependent var	85.45772
S.E. of regression	87.19182	Akaike info criterion	11.83456
Sum squared resid	342108.6	Schwarz criterion	11.95151
Log likelihood	-281.0294	F-statistic	0.074545

Durbin-Watson stat	1.972112	Prob(F-statistic)	0.928281

Source: Eviews 4.0

OLS Model

Estimation Command:
==========
LS RGDP RGPE RTRF C

Estimation Equation:
==========
RGDP = C(1)*RGPE + C(2)*RTRF + C(3)

Substituted Coefficients:
==========
RGDP = 0.0521988355*RGPE - 0.00116067341*RTRF + 18.48383863
Source: Eviews 4.0

The R-squared is found to be 0.7358 implying that the analysis was adjudged accurate at 73.6% and the dependent variable(RGDP) is explained by the independent variables(ADM,SCS,ECS and TRF) at the same percentage level while the unexplained value at 26.4% captured by error.

The model estimation is:

$$RGDP = \alpha_0 + \alpha_1 RGPE + \alpha_2 RTRF + \varepsilon$$

$$RGDP = 18.4838 + 0.05219 RGPE - 0.00116 RTRF$$

Se = (1.3435) (0.3310) (-0.188)

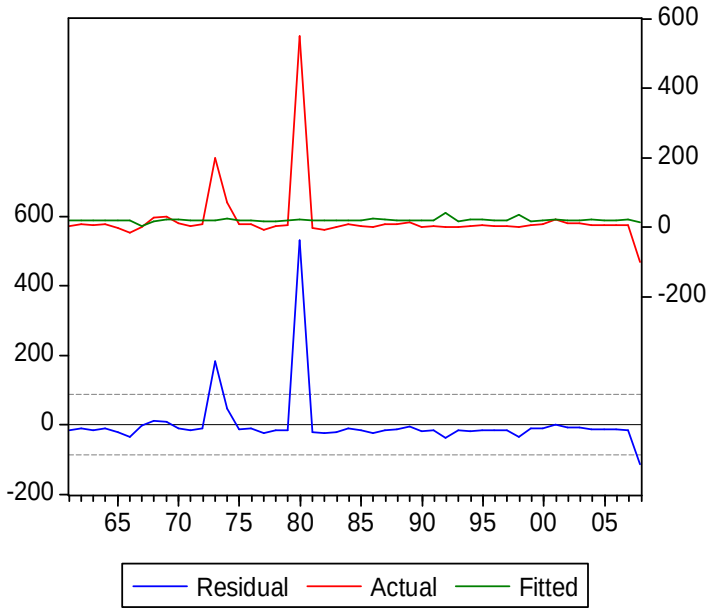
t = (0.1888) (0.7422) (0.8513)

R2=0.003 AdjR2= -0.004 F-Stat= 0.07 Prob= 0.928 Dw-test =1.97

The model established that there is very weak and low relationship among the growth in the real (RGDP), RGPE and RTRF. The independent variables (RGPE and RTRF) can only explain the dependent variable (RGDP) by -4%. This implied that RGPE and RTRF explained the changes in the growth rate of RGDP by -4%. A unit change in RGPE generated a correspondent increase in the RGDP and a unit change in RTRF has decreasing effect on the growth of the Nigerian GDP by 5.2% and 0.1% respectively.

Based on the model parameters, the RGPE and RTRF are not statistically significant at 5% level. The

Graph showed the behaviour of the fitted graph.



Source: Eviews 4.0

Table 2a

Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.058926	Probability	0.942853
Obs*R-squared	0.131196	Probability	0.936507

Source: Eviews 4.0

Table 2b

White Heteroskedasticity Test

White Heteroskedasticity Test:			
F-statistic	0.079164	Probability	0.988299
Obs*R-squared	0.350892	Probability	0.986296

Source: Eviews 4.0

Table 2c:

Stability Test

Ramsey RESET Test:			
F-statistic	0.941583	Probability	0.429150
Log likelihood ratio	3.124358	Probability	0.372846

Source: Eviews 4.0

The null hypothesis is rejected in the table 2a, b and c. We concluded that the series are not serial correlated, homoskedasticity and that the model is stable and in functional form.

To test for stationarity of series for the purpose of co-integration as suggested by the research paper, we test the individual variable using ADF unit root test and Johansen procedure for normalization and co-integrating equations see table 3 below: The table3a test for stationary at level I(o) with 5% critical value.

Table 3. Unit root Test ADF result

S/N	Variable	ADF Test	At Level	Prob*	Decision
1.	RGDP	-6.597237	-2.925169	0.0000	Stationary
2.	RGPE	-8.033635	-2.925169	0.0000	Stationary
3.	RTRF	-6.364524	-2.925169	0.0000	Stationary

*MacKinnon (1996) one-sided p-values.

Source: Eviews 4.0

Table 4: Co integration Analysis Result

Date: 02/18/12 Time: 13:15
Sample(adjusted): 1962 2008
Included observations: 47 after adjusting endpoints
Trend assumption: Linear deterministic trend
Series: RGDP RGPE RTRF
Lags interval (in first differences):

Unrestricted Cointegration Rank Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value	1 Percent Critical Value
None **	0.609093	105.1508	29.68	35.65
At most 1 **	0.498784	61.00439	15.41	20.04
At most 2	0.455152	2.54065	3.76	6.65

*(**) denotes rejection of the hypothesis at the 5%(1%) level
Trace test indicates 2 cointegrating equation(s) at both 5% and 1% levels

Source: Eviews 4.0

Using the Johanson co integration procedure, the variables RGDP, RGPE and RTRF were co integrated at 5% level at most 1 co integrating equation with at least 2 co integrating equations. Since the variables were stationary at level. VEC model is adopted which indicated that there is a long run relationship with RGPE being statistical significant at 5% level both in the current and the previous years as the t-statistic is greater than 2.0 by the rule of thumb while the RTRF and RGDP werenot statistical significant. See VEC estimate analysis below:

Table5: VEC Estimation Result

Vector Error Correction Estimates

Date: 02/18/12 Time: 13:19
Sample(adjusted): 1964 2008
Included observations: 45 after adjusting Endpoints
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1	
RGDP(-1)	1.000000	
RGPE(-1)	1.586581	
	(0.40583)	
	[3.90951]	
C	-79.83871	
Error Correction:	D(RGDP)	D(RGPE)
CointEq1	-0.586528	-0.640802
	(0.21030)	(0.19017)
	[-2.78895]	[-3.36970]
D(RGDP(-1))	-0.253724	0.482853
	(0.19395)	(0.17538)
	[-1.30817]	[2.75316]
D(RGDP(-2))	-0.120351	0.229027
	(0.15919)	(0.14395)
	[-0.75600]	[1.59102]
D(RGPE(-1))	0.656041	-0.098169
	(0.26931)	(0.24353)
	[2.43597]	[-0.40311]
D(RGPE(-2))	0.283578	-0.069194
	(0.18474)	(0.16705)
	[1.53499]	[-0.41421]
C	-2.118675	-1.547150
	(15.3849)	(13.9117)
	[-0.13771]	[-0.11121]
RTRF	-0.002500	-0.002755
	(0.00729)	(0.00659)
	[-0.34293]	[-0.41790]
R-squared	0.418470	0.550308
Adj. R-squared	0.326649	0.479304
Sum sq. resids	392325.4	320787.2
S.E. equation	101.6088	91.87909
F-statistic	4.557473	7.750378
Log likelihood	-267.9989	-263.4693
Akaike AIC	12.22217	12.02086
Schwarz SC	12.50321	12.30190
Mean dependent	-2.318170	-2.704116

S.D. dependent	123.8257	127.3282
Determinant Residual Covariance		85650741
Log Likelihood		-531.0763
Log Likelihood (d.f. adjusted)		-538.6847
Akaike Information Criteria		24.65265
Schwarz Criteria		25.29502

Source: Eviews 4.0

Conclusion/Recommendation

The following results of the empirical analysis of the data using VEC model at level revealed that there is co integration between public expenditure and the economic growth in Nigeria both in the short and long run only with the RGPE but no run relationship existed in the RGDP and RTRF. As shown in the model estimate both RGPE and RTRF significantly decreased growth in RGDP by -4%. There was weak correlation among the variables. The study further suggested that sin the trend of the macroeconomic variables were stable over the years. Government should embark on realistic policy implementation that is a sincere fiscal and monetary policies be put jointly in place and monitor to a greater extent which would help in the sustainability and remarkable growth in the Nigeria.

References

Abdullah, H. A. (2000). "The Relationship between Government Expenditure and Economic Growth in Saudi Arabia". *Journal of Administrative Sciences,* Vol. 12(2): 173 – 191.

Afonso, A. and Furceri, D. (2007). "Government Size, Composition, Volatility and Economic Growth". Department of Economics, School of Economics and Management, Technical University of Lisbon. Working paper WP04/2008/DE/UECE.

Akpan, N.I. (2005). "Government Expenditure and Economic Growth in Nigeria: A Disaggregated Approach". *Central Bank of Nigeria Economic and Financial Review,* Vol. 43(1):

Al-Yousif, Y. (2000). "Does Government Expenditure Inhibit or Promote Economic Growth: Some Empirical Evidence from Saudi Arabia". *Indian Economic Journal,* Vol. 48(2).

Ando, S. (2009). "The Impact of Defense Expenditure on Economic Growth: Panel Data Analysis Based on the Feder Model". *The International Journal of Economic Policy Studies,* Vol. 4: 141 – 154.

Anyanwu, J.C. (1997). *Nigerian Public Finance.* Onitsha: Joanee Educational Publishers Ltd.

Appah, E. (2010). "The Relationship Between Fiscal Policy and Economic Growth in Nigeria: 1991-2005". *International Journal of Economic Development Research and Investment,* Vol. 1(2 & 3): 37-46.

Aregbeyen, O. (2006). "Cointegration Causality and Wagner's Law: A Test for Nigeria". *Central Bank of Nigeria Economic and Financial Review,* Vol. 44(2): 1-17.

Arpaia, A. and Turrini, A. (2008). "Government Expenditure and Economic Growth in the EU: Long-Run tendencies and Short-Term Adjustment", *European Commission.*

Asteriou, D. and Hall, S. (2007), Applied Econometrics: A Modern Approach, London: Palgrave-Macmillan.

Bagdigen, M. and Cetintas, H. (2004). "Causality between Public Expenditure and Economic Growth: The Turkish Case". *Journal of Economic and Social Research,* Vol. 6(1): 53 – 72.

Barro, R. (1991). "Economic Growth in Cross Section of Countries", *Quarterly Journal of Economics,* Vol. 106(2): 407 – 433.

Bhartia, H.L. (2004). *Public Finance.* New Delhi: Vikas Publishing House.

Boopen, S. (2006). "Transport Infrastructure and Economic Growth: Evidence from Africa Using Panel Estimates". *The Empirical Economics Letters*, Vol. 5(1): 37 – 52.

Bose, N., Haqur, M. E. and Osborn, D. R. (2007). "Public Expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries". *The Manchester School*, Vol. 75(5): 533-556.

Canning, D. and Pedroni, P. (2004). "The Effect of Infrastructure on Long Run Economic Growth". Retrieved on 13/8/2010 from www.williams.edu/Economics/wp/pedroniinfrastructure.pdf

Colombier, C. (2009). "Does the Composition of Public Expenditure Impact Economic Growth? Evidence from Switzerland Using a Robust Cointegration Approach". Retrieved on 21/8/202 from www.boeckler.de/pdf/v_2009_10_colombier.pdf

Coorey, A. (2009). "Government Expenditure, Governance and Economic Growth". Comparative Economic Studies, Vol. 51(3): 401-418. Retrieved on 13/8/2010 from http://www.ingentaconnect.com/content/pal/ces;jsessionid=q1g8igkzfvms.alice

Fan, S. and Rao, N. (2003). "Public Spending in Developing Countries: Trends, Determination, and Impact". *EPDT – International Food Policy Research Institute,* Discussion paper. No. 99.

Folster, S. and Henrekon, M. (2001). "Growth Effects of Government Expenditure and Taxation in Rich Countries". *European Economic Review,* Vol. 45(8): 1501-1520. Retrieved on 13/8/2010 from http://ssrm.com/abstract=9982621.

Gujarati, D.N. and Porter, D.C. (2009), Basic Econometrics, New York: McGraw-Hill/Irwin

Gupta, S., Verhoeven, M. and Tiongson, E. (2002). "The Effectiveness of Government Spending on Education and Health Care in Developing and Transition Economies". *European Journal of Political Economy,* Vol. 18: 717-737.

Gupta, S., Clements, B., Baldacci, E. and Mulas-Granados, C. (2005). "Fiscal Policy, Expenditure Composition, and Growth in Low-Income Countries". *Journal of International Money and Finance,* Vol. 24: 441 – 463. Retrieved on 18/8/2020 from www.ucm.es/.../publication%20recientes/expenditure%20composition.pdf

Haque, M. and Kim, D. (2002). "Public Investment in Transport and Communication and Growth": A Dynamic Panel Approach". *Centre for Growth and Business Cycle Research, University of Manchester. Discussion Papers Series No. 031*. Retrieved on 21/8/2010 from http://www.ses.man.ac.uk/cgber/discussion.htm.

Irmen, A. and Kuehnel, J. (2008). "Productive Government Expenditure and Economic Growth". Department of Economics, University of Heidelberg. Discussion Paper Series No. 464. Retrieved on 18/8/2010 from www.awi.uni-heidelberg.de/with2/Discussion%20papers/papers/dp464.pdf

Jhingan, M. L. (2004). *Macro-Economic Theory* (11 ed). New Delhi: Vrinda Publications Ltd.

Kweka, J.P. and Morrissey, O. (2000). "Government Spending and Economic Growth in Tanzania, 1965 – 1996". Centre for Research in Economic Development and International Trade, University of Nottingham. Retrieved on 13/8/2010 from www.nottingham.ac.uk/economics/credit/research/..../cp.00.6.pdf

Leeuwen, B. V. and Foldvari, P. (2007). "Human Capital and Economic Growth in Asia 1890-2000: A Time Series Analysis". Retrieved on 21/8/2010 from www.basvanleeuwen.net/bestanden/human_capital_growth_asia.pdf

Maku, O.E. (2009). "Does Government Spending Spur Economic Growth in Nigeria? Munich Personal RePEc Archive. Retrieved on 13/8/2010 from http://mpra.ub.uni-muenchen.de/17941/MPRA Paper no. 17941.

Mauro, P. (1998). "Corruption and the composition of Government Expenditure". *Journal of Public Economics,* Vol. 69: 263-279.

Minea, A. (2008). "The Role of Public Spending in the Economic Growth Evolution". *Romanian Journal of Economic Forecasting,* Vol. 2: 99 – 120.

Musgrave, R. A. and Msgrave, P.A. (2006). *Public Finance in Theory and Practice* (5th ed.). New Delhi: Tata McGraw-Hill.

Nurudeen, A. and Usman, A. (2010). "Government Expenditure and Economic Growth in Nigeria, 1970 – 2008: A Disaggregated Analysis". *Business and Economic Journal*, Vol. 4. Retrieved on 13/8/2010 from http://astonjournals.com/bej

Rajkumar, A. and Swaroop, V. (2002). "Public Spending and Outcomes: Does Governance Matter?". World Bank Working Papers, 2840 May.

Ramirez, M. and Nazmi, N. (2003). "Public Investment and Economic Growth in Latin America: An Empirical Test". *Review of Development Economics,* Vol. 7(1): 115 – 126.

Ranjan, K.D. and Sharma, C. (2008). "Government Expenditure and Economic Growth: Evidence from India". *The ICFA/University Journal of Public Finance*, Vol. 6(3): 60-69. http://ssrm.com/abstract=1216242.

Shioji, E. (2001). "Public Capital and Economic Growth: A Convergence Approach". *Journal of Economic Growth,* Vol. 6: 205-227.

Vaish, M.C. (2002). *Macro-Economic Theory (12 ed).* New Delhi: Vikas Publishing House.

Yasin, M. ( ). "Public Spending and Economic Growth: Empirical Investigation of Sub-Saharan Africa". *Southwestern Economic Review:* 59-68. Retrieved on 21/8/2010 from www.ser.tcu.edu/2003/SER2003%20Yasin%2059.68.pdf

Yuk, W. (2005). "Government Size and Economic Growth: Time Series Evidence for the United Kingdom, 1830 to 1993". Econometrics Working Paper EWP0501, University of Victoria. Retrieved on 21/8/2010 from http://web.uvic.ca/econ/research/papers/ewp0501.pdf