



**FINANCIAL SECTOR ISSUES
AND
ECONOMIC DEVELOPMENT
IN NIGERIA**

Edited by:
**Olanrewaju Olaniyan
Akanni Olayinka Lawanson
Babatunde Alayande**



IBADAN UNIVERSITY PRESS
PUBLISHING HOUSE, IBADAN.

**Financial Sector Issues
and
Economic Development in Nigeria**
*Volume 2 of Essays in Honour of
Professor Adedoyin Soyibo*

edited by

*Olanrewaju Olaniyan
Akanni Olayinka Lawanson
and
Babatunde Alayande*

IBADAN UNIVERSITY PRESS
2012

Ibadan University Press
Publishing House
University of Ibadan
Ibadan, Nigeria.

© Health Policy Training and Research Programme,
Department of Economics, University of Ibadan, Nigeria 2012

First Published 2012

All Rights Reserved

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without permission in writing from the Publisher.

ISBN: 978 – 978 – 8414 – 99 – 5

Printed by:

Deleprints

08060328997, 07029081708

CONTENTS

	<i>Page</i>	
<i>Foreword</i>	vii	
<i>List of Contributors</i>	ix	
Chapters		
1	Introduction and Overview <i>Olanrewaju Olaniyan and Akanni Lawanson</i>	1
2	Professor Adedoyin Soyibo: A Gentleman and Great Teacher <i>E. Olawale Ogunkola and Olanrewaju Olaniyan</i>	9
3	Developing Quantifiable Measures of Financial Liberalisation in Nigeria <i>Babajide Fowowe</i>	27
4	Inflation and Financial Development in Nigeria <i>Wumi Olayiwola, Evans Osabuohien and Efobi Rapuluchukwu</i>	49
5	Inflation and Exchange Rate in Nigeria: Evidence from Recent Data <i>Abiodun O. Folawewo and Solomon A. Olakojo</i>	69
6	Global Financial Crisis: Channels and Effects on Nigeria <i>M. Abimbola Oyinlola and Tayo Fakiyesi</i>	87
7	The Predictive Ability of Volatility Models for Stock Returns in Nigeria <i>Afees Adebare Salisu</i>	103
8	Enhancing Bank Performance in Nigeria: Any Role for Corporate Governance? <i>Lloyd Amaghionyeodiwe and Philip Omoke</i>	137

9	Africa's Growth Tragedy: The Weaknesses of Received Wisdom <i>M. Adetunji Babatunde</i>	159
10	Determinants of Firms' Growth in Nigeria <i>Omo Aregbeyen</i>	191
11	Fiscal Policy-Economic Growth Nexus in Nigeria <i>Olugboyega A. Oyeranti and Oluseun Ishola</i>	223
12	ECOWAS Common External Tariffs (CET): The Potential Implications for Nigeria's Manufacturing Sector <i>Abiodun Surajudeen Bankole</i>	245
13	China-Nigeria Economic Relations: Review and Analysis <i>Adeolu O. Adewuyi</i>	273
14	Funded Pension, Financial Sector Development and Economic Growth in Nigeria <i>Babatunde Alayande</i>	301
15	Population Age Structure, Demographic Dividend and Nigeria's Economic Growth <i>Olanrewaju Olaniyan, Akanni O. Lawanson and Adedoyin Soyibo</i>	325
	<i>Index</i>	345

FISCAL POLICY-ECONOMIC GROWTH NEXUS IN NIGERIA

Olugboye A. Oyeranti and Oluseun Ishola

Introduction

Fiscal policy has occupied a central stage in recent policy deliberations in many developing countries, with challenges such as high unemployment, inadequate national savings, excessive budget deficits, public debts and tax evasion. In trying to provide timely responses to these challenges, as a matter of urgency, it has become vital to understand issues relating to the appropriate scope, nature and conduct of fiscal policy with a view to mitigating macro economic instability in the short-run and fostering growth in the long run. These have often come to the fore in policy debates the world over (Tanzi and Zee 1997).

Fiscal policy refers to the way a government influences an economy through revenue collection and spending. In practice, the manipulation of taxes and public spending affects a number of macroeconomic variables – aggregate demand, income distribution, resource allocation and economic activity as a whole. In this sense, fiscal policy can be an effective tool a government can use to reduce the impact of the different phases of the business cycle on the economy (Bogdonov 2010).

The potential interactions among taxes, government expenditure, investments and economic growth are complex and manifold. The nature of the tax regime can harm or foster growth. In other words, fiscal policy, according to economic theory, has been shown to have the potential to affect both the level and growth rate of per capita output, either positively or negatively.

The problem of how fiscal policy is related to economic growth has been examined by many economists and still the question of how fiscal policy fared has remained unresolved in Nigeria (Usman 2008). Following the increase in government expenditure,

as a result of the oil wind fall in the 80s, which was about 21 percent of GDP (Obi 2007), the economy was thrown into excessive spending as it engaged in massive projects.

However, as the oil market weakened in subsequent years, oil receipts were not adequate to meet increasing levels of demand; government resorted to borrowing mainly from the Central bank to finance its huge deficits. The structural adjustment programme was introduced in 1986 to correct the perceived imbalance in the economy. Just immediately after its introduction it was observed that social indicators were not responding positively to reform measures, they were getting worse. Hence several measures were put in place to reduce the social cost of adjustment.

Government deficit worsened from an average of 2.6 percent of GDP in 1980 to 6.2 percent in the 90s, (Obinyeluaku 2009). In 2002 alone, primary deficit increased to 5 percent of GDP from 2 percent in 2000. This increase in deficits results in a mounting stock of debts, ranging from 88 percent of GDP in the 1980s to 96 percent of GDP in 1990's. Between year 2000 and 2002, the stock of debt increased to 91 percent of GDP from 45 percent in 2000, (Obinyeluaku 2009). In fact it has become a common feature of government fiscal behavior to observe that before the end of the second quarter of any particular year, actual fiscal activities of government were totally at variance with budget proposals. The government regularly finds itself engaging in extra-budgetary expenditure that is occasioned, largely by the need to keep the government institutions running, (Obi 2007).

Undoubtedly, tax and government spending policy are central to the health of any economy, as government's power to tax and to spend affects the disposable income of citizens and corporations, as well as the general business climate. In this regard, the interrelationship between public spending and private sector performance is of paramount importance. Accordingly, taxation and public expenditures are claimed as "the most powerful economic agent in all modern societies" (Arrow and Kurz 1970).

With the experiences in the Nigerian economy, of increasing GDP, while public debt keeps rising, it becomes pertinent to investigate the role of fiscal policy. Could fiscal policy be designed so as to ensure growth? What component of fiscal policy has the

potential to drive growth? This chapter examined these questions with a view to providing empirical justification to understanding the scope of the problem.

The chapter continues as follows. Section 2 provides a review of relevant literature, and the theoretical framework. The empirical specification of the model employed is discussed in section 3, while section 4 discusses the estimation techniques employed. It also focuses on the analysis and discussion of results. Section 5 concludes the work by providing a summary of findings and policy recommendations.

Literature Review and Theoretical Framework

Since the work of Romer (1986) and Lucas (1988), which is the pioneer chapter that initiated the endogenous growth theory, the earlier perspective on the role of government has drastically changed. The endogenous growth theory provides a theoretical framework for analyzing growth that is determined by the system governing the production process, rather than forces outside the system, (Todaro and Smith 2003). The potential effects of fiscal policy on growth have generated substantial attention, following the theoretical work of Barro (1990), in his influential seminal article and Barro and Sala-i-Martin (1992). He constructed a theoretical endogenous model that builds on constant returns to scale and a broad concept of capital, which includes both human and non human capital; similarly, he considered public services as a productive input for private producers. He assumed a representative infinite-lived household in a closed economy that seeks to maximize overall utility. In the model, there exists transitional dynamics whereby an economy moves from an arbitrary, starting ratio of physical to human capital to a steady state ratio. Also, a public sector that provides public services to each household-producer is present. The expenditure from these services is financed by issuing taxes (Barro 1990).

The model predicts the effects of different sizes of government. Firstly, an increase in taxes reduces growth rate, but government expenditure that provides only consumption services correlate negatively with growth. According to the theory, the growth rate depends on how governments behave. For government to optimize

growth, it should maximize its gross investment (public investment), and taxes should be set at the individual productive and public goods output elasticity. For countries with public capital lower than output elasticity, higher spending will raise growth. On the other hand the opposite occurs for countries with public capital greater than output elasticity (Wang 2010).

Similarly he showed that per capita GDP growth and investment-GDP ratio are negatively correlated to government expenditure as a share of the GDP. Government consumption generates distortions in the economy and provides no off-setting stimulus to GDP and investment.

In the theoretical literature, Brons, de Groot and Nijkamp (1999) employed the reasoning based on the work of Romer (1986) and Lucas (1988) to show that not only transition growth rates are endogenous but also steady state growth rates. Governments can influence these growth rates either directly or indirectly; these have major consequences for standards of living. They divided government spending into consumption (which includes subsidies) and investment. They also identified the ways in which revenues are being raised and classified such into distortionary and non distortionary taxation. They demonstrated that government investments have a growth enhancing effect, through its enhancement of private investment in physical, human and knowledge capital, while government consumption has been considered as "throwing money in the sea" which will thus have no direct effect on economic growth.

Bleaney, Gemmell, and Kneller, (2001) observed that endogenous theory predicts that government will have both temporary and permanent effects on growth. In the theory, based on a simple production function, a distinction is made between private capital and publicly provided input. The theory also separates government consumption (non productive) good and government productive expenditure, and also assumes that in practice, government budget is not balanced in every period, a notable departure from other models which assume that government budget is always balanced. The theory predicts that the growth rate is decreasing in the rate of distortionary taxes, increasing in government productive expendi-

ture, but is unaffected by non-distortionary taxes or non productive expenditure, given that Ricardian equivalence theorem holds and the composition of expenditure and taxation remains unchanged.

Marrero (2007) laid out a theoretical model that differentiates direct taxation from indirect taxation and productive public spending from consumptive public spending. There is an economic agent, the government, which claims resources for public investment and public consumption and collects taxes to finance total public spending. Private production factors -private capital and labour show constant returns to scale. While firms decide on the private factors, public capital and the knowledge index are outside of their control and are taken as exogenous. The variant according to Marrero (2007) predicts that indirect taxes and public investment are always positive while direct taxes may be negative or positive. The sign of direct taxes depends on the interaction between the technology externality parameters and the level of public investment. While consumption taxes have an important crowding-out impact on private consumption, it has a null distortionary effect on the steady-state return to private capital accumulation and on long-run growth. The vast array of theoretical literature has shown that the theoretical framework underlying the endogenous growth theories with public capital and taxes all agree that public expenditure and taxation affect the steady-state and short-run growth.

Furthermore, a large body of theoretical and empirical studies has been devoted to understanding the effects of fiscal policy on economic growth. Many results in these theoretical models have been studied empirically (e.g. Adeoye (2003), Peretto (2003), Ali (2005), Gupta (2005), Folorunsho and Olayeni (2006), Eris (2007), Brasovenneu (2008), Bogdanov (2010)). But the empirical evidence provided by most of these studies has been mixed, and a consensus has not yet emerged.

Adeoye (2003) examined the impact of public expenditure on the growth of the Nigerian economy using data from 1970 to 2002. He noticed that public sector investments crowd out private investment thereby negatively impacting on the growth of the economy. The work revealed that majority of public investments are spent on unproductive activities, hence the relationship

between investment expenditure and output in Nigeria appears to be fragile. Similarly, investment in human capital especially through expenditure on education has promoted output growth. This shows that the different policies on education such as universal basic education (UBE) have started yielding the expected results. However he observed that various policy reforms entrenched in SAP and applied since 1986 might have had negative impact on the output growth of the economy.

Gupta et al. (2005) investigated the effect of government expenditure initiated between 1990 and 2000, for thirty-nine low income countries. Data for these variables were constructed on the basis of the World Economic Outlook (WEO) database. Results from the chapter suggested that the composition of public expenditure matters for growth; higher capital outlays are associated with more buoyant growth, while higher current expenditures and domestic financing of deficit are associated with less favourable economic performance.

Folorunsho and Olayeni (2006) in their work for Nigeria examined the growth effect of public expenditure and also investigated the causality pattern between public expenditure and economic growth, between the time period from 1970 to 2003. The result indicates a positive relation between public expenditure and economic growth. The share of government capital expenditure in GDP was positive and significantly correlated with economic growth, while the growth effect of expenditure was insignificant. Private investment associated positively and significantly with economic growth. Interestingly they conclude that a one percent increase in capital expenditure would cause a three percent increase in GDP, whereas, recurrent expenditure has no effect on growth.

Eris (2007) discussed the long-run growth effect of distortionary taxes and government expenditure, for Ireland and Hungary, using fiscal data of 1994 to 1996 and 2003 and 2005. He found that adverse tax and expenditure policy hindered the long run growth performance of Hungary. More precisely, he recommended that a decrease of productive expenditure can have growth retarding effects; balanced budget is neutral to the growth rate, while both distortionary taxes and non distortionary taxes are harmful for growth. In summary, the chapter attributed negative

growth effects to the ratio of distortionary taxation while the ratio of productive expenditure to GDP, turns up with positive growth effects (in accordance with the model of Barro 1990).

Brasovenneu (2008) tested the correlation between fiscal policy and growth, to determine the nature of causality between fiscal revenues and growth. In particular, he tested influence of distortionary, non distortionary and other revenues on growth. The relation between overall tax burden and economic growth is indirect. The R-squared is 39.47 percent, which represents the variance of economic growth rate change as a result of tax burden. Using interval analysis, the period of 1990-1992 which was characterized by a high level of tax burden had a negative growth rate, while the highest rate of economic growth was obtained in 2004, a year with low level of tax burden. The chapter shows that both distortionary and non distortionary fiscal revenues reveal a negative causality between fiscal policy and growth.

Bogdanov (2010) using a panel of both seven developed and twenty-three developing countries concluded that the fiscal variables (taxation and public expenditure) in the former are countercyclical- this boosts long-term economic growth, while the later is cyclical. Counter cyclical fiscal policy reduces output volatility of per capita output of developed nations which appears significantly less than the one of developing countries. He went further to identify possible determinants of tax rate and volume of government expenditure empirically as trade openness, level of corruption and stage of financial development in both samples of countries.

Theoretical Framework

The economy, in our model is populated by a continuum of infinitely-lived households and firms. Households are the owners of the firms. There is a third economic agent, a government, which claims resources for public investment and public consumption and collects taxes to finance total public spending. The model differentiates direct taxation from indirect taxation and productive public spending from consumptive public spending. Capital markets are assumed to be perfect and labour is supplied in-elastically by households.

The production technology is as in Marrero (2007):

$$y = A_0 k^\alpha z^\phi k_g^\theta \dots, \quad (1)$$

Where y is per capita output,

k and k_g are stocks of private and public capital,

z is an index of knowledge available to each firm which augments the productive capacity of all inputs.

A_0 is a technological scale factor,

α , θ and ϕ are the elasticities of output with respect to k , k_g and z , respectively. Parameters θ and ϕ capture the externality of public capital and the knowledge index, respectively, on production.

We further assume that private production factors (private capital and labor) show constant returns to scale, thus firm's profits are zero at any period. Aggregate output is produced according to

$$y = A_0 k^{\alpha+\phi} k_g^\theta \dots, \quad (2)$$

Private capital accumulates over time according to

$$k_{t+1} = (1-\delta)k_t + i_t, \dots, \quad (3)$$

Where i_t denotes investment in physical capital

Government receives taxes from household's income and firm's profit τ_t (direct, distortionary taxation) and ν_t (indirect, non distortionary taxes).

With taxes, government capital accumulates according to

$$k_{gt+1} = i_{gt} + (1-\xi_g)k_{gt} + \tau_t + \nu_t, \dots, \quad (4)$$

Where δ is a linear depreciation rate of private capital. The linear depreciation rate of public capital is given by ξ_g . The Government decides the fraction x_t of output that is devoted to public invest-

ment (productive spending), Capital expenditure is thus given by equation (5)

$$i_{gt} = x_t y_t, \dots \quad (5)$$

Similarly, the public sector also claims a fraction g_t of output in the form of public consumption (non-productive spending), this is described by equation (6) below.

$$c_{gt} = g_t y_t, \dots \quad (6)$$

This does not contribute to either production or consumer welfare. An endogenous growth framework which assumes that public expenditure is a fraction of total output ensures that taxes in the economy continue to represent a significant and realistic fraction of output as the economy grows (Cassou and Lansing 1998).

From the above our model becomes,

$$y = x_t + g_t + k_t + \tau_t + v_t + A_0 \dots \quad (7)$$

Equation (15) says that long-run growth is dependent on x_t which is the fraction of output devoted to public investment or capital expenditure. g_t represents recurrent expenditure, k_t is private capital, τ_t is the distortionary tax, v_t is non distortionary revenue collected from citizens by the government and A_0 is the technological scale factor.

According to Barro and Sala-i-martin (1992), from which this model is an offshoot, the predicted relationship from the equation (7) would be as follows:

Growth is a decreasing rate of distortionary taxes, increasing in government capital expenditure x_t , but is not affected by non distortionary taxes or non productive expenditure.

Methodology

Model Specification

Based on the outcome of our theoretical framework which attempts to explain the relationship between taxation and public expendi-

ture, we specify the model for estimation following equation (7) above. The model is expressed thus:

$$RGDP = f(CAP, RCURR, PRCAP, TDT, TNDT, TEC) \dots\dots (8)$$

Consequently, we transform the relationship expressed in equation (8) above into a log-log model. All the variables enter our model in their log forms, these variables are equally in their real forms. Specifically, given the time series nature of the data available the postulated long-run model is shown by Model A below.

$$GDP = \alpha_0 + \beta_1 CAP + \beta_2 RCURR + \beta_3 PRCAP + \beta_4 TDT + \beta_5 TNDT + \beta_6 TEC + \epsilon_t \dots\dots\dots (9)$$

Where,

GDP is real gross domestic product, CAP is log of Capital expenditure, RCURR denotes log of recurrent expenditure, PRCAP represents log of private Capital, TDT refers to log total distortionary taxes, TNDT is the log of total non distortionary taxation, TEC denotes the log of technological scale factor, ϵ_t is the error term.

Equation (9) is the empirical specification for our estimation. Private capital (PRCAP) is proxied with gross fixed capital formation. Total distortionary taxes comprise Petroleum profit tax, (export and domestic sales and rents) Company income tax and other federal government independent revenue, while total non distortionary taxes are an aggregate of custom and excise duties, Value added tax and education taxes, as classified by Barro, Sala-i-Martin (1995) Odusola (2006) Brasoveanu, L (2008). Technological scale factor is represented by electricity consumption. This is because technology is seen as an endogenous factor which could be related to energy. The technology referred to here is such as plants, machinery and the likes.

A priori, we expect growth to be a decreasing function of distortionary taxes (TDT), increasing in government capital expenditure (CAP) but is not affected by non distortionary taxes (TNDT) or non productive spending. To further investigate the relationship between the variables, we will employ Granger Causality tests, to determine the causal pattern of the influence of total taxes and expenditure on the GDP.

The proposed models for Granger causality test is given as:

$$GDP_t = \beta + \sum_{i=1}^p \beta_i GDP_{t-i} + \sum_{i=1}^p \phi_i TTAX_{t-i} + \varepsilon_{1t} \quad \dots (11)$$

$$TTAX_t = \alpha + \sum_{i=1}^p \theta_i GDP_{t-i} + \sum_{i=1}^p \phi_i TTAX_{t-i} + \varepsilon_{2t} \quad \dots (12)$$

$$GDP_t = \beta + \sum_{i=1}^p \beta_i GDP_{t-i} + \sum_{i=1}^p \phi_i TEXP_{t-i} + \varepsilon_{3t} \quad \dots (13)$$

$$TEXP_t = \alpha + \sum_{i=1}^p \theta_i GDP_{t-i} + \sum_{i=1}^p \phi_i TEXP_{t-i} + \varepsilon_{4t} \quad \dots (14)$$

Where the ε_t 's are the stochastic error terms, called impulses or innovations or shocks. They are assumed to have mean 0, and to be strictly non-autocorrelated. To estimate (11), (12) (13) and (14) we employ a maximum lag length, of 2 defined by P, so as to capture the long run influence of the interactions among the variables. Total government expenditure (TEXP) is a summation of both capital and recurrent expenditures, while total taxes (TTAX) measure the total effect of government taxation, as it affects growth. The rationale behind this aggregation is to obtain the overall effect of government spending.

Results and Findings

The null hypothesis in both the ADF and PP test is that there is the presence of unit root (see tables 11.1 and 11.2 for the results of ADF and PP test).

Table 11.1: Augmented Dickey-Fuller Unit Root Test

Variables	Constant		Constant & Trend		None	
	Level	FD	Level	FD	Level	FD
GDP	0.06698	-4.01974*	-176820	-3.939984**	3.145125*	-1.82197***
PRCAP	-0.610026	-2.78317***	-0.959728	-3.096985**	1.81852***	-2.47285**
RCURR	-0.259128	-5.970817*	-3.99139**	-5.89758*	1.96271	-4.59891*
TDT	-0.892855	-6.005590*	-3.09685	-5.96172*	1.77188***	-4.34952*
TNDT	-0.473824	-5.78476*	-2.19759	-5.693826*	1.27855	-4.72409*
TRTAX	-218740	-5.76780*	-2.11367	-4.20363*	-2.27987**	-3.175674*
TEXP	-1.13413	-4.01974*	-1.76820	-3.93998**	3.14512*	-1.82197***
CAP	-1.87684	-4.62315*	-278716	-6.06525*	1.74307***	-6.02777*
TEC	-2.18740	-5.767801*	-2.11367	-5.83833*	-2.27987**	-5.80997*

FD signifies First Difference. *, ** and *** denote significance at 1%, 5% and 10% respectively

Table 11.2: Phillip-Perron Unit Root Test

Variables	Constant		Constant & trend		None	
	Level	FD	Level	FD	Level	FD
GDP	0.07118	-5.36241*	-1.77245	-5.30044*	4.90815*	-2.77031*
PRCAP	0.34860	-4.74610*	-1.02547	-3.09698*	1.892087	-4.31597*
RCURR	-0.145047	-10.6302*	-5.02183*	-10.4424*	2.15529**	-7.76475*
TDT	-1.47944	-8.45813*	-3.85373	-8.34292*	1.89208	-4.31597*
TNDT	-0.44830	-10.6225*	-3.35486***	-10.44521*	1.23239	-6.39434*
TRTAX	-0.83755	-6.26099*	-1.85955	-6.18837*	2.75178*	-5.28513*
TEXP	-1.10549	-9.92071*	4.16211**	-9.79029*	1.91011***	-8.49831*
CAP	-1.79726	-6.04728*	-2.88745	-6.09344*	1.13058	-4.69794*
TEC	-2.20201	-5.76637*	-2.42511	-5.83822*	-2.29629**	-5.81026*

FD signifies First Difference. *, ** and *** denote significance at 1%, 5% and 10% respectively

From tables 11.1 and 11.2, it is obvious that all the variables are integrated of order 1 or $I(1)$ in the three models. In other words, all the variables are said to be stationary at first difference. It is also observed that no variable is stationary at level. Therefore, we can safely conclude that first differencing is sufficient for modelling the time series adopted in this research work.

Results and Discussion

Table 11.3 depicts the results of the link between taxation and public expenditure, using the OLS technique. The R-Squared shows that the economic growth and independent variables in this model explain 38.6 percent of the systematic variations in output, represented by the real GDP in the reference period. F-statistic is used to establish the overall significance of the regression. At the 1 percent confidence level, it shows that the model employed is statistically significant. This basically means that the explanatory variables simultaneously explain the variations in the dependent variable. The model also shows that while recurrent expenditure (RCURR) private capital (PRCAP), Total distortionary taxes (TDT) and Technology (TEC) exhibit positively signed coefficients, Capital expenditure (CAP) and Total non distortionary taxes (TNDT) exhibit negatively signed coefficients.

Table 11.3: Impact of Taxation and Public Expenditure on Growth in Nigeria

Dependent Variable	Economic Growth
Independent variable	Coefficient
Constant	0.158819
Capital expenditure	-0.03464
Recurrent expenditure	0.080855
Private capital	0.161589
Distortionary tax	0.12774
Non distortionary tax	-0.004332
Technology	0.006963
R-squared	0.386477
Durbin Watson	1.755382

From the results obtained in table 11.3, C is the constant term. The model also shows that while recurrent expenditure (RCURR) private capital (PRCAP), which are both significant at 10 percent, Total distortionary taxes (TDT), with a significance level of 5 percent and Technology (TEC) which is insignificant, exhibit positively signed coefficients, Capital expenditure (CAP) and Total

non distortionary taxes (TNDDT) which are both insignificant, exhibit negatively signed coefficients. The theory predicts that Capital expenditure (CAP) is growth enhancing, while Distortionary taxes are growth inhibiting. This is contrary to our prior expectations.

The elasticity of recurrent expenditure (RCURR) with respect to GDP is given as 0.08085. Which indicates that a hundred percent increase in recurrent expenditure will lead to a rise in growth by 8 percent. Similarly, the estimates for private capital (PRCAP), total distortionary taxes (TDDT), and technology (TEC) are given as 0.161589, 0.127740 and 0.006963 respectively. This shows that an increase of one hundred percent in the value of these variables will contribute to a rise in GDP, by 16, 13 and 0.7 percent correspondingly.

However, capital expenditure (CAP) and total non-distortionary taxes (TNDDT) indicate a negative relationship with GDP, their coefficients are given as -0.034640 and -0.004332. It implies that capital expenditure and total non distortionary taxes impact negatively on GDP. More specifically, a rise in capital expenditure and non-distortionary taxes, by hundred percent will cause the growth rate to decline by 3.5 and 0.4 percent respectively.

The P value shows that our model is statistically adequate. This is equally confirmed by the robust F value. Thus there is no doubt that there exists a significant linear relationship between GDP and the regressors used. We therefore reject the null hypothesis (H_0) which states that public expenditure and taxation have no significant impact on the growth of the Nigerian economy.

The DW measures the presence of autocorrelation in the model. However, it is noticed that the model is free from autocorrelation since the DW Statistic observed in the model is 1.75 which is approximately 2. This means that the model is reliable in explaining the economic growth in Nigeria.

After running the OLS estimation, the residual of our equations was tested for unit root and was discovered to be stationary at 1, 5 and 10 percent levels. This implies that the null hypothesis which states that the residual of the co-integrating regression equation is non stationary has to be rejected at 1, 5 and 10 percent levels of

significance. We also test for co-integration of the variables using the Johansen and Jeselius (the JJ test), which also confirms the earlier result of the ADF residual test. The trace test statistic indicates four cointegrating equation(s) at the 5% level of significance and three cointegrating equation(s) at the 1% significant level. Whereas the max-eigenvalue test indicates no cointegrating equation at both 5% and 1% significant levels.

Based on the evidences above, we can safely reject the null hypothesis (H_0) which says that there are no cointegrating vectors and conveniently accept the alternative hypothesis of the presence of cointegrating vectors. In other words, our conclusion is that a long run relationship exists among the variables that have entered our model. Put in another way, the test statistics tells us that the hypothesis of no cointegration among the variables should be rejected for the case of Nigeria.

To check for the speed of adjustment of the model from the short run to the long run equilibrium state, we consider the error correcting term (ECM). The greater the coefficient of the error correcting term, the faster the speed of adjustment of the model from the short run to the long run. In the results obtained from the model, the coefficient of ECM is approximately 0.195879. The positive error coefficient suggests that change in GDP rises when there is a positive cointegrating error. Considering its absolute value, it is noticeable that the speed of adjustment from short run to long run is 19%. This shows that the (ECM) has a slow adjustment rate. However, the error correction coefficient is insignificant; this implies that the change in GDP does not react to the cointegrating error. According to Hill Griffiths and Lim (2008) this outcome is consistent with the view that the small economy is likely to react to economic conditions in the large economy, but not vice versa.

The Granger Causality Test

Considering the results obtained from the causality test, we cannot reject the hypothesis that GDP does not Granger cause total expenditure (TEXP) but we do reject the hypothesis that TEXP does not Granger cause GDP. Clearly therefore, it appears that

Granger causality runs one-way from TEXP to GDP and not the other way. Similarly we also conclude that total tax (TTAX) Granger causes GDP which implies the rejection of the null hypothesis that states the contrary. Also, the result shows that TEXP Granger causes TTAX once again. This further supports the alternative hypothesis. The decision about accepting or rejecting the null hypothesis is arrived at by utilizing the F-Statistic and the respective probability values.

Summary and Conclusion

In this chapter, the impacts of Taxation and Public expenditure on the aggregate economic activity in Nigeria were examined over the period spanning from 1970 to 2008. The result of our cointegration analysis allowed us to conclude that a long run relationship exists among the variables that entered our models. Our OLS estimates indicate that while recurrent expenditure, private capital, total distortionary taxes and technology are positively correlated with growth, capital expenditure, total non distortionary taxes, and trade taxes are negatively associated with GDP. The results generated from our analysis reveal that private capital has the strongest potential to influence economic growth, followed by total distortionary tax, recurrent expenditure and Technology.

This implies that capital in the hands of individuals and firms has the potential to be growth enhancing, in other words private investment tends to be productive. This is a pointer to the fact that the private sector is a very significant driver of growth in Nigeria. Our analysis indicates that total distortionary taxes are growth enhancing. This conflict with the theory, and our expectations, that total distortionary taxes have a negative effect on growth, because of the distortions it creates on the economy. It is possible that the system has the ability to absorb shocks, over a short period of time. The trend in chapter two shows that over time, this category of taxes have contributed more than non distortionary taxes, i.e. VAT, education taxes and excise duties.

Non distortionary taxes, which have been predicted not to have any effect on growth, are found to have a negative association with growth. Although the volume of revenue generated from these sources is lower, relative to distortionary taxes. If these taxes have been too restrictive on consumption, then inadequate demand may

be the immediate consequences, which could slow down production if this condition persists. Again, since it can be used as a control measure to restrict the importation and consumption of certain goods. In a case where goods produced locally are over-taxed i.e. at every stage of the production process, there is a tendency that producers in a bid to maximize profit may likely shift the burden of these taxes to the final consumer, which might result to over priced goods and inflation. This may result in a huge amount of distortion, generated from a category of tax with a low yield, thereby leading to a negative outcome. Similarly, tax on education, will possibly, eat away the profit margins of firms and it serve as a disincentive for investment, it may also lead companies to under-report their profits.

Technology, proxied by electricity consumption has a direct positive influence on the economy. In other words, the effect of electricity in the past can only be seen in other factors or products which influence Gross Domestic Product today.

However, capital expenditure, which we expect to influence the economy positively, is found to have a negative impact. Possible reasons may be as a result of inefficiencies and corruption, with respect to prospecting and contract execution. These tend to encourage wastage and rent-seeking behaviour in the public sector; there exists significant scope for increasing the efficiency of public investment in Nigeria

The results of the Granger causality test reveal that both total expenditure and total taxes granger cause GDP, while total tax is found to granger cause total expenditure. This implies that both total tax and total expenditure are exogenous to the model. Thus, we conclude that, public expenditure in Nigeria is characterized by inefficient and unproductive utilization of scarce resources which has no direct impact on growth. Precisely, capital expenditure has no marginal benefit in terms of productivity of output. Recurrent expenditure has shown a positive tendency to drive growth, through the multiplier principle. Although taxation is largely distortionary in nature, coupled with the problem of low yield and corrupt processes, yet, it has contributed to growth. Non distortionary and trade taxes which should be more efficient, since

it is void of creating unnecessary shocks in the economy are found to retard growth. The notion that public spending crowds out private investment does not hold for Nigeria, since it exhibits a relatively higher contribution to GDP. Technology has also influenced the economy positively.

In the light of the above observation we propose the following recommendations. Privatisation and public, private partnership will boost growth. The Nigerian government needs to come up with more friendly economic policies and business environment, which will make its business climate more conducive. Similarly, this will help to check the following problems (i) rent-seeking behaviour, leading to inefficiency in resource allocation with negative impact on growth and development; (ii) the problem of the quality of spending, with inefficiency and leakages in both the current and capital budgets and (iii) the problems of ill-conceived projects, as Nigeria tends to pay three times the cost of first-class projects but usually ends up with third-class ones.

There is need for a sound expenditure framework and strategies to guide the budgetary process, with a view to ensuring that spending plans reflect existing government development priorities and are also in line with their projected resource envelopes. This will help mitigate the problem of wasteful expenditure.

Since our results revealed that consumption tax has not aided GDP, low tax burden will help to increase tax output, and reduce the effect of high incidence of taxes that producers impose on the final consumers. Furthermore, tax systems should be reviewed, so as to make them more convenient to taxpayers, broad-based and higher-revenue yielding, while judicious spending of taxpayers' money should be ensured.

An efficient administrative machinery with personnel who are adequately trained, well-equipped and motivated would enable Nigeria to make appreciable progress in revenue generation from taxation. Taxes, one of the most dependable revenue sources in Nigeria today, have the potential to become the main source if they are properly harnessed.

Agencies established to fight corruption such as the Economic and Financial Crimes Commission (EFCC) and Independent

Corrupt Practices Commission (ICPC) should investigate every project so as to ensure transparency in government expenditure.

Efforts should be made to get the optimum benefit from capital projects, like power generation. There may be need to further liberalize the power sector by encouraging independent power supply providers. These should be encouraged to complement the efforts of the Power Holding Company, whose inability is apparent in constant power failures and attendant high costs of providing electricity.

In general, until these macroeconomic policies are effectively implemented and particularly geared towards enhancing the overall productivity of the economy, only then can their potential beneficial effects be appreciably felt in the country.

References

- Adeoye, T. (2003) Fiscal Policy and Economic Growth: Empirical Evidence from Nigeria. *Nigerian Journal of Economics and Social Studies*, Volume 45 Number 1 and 2. Pg 133 to 155.
- Ali (2005) Fiscal Policy and Economic growth: The effect of fiscal Volatility. *Journal of business and economic research* Vol. 3, No. 5
- Arrow and Kurz (1970) *Capital income taxation, depreciation allowances and economic growth*.
www.springerlink.com/index/N3481876QL1J6154.pdf
- Ayanwale, A.B. (2007) FDI and economic growth: evidence from Nigeria. AERC Research Paper 165 *African Economic Research Consortium*, Nairobi.
- Barro, J.R. (1990) Government Spending in a Simple Model of Endogenous growth, *Journal of Political Economy* Vol.98, No. 5, part 2: Published by the University of Chicago Press.
<http://www.Jstor.org/stable/2937633>
- Barro, J.R. and Sala-i-Martin, X. (1992) Public Finance Models of Economic Growth. *Review of Economic Studies*, Vol. 59, No 4 PP 645-661. <http://www.Jstor.org/stable/2297991>
- Bleaney, M. et al. (2001) Testing the Endogenous Growth Model: Public Expenditure, Taxation and Growth over the Long run. *Canadian Journal of Economics*. Canadian Economics Association.
- Bogdonov, B. (2010) Cyclicalilty of Fiscal Policy over the business cycle. An empirical chapter on developed and developing countries *Journal Agency for economic analysis and forecasting*. Boston, USA.

- Brasoveanu, L. (2008) The Correlation between Fiscal Policy and Economic growth *Journal of theoretical and Applied Economics*, Association generala a Economistilor din Romania (AGER).
- Brons, M. de Groot and Nijkamp (1999) Growth effects of Fiscal Policies- A comparative Analysis in a multi-country context. Tinbergen Institute discussion papers No.99-0443.
<http://www.tinbergen.nl> Cambridge, MA.
- Central Bank of Nigeria (2006) *Statistical bulletin*, Vol.17.
- Central Bank of Nigeria (2008) *Statistical bulletin*, Golden Jubilee edition. Vol.17.
- Eris, A. (2007) *Growth oriented Fiscal Policy -the examples of Ireland and Hungary*.
- Folorunsho, B.A. and Olayeni, O.R. (2006) Public Expenditure and Economic Growth: Causal evidence from Nigeria (1970-2003) *Ife Social Science Review* Vol. 20 No Pg 57-64.
- Gujarati, D.N. (2004) *Basic econometrics* fourth edition McGraw-Hill companies.
- Gupta et al. (2005) Fiscal Policy, expenditure composition, and growth in low-income countries. *Journal of International money and Finance* 24(2005) PP 441-463 Elsevier Publisher.
www.sciencedirect.com
- Hill, Griffiths and Lim (2008) *Principles of Econometrics*. John Wiley and Sons international.
- Lucas, R.E. (1988) On the Mechanics of Economic Development, *Journal of Monetary Economics*, 22, 3-42.
- Marrero, A.G. (2007) *Growth, Public Expenditure Composition and Tax mix in an Endogenous Growth Economy*. Documento De Trabajo Madrid.
- Obi, B. (2007) Fiscal Policy and Poverty alleviation: Some policy options for Nigeria. AERC Research Paper 164.
- Obinyeluaku, M. and Viegi, N. (2009) Fiscal Policy rules for managing oil revenues in Nigeria *Africa Econometric society*.
- Oduola, A. (2006) Tax Policy Reforms in Nigeria. United Nations and World Institute for Development Economics Research, Research Paper No. 2006/03.
- Ott, I. and Soretz, S. (2002) Fiscal Policy in a stochastic model of Endogenous growth with *congestion computational Economics and finance Journal No 162*.
- Romer, P.M. (1986) Increasing Returns and Long-run Growth, *Journal of Political Economics*, vol. 94, no. 5, pp. 1002-1037.

- Tanzi, V. and Zee, Y. (1997) *Fiscal Policy and long-run growth*. Staff papers-International Monetary Fund, Vol. 44, No. 2 PP 179-209 Macmillan Palgrave Publishers.
- Todaro and Smith (2003) *Economic Development*. Pearson education press Singapore pte Ltd.
- Usman, S. (2008) *Fiscal Policy, Poverty and Growth - the Nigerian Perspective*.
- Wang (2010) *On Endogenous Growth Theory A General Two-Sector Endogenous Growth Model: Bond-Wang-Yip*.

UNIVERSITY OF IBADAN LIBRARY