ECONOMETRIC ANALYSIS OF THE IMPACT OF FISCAL POLICY VARIABLES ON NIGERIA'S ECONOMIC GROWTH (1970 - 2009)

Peter N. Medee
***Simeon G. Nenbee**
Department of Economics, Faculty of Social Sciences
University of Port Harcourt, Port Harcourt, Nigeria
**E-mail: gbimoiye@gmail.com*

ABSTRACT

This study seeked to investigate the impact of fiscal policy variables on Nigeria's economic growth between 1970 and 2009. In order to reduce the problem of stationarity usually associated with time series data, we adopted the arcane method of Vector Auto Regression (VAR) and error correction mechanism techniques. The result revealed that there exist a long-run equilibrium relationship between economic growth and fiscal policy variables in Nigeria. Also, own shocks constitute a significant source of variations in economic growth, the forecasted errors in the short-run, range from 76 percent to 100 percent over a 10 years horizon while the response of the GDP to one standard innovation in government expenditure is negative in the short-run except in period 2. Furthermore, tax revenue shocks have effect on the GDP in the short and long run. Above all, the response of GDP to one standard innovation in capital inflow is positive in the short-run. Consequently, it is recommended that government should formulate and implement viable fiscal policy options that will stabilize the economy. This could be achieved through the practice of true fiscal federalism and the decentralization of the various levels of government in Nigeria. It further suggested that there should be consistency in macroeconomic policies implementation in the non-oil sectors of the economy by providing relevant incentives to foreigners wishing to invest in the agricultural sector and manufacturing sectors in Nigeria. More importantly, there should be appropriate macroeconomic policy mix in managing the economy.
Keywords: *Fiscal policy, and Economic growth*

INTRODUCTION

There is no doubt that government is an institution saddled with a myriad of functions. However, the way and manner in which these functions are carried out vary from one society to another. Historically, prior to the Great Depression of the 1930s, there was the general belief by economic managers that the market system was sacrosanct. Primarily, at the nucleus of this belief was the famous law of the market which says that supply creates its own demand. Hence, the market system was capable of allocating societal resources equitably to all manner of citizens. In fact, it was reasoned that people should fold their hands seemingly helpless and allow the forces of demand and supply to dictate their economic fortune.

Following the appearance of John M. Keynes' (1936) prescription, the complexion of the argument changed in favour of government intervention in the workings of the economy. This was path-breaking because he identified the problem to be that of aggregate demand exceeding that of aggregate supply. This reversed and modified "demand creates its own supply". According to Jumbo (2010), the fall out of this is a great influence on both economic and political thinking. Hence, states (government) started thinking of how to have a stable and predictable economic environment for sustainable social and economic growth in order to forestall the disaster of the Great Depression. Naturally, households prefer to have economic stability with continuous employment and stable income, while no economy does well in the face of volatile or unfavourable fluctuations in its macroeconomic variables.

Government intervention began to be more popular in the management of the economy. Arising from the above, government over the years embarks on diverse macroeconomic policy options to tinker the economy on the path of growth and development. Amongst the policy options readily employed is that of fiscal policy. Fiscal policy entails government's management of the economy through the manipulation of its income and spending power to achieve certain desired macroeconomic objectives (goals) amongst which is economic growth. The power of fiscal policy as an instrument of economic stabilization was acknowledged in the works of Jhingan (2006), Gbosi (2008), Philips (1997), Tombofa (1999), Agiobenebo (2003), Brennon and Buchana (1980).

Despite the lofty place of fiscal policy in the management of the economy, the Nigerian economy is yet to come on the path of sound growth and development. Studies by Agiobenebo (2003), Gbosi (2002) and Okowa (1997) indicate that the economy is still married by chromic unemployment, rising rate of inflation, dependence on foreign technology, monoculture foreign exchange earnings from crude oil, and more. Nigeria is endowed with enormous potential for growth and development with her vast oil and gas resources, rich and expensive agricultural land, solid minerals and abundant human resources. Despite these factors, since 1960 when she got her independent from Britain, the successive governments have not done enough to put the nation's resources to effective productive use as to chart the path of growth and development. The net result is that the Nigerian economy is now performing below her potential as the "Crown prince of the Gulf of Guinea".

The question then is what form of fiscal policy rules will perform better in reducing debt accumulation and promote the necessary medium term budget deficit stability. Can fiscal policy curb the problem of economic growth and development in Nigeria? What tier of government should influence the level of economic growth in Nigeria? The answers to these questions are the concern of this study for proper economic management in Nigeria. Consequently, the main objective of this paper is to investigate empirical impact of fiscal policy variables on Nigeria's economic growth between 1970 and 2009.

The Theoretical Framework

The literature on fiscal federalism provides guidance on how expenditure assignment could be optimally designed on the grounds of allocate efficiency, manageability, autonomy and accountability. Overtime, government involvement has increased in absolute and relative terms, especially in developing countries. This growth in public sector size has been attributed to some reasons (according to Wagner's hypothesis), which include, increasing income, elasticity of voters demand for public goods, relative price changes, threshold effects like wars or depression, interest group demands for example, public sector employees or unions, productivity differentials, redistribution, motivations and centralization of government activities (Banmol 1967, Beck 1982, Buchanan and Grossman 1987, 1992, Musgrave and Musgrave 2005).

The increase in the growth of public sector has aroused interest in the way the public sector functions in the economy. Above all, this equally had increased in the volume and content of scholarly works to earn economic growth and development in a given society. More importantly, the public debate on the increasing size of the public sector and the attendant increase in spending have cut across boundaries of all economies in the world today. Consequently, two schools of thoughts exist; the first argues that large government participation is inimical to efficiency, productivity and growth in the system. The basis of this view is that the public sector is not responsive to market signals, has enormous regularity processes that engenders high production debts and are prone to distortions arising from both fiscal and monetary policies. On the other hand, those in favour of government articulate the need for the provisions of certain goods and services that would otherwise not be provided by the private sector in order to place the economy on a predetermined growth path. The premise of the later position is the failure of the market economy arising from externalities (Al-Yousif, 2000 and Cooray 2009).

From the fabrics of the two divergent opinions above, the Nigerian economy is a battle ground or peaceful ground depending on one's disposition. Despite these discernable views, government expenditures can breed economic growth in Nigeria. This position was earlier supported by some eminent scholars like Baro (1990), Chenery and Syrquin (1975), Landu (1983), Diamond (1990), Longe (1984), Odusola (1996) and Ekpo (1995). Baro (1990) was among the first to formally endogenize government spending in a growth-model and to analyze the relationship between size of government and the rate of growth and saving. He concluded that an increase in the resources devoted to non-productive government services is associated with low capital. From an allocating perspective, an increase in government consumption leads to capital formation or private consumption. Some development economists of the Structuralist School prove that some categories of government expenditures are necessary to overcome constraints to economic growth (Chenery and Syrquin, 1975). In the seminal work of Landau (1983), the share of government consumption to GDP reduces economic growth. This is consistent with the pro-market view that the growth in government constrains the overall economic growth.

Diamond (1990) notes that in Nigeria, less attention has been given to examining the productiveness of the various components of public spending. Longe (1984) examines the growth and structure of government expenditures in Nigeria with a view to ascertaining if the pattern fits with the results of other countries. Thus, his study revealed that government expenditure has shown many considerable structural shifts over the review period and that the ratio of government expenditure to GNP has been rising and corresponds with the rising share hypothesis.

Odusola (1996) adopts a simultaneous equation model to capture the interrelationship between government expenditure and economic growth in Nigeria. The study revealed that aggregate military expenditure was negatively related to economic growth at 10% significance level and when decomposed into recurrent and capital expenditures, the former was more growth retarding than the latter. As revealed by Ekpo (1995), capital expenditure on transport, communication, agriculture, health and education positively influence private investment in Nigeria, which invariably enhanced the growth of the overall economy. Cameroon (1998) examines the effects of fiscal policy on growth, which focus was on the relationship between public spending and growth through private investment. A derivative of Denison growth accounting model was used in the study to analyze the relationship between Cameroon's fiscal policy and economic growth. He used the ordinary least squares (OLS) technique in estimating the equation that link private investment and growth. The result of the study showed that expenditure especially on education and health crowd-in private investment.

The impact of fiscal deficits on the prospect of economic growth is another phenomenon of interest to economists. The financing of fiscal deficits by reducing the available funds to private investors, that is, "crowding-out" is very likely to retard economic growth. On the contrary, it is also argued that public investment in spite of how it is financed as long as it builds infrastructure and provides support services creates a conducive climate for private investment and as a result improves the prospects of economic growth. It may, be necessary for us to add here that while we advocate for a private sector driven economy, we opine that government should raise funds to create the enabling environment for private investment though such fiscal policy may ostensibly crowd out some private investors.

From the foregoing, it is clear that if fiscal policy is used with circumspection and synchronized with other measures, it will likely smoothen out business cycles and lead to economic growth and stability. The continual inclusive opinions regarding the role of government in managing the economy using fiscal policy lies in two dominant theoretical perspectives. The first is the Keynesian view, which makes the case that governments can play a major role in determining the level of national income. The alternative is the Ricardian view, which argues that the level of aggregate demand is essentially neutral to government policy. The effectiveness of fiscal policy will therefore depend very much on which view of the world persists (Chamberelin and Yueh, 2006). The difference between the Keynesian and the Ricardian view of

the world comes down to the type of consumption function that is used. In the Keynesian model, unsurprisingly the Keynesian consumption function is prominent. People decide how much to consume on the basis of their current disposable income, which is in turn influenced by fiscal policy. In the Ricardian view, the permanent income hypothesis is central. Consumers are forward - looking and base their decisions on a longer-run view of income. Households will only change consumption plans if they believe their permanent income has changed. If it is accepted that government must ultimately balance its books, all deficits must be offset by surpluses. In this case, permanent income, consumption, aggregate demand and the level of national income will all be neutral with respect to fiscal policy (Chamberlin and Yueh, 2006).

Analytical Framework

The Keynesian model states that expansion of government expenditure (expansionary fiscal policy) accelerates economic growth. Endogenous growth models do not assign any important role to government in the growth process, but Barro and Sala-Martin (1992); Easterly and Rebelo (1993) emphasized the importance of government policy (activity) in economic growth. They emphasized on the composition of public expenditure rather than its level and in that vein felt that the productive government expenditure has an effect while the unproductive government expenditure has no effect. But the problem is to identify which government expenditure is unproductive before the spending. This implies that government expenditure and composition of government expenditures are important determinants of growth.

On the other hand, there seems to be a direct link between budget policy and growth, and this has primarily been associated with tax policy. The structure of taxation could have important implication for growth. The empirical evidence of the impact of various aspect of tax policy on growth has so far been mixed. Easterly and Rebelo (1993) point out that a major difficulty in isolating the impact of tax on growth arises because key non-tax variables such as public expenditure that are often not independent of tax policy can also affect growth.

Arising from the above, the need to have a concise functional model to capture the impact of fiscal policy variables on growth in an economy (including Nigeria) is tasking. However, Habeeb (1994) proposes a relationship between economic growth and inflation. In the work of Adewuyi (2002), an empirical relationship between volume of export and real capital flows and rate of growth was established. Adeoye (2006) includes both private and public investment as fiscal policy explanatory variables were adapted to proxy economic growth. In line with Adeoye (2006), Amadi, Ogbolo and Essi (2010) included a Dummy to divulge the impact of these variables during regulated and deregulated periods in the Nigerian economy. Again, Jumbo (2010) provides a rule-of-thumb approach to modeling the impact of fiscal policy variables of government expenditure, tax revenue and public debt on Nigeria's economic growth. The explanations above form the basis for our model formulation in this study. Thus, we employ inflation, government expenditure, and government revenue and capital inflow as the main explanatory variables for Nigeria's economic growth proxied with

the Gross Domestic Product (GDP). Aside, the choice of these middle-of-the-way variables, earlier studies have not captured the period 1970 and 2009 using the arcane method of Vector Auto Regression modeling (VAR). This is a great departure and could be used to stimulate effective policy formulation and implementation towards driving Nigeria on the path of economic growth and development. Consequently our multiple regression equation is structured as:

$$GDP = f(FGE, TRR, INF, CIN) \quad \text{.....(1)}$$

Where:

FGE = Federal government expenditure
TRR = Federal government revenue
INF = Inflation rate
CIN = Capital inflow

Both linear and log-linear specifications are applied.

Linear:

$$DGP = \phi_1 FGE + \phi_2 TRR + \phi_3 INF + \phi_4 CIN + U_{1t} \quad \text{.....(2)}$$

ϕ_i depicts coefficients and U_{1t} is the error term (assumed white noise).

Log - linear:

$$L_n GDP = \lambda_0 + \lambda_1 L_n FGE + \lambda_2 L_n TRR + \lambda_3 L_n INF + \lambda_4 L_n CIN + U_{2t} \quad \text{.....(3)}$$

λ_i are coefficients and U_{2t} is the error term (assumed white noise)

$Apriori,\ \lambda_1, \lambda_2\ and\ \lambda_4 > 0\ while\ \lambda_3 < 0.$

The study relies on the Vector Auto Regressive (VAR), the methodology advocated by Sims (1980), that the decision among competing macroeconomic theories must be made on the basis of appeal to the data and that appropriate strategies for modeling systems of the aggregate time series must be used. Thus, equations 2 and 3 shall be analyzed and interpreted. The one that gives a better explanatory power shall be recommended for policy simulation.

As observed by Mbutor (2007), the major attraction to the use of the VAR methodology is the fact that it enables the estimation of the interdependence amongst variables without necessarily holding the impacts of any of the variables constraint. The method also captures the contemporaneous and lagged responses of the variables simultaneously. The VAR takes the form:

$$Y_t = A(L)Y_{t-1} + B(L)X_t + U_t \quad \text{.....(4)}$$

Y is a vector of endogenous variables while *X* is a vector containing the exogenous (foreign) variables. The assumption underlying the exogeneity of the foreign factors is that there is no feedback from the domestic variables to the foreign variables (Ignazio, Kashyap and Benoit, 2003).

Estimation Results

Most time series variables are non-stationary and using non-stationary variable in the model might lead to spurious regressions (Granger and Newbold, 1974). The first or second difference terms of most variables will usually be stationary (Ramanathan, 1992). Accordingly, to avoid the problem of *none sense correlation*, we begin by testing the variable using the Augmented Dickey-Fuller (ADF) test technique. We begin with the static regression analysis before proceeding to test for the problem of stationary.

Table 1: Static Regression Result

Method: Least Squares
Sample: 1970 2009
Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	4.447804	0.926130	4.802570	0.0000
LOG(FGE)	0.112907	0.063186	1.786905	0.0826
LOG(TRR)	0.358406	0.159569	2.246089	0.0311
LOG(INF)	0.139258	0.173379	0.803200	0.4273
LOG(CIN)	0.194621	0.216976	0.896971	0.3759
R-squared	0.777515	Mean dependent variance		11.83735
Adjusted R-squared	0.752088	S.D. dependent variance		1.544482
S.E. of regression	0.769010	Akaike info criterion		2.429043
Sum squared resid	20.69817	Schwarz criterion		2.640153
Log likelihood	-43.58085	F-statistic		30.57844
Durbin-Watson stat	0.392871	Prob(F-statistic)		0.000000

Source: Authors' Computation (2011)

Table 1 documents the static regression results using the E-view Computer software version 3.1. It shows that the model's estimates are generally robust except for the lower value of DW. The computed R^2 of 0.778 implies that about 78% of the total variation in the GDP is explained by the regressors. The remaining 22% are accorded factors exogenous to the model but covered by the error time. Also, the overall model is statistically significant at 5% confidence level as shown by the F-statistics calculated of 30.58. The DW value computed of 0.3929 is very far from 2, hence, depicting the presence of serial autocorrelation. These observations necessitate the testing for long-run relationship.

Dynamic Regression Analysis

We proceed by conducting the unit root test to make the variables stationary using the Dickey and Fuller (1979) method called Augmented Dickey Fuller (ADF).

Table 2: ADF Stationary Test Result on Variables

Variables	At level	Order of integration	First Difference	Order of integration
Log(GDP)	-1.716703	1(0)	-4.286514	1(1)
Log(FGE)	-1.887419	1(0)	-4.317223	1(1)
Log(TRR)	-1.025288	1(0)	-7.441663	1(1)
Log(IFN)	-4.394824	1(1)		
Log(CIN)	-0.681525	1(0)	-6.021028	1(1)

Note: *5% ADF critical value for the test is -2.9422*

Source: Authors' Computation

Table 4 shows that except inflation rate, all the variables were stationary at first difference operation. In line with Granger (1969), Granger and Newbold (1974), the first difference operation was carried out. Thus, the variables become stationary at first difference (integrated of order 1). We now conduct the co-integration test.

Table 3: Johansen Co-Integration Test Results

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.932436	378.5094	68.52	76.07	None **
0.925958	284.1956	47.21	54.46	At most 1 **
0.864814	193.0862	29.68	35.65	At most 2 **
0.846487	123.0476	15.41	20.04	At most 3 **
0.806344	57.45860	3.76	6.65	At most 4 **

Note: *(i)* (**) denotes rejection of the hypothesis at 5% (1%) significant level.(ii)L.R test indicates 2 co-integration equation(s) at 5% significant level*

Source: Authors' Computation

Using Johansen (1988), Johansen and Juselius (1990) approach, the result shows that there exists a long-run relationship between the variables. That is, the likelihood ratios are greater than the critical values. In order to affirm the existence of a co-integrating vector among the variables, the ECM is employed. This is based on the general-to-specific rule and the results are presented on table 4.

Table 4: The Parsimonious Error Correction Model (ECM)

Dependent Variable: D(LOG(GDP))
Method: Least Squares
Sample(adjusted): 1974 2009
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-statistic	Probability
C	0.168257	0.133110	1.264043	0.2201
D(LOG(GDP(-1)))	0.097056	0.236703	0.410032	0.6859
D(LOG(GDP(-2)))	-0.148071	0.249641	-0.593137	0.5594
D(LOG(GDP(-3)))	-0.097279	0.232094	-0.419136	0.6794
D(LOG(FGE(-2)))	-0.004431	0.063165	-0.070145	0.9447
D(LOG(FGE(-3)))	0.004490	0.063725	0.070461	0.9445
D(LOG(TRR))	0.045115	0.155194	0.290699	0.7741
D(LOG(TRR(-1)))	-0.100678	0.184222	-0.546501	0.5905
D(LOG(TRR(-2)))	0.164838	0.173010	0.952763	0.3515
D(LOG(TRR(-3)))	0.006247	0.186221	0.033547	0.9736
D(LOG(INF))	0.173143	0.136513	1.268322	0.2186
D(LOG(INF(-1)))	0.019933	0.120422	0.165524	0.8701
D(LOG(INF(-2)))	0.010444	0.130279	0.080165	0.9369
D(LOG(CIN))	-0.063712	0.130762	-0.487237	0.6311
ECM(-1)	-0.154058	0.122462	-1.258012	0.2222
R-squared	0.267490	Mean dependent variance		0.163406
Adjusted R-squared	-0.220850	S.D. dependent variance		0.387681
S.E. of regression	0.428357	Akaike info criterion		1.436617
Sum squared resid	3.853284	Schwarz criterion		2.096417
Log likelihood	-10.85911	F-statistic		0.547754
Durbin-Watson stat	1.734281	Prob(F-statistic)		0.875205

Source: Authors' Computation

Table 4 shows that the model is not a good fit. This is so because the regressors account for 22 percent of the total variation in the GDP. The remaining 78 percent

are due to factors exogenous to the model but covered by the error term. Also, the overall regression result of the dynamic model is not significant. The ECM is rightly signed but not significant. It shows 15.4 percent disequilibrium in economic growth in the previous year (since the data are annual) is corrected in the current year. However, the DW value of 1.7343 seems to suggest lesser degree of autocorrelation. Again, the current period for CIN, current period for TRR and lag 3, as well as past FGE (lag 3) were rightly signed with GDP. On the other hand, FGE (lag 2), TRR (lag 1), INF (lags 1, 2 and 3) bear wrong signs with GDP.

Parameter Stability Test and Impulse Response Analysis

The stability of the parameters in the short-run GDP model is examined using the plots of the cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residual (CUSUMSQ) as advocated by Adebiyi (2004). Instability of the parameters arises due to structural changes and the institution of different policy regimes over the sample period. Whilst the CUSUM test is particularly useful for detecting systematic changes in the regression coefficients, the CUSUMSQ test is significant in situations where the departure from the constancy of the regression coefficients is haphazard and sudden. If any of the straight lines in the graph is crossed, the null hypothesis that the regression equation is correctly specified is rejected at the 5% level of significance. From the figure 1, only CUSUM stays within the 5% critical line, indicating parameter constancy throughout the sample period in the study. For the CUSUMSQ, parameter instability is established between 2003 and 2009 (figures 1 and 2).

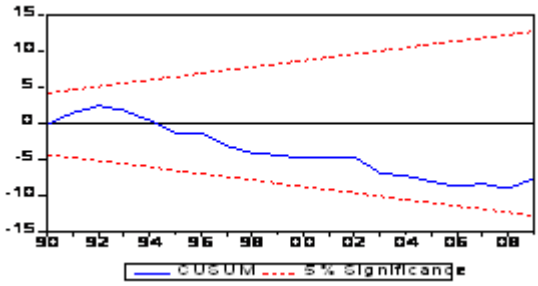

Figure 1: CUSUM Test

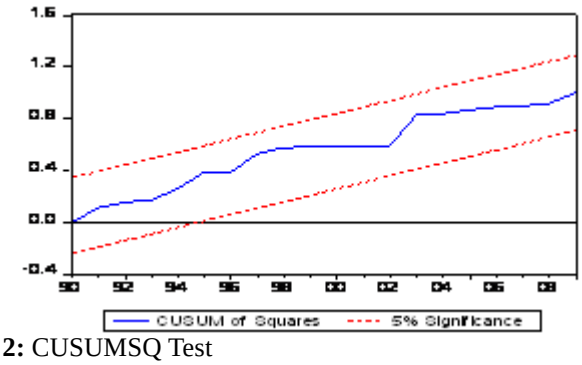

Figure 2: CUSUMSQ Test

An examination of the short-run dynamic properties of economic growth is further supplemented by forecast error variance decomposition. More importantly,

table 5 shows the fraction of the forecast error variance for each variable that is attributed to its own innovations and to innovations in another variable.

Table 5: Forecast Error Variance Decomposition of GDP

Period	S.E.	GDP	FGE	TRR	INF	CIN
1	140429.3	100.0000	0.000000	0.000000	0.000000	0.000000
2	159086.6	92.95317	0.005445	6.548511	0.414964	0.077913
3	226736.7	86.92249	1.916412	10.68566	0.305348	0.170092
4	258657.9	85.27556	2.228510	10.73421	0.246373	1.515349
5	282459.2	84.93145	2.504169	10.05685	0.454141	2.053392
6	322158.1	83.51509	2.262584	11.07525	0.472551	2.674518
7	359184.4	81.11897	2.139886	12.70315	0.427981	3.610010
8	396834.3	79.26968	1.982602	13.18601	0.373453	5.188248
9	433516.0	77.57743	1.709151	13.28778	0.329833	7.095805
10	479343.8	76.09454	1.404317	13.67702	0.282455	8.541668

Source: Authors' Computation

Table 5 states that own shocks constitute a significant source of variation in GDP forecast errors in the short-run, ranging from 76% to 100% over the 10 years horizon. The persistence of GDP shocks after 10 years of the shocks explains 76% of the variance of production index, while FGE accounts for 2.5%. The relative importance of past GDP in determining current economic growth declines from 100% in period one to 76% in period ten. The most important observation on table 5 is that the proxies for GDP variations are due largely to own shocks, and to a lesser extent, to tax revenue of about 13.67%.

Table 6: Impulse Response of GDP to One S. E. Shock in its Explanatory Variables.

Period	GDP	FGE	TRR	INF	CIN
1	140429.3	0.000000	0.000000	0.000000	0.000000
2	61682.22	1173.932	40710.35	10247.99	4440.563
3	145469.4	-31366.23	61936.39	-7208.102	-8229.521
4	111203.6	-22488.71	41087.23	2802.739	30436.56
5	103481.1	-22515.44	29018.44	-14053.29	24988.68
6	137534.8	-18717.26	58914.06	-11318.70	33726.97
7	134080.3	-20310.08	69958.77	-7855.710	43377.74
8	142047.5	-19010.76	66153.01	-5995.840	59269.90
9	144790.0	-9484.806	64865.62	-5636.643	71869.75
10	170431.2	-3820.263	80331.82	-5396.507	79313.62

Source: Authors' Computation

Furthermore, the result of impulse response functions of the GDP model is documented on table 6. Specifically, the result is derived primarily from the estimated VAR models. The response of the GDP to one standard innovation in FGE is negative in the short-run except in period 2. This implies that FGE seems not to impact on the GDP in the long-run. This is tandem with other empirical evidence that government consumption spending has a negative impact on growth (Grier and Tullock, 1989; Barro, 1991; Easterly and Rebelo, 1993; Tanninen, 1999).

Table 6 also has it that TRR shocks have effect on the GDP in the short and long run. This observation is not surprising. As observed by Garba (1999), the Nigerian fiscal laws allow the federal government to collect revenue that it does not share with other tiers as its independent revenue. This supports the scholarly views of Oates

(1972), Cremer, Estache and Seabright (1994) and Taiwo (1999), who unanimously agreed that at the theoretical level, the central government would be in a better position to perform its stabilization functions as well as provide national public goods. On the other hand, the response of GDP to one standard innovation in CIN is positive in the short-run. This means that rising capital inflow will increase economic growth.

CONCLUDING REMARK

This study centres on an empirical investigation of the impact of fiscal policy variables on economic growth in Nigeria between 1970 and 2009. In order to reduce the problem of stationarity usually accompanied time series data, we adopted the arcane method of Vector Auto Regression (VAR) and error correction mechanism techniques. The result shows that there is no serious problem of multicollinearity amongst the independent variables, implying that all the variables could be included in the model. The result of stationarity test on the variables laid credence to the hypothesis of non-stationarity, 1(1) at 5 percent level of significance based on the Dickey-Fuller test.

There exist a mild long-run equilibrium relationship between economic growth and fiscal policy variables in Nigeria. The own shocks constitute a significant source of variation in economic growth forecast errors in the short-run, ranging from 76 percent to 100 percent over the 10 years horizon. The response of the GDP to one standard innovation in FGE is negative in the short-run except in period 2. This implies that FGE has no impact on the GDP in the long-run. TRR shocks have effect on the GDP in the short and long run. The response of GDP to one standard innovation in CIN is positive in the short-run. This means that rising capital inflow will increase economic growth. On the basis of these findings, it is recommended that the government should formulate and implement viable fiscal policy options that will stabilize the economy. This could be achieved through the practice of true fiscal federalism and decentralization of levels of government in Nigeria. Again, there should be consistency in macroeconomic policies implementation in the non-oil sectors of the economy by providing incentives to foreigners (especially tax holidays) wishing to invest in the agricultural sector and manufacturing sectors. More importantly, there should be macroeconomic policy mix in managing the economy (especially monetary and fiscal policies) and sorts.

REFERENCES

Adebiyi, M. A. and **Dauda, R. O. S.** (2004). Trade Liberalization Policy and Industrial Growth Performance in Nigeria. National Economics Society, Annual Conference. pp 119-145.

Adeoye, T. (2006). *Fiscal Policy and Growth of the Nigeria Economy: An Empirical Perspective.* Ibadan: National Institute of Social and Economic Research Monograph Series, No. 3.

Adewuyi, A. O. (2002). *Balance of Payments Constraints and Growth Rate Differences under Alternative policy regimes in Nigeria.* Ibadan: National Institute of Social and Economic Research Monograph series, No. 10.

Ajiobenebo, T. J. (2003). *Public Sector Economics: Principles, Theories, Issues and Applications.* (3rd ed.) Port Harcourt: Lima Computers.

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

Amadi S. N., Ogbolo F. and **Essi D.** (2010). Fiscal Policy and Economic Growth: Evidence from Nigeria (1970-2006). *Journal of Economics, Management Studies and Policy (JEMSAP),* 3(1), 1 - 15.

Banmol, W. I. (1967). Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis. *American Economic Review,* 52, 415 - 426.

Barro, R. (1990). Government Spending in a Simple model of Endogenous Growth. *Journal of Political Economy*, 98, S103 - S125.

Barro, R. and **Sala-Martin, X.** (1992). Public Finance in Models of Economic Growth. *Review of Economic Studies,* 59, 645 - 661

Barro, R. J. (1991). Economic Growth in a Cross section of countries. *Quarterly Journal of Economics,* 106, 407 - 444.

Beck, M. (1982). Towards a Theory of Public Sector Growth. *Public Finance/Finances publiques,* 37 (2), 163 - 177.

Brennon, G. and **Buchanan** (1980). *The Power to Tax: Analytical Foundations of a Fiscal Constitution.* Cambridge: University Press.

Cameroon, R. (1998). *Banking in the Early Stages of Industrialization: A study in Comparative Economic History.* New York: Oxford University Press.

Chamberlin, G. and **Yueh, L.** (2006). *Macroeconomics.* London: Thomsom Publishers.

Chenery, H. and **Syrquim, M.** (1975). *Patterns of Development, 1950 - 1970.* London: Oxford University Press.

Coorcy, A. (2009). Government Expenditure. Governance and Economic Studies, 51(3), 401 - 418. Available at: *http:/222.ingentaconnect.com/content/pral/cefsessionid=q1g8/gk3fvmsalice.* Retrieved on 13/07/2010 at 10.20am

Cremer J., Estache A. and **Seabright** (1994). The Decentralization of Public Goods: Lessons from the Theory of the Firm. World Bank Policy Research Working Paper, 1345.

Diamond, J. (1990). Fiscal Indicators for Economic Growth: An Illusory Search. IMF Working Paper, August.

Dickey, D. and **Fuller W.** (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of American Statistical Association,* 74, 427 - 431.

Easterly, W and **Rebelo S.** (1993). Fiscal Policy and Economic Growth: An Empirical Investigation. *Journal of Monetary Economics,* 32.417 - 458.

Ekpo, A. H. (1995). *Public Expenditure and Economic Growth in Nigeria, 1960 - 1992.* Fiscal Report, AERC, Nairobi, Kenya

Garba, A. G. (1999). Regime Change, External Shock and Federal Fiscal Operations in Nigeria: 1975-93. National Economic Society Annual Conference. pp 353 - 377.

Gbosi, A. N. (2008). *Contemporary Macroeconomic Problems and Stabilization Policies.* Port Harcourt: Automatic Ventures.

Granger, C. (1969). Developments in the Study of Cointegrated Economic Variables. *Oxford Bulletin of Economics and Statistics,* 48 (3), 355 - 369.

Granger, C. and **Newbold P.** (1974). Spurious Regressions in Econometrics. *Journal of Econometrica,* 2, 111 - 120.

Grier, K. and **Tullock G.** (1989). An Empirical Analysis of Cross-National Economics. *Journal of Monetary Economics,* 24, 259 - 276.

Grossman, P. J. (1987). Fiscal Decentralization and Government Size: An Extension Public Choice. No 62:63-69.

Grossman, P. J. (1992). Fiscal Decentralization and Public Sector Size in Austrialia. *The Economic Record,* 68(202), 240 - 246

Habeeb, Y. A. (1994). Achieving Sustainable Output Growth in Nigeria through Demand Management. *The Nigerian Journal of Economic and Social Studies,* 36, 1.

Ignazio A., Kashyap A. and **Benoit M.** (2003). *Monetary Policy Transmission in the Euro Area.* Cambridge: University Press.

Jhingan, M. L. (2006). *Macroeconomic Theory.* New Delhi: Vrinda Publishers.

Johansen, S. and **Juselius, K.** (1990). Maximum Likelihood Estimation and inference on Cointegration, with Applications for the Demand for money. *Oxford Bulletin of Economics and Statistics* (52), 169 - 210 .

Johansen, S. (1988). Statistical Analysis of Cointergrating Vectors. *Journal of Economic Dynamics and Control,* (12), 231 - 254.

Jumbo, G. A. (2010). An Analysis of the Impact of Fiscal Policy variables on the Nigerian Economy, 1980-2009. An Unpublished M.Sc Thesis, Department of Economics, University of Port Harcourt.

Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money.* New York: Harcourt Brace Publishers.

Landau, D. (1983). Government Expenditure and Economic Growth: A Cross-Country Study. *Southern Economic Journal,* 49, 783 - 97.

Longe, J. B. (1984). The Growth and Structure of Federal Government Expenditure in Nigeria. *The Journal of Economics and Social Studies,* 26, 1.

Mbutor, M. O. (2007). The Lending Channel of Monetary Policy Transmission in Nigeria, Vector Auto Regressive (VAR) Verification. CBB Economic and Financial Review, 45/1, March, pp 57 - 78.

Musgrave, R. A and **Musgrave P. B.** (2005). *Public Finance in Theory and Practice* (5th ed.) New Delhi: Tata McGraw Hill Publishing company.

Oates, W. E. (1972). *Fiscal Federalism.* New York: Harcourt Brace Publishers.

Odusola, A. F. (1996). Military Expenditure and Economic Growth in Nigeria. *The Nigerian Journal of Economic and Social Studies,* 38, 1 - 3.

Okowa, W. J. (1997). *Oil, Systemic Corruption, Abdulistic Capitalism and Nigerian Development: A political Economy* (2nd ed.) Port Harcourt: Paragraphics Publishers.

Philips, A. O. (1997). Nigerian Fiscal Policy, 1998-2001. *NIAWE Menography Series,* No. 17, NISER, Ibadan.

Ramanathan, R. (1992). Introductory Econometrics with Applications (2nd ed). Harcourt New York: Brace Jovanovich.

Sims, C. (1980). Macroeconomics and Reality. *Econometrica,* 48, 1 - 48.

Taiwo, I. O. (1999). Fiscal Federalism: Theoretical framework. National Economics Society Annual Conference, 3-23.

Tanninen, H. (1999). Inequality, Government Expenditures and Growth. *Applied Economics,* 31, 1109 - 1117.

Tombofa, S. S. (1999). Fiscal Relations among the various Tiers of Government in Nigeria. *Journal of Monetary Economics (NJOME),* 1 (152), 103 - 116.