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An Empirical Analysis of the Effect of Fiscal Policy on Economic Growth in Sub Saharan Africa: Emphasis on Nigeria and Ghana

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Abstract. This research examined the effect of Fiscal Policy on the Economic Growth of Sub Saharan Africa using data from Nigeria and Ghana for the period 1986-2017. Fiscal Policy was disaggregated into Tax Revenue, Oil Revenue, Capital Expenditure, Recurrent Expenditure and Deficit Financing while the Real Gross Domestic Product was the proxy for Economic Growth for both Ghana and Nigeria. The data set for these variables was collected, and necessary tests were conducted. The Philips-Perron Unit Root Test conducted revealed that all the variables were stationary at First Difference which confirmed that there is no unit root in the variables. The Jahansen Cointegration test suggested the existence of a long run effect of Fiscal Policy on Economic Growth for both Ghana and Nigeria. So, the Vector Error Correction Mechanism was adopted and it confirmed the existence of a long run effect of Fiscal Policy on Economic Growth in both Ghana and Nigeria. The long run estimation showed F.Statistic 71.13 and Prob.(F.Statistic) 0.0000 revealing that Fiscal Policy has a significant long run effect on economic growth in Nigeria. The long run estimation for Ghana also has F.Statistic 3.5807 and Prob.(F.Statistic) 0.008388 and it is statistically significant at 5% level of significance. This means that Fiscal Policy has significant long run effect on economic growth in Ghana. But, not all the individual explanatory variables have the much expected significant long run effect on economic growth in both countries studied. For Nigeria, only Tax Revenue and Deficit Financing have significant effect on economic growth in the country at 5% level of significance. For Ghana, only Oil Revenue and Deficit Financing have significant long run effect on economic growth in Ghana at 5% level of significance. The research recommended an overhaul of fiscal policy in Sub Saharan Africa to encourage strict fiscal discipline and the diversification of revenue sources in Nigeria to reduce the dependence on oil revenue in the country.

Key words: Fiscal Policy, Economic Growth, Tax Revenue, Oil Revenue, Capital Expenditure, Recurrent Expenditure, Deficit Financing, Sub Saharan Africa

Introduction

Fiscal Policy is the use of government spending (recurrent and capital), government receipt (usually tax) and government borrowing to influence the level of economic activities of any nation. Fundamentally, fiscal policy is a general name for government's taxation (revenue) and expenditure policies in order to enhance economic growth and development. If any of the elements of Consumption (C) + Government Spending (G) + Private Investment (I) + Net Export (X-M) changes, the Gross Domestic Product changes (Total Demand) changes. It is a demand side policy used by the government to influence the level of economic activities and achieve macroeconomic objectives of economic growth, price stability, reduce income inequality, reduce unemployment and poverty and attain balance of payment equilibrium (Havi & Enu, 2014). Fiscal Policy quickens socio economic development by following a policy stance that guarantees a sense of harmonious balance between taxation, spending and borrowing by the government. An increase or decrease in tax,

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affects government revenue as well as disposable income of individuals in the house which affects their consumption and savings. So, this may increase or decrease the Gross Domestic Product. An increase in tax decreases house hold disposable income while a decrease in tax increases household income because it leaves household with more income to either save or spend. Government Spending also has effect on economic growth as an increase in government spending increases disposable income of individual households, increases private investment through the award of contracts for infrastructural development and encourages export (Fofack, 2010). As disposable income of households increase, their consumption and savings increases. Increase in consumption and savings have multiplier effect on the economy. Consumption destroys the finished products of private investment, giving rise to more production which enhances economic growth, increases employment and reduces poverty in the economy. It is obvious that fiscal policy can have major impact on economic growth, income distribution, poverty level and unemployment in the economy. In reality, fiscal policy is the engine that moves the economy towards achieving economic transformation objectives: economic development and growth, price stability over time, reduction in the rate of unemployment, external equilibrium and income redistribution (Audu, 2012).

Farayibi and Owuru (2016) believe that increasing government spending stimulates economic growth, generates employment and ensures economic development. If government reduces expenditure, it may have adverse effect by contracting the economy and deterring growth, yet excessive increase in government spending as a result of recurrent expenditure or unproductive spending on tax payers' money creates deficit. Deficit financing is not too healthy for any developing economy as it is one of the major cause of distortion in the economy. But it can also enhance economic growth in the long run if it is used to increase productivity and generate employment. Government borrowing and public debt servicing have crowding out effect on private sector investment in the economy. Crowding out occurs when governments involvement in a sector of the economy eliminates private sector involvement in the sector either in supply or demand side of the market (Enyim, 2013).

Over the years, governments of Ghana and Nigeria have adopted both expansionary and contractionary fiscal policies in order to achieve the broad objectives of enhanced economic growth, reduced poverty and unemployment and achieve income equality. But the economies of Sub Saharan Africa have been faced with serious of macroeconomic problems characterized by slow economic growth, economic recession, low capacity utilization, increasing debt burden, accelerated inflation, exchange rates volatility and unfavorable balance of payment. One could wonder if fiscal policy has achieved any objective in the region (Imide & Imuoghele, 2019). This is responsible for the considerable controversy generated by the effect of government fiscal policy on economic growth in developing economies especially in Sub Saharan Africa.

Governments of Ghana and Nigeria have embarked on fiscal reforms in the last three decades. These policies were aimed at raising revenue and expenditure profile the countries, among these fiscal policies were: the structural adjustment program, austerity measure, privatization and commercialization, fiscal responsibility act, public procurement act amongst others. These policies were aimed at raising revenue, increasing/decreasing expenditure. The question still remains: what are the effects of these fiscal reforms on the economies of Ghana and Nigeria? The effect of fiscal policy on growth has given rise to a number of empirical studies, each with different findings using time series and panel data of various years for the countries (Egbulonu & Amadi, 2016).

It is clear that Sub Saharan potential for growth and development has not been fully utilized. The major constraint has been the performance of fiscal policy in the region. There is high case of rising inequality in the region, declining economic growth, with high level of

unemployment and increased poverty in the region. There is also a weak revenue base in the region arising from high-marginal tax rate with very narrow tax base, resulting in low tax compliance especially in Nigeria and Ghana (Chuku, 2015).

This work examines the effect of fiscal policy (Tax Revenue, Oil Revenue, Capital Expenditure, Recurrent Expenditure and Deficit Financing) on the Economic growth of Nigeria and Ghana.

Review of Related Literature

The most recent literatures show that economic growth is significantly affected by fiscal policy, though there remains some lack of agreement on the sign of the effects.

Economic theory suggests that fiscal multipliers are more likely to be positive when economies are relatively closed, government debt is low and fiscal expansion focuses on spending. There is also some evidence of negative fiscal multipliers which is no clear consensus on the precondition for such an outcome.

Gerson (1998) in his research work on fiscal policy reviewed both the theoretical and empirical literature on the effect of fiscal policy variables economic growth. He concluded that educational attainment and public health status had significant, positive effects on per capita output growth; economies that were open to international trade grew faster than those that were closed, therefore government should formulate fiscal policies that encouraged trade openness in the economy.

Caselli and Esquivel (1996) in their research on fiscal policy found that government expenditure ratio (net of defense and educational expenditure) contributes significantly to economic growth growth.

Kneller, Bleaney and Gemmel (1999) in their work revealed that public expenditure and taxation significant effect on economic growth only when they are productive and distortionary, respectively. The result of their research also revealed that productive government expenditure has positively significant effect on growth, while distortionary taxation had harmful effect on growth. They therefore argued that both sides of the government budget (Revenue and Expenditure) should be considered in determining the effect of fiscal policy on growth. This is because financing the budget offsets the growth-enhancing effects of productive expenditure in the economy.

Zagler and Dürnecker (2003) reviewed fiscal policy and economic growth using a unifying framework for analyzing the long run growth effect of government expenditures and revenues. Their result revealed that level of education spending and the rate of growth of public infrastructure investment exhibited positive effect on the economic growth rate of the country.

Yasin (2003) examined the relationship existing between government spending and economic growth using panel data set from Sub-Saharan Africa. The results of the analysis showed that government spending, trade-openness, and private investment expenditures have significant positive effect on economic growth in the economy.

Hassan, Waheeduzzaman and Rahman (2003) in their study revealed their results using four basic arguments showing that military expenditure negatively affects economic growth. First, higher defense expenditures has a crowding out effect on public and private investment which should have been growth-oriented. The crowding out of these private and public investments has an adverse effect on the long-run economic growth of the country. Second, defense expenditure leads to balance of payment disequilibrium if the government's earned foreign exchange were used in the purchase of arms and defense hardware/equipment. Third, defense expenditure negatively affects economic growth by resource diversion from the export sector, which is the major source of foreign exchange earnings. Finally, the defense spending retards growth through bureaucratic inefficiency which creates a tax burden in order

to fund the expenditure. Since defense expenditure may have both positive and negative significant effects, its final effect on growth would depend on resource allocation to the infrastructural sector.

Kneller, Bleaney, and Gemmel (1999) in their analysis showed that: Distortionary taxation negatively affects growth, while non-distortionary taxes affect growth positively. Productive government spending enhances growth, but non-productive expenditure retards economic growth and long-run effects of fiscal policy on growth were not captured fully by five-year averages usually used in empirical studies.

Poot (2000) in his article on fiscal policy and growth covering the period 1983-1998 did not find conclusive evidence for the long run effect of government consumption on growth, while support for the taxes were found to have negative effect on growth. He also revealed that there is a positive link between economic growth and education expenditure, while economic growth has significant negatively effect on defense spending. He concluded that infrastructure spending has significant positive effect on growth.

Easterly (2005) in his article revealed that significant growth effect of budget balance in an economy, which disappeared when some extreme observations were removed from the analysis. This means that there exist a non-robustness of coefficient signs and statistical significance even within similar specifications for related variables analyzed. He explained that the variation was as a result of the absence of a theoretical framework that is generally accepted that serves as a guide to empirical study (Galor, 2005). This would affect the major determinants of growth, whether they use fiscal policy variables or other variables. This would help in testing the statistical significance of the selected fiscal and non-fiscal variables on growth. This would reduce the omitted variable bias usually associated with most empirical studies. He also found that there were problems of inappropriate classification of government expenditure, and this is generating debate on theoretical literature.

Enache (2009) examined the relationship existing between fiscal policy and economic growth in Romania. His research made use of time series data covering the periods 1992-2007. His analysis revealed that fiscal policy has a weak positive impact on economic growth. He concluded that government could indirectly use fiscal policy to affect economic growth.

Babalola and Aminu (2012), in their study on the relationship between Fiscal Policy and Economic Growth in Nigeria, showed that productive expenditure has significant positive impact on economic growth for the period under review. Their work also revealed that a long-run relationship exists between fiscal policy and economic growth which was shown by the Johansen Cointegration test. They recommended an increased government spending on health, education and economic services, which are essential components of productive expenditure in order to enhance economic growth in Nigeria.

Khosravi and Karimi (2010) studied how government expenditure impact on economic growth in Nigeria covering the period 1970 – 2008. Their findings revealed that government total capital expenditure, total recurrent expenditures and expenditure on education showed significant negative effect on economic growth while expenditures on health, transport and communication have significant positive effect on economic growth.

Abata, Kehinde and Borarinwa (2012) examined the effect of Fiscal/Monetary Policy on Economic Growth in Nigeria: A Theoretical Exploration. They believe that fighting fiscal indiscipline in government spending will take much more than the fiscal policy rules contained in the fiscal responsibility act. This they believe is based on the fact that the statute books contain dormant rules and regulation which are not followed. There result shows the existence of a mild long-run equilibrium relationship between economic growth and fiscal policy explanatory variables in Nigeria. They recommended that for the government to record

progress in fiscal discipline, some stakeholders who are pro-stability that are strong enough to challenge government fiscal indiscipline would need to emerge.

Omojolaibi and Egwaikhide (2013) examined Oil Price Dynamics, Fiscal Stance and Macroeconomic Effects using some Selected African Countries. The research adopted a panel vector autoregressive (PVAR) model in order to determine the effect of oil price dynamics on the economic performance of five (5) oil exporting countries in Africa (Algeria, Angola, Egypt, Libya and Nigeria). They used the following variables in the study: oil price volatility, real gross domestic product (real GDP), fiscal deficit, gross investment and money supply. The impulse response analysis shows that of all the macroeconomic variables studied, responded more to oil price volatility than fiscal deficit, real GDP and money supply in the countries studied. Their findings recommend that gross investment is the channel through which oil price dynamics affect the macroeconomic performance of these countries.

Egbunike, Emudainohwo and Gunardi (2018) investigated the effect of Tax Revenue on Economic Growth in Nigeria and Ghana. The aim was to examine the effect of tax revenue on economic growth of Nigeria and Ghana. The study revealed the existence a positive significant impact of tax revenue on the gross domestic product in both Nigeria and Ghana which is in line with the a priori expectation of the research. They recommend that the government of Nigeria and Ghana should put in place adequate measures to ensure that tax revenues generated are effectively utilized in order to enhance economic growth of Ghana and Nigeria economies.

From these empirical studies, it is clear that there is no agreement on whether a relationship exists between fiscal policy and economic growth. And they found a relationship to exist; there is no agreement on whether it is in the short run or in the long run and there is no agreement on the direction of the relationship.

Methodology

This research work made use of secondary data collected for both Ghana and Nigeria. The data were collected from the Central Bank of Nigeria Statistical Bulletin, National Bureau of Statistics, Bank of Ghana Statistical Bulletin 2018, Ghana Statistical Services, International Monetary (IMF) Fund financial statistics YearBook and World Bank's African Database (CD – ROM).

The following tests were conducted:

(i) Unit Root Test: This test was conducted to determine is the variables were stationary at level, at First Difference or at Second Difference. This was conducted to avoid spurious regression results. And the Philips-Perron Technique was adopted.

(ii) Johansen Cointegration Test. This test was conducted is ascertain is a long run or short run relationship exist in the model.

(iii) Vector Error Correction Technique: This test was conducted in order to confirm if the relationship is in the long run. If the relationship in the model has a negative Error Correction Term, the equation of the model is existed in the long otherwise, it is estimated in the short run.

Model Specification

The model that explains the effect of Fiscal Policy on Economic Growth of Sub Saharan Africa is formulated in line with Wagner's Theory as economic activities of any nation increases, the fiscal activities of the government also increase and in line with the works of Omojolaibi and Egwaikhide (2013), Abata, et al. (2012), Babalola and Aminu (2012) and Poot (2000) with an inclusion of Deficit Financing as a Fiscal Policy variable which they have not included.

The econometric models are as follows (NIGERIA):

$$GDPn = B_0 + B_1OREVn_t + B_2TAXREVn_t + B_3CEXPn_t + B_4 REXPn_t + B_5DEFn_t + U_t \quad (1)$$

The econometric models are as follows (GHANA)

$$GDPg = B_0 + B_1OREVg_t + B_2TAXREVg_t + B_3CEXPg_t + B_4 REXPg_t + B_5DEFg_t + U_t \quad (2)$$

Where;

GDP= Gross Domestic Product, OREV= Oil Revenue, TAXREV= Tax Revenue, CEXP= Capital Expenditure, REXP= Recurrent Expenditure, DEF= Deficit Financing, g= Ghana, n= Nigeria;

B_0= constant;

β_1-B_5= parameters to be estimated from the regression equation;

μ_1= random error term.

Results and Discussion

This section presents the results of the various analysis conducted in this research work. The results of the Philips-Perron Unit Root Test, the Johanson Cointegration Test and Vector Error Correction Estimates are presented below.

Unit Root Test

To address the issue of spurious regression results associated with most regression results, the researchers carried out Philips-Perron test unit root test and the results are summarized in Tables 1 and 2 below.

Table 1. Summary of Philips-Perron Unit Root Test for Nigeria (Dependent Variable: GDP)

VARIABLES	PHILIPS-PERRON TEST STATISTICS (PROB.)	CRITICAL VALUES @ 5%	ORDER OF INTEGRATION
CEXP	--7.375046 (0.0000)	-2.963972	STATIONARY AT FIRST DIFFERENCE
DEF	-7.514173 (0.0000)	-2.963972	STATIONARY @ FIRST DIFFERENCE
GDP	-8.915169 (0.0000)	-2.963972	STATIONARY @ FIRST DIFFERENCE
OREV	-5.813461 (0.0000)	-2.963972	STATIONARY AT FIRST DIFFERENCE
REXP	-7.552258 (0.0000)	-2.967767	STATIONARY @ FIRST DIFFERENCE
TAXREV	-5.492292 (0.0001)	-2.963972	STATIONARY AT FIRST DIFFERENCE

Source: Researchers computation using E-View version 10.

The results of the Philips-Perron Unit root test as presented in Table 1 above revealed the dependent variable and all the explanatory variables: Capital Expenditure (CEXP), Recurrent Expenditure (REXP), Oil Revenue (OREV), Tax Revenue (TAXREV), Deficit Financing (DEF), Gross Domestic Product (GDP) were stationary at first difference. Comparing the Philips-Perron Test statistics with the 5% critical values, the Philip-Perron Test Statistic value were greater than the 5% critical values of the tested variables. The research rejects the null hypothesis, and concludes that there is no unit root in all the variables.

Table 2. Summary of Philips-Perron Unit Root Test (Ghana)

VARIABLES	PHILIPS-PERRON TEST STATISTICS (PROB.)	CRITICAL VALUES @ 5%	ORDER OF INTEGRATION
CEXP	-6.490875 (0.0000)	-2.963972	STATIONARY AT FIRST DIFFERENCE
DEF	-6.285606 (0.0000)	-2.963972	STATIONARY AT FIRST DIFFERENCE
GDP	-6.107638 (0.0000)	2.963972	STATIONARY AT FIRST DIFFERENCE
OREV	-4.644390 (0.0008)	-2.963972	STATIONARY AT FIRST DIFFERENCE
REXP	5.110498 (0.0002)	-2.963972	STATIONARY AT FIRST DIFFERENCE
TAXREV	-4.544339 (0.0011)	-2.963972	STATIONARY AT FIRST DIFFERENCE

Source: Researchers computation using E-View version 10

The results of the Philips-Perron Unit root test as shown in Table 2 show that Capital Expenditure (CEXP), Oil Revenue (OREV), Poverty Index (POV), Tax Revenue (TAXREV), Deficit Financing (DEF), Gross Domestic Product (GDP) and Recurrent Expenditure (REXP) for Ghana were stationary at first difference. This confirms the absence of unit root in both the dependent variable and independent variables.

Cointegration Test Results

This section shows the results of the Johansen Cointegration test conducted in order to determine if Fiscal Policy has a long run or short run effect on economic growth as presented in Tables 3 and 4.

Table 3. Johansen Cointegration Result (NIGERIA): Dependent variable: Gross Domestic Product (GDP)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.886173	126.7681	69.81889	0.0000
At most 1 *	0.748855	68.09520	47.85613	0.0002
At most 2 *	0.380587	30.78863	29.79707	0.0383
At most 3 *	0.287666	17.85611	15.49471	0.0216
At most 4 *	0.275395	8.697464	3.841466	0.0032

Source: Researchers computation using E-View version 10

Comparing the Trace Statistic and the 5% critical value on Table 3, the result shows the existence of at most 5 (five) cointegrating equations in the model of the effect of Fiscal Policy on the Economic Growth of Nigeria. This result suggests the existence of a long run relationship between fiscal policy variables (Tax Revenue, Oil Revenue, Capital Expenditure, Recurrent Expenditure and Deficit Financing) and economic growth in Nigeria in line with the a priori expectation.

Table 4. Johansen Cointegration Result: Dependent Variable: Gross Domestic Product (GDP) Ghana

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.820025	119.5203	69.81889	0.0000
At most 1 *	0.699954	68.07215	47.85613	0.0002
At most 2 *	0.438375	31.95758	29.79707	0.0278
At most 3	0.385445	14.64995	15.49471	0.0668
At most 4	0.001473	0.044223	3.841466	0.8334

Source: Researchers computation using E-View version 10

Comparing the trace statistics and the 5% Critical values in Table 4, the result shows that there are at most 3 (three) cointegrating equations in the model. This suggests that a long-run relationship exists between fiscal policy and economic growth in Ghana in line with the a priori expectation of the model.

Table 5. Summary of Vector Error Correction Model Results (Nigeria and Ghana)

	GDP	
	NIG	**GHANA**
VARIABLES	**COEF. (T.STAT)**	**COEF. (T.STAT)**
SPEED OF ADJ.	**-0.2687 (long run)**	**-0.55703 (long run)**
$POVIN_{t-1}$		
UNP_{t-1}		
HDI_{t-1}		
GDP_{t-1}	**-0.2687 (-3.612)**	**-0.55703 (-2.690)**
$TAXREV_{t-1}$	**0.0035 (0.1768)**	**0.08311 (1.24395)**
$OREV_{t-1}$	**-0.2708 (-4.358)**	46.1027 (1.5799)
$CEXP_{t-1}$	**-0.01512 (-1.352)**	**0.7619 (7.297)**
$REXP_{t-1}$	**-0.0149 (-0.5128)**	**0.4746 (2.2296)**
DEF_{t-1}	**-0.0149 (-0.7133)**	**75.184 (1.879)**
F-Stat (Prob.)	**71.1303 (0.0000)**	**3.5807 (0.00839)**

Source: Researchers computation using E-View version 10

Fiscal Policy and Economic Growth in Nigeria

In equation (3), the long run Error Correction Term that explains the long run relationship between fiscal policy and Economic Growth in Nigeria is presented:

$$\Delta GDPn_t = -0.02687GDPn_{t-1}+0.00348TAXREVn_{t-1}-0.27079OREVn_{t-1}-0.01512CEXPn_{t-1}- -0.01487REXPn_{t-1}-0.01492DEFn_{t-1}+2324619 \quad (3)$$

Equation (3) shows that a unit change in Tax Revenue in Nigeria is associated with a 0.0035 unit change in Gross Domestic Product at on average ceteris paribus in the long run. A unit change in Oil Revenue in the long run in Nigeria is associated with a 0.271 unit effect on the Gross Domestic Product on average ceteris paribus for the period under review. A unit change in Capital Expenditure is associated with a 0.0151 unit variation in Gross Domestic Product on average ceteris paribus in the long run. Recurrent Expenditure is expected to exert a positive long run effect on economic growth. But, in the Nigerian factor, a unit change in Recurrent Expenditure is associated with a 0.0149 unit change in economic growth on average ceteris paribus in the long run, for the period under review. This also shows that a greater part of government recurrent expenditure does not benefit the populace; instead they end up in the hands of corrupt politicians in the country. Also, in the long run Deficit Financing exerts a 0.0149unit effect on economic growth in Nigeria on average ceteris paribus. It is clear that the government borrow money to be embezzled, instead of stimulating the growth of the economy. The speed at which the deviation from the long rung equilibrium is adjusted in the short run is 2.7% per annum.

Fiscal Policy and Economic Growth in Ghana

The Equation of the Error Correction Term and the long run model that explains the long run relationship between fiscal policy and Economic Growth in Ghana is shown in equation (4)

$$\Delta GDPg_t = -0.557GDPg_{t-1} + 0.083108TAXREVg_{t-1} - 46.103OREVg_{t-1} + 0.7619CEXPg_{t-1} + 0.4746REXPg_{t-1} + 75.184DEFg_{t-1} - 14.888 \quad (4)$$

Equation (4) shows that a unit change in Tax Revenue is associated with a 0.0831 unit change in Gross Domestic Product in Ghana on average ceteris paribus in the long run. Capital Expenditure has a coefficient of 0.762. This entails that a unit change in Capital Expenditure in Ghana on the long run, results to a 0.762 unit change in economic growth in Ghana on average ceteris paribus. Recurrent expenditure has a significant coefficient of 0.4746. This confirms that a unit change in Recurrent Expenditure in Ghana is associated with a 0.4746 unit variation in economic growth in Ghana in the long run. This explains the as government increases recurrent expenditure, income of individuals increase, and it's multiplier effect impacts on consumption, savings and investment that enhance economic growth. The coefficient of Deficit Financing in Ghana in the long run is 75.184 which entails that on average ceteris paribus, a unit change in government deficit financing is associated with a 75.184 unit change in economic growth. The speed at which the deviation from the long rung equilibrium is adjusted in the short run is 55.7% per annum. This means that following the short run disequilibrium, 55.7% of the adjustment to the long run takes place within one year.

Test of Hypotheses

To aid the understanding of this research, the four hypotheses of this research were tested. Two sub hypotheses were tested for each hypothesis: i.e. for Nigeria and Ghana. All hypotheses were tested at 5% level of significance.

Research Hypothesis

H_0: Fiscal policy has no significant effect on economic growth in Sub Saharan Africa.

For Nigeria

H_0: Fiscal policy has no significant effect on economic growth in Nigeria.

This hypothesis is tested using the VECM Least Squares result in Table 6.

Table 6. VECM Least Squares Result (Dependent Variable: GDP) Nigeria

R-squared	0.979961		
Adjusted R-squared	0.966184		
F-statistic	71.13029	Durbin-Watson stat	1.399841
Prob(F-statistic)	0.000000		

Source: Researchers computation using E-View version 10

From the result in Table 6, F-statistic value of 71.13029 and prob.0.0000 is statistically significant at 5% level of significance and shows that a significant relationship exist between fiscal policy and economic growth in Nigeria. This is in line with the Cointegration results in Table 3. The Johansen Cointegration result shows that there are at most five (5) cointegrating equations which suggest that a long run relationship exists between fiscal policy and economic growth in Nigeria. The R^2 value of 0.97996 shows goodness of fit of the model. And the adjusted R^2 indicates that the model accounts for about 97% of the total variation in Gross Domestic Product in Nigeria on average ceteris paribus in the long run. The research therefore, rejects the null hypothesis and concludes that Fiscal policy has a strong positive and significant effect on economic growth in Nigeria.

This conforms to the a priori expectation of the model and in line with the work of Garson (1998), Caseli and Esquivel (1996), Enache, (2009), Babalola and Aminu (2012). In their studies on the relationship between fiscal policy and economic growth believe that a positive relationship exist between fiscal policy and economic growth.

Ghana

H_0: Fiscal policy has no significant effect on economic growth in Ghana.

This hypothesis was tested using the VECM Least squares equation shown in Table 7:

Table 7. VECM Least Squares Result (Dependent Variable: GDP) Ghana

R-squared	0.617053		
Adjusted R-squared	0.444726		
F-statistic	3.580720	Durbin-Watson stat	2.071306
Prob(F-statistic)	0.008388		

Source: Researchers computation using E-View version 10

This VECM Least Squared result in table 7 above shows R^2 of 0.617 indicating goodness of fit. Adjusted R^2 of 0.4447 indicates that, the model accounts for a 44.5% of the total variation in gross domestic Product in Ghana in the long run, on average ceteris.

The f-statistic of 3.5807 (prob.0.0084) is statistically significant at 5% level of significance. This means that the explanatory variables jointly have significant effect on economic growth in the long run in Ghana.

Also the result of the Johansen Cointegration test confirms that there are at most three (3) cointegrating equations. This shows that a long run relationship exist between fiscal policy and economic growth in Ghana.

The researcher therefore, rejects the null hypothesis and concludes that 'Fiscal policy has a positive and significant effect on economic growth in Ghana'. This is in line with the expectation of this research and in conformity with the research work of Havi and Enu (2014) that fiscal policy affects economic growth in Ghana.

Discussion of Major Findings

Fiscal Policy and Economic Growth in Nigeria

The result of the Johansen Cointegration test in Table 3 above, suggest a long run relationship with the existence of at most five (5) cointegrating equations. In order to confirm the long run relationship, the Vector Error Correction Mechanism was adopted which confirmed the existence of a long run relationship between fiscal policy and economic growth in Nigeria. This is in line with literature as fiscal policy is expected to have a significant effect on the Gross Domestic Product. This is in line with the research of Havi and Enu (2014) and Amos, Uniamikogho, and Aigienohuwa (2017). The result indicates that the Nigerian government has pursued it fiscal policy objectives more aggressively by adjusting both taxes and expenditure at the same time. The adjustment in tax and expenditure has impacted on consumption, savings, and private investment which have resulted to a significant effect on the gross domestic product of Nigeria.

The coefficient of the explanatory variables in the least squares result indicates that Deficit Financing has a significant long run effect on the Gross Domestic Product. Deficit Financing has a coefficient of -6.491, t.value -2.3468 (prob. 0.0321) and it is statistically significant at 5% level of significance. This means that adjustment in government borrowing has a significant effect on the Gross Domestic Product in Nigeria in the long run. This happens when government spends more than the revenue generated from taxes and other non-tax sources. In the long run, the budget deficit affects economic growth as the funds borrowed to fund the deficit are no longer available to private investment as it reduces the financial capital available to them.

This is in line with the work of Osuma, Isibor, Adesina, and Abiola (2018), which confirms that public debts have significant long run effect on the economic growth of Nigeria.

At 10% level of significance, the coefficient of Recurrent Expenditure in the VECM least squares result has a long run significant effect on economic growth in Nigeria. This is so, because as government increases recurrent expenditure, disposable income increases, which affects consumption and savings. Consumption destroys the finished product, making consumers to produce more. Savings as well increases banks profitability which encourages lending and reduced cost of capital. All these and more account for the effect of recurrent expenditure on economic growth.

Fiscal Policy and Economic Growth in Ghana

The Johansen Cointegration test shows that there are at most three cointegrating equations in the model of the relationship between Fiscal Policy and economic growth in Ghana, which suggest a long run relationship. Vector Error Correction Mechanism was used to confirm the long run relationship as well as estimate the long run equations. The VECM result confirmed that a long run relationship exist between fiscal policy and economic growth in Ghana. The explanatory variables jointly have significant effect on economic growth in Ghana, as confirmed with the F-statistics value of 3.581 (Prob. 0.0084) in the least squares result is statistically significant at 5% level of significance. This is in line with the research of Ugwuanyi and Ugwunta (2017) on the Fiscal Policy and Growth: The Examination of selected Countries in Sub Sahara Africa which revealed that fiscal policy has significant long run effect on economic growth in Sub Saharan Africa. This is in line with existing literature and the a priori expectation of the model of this research. Adjustments in both taxes and government spending have a multiplier effect on the economy. These adjustments affect disposable income, saving, consumption, private investment and government spending which make up the Gross Domestic product of an economy.

Conclusion

The main findings of this research stem from the objectives of the research and are summarized below:

The first objective of this research is to determine the effect of fiscal policy components (Tax Revenue, Oil Revenue, Capital Expenditure, Recurrent Expenditure, deficit financing) on economic growth in Sub Saharan Africa. The result of the analysis as contained in shows that there is a long run significant relationship between fiscal policy and economic growth in both Nigeria and Ghana. The Least squares results also reveal that a unit change in Deficit Financing in Nigeria has a 6.491 negative significant effect on economic growth in Nigeria at 5% significance level. This conforms to existing literature and the a priori expectation of the model of this research work. This is so because both domestic and foreign debts have negative effect on the economy. Government servicing of crowds out government spending on infrastructures, other basic amenities and disposable income which has a negatively affects economic growth. On the other hand, the least squares result shows that a unit change in recurrent expenditure is associated with a 7.872 unit significant positive effect on economic growth in Nigeria at 5% level of significance. This is also in line with existing literature and the a priori expectation of the model. This is due to the fact that as government recurrent on have a direct positive effect on the disposable income of individuals in the country, which positively affects the individual's savings and consumption. This in turn has a positive multiplier effect on economic growth in the country. Again the result reveals that Deficit financing also has a significant negative effect on economic growth in Ghana. This is because government borrowing affects personal income; saving, investment and crowds out government spending which negatively affect economic growth. A unit change in government borrowing in Ghana reduces economic growth by a 0.0044 in the long run at 5% level of significance. Oil revenue in Ghana has a positive significant effect on economic growth in Ghana. Oil revenue in relatively new to Ghana economy and the little revenue generated have significantly impacted positively to economic growth in Ghana. Government revenue impacts on economic growth through spending on infrastructure and enhanced income of individuals. Therefore fiscal policy has a significant effect on economic growth in Sub Saharan Africa.

Recommendations

Based on the findings and conclusion of this research, the following recommendations are made:

There are few lessons that have emerged from the results of this analysis. First the fact that fiscal policy has a significant long run effect on economic growth, underscores the need for effective utilization of the instruments of fiscal policy to enhance the economic growth of the region. If governments channel their spending towards generating and encouraging production, the economy of Sub Saharan Africa will grow faster. The fact that Oil Revenue, Capital Expenditure, Recurrent Expenditure do not have significant effects on economic growth in Nigeria, calls for an over hauling of the fiscal system in Nigeria. This simply means that a greater part of the revenue generated and spent in Nigeria do no find its way into the circle of income in the country, but end up stored or spent abroad or in private hands of the political elites. So, there is need to institutionalize the fight against corruption in Nigeria. It is so disappointing that the huge revenue generated and spent as Capital and recurrent expenditures do not significantly impact on the economy in the long run. Again, high indebtedness discourages growth as it has a negative significant long run effect on economic growth in Nigeria and Ghana. This is so because, deficit financing discourages private sector led investment and may lead to capital flight through debt servicing. So

government should try and maintain a balanced budget where revenue equals expenditure to discourage borrowing.

References

Abata, M. A., Kehinde, J. S., & Borarinwa, S. A. (2012). Fiscal/Monetary Policy and Economic Growth in Nigeria: A Theoretical Exploration. *International Journal of Academic Research in Economics and Management Sciences, 1*(5), 45-58.

Amos, O. A., Uniamikogho, E. & Aigienohuwa, O. O. (2017). Tax Revenue and Economic Growth in Nigeria. *Scholars Journal of Economics, Business and Management, 4*(10), 120-135.

Audu, N. P. (2012). The Impact of Fiscal Policy on the Nigerian Economy. *International Review of Social Sciences and Humanities, 4*(1), 142-150.

Babalola, S. J & Aminu, U. (2012). Fiscal Policy and Economic Growth Relationship in Nigeria. *International Journal of Business and Social Science, 2*(17), 234-247.

Caselli, F. G., & Esquivel, F. L. (1996). Reopening the Convergence Debate: A New Look at Cross-country Growth Empirics. *Journal of Economic Growth, 1*(9), 363-89.

Chuku, A. C. (2015). Monetary and Fiscal Policy Interactions in Nigeria: An Application of a state-space Model with Markov Switching. *Journal of Applied Statistics, 1,* 39-51.

Easterly, W. (2005). National Policies and Economic Growth: A Reappraisal. In P. Aghion & S. Durlauf (Eds.), *Handbook of Economic Growth* (Ed. 1, Vol. 1, Ch. 15, pp. 1015-1059). Elsevier.

Easterly, W. & Fischer, S. (1990). The Economic of Government Budget Constraint. *The World Bank Observer, 5*(2).

Egbulonu, A. & Amadi, U. (2016). Effect of Fiscal Policy on Unemployment in the Nigerian Economy. *International Journal of Innovative Finance and Economics Research SEAHI PUBLICATIONS, 4*(3), 1-7.

Egbunike, F. C., Emudainohwo, O. B. & Gunardi, A. (2018). Tax Revenue and Economic Growth: A Study of Nigeria and Ghana. *Signifikan: Journal Ilmu Ekonomi, 7*(2), 213-220.

Enache, C. (2009). Fiscal Policy and Economic Growth in Romania. *Annales Universitatis Apulensis Series Oeconomica, 11*(1).

Enyim, O. B. (2013). Government Spending and Poverty Reduction in Nigerian's Economic Growth. *International Journal of Social Sciences and Humanities Reviews, 4*(1), 103-115.

Farayibi, A. & Owuru, J. (2016). Linkage between Fiscal Policy and Poverty Reduction in Nigeria. *Munich Personal RePEc Archive, & Centre for Allied Research & Economic Development, 6*(2), 56-71.

Fofack, H. (2010). *Fiscal Adjustment and Growth in Sub-Saharan Africa Overview and Lessons from the Current Downturn*. The World Bank World Bank Institute Poverty Reduction and Economic Management Division, May 2010.

Gerson, P. (1998). *The Impact of Fiscal Policy Variables on Output Growth*. International Monetary Fund. Working Paper, 98/1.

Hassan, M. K., Waheeduzzaman, M. & Rahman, A. (2003). Defense Expenditure and Economic Growth in the SAARC Countries. *The Journal of Social, Political, and Economic Studies, 28*(3), 275-293.

Havi, E. D. K. & Enu, P. (2014). Growth: The Effect of Fiscal Policy and Monetary Policy on Ghana's Economic Growth: Which Policy Is More Potent? *International Journal of Empirical Finance, Research Academy of Social Sciences, 3*(2), 96-119.

Khosravi, A. & Karimi, M. S. (2010). To Investigate the Relationship between Monetary Policy, Fiscal Policy and Economic Growth in Iran: Autoregressive Distributed Lag Approach to Cointegration. *American Journal of Applied Sciences, 7*(3), 420-424.

Imide, I. O. & Imuoghele, L. E. (2019). The Impact of Fiscal Policy on Human Development Index: Empirical evidence from Nigeria's Democratic era. *International Journal of Economics, Commerce and Management, vii*(2), 287-299.

Kneller, R., Bleaney, M. F. & Gemmel, N. (1999). Fiscal policy and growth: Evidence from the OECD countries. *Journal of Public Economics, 74*, 171-190.

Omojolaibi, J. A. & Egwaikhide, F. O. (2013). A Panel Analysis of Oil Price Dynamics, Fiscal Stance and Macroeconomic Effects: The Case of Some Selected African Countries. *Central Bank of Nigeria Economic and Financial Review, 51/1*, 57-72.

Osuma, G., Isibor, A., Adesina, T. F. & Abiola, B. (2018). The effect of Public Debt on Eceonomic Growth in Nigeria: An Empirical Investigation. *International Journal of Business Management, 12*(6), 76-81.

Poot, J. (2000). A Synthesis of Empirical Research on the Impact of Government Expenditure on Long-Run Growth. *Journal of Political Economy, 101,* 501-517.

Tanzi, V. & Zee, H. (1996). *Fiscal policy and long-run growth*. IMF Working Paper No. 96/119.

Ugwuanya, U. B. & Ugwunta, O. D. (2017). Fiscal Policy and Economic Growth: An Examination of Selected Countries in Sub-Saharan Africa. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 7*(1), 117-130.

UNDP (2018). Human Development Indices and Indicators: 2018 Statistical Update.

Weber, M. (1979). *Economy and Society*. G. Roth & C. Wittich (Eds.). Berkeley: University of California Press.

Yasin, M. (2003). Public Spending and Economic Growth: Empirical Investigation of Sub-Saharan Africa. *Southwestern Economic Review, 30*, 59-68.

Zagler, M. & Dürnecker, G. (2003). Fiscal Policy and Economic Growth. *Journal of Economic Survey, 17*(3), 397-418.