Fiscal Policy and Human Development in Nigeria (1986-2017)

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Abstract: This study examined the effect of fiscal policy on human development in Nigeria using time series annual data from 1986-2017. The study used secondary data sourced from the Central Bank Nigeria annual statistical bulletin, World Development Indicator and Federal Inland Revenue Service publications. Fiscal policy instruments were proxied by government recurrent expenditure (GRE), government capital expenditure (GCE) and tax revenue (TRV) while human development was proxied by Human Development Index (HDI). The data were analyzed using Autoregressive Distributed Lag (ARDL) which revealed that all the series were stationary and adequately cointegrated. The study revealed a positive and significant relationship between fiscal policy and Human development in Nigeria. The study also found that recurrent expenditure exerts positive relationship while the capital expenditure exerts positive but insignificant relationship. The tax revenue reveals negative though insignificant relationship also. The study recommends that government should restructure its revenue base to finance fiscal policy expansion rather than embarking on external borrowing. This can be achieved by improving its revenue sources and efficient pursuit of tax reforms which will help to minimize tax avoidance, diversion and invasion. Again, government fiscal policies should place greater emphasis on the principles of effective taxation aimed at promoting investment and the growth of the human development.

Keywords: Budget, Fiscal Policy, Human development, Human Development Index, Taxation.

I. INTRODUCTION

Nigerian governments at different times had adopted either fiscal or monetary policies or a combination of both to manage the economy in order to achieve desired macroeconomic objectives such as promoting employment generation, ensuring economic stability, maintaining price stability and balance of payment viability, ensuring exchange rate stability and maintaining stable economic growth and development. The policy thrust used in manipulating the economy depends on the objectives that need to be achieved at any given time period. Government's intervention in the economy through fiscal policy has been to manipulate the receipt and expenditure sides of its budget in order to achieve certain national objectives (Osuala and Ebieri, 2016). However, the objective of fiscal policy is to promote economic conditions conducive for business growth while ensuring that any such government actions are consistent with economic stability and growth.

Statement of the Problem

The role of fiscal policy in any economy most especially a developing country like Nigeria is to pursue macro-economic objectives. Fiscal policy is supposedly the driver of sustainable economic development. The government over the years had implemented several fiscal policy measures in the economy to ensure sustainable economic development. The government in a bid to achieve these set objectives through fiscal policy has to make use of the tools of taxation, government expenditure, annual budget and public debt management (Unachukwu, 2010). The question is why is it that Nigerian economy is still classified as developing or underdeveloped? Does it mean that fiscal policies carried out in the past had no effect on Nigeria's economic development?

Nigeria ranks among the poorest countries of the world with low per capita income, high rate of unemployment, low access to safe and healthy life, low access to quality and affordable education, and low standard of living. Vast researches have been done on the area of nature of fiscal policy and the economic growth for years, most of the studies considered on fiscal policy impact on the growth of economy in both the developed and developing countries. However, recent literatures have justified the need to jointly take into consideration fiscal policy and sustainable economic development. Osuala and Ebieri (2014) asserted that there is a long run equilibrium relationship between fiscal policy and economic growth of Nigeria. This conclusion was in conformity with several studies that have been carried out worldwide to investigate the nature of relationship that exists between fiscal policy and economic growth, but not much have been done in the area of fiscal policy and sustainable economic development in Africa most especially in Nigeria viz-a-viz human development index . Even the few studies carried out in Nigeria have not been able to effectively resolve the issues on the problem of fiscal policy and economic development (see Oyeleke 2013, Odetayo and Adeyemi 2017, Babalola 2015, Adesoye,Alimi and Adelowokan 2016) Some of them found out that there is positive relationship between fiscal policy and economic development in Nigeria which is in line with the Keynesian approach to fiscal policy which stimulates economic growth in the economy during regulation and deregulation periods. While a few found out a weak or no relationship between fiscal policy and economic development in Nigeria (Oyeleke, 2013)

Based on these divergent findings, the researchers consider this area of interest and re-examines the effect of fiscal policy on human development in Nigeria. This study was carried out on a country specific analysis on the effect of fiscal policy on human development in Nigeria between 1986 and 2017 which no study has considered using. This study departed from the earlier studies and filled a gap in the literature by decomposing fiscal policy into recurrent expenditure, capital expenditure tax revenue. Data analysis technique adopted in this study is the Autoregressive Distributed Lag (ARDL)

Objectives of the Study

The main objective of this study is to examine the effect of fiscal policy on human development in Nigeria between 1986 and 2017. The specific objectives are to;

- examine the relationship between government capital expenditure and human development index (HDI) in Nigeria,
- establish the relationship between government recurrent expenditure and human development index (HDI) in Nigeria,
- determine the relationship between tax revenue and human development index (HDI) in Nigeria,

Research Hypotheses

To give a better direction to the study, the following hypotheses were formulated;

- **HO$_1$**: There is no significant relationship between government capital expenditure and human development index (HDI) in Nigeria.
- **HO$_2$:** There is no significant relationship between government recurrent expenditure and human development index (HDI) in Nigeria.
- .**HO$_3$:** There is no significant relationship between tax revenue and human development index (HDI) in Nigeria.

II. REVIEW OF RELATED LITERATURE

This section reviews existing literature related to the subject matter of this research. Essentially, the reviews are packaged in three separate sub-sections which includes; Conceptual Review, Theoretical Review and Empirical Review.

Conceptual Review of fiscal policy
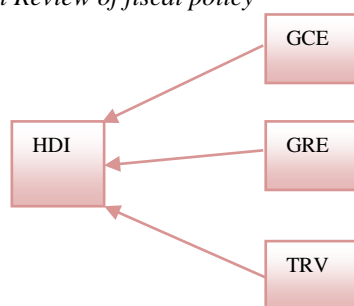
Operational framework

The word fiscal policy is derived from the Latin for 'state purse', and this is most appropriate as taxation is the main source of income from which government finance public spending (Danny, 2008). Fiscal policy is essentially concerned with manipulating the financial operations of the government with a view to furthering certain economic policy objectives. In other words, it consists of government decisions to vary certain fiscal aggregates such as total government spending and tax revenues as opposed to some other aspects of public finance which are primarily concerned with the effect of specific government expenditures and taxes

Fiscal policy is majorly measured in terms of government expenditure, tax revenue and government investment. Bhatia (2008) noted that fiscal policy consists of steps and measures which the government takes both on the revenue and expenditure sides of its budget and that it is the aggregate effects of government expenditures and taxation on income, production and employment.

Concept of Government Budget

The budget is the principal instrument of fiscal policy. Budget policy exercises control over size and relationship of government receipts (revenue) and expenditures (Edame, 2010).The concept of government budget from a layman's perspective can be seen as an estimate of government income and expenditure for a set period of time. It could also be regarded as a regular estimate of expenditure put forward by a finance minister. This view seems narrow in explaining the concept of government budgeting. Smith and Thomas (2004) defined budget to be a plan for the accomplishment of program related to objectives and goals within a definite time period including an estimate of the resources required together with an estimate of resources available usually compared with one or more past periods showing future requirements.

Types of Government Expenditure in Nigeria

There are two major types of government expenditure, they are:

- Capital expenditure and
- Recurrent expenditure

Capital Expenditure

Capital expenditure refers to government expenditure on capital projects (goods and services for future benefits). For instance expenditure on infrastructure like roads, schools, hospitals, industries, airport and seaport, expenditure on health, education, agriculture, communication and transportation.

Recurrent Expenditure

These are government expenses on administration such as wages, salaries, interest on loans and maintenance etc. Government provides goods and services for current

consumption, in other to satisfy the needs of the citizens in a country.

Tax Structure in Nigeria

The Nigerian Tax System has undergone significant changes in recent times. However, the tax system is basically structured in such a way as to contribute to economic growth through income generation. Taxes can be structured into direct and indirect.

Economic Development and Human Development Index (HDI)

Human Development Index measures long-term progress in three basic areas of human development namely: access to safe and healthy life, access to education, and a decent living standard (United Nations Development Programme (UNDP), 2014). Human Development Index (HDI) is a move towards a more holistic view of development which had previously focused more on per capita income. United Nation's Human Development released Human Development Index (HDI) first as part of her 1990 Report. The report stated that "development is much more than just the expansion of income and wealth; it should be a process of enlarging people's choices" (UNDP, 1990).

The United Nations developed Human Development Index (HDI) as a measuring tool that ranks countries' levels of social and economic development based on three criteria: Health Index, Education Index, and Standard of Living Index. The health index represents life expectancy of a particular region or country under study. It correctly describes the extent to which life expectancy of the people in the area or country under study is greater than the minimum life expectancy. According to the United Nations (UN), the minimum and maximum life expectancy in the world is set at 25years and 85 years respectively (UNDP, 2014).

Theoretical Review

Musgrave Theory of Public Expenditure Growth

This theory was propounded by Musgrave as he found changes in the income elasticity of demand for public services in three ranges of per capita income. He posited that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education and transport starts to rise, thereby forcing government to increase expenditure on them.

Keynesian Income-Expenditure Technique

According to Keynesians, fiscal policy has a significant cause on income, employment and productivity in the short term without money supply. It declares that aggregate demand is a determinant of output. An expansion in government expenditure will reveal a cause and surge in domestic income.

As internal income rises, imports will likewise rise lastly lessening the surplus in the trade cycle. Additionally, the Keynesians open economy model proves that a casual relation runs from budget deficit to aggregate demand. Particularly rise in budget deficit will increase the interest rates as a compensation for the misfortune and a wellspring of fund.

Again, in 1936, John Maynard Keynes' (1883-1946) "General Theory of Employment, Interest and Money", criticized the classical economists that put too much emphasis on the long run. According to Keynes, "we are all dead in the long run". Keynes believed depression needed government intervention as a short term cure. Increasing saving will not help but spending. Government will increase public spending giving individuals, purchasing power and producers will produce more, creating more employment. This is the multiplier effect that shows causality from public expenditure to national income.

Empirical Literature

Aigheyisi (2011), employed the method of co-integration and error correction using quarterly data spanning the period 1981 to 2009 and found that total government expenditure (acting as proxy for fiscal policy) positively affected real gross domestic product (RGDP) in the short run. Ogbole, Amadi and Essi (2011) wrote on fiscal policy: its impact on economic growth in Nigeria (1970-2006).The study involved comparative analysis of the impact of fiscal policy on economic growth in Nigeria during regulation and deregulation periods. Results showed that there is difference in the effectiveness of fiscal policy in stimulating economic growth during and after regulation period.

Omoninyi, Olasnkanmi and Babatunde (2012) examined the effects of fiscal deficits in Nigeria from 1970 - 2008, using secondary time –series data and econometric techniques. The results showed that there was a bidirectional causality relationship between budget deficits and trade deficits in Nigeria. In Oseni and Onakoya (2012), the researchers aimed at testing the argument that only three fiscal variables (productive expenditure, distortionary tax and fiscal deficit) contribute to growth by using annual time-series data of Nigeria from 1981 to 2010. The study found that in the case of Nigeria, four fiscal variables (productive government expenditure, unproductive government expenditure, distortionary taxes, non-distortionary taxes, government budget deficit) contribute positively to growth of Nigerian economy.

Iyeli and Ijomah (2013) investigated the impact of fiscal policy variables on Nigeria's growth between 1970 and 2011. Their result revealed that there exist a long run equilibrium relationship between economic growth and fiscal policy variables in Nigeria. Chude and Chude (2013) studied the impact of government expenditure on economic growth in Nigeria. This study investigated the effects of public expenditure in education on economic growth in Nigeria over a period from 1977 to 2012, using cointegration error

correction model (ECM). The results indicated that total expenditure on education is highly and statistically significant and has positive relationship with economic growth in Nigeria in the long run. The researchers conclude that economic growth is clearly impacted by factors both exogenous and endogenous to the public expenditure in Nigeria.

Agu,Idike, Okwor and Ugwunta(2014) used ordinary least square to determine the impact of various components of fiscal policy on the Nigerian economy (1961 to 2010) Findings revealed that total government expenditures have tended to increase with government revenue, with expenditures peaking faster than revenue. Investment expenditures were much lower than recurrent expenditures evidencing the poor growth in the country's economy. Hence there is some evidence of positive correlation between government expenditure on economic services and economic growth.

Osuala and Ebieri (2014) empirically examined the impact of fiscal policy on economic growth of Nigeria from 1986- 2010. The ordinary least square method of multivariate regression was utilized in analyzing the log-linearized model. The findings revealed that there is evidence of long run equilibrium relationship between fiscal policy and economic growth in Nigeria during the period studied. Onwe (2014) carried out an empirical trend analysis on the impact of fiscal policy components on economic growth in Nigeria (1981-2012) using cointegration analysis showed significant impact of federal expenditures on economic services and transfer payments on growth of the Nigerian economy and also observed positive impact of federal expenditures on administration, as well as social and community services on economic growth.

Igwe, Edeh and Ukpere (2015) investigated the impact of fiscal policy variables on economic growth in Nigeria (1970-2012 The VECM analysis indicates that capital expenditure and recurrent expenditure are positively related and statistically significant in determining economic growth in the long run. As expected, direct income tax is inversely related and statistically significant in determining economic growth in the long run. Abdurrauf (2015) examined the relationship between fiscal policy and economic development by using Pair-wise Correlation to ascertain the relationship and then Cointegration and Error Correction Mechanism. The result showed that government recurrent expenditure and government investment have significant positive impact on economic development in both the short and long run within the period under consideration. Babalola (2015) who used time series data from 1981 to 2011 and ordinary least square to study the impact of government expenditure on economic growth of Nigeria revealed that government recurrent expenditure and investment have significant positive impact on economic development measured by per capita income.

In the study of Ugwuanyi and Ugwunta(2017) that sought to determine the effect of fiscal policy variables on the economic growth of sub-Saharan African countries using a panel least squares. The result of the linearly modeled hypotheses tested using the panel data estimation technique under the fixed-effect assumptions revealed that government productive and unproductive expenditures, distortionary tax (a proportional tax on output at rate) and non-distortionary taxes have significant effects on the economic growth of sub-Saharan African countries. Findings also revealed that budget balances of sub-Saharan African countries have a positive but insignificant effect on the economic growth of sub-Saharan African countries.

Opeyemi, Olusegun and Adewale (2018) examined the impact of fiscal policy instrument on economic growth in Nigeria using time series annual data from 1981-2014 which constitutes 34 years observations. The data were analysed using Ordinary Least Square method and vector error correction mechanism was conducted. The study found that recurrent expenditure and public domestic debt exert negative relationship while the capital expenditure and external debt exert positive relationship in the long run on the economic growth (GDP) and in the short-run the entire variables are having positive influence except REC (recurrent expenditure) on the economic growth (GDP).

Otiwu,Chukwu and Okere (2018) used Ordinary Least Square and investigated the effect of public expenditure on the economic growth in Nigeria (1980-2013). The results obtained from the analysis revealed that less or no significant relationship existed between them. This finding is in line with the work of Modebe et.al (2012) who investigated the impact of recurrent and capital expenditure on Nigeria's economic growth using multiple regression analysis for data covering the period 1987 to 2010 and found that the impact of both components of expenditure were statistically insignificant, though the impact of recurrent expenditure was positive and that of capital expenditure, negative.

In other countries, similar studies have also been carried out. For instance, the study conducted in Kenya by Amanja and Morrissey (2006) contributed to a theoretical and empirical debate on the question whether or not fiscal policy stimulates growth in the long run. The study employed VECM found out that unproductive expenditure and non-distortionary tax revenue do not contribute to growth as predicted by economic theory. Enache (2009) investigated the connection between fiscal policy and economic growth in Romania using forecasted time series data which covered periods between 1992 and 2013. The researcher used OLS as the technique for data analysis and empirical results showed weak evidence for the positive impact of fiscal policy on economic growth. The study concluded that government authorities could use fiscal policy to affect economic growth in an indirect manner.

The study by Karimi and khosravi (2010) investigated the impact of monetary and fiscal policies on economic growth in Iran, using ARDL Co-integration approach for time series data between 1960 and 2006. The empirical result indicated existence of long run relationship between economic growth, monetary policy and fiscal policy.

The result further reveals a negative impact of exchange rate and inflation (as proxies for monetary policy), but a positive and significant impact of government expenditure on economic growth.

III. MATERIALS AND METHODS

This study utilized the Ex post facto design. It is a quasi-experimental study examining how an independent variable present prior to the study in the participants, affects a dependent variable. To significantly access the impact of fiscal policy on human development in Nigeria, the theoretical analysis was followed up by an empirical investigation. To achieve this, data were sourced from secondary sources including; Central Bank of Nigeria statistical bulletin, Federal Inland Revenue Services (FIRS) publications, and World development indicator (WDI), 2017.

The analytical framework of this study includes pre estimation analysis such as descriptive statistics and stationarity test. The major statistical tool used in this research is the Autoregressive Distributed Lag (ARDL). This technique is used to estimate the model in this research and testing of the formulated hypotheses.

Model Specification

The choice of the variables to be considered was drawn from the literature of this research. In view of this, to specify the models needed for this study, the dependent variable, Human development index is the independent variable, fiscal policy , will be disaggregated into, government capital expenditure, government recurrent expenditure and tax revenue.

Therefore, following the detailed review of previous studies, the model is specified thus:

HDI= f (GCE, GRE, TRV)…………………..(1)

The above functional relationships of our model can be transformed to econometric form as presented below:

HDI= = α_0+ $\alpha_1$logGCE+ α_2 logGRE+ $\alpha_3$logTRV + μ……(2)

Where;

HDI= Human Development Index
GCE=Government Capital Expenditure
GRE= Government Recurrent Expenditure
TRV= Tax Revenue
$\alpha 0$= Constant
α_1. α_3 = parameters to be estimated
μ= Error term.
Log = logarithm

Appriori Expectation:

The appriori expectation is that all the independent variables; GCE, GRE and TRV will have a direct positive relationship with the dependent variable HDI

This is thus stated; $\alpha_1, \alpha_2, \alpha_3 > 0$.

Data Analysis And Interpretations

Unit Root Test

The unit root test was conducted in this study to find out if there are mixtures in the order of integration of our variables.

Table 1 : Test of Stationarity

Series	ADF Test Statistic	5% Critical Value	Order	Remarks
LOGHDI	3.879920	-2.976263	1(1)	Stationary
LOGGCE	6.041020	-2.963973	1(1)	Stationary
LOGGRE	7.957322	-2.963973	1(1)	Stationary
LOGTRV	4.326651	-2.963972	1(1)	Stationary

Source: E- views7.

In the result shown in Table 1 above, the ADF test statistic for each of the variables are greater than the respective critical values. Thus, we accept the hypothesis of unit roots in each of the time series. In our final evaluation all the variables became stationary after first differencing. Hence, they are integrated of order I (1). Once all the series are non-stationary in the level, one can estimate an econometric model only if they are co-integrated. Thus co-integration tests can be applied for all variables.

Table 2: ARDL Bounds Test				
Test Statistic	Value	k		
F-statistic	6.107069	3		
Critical Value Bounds				
Significance	I0 Bound	I1 Bound		
10%	2.72	3.77		
5%	3.23	4.35		
2.5%	3.69	4.89		
1%	4.29	5.61		

The ARDL model estimation on Table 2 allows for the bounds co-integration test. The bounds test result on table 2 above revealed that the f-statistic value of 6.107069 is greater than the Critical Value Bounds for the upper bound I(1) at 5% level of significance, thus, there is co-integration as such there is long-run relationship.

Table 3: ARDL Cointegrating and Long Run Form

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GRE)	0.065825	0.026142	2.518024	0.0183
D(GCE)	0.016375	0.023448	0.698336	0.4912
D(TRV)	-0.020076	0.029950	-0.670298	0.5086
CointEq(-1)	-0.934175	0.169285	-5.518371	0.0000
Cointeq = HDI - (0.0705*GRE + 0.0175*GCE -0.0215*TRV -1.0437)				

The result in table 3 above shows that the coefficient of error correction mechanism (ECM) is negative (-0.934175) and significant at 0.05 per cent critical level.. The significance of the ECM is an indication and a confirmation of the existence of a long run equilibrium relationship between human development and fiscal policy in Nigeria. This collaborates with the ARDL bound test. The results confirm that human development index in Nigeria has an automatic mechanism which responds to deviations from equilibrium in a balancing manner. A value of (-0.93417) for the ECM coefficients suggests a fast speed of adjustment strategy of 93%. This means that approximately 93% of discrepancy in the previous year is adjusted for the current year i.e. approximately 93% of disequilibria from the previous year's shock converge back to the long-run equilibrium in the current year.

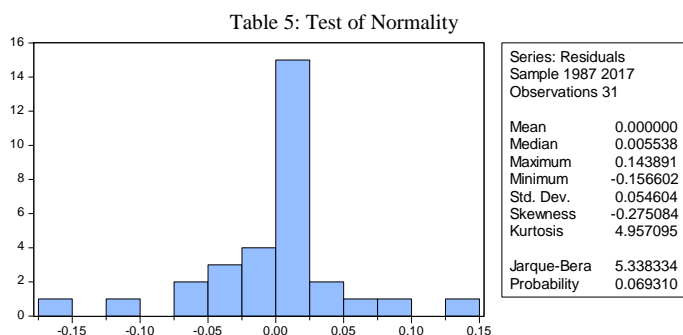| Table 4.: ARDL Dependent Variable: HDI			
Method: ARDL			
Dynamic regressors (0 lag, automatic): GRE GCE TRV			
Fixed regressors:			
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
HDI(-1)	0.065825	0.169285	0.388844	0.7006
GRE	0.065825	0.026142	2.518024	0.0183
GCE	0.016375	0.023448	0.698336	0.4912
TRV	-0.020076	0.029950	-0.670298	0.5086
C	-0.975025	0.305531	-3.191243	0.0037
R-squared	0.832270	Mean dependent var	-0.796781
Adjusted R-squared	0.806466	S.D. dependent var	0.133328
S.E. of regression	0.058655	Akaike info criterion	-2.687613
Sum squared resid	0.089449	Schwarz criterion	-2.456324
Log likelihood	46.65800	Hannan-Quinn criter.	-2.612218
F-statistic	32.25284	Durbin-Watson stat	2.070404
Prob(F-statistic)	0.000000		

Source: E-Views

Global Statistical Results Analysis

The econometric property of the estimated equation shows that the global utility or the overall goodness of fit is high with an F- statistics of 32.25284 and probability value of 0.000000. From ARDL result, R^2 is 0.832270 or 83.23% and the adjusted R^{-2} is 80.64.70%. This implies that, at level series, about 80.64% of the total variations in the Human development index in Nigeria (HDI) are explained by the changes in fiscal policy variables ; GCE, GRE and TRV. The Durbin – Watson statistic from the output result is 2.070404

and it is close to 2 than O. This depicts the absence of autocorrelation. But in order to be sure of data employed, a more reliable test is conducted to check for serial correlation which is more serious than autocorrelation.

Test of Normality

Table 5: Test of Normality

Series: Residuals	
Sample 1987 2017	
Observations 31	
Mean	0.000000
Median	0.005538
Maximum	0.143891
Minimum	-0.156602
Std. Dev.	0.054604
Skewness	-0.275084
Kurtosis	4.957095
Jarque-Bera	5.338334
Probability	0.069310

Table 6: Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.225345	Prob. F(2,24)	0.7999
Obs*R-squared	0.571410	Prob. Chi-Square(2)	0.7515
Table7: Ramsey RESET Test			
Equation: UNTITLED			
Specification: HDI HDI(-1) GRE GCE TRV C			
Omitted Variables: Squares of fitted values			
	Value	df	Probability
t-statistic	0.480761	25	0.6349
F-statistic	0.231131	(1, 25)	0.6349

The post estimation test captured by Jarque-Bera, Ramsey reset test Breusch among others on the long and short run regression, revealed not only the robustness of the estimated equation results but the desired properties of an econometric model. The diagnostic tests confirm the suitability of the estimated models. Thus, the model residual series (0.69310) are normally distributed as suggested by the Jarque–Bera statistics, while the Breusch–Godfrey LM (0.7515) test statistics indicate that the model does not have significant serial correlation problem. Moreover, the Ramsey RESET shows that the residuals are homoscedastic and the model has correct functional form.

Test of Hypotheses

Table 8: Hypotheses Result

Variables	T-Statistic	Prob.Value	Observation	Decision
LOGGRE	2.518024	0.0183	P-value 0. < 05	Reject Null
LOGGCE	0.698336	0.4912	p-value> 0.05	Accept Null
LOGTRV	-0.670298	0.5086	p -value>0.05	Accept Null

Source: Extracted from E-views

However, we will go on and test for individual contributions of each of these variables by looking at the hypotheses stated earlier in this study

HO₁: There is no significant relationship between government capital expenditure and human development index (HDI) in Nigeria.

H1₁: There is significant relationship between government capital expenditure and human development index (HDI) in Nigeria.

Based on the table 8 above and the decision criteria (P-value of 0.4912 is greater than 0.05), we accept the null hypothesis and reject the alternative hypothesis and conclude that government capital expenditure has no significant relationship with human development index in Nigeria.

HO₂: There is no significant relationship between government recurrent expenditure and human development index (HDI) in Nigeria.

H1₂: There is significant relationship between government recurrent expenditure and human development index (HDI) in Nigeria.

From table 8 above and in line with the decision rule (P-value of 0.0183 is less than 0.05), H0 is rejected thereby leading to the acceptance of the H₁ and conclude that government recurrent expenditure has significant relationship with human development index in Nigeria. Indeed, the positive sign conforms to apriori expectation, thus affirming the theoretical assertion

HO₃: There is no significant relationship between tax revenue and human development index (HDI) in Nigeria.

H1₃: There is significant relationship between tax revenue and human development index (HDI) in Nigeria.

From the above table (table 8) Ho is accepted because the P-value of 0.5086 is greater than 0.05, thereby leads to the rejection of the H₁ and we conclude that tax revenue has no significant relationship with human development index in Nigeria. This is contrary to the apriori expectoration of this study. This means tax revenue is counterproductive.

IV. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study entitled "**Fiscal policy and human development in Nigeria"** has the main objective of finding out the effect of fiscal policy on human development in Nigeria over the period (1986-2017). Specific objectives include to:

- examine the relationship between government capital expenditure and human development index (HDI) in Nigeria
- establish the relationship between government recurrent expenditure and human development index (HDI) in Nigeria,

- determine the relationship between tax revenue and human development index (HDI) in Nigeria.

The study utilized the ex-post facto design. Time series data for thirty-one year period (1986-2017) were collated from secondary sources from FIRS publications and World development indicator (WDI) and Central Bank of Nigeria (CBN) Statistical Bulletin of 2017. The test for autocorrelation and serial correlation revealed absence of both autocorrelation and serial correlation. Also, the probability of the Jarque-berra statistics of the transformed series of all variables showed that the series are normally distributed. The probability values of the Jarque-Bera statistics for all the explanatory variables (HDI, GRE, GCE and TRV) are all significant at a 5% confidence level and are normally distributed. Breusch-Godfrey serial correlation LM test is used to test whether Residuals are auto-correlated or not. . A P-value of 0.7999 reported in the table is above 5% implying that the residual of the values is not serially correlated or auto-correlated and hence fits for regression model.

The test for stationarity (even though not necessary) proved that all the variables are stationary at first difference I (I) as seen table 1. The result in table 3 above showed that the coefficient of error correction mechanism (ECM) is negative -0.934175 and significant at 0.05 per cent critical level. The significance of the ECM is an indication and a confirmation of the existence of a long run equilibrium relationship between human development index and fiscal policy in Nigeria. This collaborates with the ARDL bound test.

Hypotheses were formulated and tested using the Autoregressive Distributed Lag (ARDL). Of all the three hypotheses tested, the government recurrent expenditure (GRE) exerted significant positive relationship on human development in Nigeria. The government capital expenditure (GCE) revealed no significant relationship with human development index (HDI). Again, the test of tax revenue (TRV) in Nigeria revealed an inverse relationship with human development index (HDI) although insignificant. The adjusted coefficient of determination (R^2) indicated that about 80.64 % of the variations in human development index (HDI) are explained by changes variables in fiscal policy variables in Nigeria within the period of study.

Conclusion

The study found that Human Development Index (HDI) and selected fiscal policy variables included in the model have a long run relationship in Nigeria within the period under study. This finding is in line with the Keynesian theory. The study also revealed that only the government recurrent expenditure (GRE) has major impact on HDI in Nigeria within the period of this study. Fiscal policy variables such as government capital expenditure, tax revenue were not statistically significant in determining HDI in Nigeria. While tax revenue (TRV) has negative effect on HDI (although insignificant), the government capital expenditure has positive but insignificant relationship with HDI.

The study therefore, concluded that fiscal policy variables induced human development in Nigeria during period of this study.

Recommendations

Based on the forgoing, this study recommends as follows;

1. Government should restructure its revenue base to finance fiscal policy expansion rather than embarking on external borrowing. This can be achieved by improving its revenue sources and efficient pursuit of tax reforms which will help to minimize tax avoidance, diversion and invasion.

2. Adequate machinery should be put in place by all sectors of government to arrest corruption and penalize those who divert and embezzle public funds meant for developmental purposes.

3. Government fiscal policies should place greater emphasis on the principles of effective taxation aimed at promoting investment and the growth of the HDI in the country, the inverse and insignificant impact of total government capital expenditure on Nigeria HDI showed that increasing and huge government expenditure during the this era still fell short of achieving and bursting Nigerian standard of living and also government should ensure that its total expenditure on human development is properly monitored

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