ASSESSMENT OF THE IMPACT OF GOVERNMENT EDUCATIONAL EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA: 1960-2017

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Abstract

The study assessed the impact of government education expenditure on economic growth in Nigeria from 1960-2017. The study employed vector auto regression (VAR) and Augmented Dicey Fuller (ADF) in the analysis and estimation of this work. The result of the unit root tests revealed that all the variables are stationery in the first order. The Auto regression results show that independent variables, that is, Total Government Expenditure on Education (TGEE), Primary School Enrolment (PSER), Secondary School Enrolment (SSER) and Tertiary Institutions Enrolment (TIER) jointly have statistical significant impact on the dependent variable GDP. The result further shows that TGEE and SSER can granger cause GDP, while PSER and TIER cannot granger GDP. The hetroscedasticity test revealed absence of hetroscedasticity among the variables. The study therefore recommends improvements in the funding of school system in Nigeria from primary school to university level, introduction of new educational curricula to be jointly adopted by both private and public institutions which will take care of industrial and societal needs in Nigeria for economic sustainability and growth.

Keywords: Gross Domestic Product, Government Expenditure on Education, School Enrolment

1.0 INTRODUCTION

Education is any process by which individual gains knowledge or develops attitudes and skills to be useful in the society. It refers to knowledge at all levels (primary, secondary and tertiary), be it formal or informal which is an instrument through which the society can be transformed. Babatunde (2018) sees education as one of the pro-growth policies for promoting economic growth because it is the most important instrument which is capable of enhancing human capabilities and achieving desired objectives of social and economic development such as poverty alleviation and possibly contributing to political awareness and stability among the populace. It gives opportunity for the development of human capital in a way that enables training, health improvement, migration and other investments that allows an individual's productivity enhancement (Onisanwa, 2014). It equips human capital with knowledge, skills and competences needed to enhance productivity, foster economic growth, contribute to personal and social development, raises people's creativity, promotes entrepreneurship and social inequality (Inimino, Tubotamuno & Shuaibu, 2017).

Education being regarded as one of the important factors which determines economic growth, makes the economies of the world (developed and developing) direct their resources towards the development of education sector in order to enhance high productivity for production for the country in future since education is a long term investment. It enable individuals to make informed choices, broadens their horizons and opportunities and to have a voice in public decision making. It is also seen commonly, as a direct avenue to rescue substantial number of people from poverty since it paves way for employment opportunities and higher wages earning for skilled labour (Jelilov, Aleshinloye & Onder, 2016).

The Nigerian government, having realized the importance of education on economic

growth, has at one time or the other put up various policies to improve education and in turn, impact on human capital development and such policies have reflection on the annual budgetary to education. Some of the policies includes; National Policy on Education (1977), revised in 1981, 1988, 2004 and 2013, Dakar Framework for Action and Education for All (2000), NISER and CMD. Other policies include National Economic Empowerment and Development Strategy (NEEDS) established in 2004. The series of policies made by the government on education so far were to ensure the individual Nigerian to be able to develop skills and attitudes which will enable them exploit natural resources, build social, economic and political organization and carry forward national development (Anyanwu, Adam & Yelwa, 2015).

Nigeria experienced rapid expansion in its education sector since independence in 1960 and this led to expansion in its educational facilities between 1960 and 1974 as a result of taking over of privately owned primary and secondary schools by the government. The Universities and other tertiary institutions were also taken over by the government in 1975 while the new ones were created and many more has since been created. The Federal Ministry of Education in 2003, reported that all was not well with education sector since 1978 due to financial inadequacies. The Central Bank of Nigeria in the year 2000, also reported inadequate percent of its Gross Domestic Product was spent on education, while 9.5 percent was spent between 1997 and 2006. In contrast, Ghana spent 4 percent of her GDP on education in the 1980's and 1990 while 24 percent was budgeted for education between 1997 and 2006. However, in Malaysia, education expenditure as a share of the GDP was 5 percent between 1997 and 2006 respectively (Umo, 2012). It was also noted that the explosive enrolment growth is another the challenge facing educational sector. Nigeria has the highest concentration of students in the school enrolment at all levels in 2003 with 26million pupils at primary level, 7million at secondary level and 1.5million at tertiary level.

The World Bank (2010), identified difficulty in the growth of the Nigerian economy due to the challenges faced in the national educational system. This include, existence of gap in funding the educational sector compared with the country's population, demographic structure and increase in the number of schools makes the government policy which aimed at the public empowerment with qualitative skills and knowledge required to produce goods and services is yet to receive adequate attention. Inadequate funding of education sector, results to poor state of the infrastructural facilities, irregularities of teachers and lecturers remunerations, inadequate staffing, poor salaries to teachers and lecturers and so on which leads to industrial action by some unions, such as; the Academic Staff Union of Universities (ASUU), Academic Staff Union of Polytechnics (ASUP) and Non–Academic Staff. This experience is capable of increasing the level of illiteracy in the country and reduce marginal productivity of workers (unskilled labour especially) which in turn can lead to low income, low savings, low investments and low rate of capital formation.

Education impacts skills and competencies that is central to human development and enhanced worthy living, transporting wide variety benefits to both individuals and societies. Also, investing in education produces exceptionally high social and economic returns. The aforementioned factors poise as challenges to human development in Nigeria since the Nigerian state has failed to optimally develop its resources and the resultant manifestation is the mal-development in the country in the present millennium (Anyanwu *et. al.*, 2015).

In this study, education shall be seen as a major factor in human capital development which has a link with economic growth. Therefore, the major challenge of this study is to:

- i. Examine the impact of Government educational expenditure on economic growth in Nigeria, from 1960-2017.
- ii. Investigate the impact of school enrolment on economic growth in Nigeria

iii. Evaluate the causal relationship between government expenditure on education and economic growth in Nigeria.

In order to achieve the objective of the study, the following null hypotheses are established for test:

- H₀₁: Government education expenditure has no significant impact on economic growth in Nigeria
- H₀₂: School enrolment does not have significant impact on economic growth in Nigeria:
- Ho₃. There is no causal relationship between government expenditure on education and Economic Growth in Nigeria.

2.1 Theoretical Literature

Theories on government expenditure and economic growth are modernization, public expenditure and growth. Modernization theory relates to education, while endogenous theory relates to economic growth and Musgrave, Rostow, Wagner and Keynesian theories relates to public expenditure and economic growth. The modernization theory of Lucas (1988), Romer (1990), Becker (1990) among others focus on how education transforms an individual's value, belief and behavior and exposure to modernization institutions such as schools, factories and mass media which inculcates modern values and attitudes.

Rostow wrote on the political theory of stages of growth and the role public expenditure play on growth process while Musgrave provided a macroeconomic explanation of public expenditure policy for industrialization and development. According to Rostow and Musgrave, the rate of public expenditure will be very high during the early stages of economic growth. It is therefore pertinent for public sector to make provision for social overhead capital in the form of education, health, nutrition, roads, electricity and water supply which is crucial launching the economy from traditional stage through the middle stages to the take of stage of economic growth.

The Keynesian theory sees public expenditure as a fiscal instrument necessary for achieving both short term stability and a long term growth that is superior. The theory suggested government intervention in the economy in order to achieve stability which is possible through fiscal policy by borrowing from private sector or individual and pay back. The fiscal policy instrument can be adopted in building of quality of classrooms, laboratories, payment of salary, acquisition of teaching and learning aids including computers which will have multiplier effect on the economy and also help to improve productivity through raising of labour force and further create a body of educated leaders both in the private and public sectors of the economy who will plan and manage the economy politically, economically and administratively.

2.2 Empirical Literature:

A large body of empirical work has been carried out on education and economic growth, though much of the early works were centred on labour and the stock of physical capital as the key determinants of economic growth. However, empirical work could not explain a significant portion of the growth and capital alone, this made attention to be turned to other factors like technological change contained in capital goods and in the quality and quantity of labour which can be achieved through education of human capital to promote economic growth. For instance, Inimino, Tubotamuno and Shaibu (2017) worked on Public Education Expenditure and Economic Growth in Nigeria from 1980 to 2015 adopting ECM and Granger Causality test to analyse the data. The result shows that all variables were stationary at their first order differences using Augmented Dicey-Fuller Unit Root test. The co-integration test shows a long-run relationship among variables while the result of the co-

integration test shows a long-run relationship among variables and the ECM shows overall satisfactory model with the co-efficient of determination of 65 percent and F-statistics of 5.312802. The result also show a significant relationship of government capital expenditure and government recurrent expenditure on education with economic growth while there is no significant relationship between gross capital formation and (GDF) and economic growth and the Pairwise Granger Causality result shows a unidirectional causation between government capital education expenditure and real gross domestic product.

Jelilov, Aleshinloye and Onder (2016) worked on the analysis of the impact of education on economic growth in Nigeria using OLS methodology to determine the relationship between education as human capital and real GDP. The result revealed a statistical significant relationship between GDP and all the variables used in the study with the exception of primary school enrolment because primary school enrolment indicates problem at this level. The results indicate a highly statistical significant and a positive relationship of total expenditure on economic growth in Nigeria. The study concluded that, the Nigerian economy is impacted by both exogenous and endogenous factors of growth.

Chude and Chude (2013) studied the effects of public expenditure on economic growth in Nigeria from 1977 to 2012 adopting sectoral expenditure analysis with ex-post research design and applied time series econometric technique (Error Correction Model) to examine the long run and short run effects of public expenditure on economic growth in Nigeria. The results indicate a highly statistical significant and a positive relationship of total expenditure on economic growth in Nigeria. The study concluded that, the Nigerian economy is impacted by both exogenous and endogenous factors of growth.

3. Methodology

The study shall employ the augmented Solow model in conjunction with the work of Inimino, Tubotamuno and Shaibu (2017) in relation to the work of Moh'd, Fidlizan, Moh'd and Azila (2012) in order capture the impact of government educational expenditure on economic growth in Nigeria from 1960 to 2017 using total government expenditure on education and school enrolment at all levels (Primary, Secondary and Tertiary) while Gross Domestic Product (GDP) is adopted as proxy for economic growth. The augmented Solow's model states thus:

Where: Y = Gross Domestic Product, K = Physical Stock of Capital, h = level of human capital and Human Capital is replaced with Education (H=E), L = Labour Force, \overline{A} = Level of Productivity, = Elasticity of capital input with respect to output and = Elasticity of labour with respect to output.

The model is further specified econometrically as:

Equation 3.2, when transformed in log-linear form becomes:

Where $_0 = \log A$ and $W = \log \mu$

In an attempt to adapt the augmented Solow model to education situation in Nigeria and the context of discussion using the total government expenditure on education the model shall become:

 $LogY = _0 + 1logE + log \mu \dots 3.4$

Where: Y = Gross Domestic Product, E = Total Government Expenditure on Education.Since it was earlier mentioned in the course of literature review that Nigerian educational system has experienced explosion in the school enrolment since 1960, this result to the inclusion of the school enrolment at all levels as part of the independent variables. Therefore, the functional relationship between the dependent and independent variable is stated thus: $GDP = f(TGEE + PSER + SSER + TIER) \dots 3.5$

This model shows the relationship between Gross Domestic Product (Y), Total Government Expenditure on Education, Primary School Enrolment, Secondary School Enrolment and Tertiary Institutions Enrolment. The equation establishes the impact of Total Government Expenditure on Education, Primary School Enrolment, Secondary School Enrolment and Tertiary Institutions Enrolment on economic growth in Nigeria.

An econometric form of equation 3.5 is stated as:

Log GDP = log $_0$ + log $_1$ TGEE + log $_2$ PSER + log $_3$ SSER + log $_4$ TIER + log μ3.7 Where; GDP= Gross Domestic Product, TGEE = Total Government Expenditure on education, PSER = Primary School Enrolment, SSER = Secondary School Enrolment and TIER = Tertiary Institutions Enrolment, $_0$ = Constant Term, $_{1, 2}$, $_3$ and $_4$ are Regression Coefficients of independent variables and μ = Stochastic Error term. It is expected that $_{1, 2}$, $_3$ and $_4$ shall be greater than zero. However equation (3.7) is the econometric model for this study.

The equation is estimated with the use of Ordinary Least Squares (OLS) Econometric (Eview version 10) and statistical packages and being an analytical study, the use of time series data covering the period from 1960-2017 is inevitable. In order to analyse the work, Vector Autoregressive (VAR) and Augmented Dicey-Fuller (ADF) equations were adopted. The tests carried out include stationarity, co-integration and error correction and Granger Causality. The A-Priori expectation of the work is that 1, 2, 3 and 4 will be greater than zero which means that (1, 2, 3 and 4>0).

4.1 Data Analysis and Result Interpretation

In order to analyse the impact of education on economic growth in Nigeria, estimation of model was carried out using annual time series data covering the period from 1960 - 2017. The data include *Gross Domestic Product (GDP)*, Total Government Expenditure on Education (*TGEE*), *Primary* School Enrolment (*PSER*), Secondary School Enrolment (*SSER*), and Tertiary Institutions Enrolment (*TIER*).

4.2 Descriptive Statistics

Table 1

In this section, the descriptive statistic for all the variables are presented and analyzed. The results for the Mean, a measure of central tendency, Standard Deviation, a measure of dispersion or variability, maximum or peak value and minimum or lowest value is as presented in Table 1.

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	GDP	PSER	SSER	TGEE	TIER
Mean	370858.7	96351.10	4039699.	157843.6	444946.5
Maximum	6570883.	1212915.	13884476	3140121.	1745186.
Minimum	66.29422	105.0000	1227.000	6.200000	1395.000
Std. Dev.	1351727.	179737.8	3723613.	576111.9	580835.8
Skewness	4.026505	4.310696	0.766520	4.873695	1.014615

Summary of Descriptive Statistics

Kurtosis	17.45972	26.75264	2.897702	25.47082	2.374655
Observations	58	58	58	58	58
			E · 10.0	<b>P</b> 4	

Source: Researcher's computation using E-views 10.0 software

From the table 1, the highest value for the Real Gross Domestic Product during the period of the study is 6570883 while the minimum value is approximately 66.2. GDP average value stands at 370858.7 with a standard deviation of 1351727. Primary school enrolment recorded a maximum value 1212915 with a minimum value of approximately 105. PSER recorded an average value of 96351 and standard deviation of 179737 during the sample period. However, secondary school enrolment and tertiary school enrolment recorded a maximum value of 13884476 and 3140121, and a minimum value of 1227 and 6.20 respectively during the period under study. SSER average value stands at 4039699 with a standard deviation of 3723613 while the SSER has an average value 157843.6 with a standard deviation of 576111.9. The average value of total government expenditure on education stands at 157843.6 with a standard deviation of 576111.9, the maximum value is approximately 6.20 respectively.

#### **4.2: Tests for Stationarity**

Empirical research based on time series presumes that observed data are stationary. That is, such a series has a mean; variance and auto covariance at several lags are time invariant. However, most macroeconomic variables exhibit trends. That is, they grow over time. Thus, the implication of working with non-stationary series results in spurious regression, Granger and Newbold (1974) and Nelson and Plosser (1982). Thus, forecasting and policy implication drawn from such spurious regression analysis would be misleading. A possible way out is to employ the use of unit root testing procedure to ascertain the stationarity of the series and order of integration of the series. This study employs the well-known tests, namely augmented Dickey Fuller (ADF) propounded by Dickey and Fuller (1981). The general form of the unit root test is presented in table 2:

S/	Variabl	ADFStatisti	Criticalvalue(5	Order	Prob	Remark
Ν	e	с	%)	ofIntegratio	(5%)	S
				n		
1	GDP	-6.74129	-2.914517	I(1)	0.000	Stationar
					0	у
2	TGEE	-7.4842333	-2.914517	I(1)	0.000	Stationar
					0	у
4	PSER	-12.56455	-2.914517	I(1)	0.000	Stationar
					0	у
5	SSER	-6.431015	-2.914517	I(1)	0.000	Stationar
					0	у
6	TIER	-7.679439	-2.914517	I(1)	0.000	Stationar
					0	У

 Table 2: Augmented Dickey-Fuller Unit Root Test.

#### Source: E-views 10.0 Output (2019)

In view of the suspected time-dependent feature of the data used for this research, the ADF unit root test was applied separately on all the variables, at first order levels of differencing, basically, to establish whether the time series have a stationary trend, and if non-stationary,

the number of times the variable has to be differenced (screened) to arrive at a stationary. The decision rule is:

t* > ADFcritical value, ==>do not reject null hypothesis,i.e., unit root exists.

t* < ADFcritical value, ==>reject null hypothesis, i.e., unit root does not exist

The summary of the unit root test results as presented in Table 1 shows that the null hypothesis of non-stationarity can be rejected, since the ADF statistic is less than the critical value implying that the variables are stationary at first order differencing I(1) for all the selected variables. Further evidence of stationarity can also be seen from p- value (0.0000) of all variables which is less than 5%. Thus, the study therefore rejects the null hypothesis which states that unit root exists in the variables. For consistency, the entire series variables were considered as I (1). This is because to conduct co-integration analysis, all variables must be integrated of the same order so as to test for co-integration.

Table 3 presents the results of Johansen Co-integration tests for the number of co-integrating ranks.

# Table 3: Johansen Co-integration TestHypothesized Trace0.05Maximum-Eigenvalue0.05

No. of		Trace	Critical		Max-Eigen	Critical	
CE(s)	Eigenvalue	Statistic	Value	Prob.**	Statistic	Value	Prob.**
None *	0.740109	175.5573	95.75366	0.0000	75.45971	40.07757	0.0000
At most 1 *	0.527055	100.0976	69.81889	0.0000	41.93141	33.87687	0.0044
At most 2 *	0.448204	58.16622	47.85613	0.0040	33.29628	27.58434	0.0083

#### Source: E-views 10.0 Output (2019)

In table 3, the decision rule is to reject the null hypothesis if the probability (P value) is less than 5% (0.05), otherwise, accept it. The Trace statistic and Max-eigenvalue showed three (3) co-integration relationships at level None, 1, and 2, where the trace value is greater than the critical value, and also with a significant p-value at 5% level of significance. This implies that the null hypothesis of no co-integration among the variable can be rejected. The evidence of co-integration among the variables, indicate that there is a long-run relationship among the variables. Since the variables are co-integrated the equations of the Restricted VARs also include lagged values of the variables to capture their long-run relationships. Meanwhile, a diagnostic test was carried out as presented in table 3 to in order to summarize the VAR results. The diagnostic tests include the R-squared, F-statistic and Durbin Watson statistic.

Variable	Co-efficient	Std Error	t-Statistic	Prob*	
GDP(-1)	0.947979	0.13889	6.82530	0.0000	
TGEE(-1)	0.074212	0.34598	0.21450	0.0348	
PSER(-1)	-0.007990	0.55090	-0.01450	0.9884	
SSER(-1)	-0.027747	0.11170	-0.24841	0.8039	
TIER(-1)	0.447687	0.31470	2.42256	0.04556	
С	30.9392	186809.1	-1.65620	0.0031	

 Table 4: Summary of Vector Auto-regression Estimates of Regression Result

R-squared=0.804912	Adj.R-squared=0.767555	F-statistic=21.54633
Prob(F-statistic)=0.000000	Durbin-Watson-stat=2.095383	

#### Source: E-views Output (2019)

The result derived from the regression analysis in table 4 revealed that there is a functional relationship between the dependent variable (GDP) and independent variables (TGEE, PSER, SSER, and TIER) in Nigeria.

The coefficient of Total Government Expenditure on Education (TGEE) is 0.074212 with a significant p-value of 0.0348 at 5% level of significance. This positive coefficient value also indicates that, all other factors constant, a percentage increase in total Government Expenditure on education will result in approximately 0.07percent increases in economic growth. This finding is consistent with the findings of Obi and Obi (2014) on the subject matter. This can be attributed to the improved level of infrastructures required for quality education delivery which occurs due to increase in total government expenditure on education. As the quality of education increases, human capital is developed and performance at workplace is improved thereby causing economic growth of Nigeria.

The coefficient of Primary School Enrollment (PSER) is -0.007990 with p-value at 0.9884 indicating that it is statistically insignificant at 5% level of significance. This negative coefficient value, although statistically insignificant implies that 1% increase in Primary School Enrolment will result in about 0.008 percent decrease in economic growth. The finding is in contrasts with findings of Hadir and Lahrech (2015) and Borojo and Jiang (2015) who find positive impact of primary school enrolment on economic growth, but this may be on account of primary school enrolment resulting in pressure on limited primary school education facilities and thereby adversely affecting the quality of primary education received by Nigeria citizens.

The coefficient of Secondary School Enrolment (SSER) is -0.027747 and it is statistically not significant at the 5% level of significance. This negative coefficient value of Secondary School Enrolment implies that a percentage increase in Secondary School Enrolment will result in approximately -0.02 decrease in economic growth. This finding is in contrast with findings of studies indicating a positive effect of Human capital development as measured by education in general or secondary school enrollment specifically, on economic growth such as Hadir and Lahrech (2015), Borojo and Jiang (2015) and Lawanson (2015). The negative effect may be as a result of decline in advanced education knowledge gained in Secondary school which is has therefore affected the quality of human capital and consequently, Nigeria's economic growth.

The coefficient of Tertiary Institutions Enrolment (TIER) is approximately 0.44 and the p-value is approximately 0.04. This is statistically significant at the 5% level of significance. This positive coefficient value of Tertiary School Enrolment implies that a percentage increase in Tertiary School Enrolment results in about 0.44 increase in economic growth. This is consistent with findings of studies indicating a positive effect of Human capital development as measured by Tertiary school enrollment on economic growth such as Hadir and Lahrech (2015), and Sulaiman, Bala, Tijani, Waziri and Maji (2015). This may be attributed to the fact that tertiary enrollment allows Nigerians to receive advanced education which improves their human capital quality and positions them for contributions to the economy thereby boosting the economic growth of Nigeria. Olusogo (2015).

Furthermore, the diagnostics of the summary of the vector auto-regression results namely, the R-squared, F-statistic and Durbin Watson statistic which are the major measures for examination of the validity of regression analysis may be observed from Table 4. The Adjusted R-Squared which is a more precise measure of goodness of fit is 0.767555. This implies that about 75% variation in economic growth of Nigeria over the period of 1960 and

2017 is influence by the independent variables (Total Government Expenditure on Education, Total Government Expenditure on Health, Primary School Enrolment, Secondary School Enrolment, and Tertiary School Enrolment). The F-statistic of the model is 21.54633 and it is statistically significant at the 5% level of significance since the p-value is 0.00000, this indicates that the model is well specified and therefore shows that the independent variables jointly have significant influence on the dependent variable (GDP). The Durbin-Watson statistic value of the model is approximately 2.095. This value indicates that the model is free from any problem of serial correlation, therefore, the period residual of the model is not correlated with previous period residuals of the model.

The F-statistics is use to test for simultaneous significance of all the estimated parameters. However, the lower the probability value of the f-statistic, the better the overall significance of the regression. The result obtained from the regression result reveals that the Prob(F-statistic) =0.00000 at 5% level of significance. We can therefore reject the null hypothesis and accept the alternative hypothesis. This implies that human capital has a significant impact on economic growth. Thus, the explanatory variables (Total Government Expenditure on Education, Total Government Expenditure on Health, Primary School Enrolment, Secondary School Enrolment, and Tertiary School Enrolment) are simultaneously significant in explaining the variation in GDP.

The VAR Granger Causality tests were carried out and the result is as presented in table 5. This is to ascertain the causal relationship between the dependent and independent variables.

Excluded	Chi-sq	Df	Prob.
GE	0.016119	1	0.8990
SE	7.283127	1	0.0070
TE	2.185751	1	0.1393
PE	0.001311	1	0.9711
All	7.912077	4	0.0949

# Table 5: VAR Granger Causality/Block Exogeneity Wald Tests Dependent variable: GDP

#### Source: E-views 10.0 Output (2019)

Table 5 presents the causal relationship between the dependent variable and independent variable. The null hypothesis is, the independent variable does not cause the dependent variable. In table 4, gross domestic product is the dependent variable, while the lagged value of Government expenditure on education (TGEE) Primary school enrolment (PSER), Secondary school enrolment (SSER) and Tertiary school enrolment (TIER) are the independent variables. The result has presented in table 4 shows that the null hypothesis that TGEE cannot cause GDP cannot be rejected at 5% level of significance since the p-value of 0.8990 is greater than 5%. Again, the study fails to reject the null hypothesis for the Granger causality between primary school enrolment (PSER) and gross domestic product (GDP) and also Tertiary school enrolment (TIER) and Gross Domestic Product (GDP) at the conventional 5% levels of significance. However, the result reveals that Secondary school enrolment (SSER) causes GDP as revealed by the significant p-value of 0.0070 which is less than 5%. Therefore, the null hypothesis that SSER does not granger-cause GDP can be rejected.

#### **5.0 Conclusion and Recommendations**

This study examined the impact of government education expenditure on economic growth in Nigerian from 1960- 2017. The study adopted a vector autoregressive model to investigate the impact and interaction of government expenditure on education and economic growth, through impulse response function and forecast error variance decomposition results in Nigeria. The result of the unit root test revealed that all the variables are stationary at first difference further evidence of stationarity was also seen from p-value (0.0000) of all variables which is less than 5%. Thus, the study, therefore, rejects the null hypothesis which states that unit root exist in the variables. The study also revealed that government expenditures on education, primary school enrolment, secondary school enrolment and tertiary institution enrolment have a positive and significant impact on economic growth in Nigeria. The Johansen co-integration test indicates that economic growth is co-integrated with education and related indices (Total Government Expenditure on Education, Primary School Enrolment, Secondary School Enrolment and Tertiary Institutions Enrolment) together in the long run, even though there might be deviations in the short run.

The second key finding is that in the long-run, the independent variables have significant relationship with economic growth. Finally, it is noteworthy to point out here that the variance decomposition indicates that on the average most of the variations in economic growth are explained by the independent variables. In addition, the impulse response functions suggest that the shock to Total Government Expenditure on Education and SSER will have positive impact on GDP while PSER and TIER will lead to a continous fall in the GDP. Finally it is established from this study that TGEE, PSER, SSER and TIER are important determinants of economic growth in Nigeria for the period covered by the study. The regression results reveal that Total Government Expenditure on Education is characterized by positive value of coefficient. It should, therefore, be noted that TGEE has a vital relationship with growth and development of any nation. It is capable of improving the health, the life expectancy, the efficiency, productivity and income of labour as well as the level of investment in the economy.

In the light of the outcome of this study, the following recommendations are proposed in order to catalyze and significantly enhance the development of education sector towards substantially improving and sustaining economic growth in Nigeria.

First, Nigeria should adopt a strategy that promotes provision of more funds for capital expenditure on education by building quality learning environments and providing standard learning facilities like electronic libraries and well-equipped laboratories. It is also suggested that fiscal policy should be complemented with increased participation of the private sector in education investments. This is to allow the changes in the capital expenditure on education investment have the potential of inducing an employable workforce. Also, there is need to improve the funding of school system in Nigeria from Primary School to University.

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