MACROEONOMIC ENVIRONMENT AND SCHOOLING IN NIGERIA

OGUNGBENLE, SOLA
Department of Economics,
College of Education, Ikere-Ekiti, Ekiti State, Nigeria.
E-Mail: ogungbenle.sola@coeikere.edu.ng
Phone: 07031545919

ABSTRACT

The paper investigated into the relationship between macroeconomic environment and schooling in Nigeria using the annual time series data spanning from 1981 to 2018 by employing the Autoregressive Distributed Lags (ARDL) Model application to cointegration and Error Correction Model techniques known as Bounds Testing. Unit root test was conducted on all the variables of interest in the study. The study finds evidence that public education expenditure, public health expenditure, government revenue and urbanization have strong and significant impact on schooling in Nigerian economy. The analysis of the study also confirms a long run relationship existing among schooling, public education expenditure, public health expenditure, government revenue and urbanization in Nigeria which implies that the macroeconomic environment provides a useful information about schooling in Nigeria. The policy implication of the findings of this paper is that as a matter of priority, government should encourage stability in macroeconomic variables capturing macroeconomic environment and be more focused on growth oriented, urbanization and stabilization policies especially at macro level which can stimulate schooling in Nigeria. In addition, there is need for government to sustain its revenue generating drive through tax and her education sector funding like Tertiary Education Trust Fund (TETFUND) and the Universal Basic Education (UBE) counterpart-funding initiatives channeled towards educational development as this step will enhance schooling in Nigeria.

KEYWORDS: schooling, public health expenditure, public education expenditure government revenue and urbanization

JEL Classification: E6, E60, E61.

1. INTRODUCTION

Macroeconomic instability has been a serious concern in the developing world. Developing countries have always been characterized with economic volatility and an uncertain macroeconomic environment. Developing countries have suffered from serious volatilities in output growth, inflation, exchange rate, interest rates, and other variables of concern. It is worthy

to observe that many variables have been used in literature to capture macroeconomic instability. These include inflation rates, variability of real exchange rates, real interest rates, fiscal deficits, terms of trade and external debt (Olaniyan, 2000). In recognition of the importance of education, the United Nations Scientific and Cultural Organization (UNESCO) recommends that countries especially the developing and underdeveloped ones spend as much as 25% of their annual budgets on education in order to foster sustainable long-term development (Evans-Obinna, Ogwo-Agu and Ikpekogu, 2017).

However, Lyndon and Binaebi (2019) assert that the quantum of funds made available for investment in education is to a large extent dependent on the revenue available to the government. Consequently, the quality of education a country can provide for its citizenry is directly linked to the funding resources channeled into the sector. Among many others, the federal government of Nigeria generates tax revenue specifically for the purpose of developing the educational sector. Aspects of tax revenue from the petroleum sector are also channeled towards educational development through initiatives like Tertiary Education Trust Fund (TETFUND) and the Universal Basic Education (UBE) counterpart-funding initiatives (Lyndon and Binaebi,2019), The development of education in any given society is either hampered or boosted by a variety of factors, some of the factors responsible for the retarded pace of educational development in Nigeria include; poor funding, brain drain among teachers, poor infrastructures, unstable curriculum and subject, unstable staff, politicization of education, just to mention a few (Ahmed and Adepoju 2013). In fact, Schady (2002) affirms that macroeconomic crisis affects education outcomes in the sense that macroeconomic crisis could cause a significant decline in the number of children who attend school and this might inhibit the rate of growth of schooling.

However, studies on the relationship between macroeconomic environment and schooling are few in Nigeria. In the light of the above, this paper intends to examine the significant, dynamic and long run relationship between macroeconomic environment and schooling in Nigeria. The rest of the paper is organized as follows: Section II reviews the empirical literature while section III focuses on methodology as section iv centers on results and section V concludes with recommendations.

2. REVIEW OF LITERATURE

Empirical studies on the relationship between macroeconomic environment and schooling cut across both the developed and developing economies and this has created another frontier of research. Without mincing words, Wang and Le (2018) used four macroeconomic indicators: government gross debt, real GDP growth, inflation rate, and unemployment rate to measure macroeconomic performance. There empirical results revealed that Switzerland, Singapore, and the United States have achieved the most successful macroeconomic management in a time-series.

On the other hand, Ahmed and Tahar (2016) selected the framework that considered educational choices as influenced by macroeconomic variables and education variables. Their

results confirmed that education in the groups of countries analyzed is generally driven by unemployment, economic growth and the schooling outcomes. Also Devi and Devi (2014) examined the impact of government spending and number of schools on school enrolment in Pakistan. Their results confirmed a positive relationship among number of schools, government spending and student enrolment. In contrast, Pedro and Arjun (2011) affirmed that increased educational expenditure does not have impact on educational outcomes in Portugal. From another perspective, Jafarov and Gunnarsson (2008) attested to the fact that rich countries spend more money on education and health but causing only marginal improvements in outcomes. However, these countries are more efficient in transforming intermediate output into outcome.

A number of studies have investigated into the impact of macroeconomic environment (variables) on schooling. However, the causal relationship between macroeconomic environment (variables) and schooling seems to be unclear and ambiguous. Schady (2002) investigated the impact of macroeconomic crisis on education. His result indicated that macroeconomic crisis could cause a significant decline in the number of children who attended school. In addition, Flug, Spilimbergo and Wachtenstein (1998) confirmed in their study that macroeconomic shocks have negative impacts on school enrollment. Without mincing words, Behrman, Duryea, and Szekely (2000) asserted that macroeconomic instability might inhibit the rate of growth of schooling. This is consistent with the works of other scholars such as: Cameron (2000) and Pradhan and Sparrow (2000) that confirmed that macroeconomic crisis has impact on enrollment.

In consonance with the above, Dauda (2011) and Anochie and Ude, (2015) found that public educational spending impacts positively on schooling outcome while macroeconomic instability impacts negatively. Moreover, Nukhet, Gamze and Yuksel (2016) defined Urbanization as the increasing share of population living in urban areas. They opined that Urban areas play a vital role in the education as schools in urban areas differ from schools in rural areas in ways that are usually associated with better student performance. They affirmed in their study that the education performance of students in rural areas is significantly lower than that of urban areas. From another perspective, Gupta, Verhoeven,, and Tiongsan, (2002), Baldacci and Guin-Sui., and de Mello (2004) among others found that social spending on health and education spending has positive impact on social development and indicators. In contrast, Olulu, Erhieyovwe and Andrew (2014) found an inverse relationship between growth and government expenditure on education sector. In another dimension, Iyoha and Arodoye (2015) found that a unidirectional causality exists among government expenditure on education, taxation and economic growth in Nigeria as Lyndon and Binaebi (2019) confirmed that there is positive relationship between value added tax, education tax as sources of government revenue and education development.

Studies on the relationship between macroeconomic environment and schooling in Nigeria are few and the empirical evidence on the relationship between macroeconomic environment and schooling is mixed and inconclusive. This has made writing this paper imperative. Among the questions that need clarification are as follows: is there any significant relationship between macroeconomic environment and schooling in Nigeria? Is there any dynamic and long run

relationship between macroeconomic environment and schooling in Nigeria? In view of this, the paper intends to investigate into the in depth significant, dynamic and long run relationship between macroeconomic environment and schooling in Nigeria.

3. METHODOLOGY

3.1 Model Specification

Education production function (EPF) describes the nexus between combinations of schooling inputs, economic and non-economic inputs and the resulting. According to Gupta et al. (1999), an education production function is given as:

$$\text{Yt} = f(X\mathbf{1t}, X\mathbf{2t}, Zt) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \quad (1)$$

where Y_t is a social indicator reflecting education attainment for a country at time t as measured by adult literacy rate, which is a function of aggregate public spending on education as a share of GDP, X_{1i}; allocations to different programs within the sector; X_{2t}; and a vector of socioeconomic variables, Z_t. Subsequently, Ahmad and Tahar (2016) adopted the theoretical framework that accounts for both the macroeconomic environment surrounding the education sector and the performance of the education sector. According to Ahmad and Tahar (2016), the model combines the macroeconomic and education variables at once as follows:

$$\text{Outcome} = \beta\text{i} + \beta\text{iX1} + \beta\text{iX2} + \beta\text{iX3} + \beta\text{iX4} + \varepsilon\text{i} - - - - - \quad (2)$$

Where Outcome is the ratio of vocational to general education, X_1 and X_2 are the macroeconomic variables such as growth in GDP and unemployment respectively, and X_3 and X_4 are the education variables. With reference to Gupta, et al (1999) and Ahmad and Tahar (2016), Education production function (EPF) is adopted and modified by stating that schooling / education outcome is a function of vector of macroeconomic environment captured by public health spending as percent of GDP, public education spending as percent of GDP, government revenue and urbanization (Dauda,2011, Anochie and Ude,2015, Iyoha and Arodoye 2015 and Nukhet, Gamze and Yuksel, 2016). In view of this, the regression model below is specified to investigate into the significant, dynamic and long run relationship between macroeconomic environment and schooling in Nigeria:

$$\text{SCH} = f(HTEXP, PEXE, GRV, URB) - - - - - - - - - - - - - (3)$$

Assuming a linear relationship between the dependent and the independent variables, equation (3) can be written as follows:

$$\text{SCH} = \beta_0 + \beta_1\text{HTEXP}_t + \beta_2\text{PEXE}_t + \beta_3\text{GRV}_t + \beta_4\text{URB}_t + \varepsilon_t - - - (4)$$

where:

SCH: Schooling is measured by adult literacy rate. It is expected that schooling will have positive relationship with public health expenditure, public education expenditure, government revenue and urbanization in Nigeria.
HTEXP: Public health expenditure as a percent of GDP. We expect public health expenditure to have a positive relationship with schooling in Nigeria.
PEXE: Public education expenditure as a percent of GDP. We expect public education expenditure to have a positive relationship with schooling in Nigeria.
GRV: Government revenue captured by tax revenue generation. Government revenue is expected to have a positive relationship with schooling in Nigeria.
URB: Urbanization is measured as the increasing share of population living in urban areas. Urbanization is also expected to have a positive relationship with schooling in Nigeria.
μ_i: Error term.

3.2 Sources of Data

The scope of the study covers the period between 1981 and 2018. These are the years for which all the data were available and since most of the macroeconomic variables data are annual time series data, it is believed that the sampled periods under investigation is long enough to capture the major structural breaks of Pre-SAP period and Post-SAP period in Nigeria in order to establish its impacts on dynamics of schooling in Nigeria as the period comprises of a set of structural adjustment policies as well as regimes of economic reforms in Nigeria. The annual time series data used were sourced from the Central Bank of Nigeria (CBN) statistical bulletin of various issues and were transformed through differencing before they were estimated to avoid spurious regression results.

3.3 Estimation Techniques

The stochastic characteristics of each time series will be tested at levels for stationary in this study by considering their order of integration since most macroeconomic time series variables have unit roots and regressing non stationary variables in the model might lead to spurious regression results (Granger, 1969). However, if the condition for Johansen cointegration is not met as cointegration test is not applicable in cases of different orders, 1(0) and 1(1), Fosu and Magnus (2008) opine that in order to establish a long-run relationship among such series, it becomes imperative to employ the Bounds Testing (or Autoregressive distributed lag (ARDL) cointegration procedure developed by Peasaran, Shine and Smith (2001). This procedure will be adopted because it is applicable irrespective of whether the regressors in the model are purely 1(O), purely 1(1) or mutually cointegrated and the test is relatively efficient in small or finite sample data sizes as the case may be. The test has the capacity to estimate the long run and short run components of the model simultaneously removing problems associated with omitted variables and autocorrelation. The procedure will however crash in the presence of 1(2) series. The autoregressive distributed lag model is considered as ARDL (1,1) as stated below:

$$\mathrm{SCH}_t = \beta_0 + \beta_1 \mathrm{SCH}_{t-1} + \beta_2 \mathrm{HTEXP}_{t-1} + \beta_3 \mathrm{PEXE}_{t-1} + \beta_4 \mathrm{GRV}_{t-1} + \beta_5 \mathrm{URB}_{t-1} + \varepsilon_t \quad ---------(5)$$

Where SCH_t, $HTEXP_t$. $PEXE_t$, GR_tV and URB_t are stationary variables and ε_t is a white noise.

The final step is to obtain error the short-run dynamic elasticities by estimating an error correction model associated with the long run estimates. This is specified as follows:

$$\Delta \mathrm{SCH}_t = C + \sum \Omega \Delta \mathrm{SCH}_{t-1} + \sum \Psi \Delta \mathrm{HTEXP}_{t-1} + \sum \phi \Delta \mathrm{PEXE}_{t-1} + \sum \delta \Delta \mathrm{GRV}_{t-1} + \sum \gamma \Delta \mathrm{URB}_{t-1} + \lambda ECM \sum t - 1 --(6)$$

The symbols Ω, Ψ, ϕ, δ and γ are the short run dynamic elasticity's of the model's convergence to long run equilibrium and λ is the speed of adjustment. Δ represents the first difference operator and ECM_{t-1} is the one period lagged error correction term. ΔSCH_t, is the change in current schooling, $\Delta \mathrm{SCH}_{t-1}$ is the change in previous schooling, HTEXP_{t-1} is the lagged public health expenditure, PEXE_{t-1} is the lagged public education expenditure, GRV_{t-1} is the lagged government revenue and URB_{t-1} is the lagged urbanization.

4. RESULTS AND DISCUSSION

4.1 Results

Testing the Normality in the Distribution of the Data Set in the Study

Table 1: Descriptive Analysis of the Data Set

	SCH	HTEXP	PEXE	GRV	URB
Mean	106.5799	65.09132	110.9403	3397.545	5.046410
Median	114.4508	15.93000	41.74500	1731.840	5.070000
Maximum	138.5729	296.4400	465.3000	11116.85	5.860000
Minimum	48.02693	0.040000	0.160000	10.51000	4.050000
Std. Dev.	27.16613	90.39275	145.2290	3784.155	0.640779
Skewness	-1.009507	1.246871	1.144717	0.683671	-0.461266
Kurtosis	2.840323	3.118742	2.819851	1.974106	1.677366
Probability	6.665611	9.868674	8.350441	4.748383	4.225693
Sum	0.035693	0.007195	0.015372	0.093090	0.120893
Sum Sq.	4156.617	2473.470	4215.730	132504.3	196.8100
Dev.	28043.95	302321.4	780384.0	5.44E+08	15.60270
Observations	38	38	38	38	38

Source: Author's computation (2020)

When two of these statistics are given, we can predict the nature of the distribution. From table 1, the arithmetic mean value and median value of Urbanization (URB) is symmetrical while those of government revenue (GRV), public expenditure on health (HTEXP), public expenditure on education (PEXE) and schooling (SCH) are asymmetrical in their distribution. If the mean is less than the median, definitely the mode will be greater than the median and such distribution will be negatively skewed using one of the properties of a normal distribution. Kurtosis result in Table 1 confirms leptokurtic distribution which depicts highly peaked bell-shaped (skewed distribution) and asymmetrical distribution. Table 1 reveals that the Jacque-Bera X^2 – statistics for normality in distribution of the residuals is significant for GRV, HTEXP and PEXE and confirming that their distribution is asymmetrical and there is no normality in their distribution implying that the population from which the samples are drawn is skewed and has excess kurtosis while the Jacque-Bera of SCH and URB indicates that there is normality in their distribution implying that the population from which the samples are drawn is not skewed and has no excess kurtosis.

Testing the Correlation among the Series using Correlation Matrix

Table 2: Correlation Matrix of Selected Series

SERIES	SCH	HTEXP	PEXE	GRV	URB
SCH	1.000000	0.350852	-0.076684	0.398494	0.443094
HTEXP	0.350852	1.000000	0.783378	0.770433	0.008270
PEXE	-0.076684	0.783378	1.000000	0.359974	-0.368274
GRV	0.398494	0.770433	0.359974	1.000000	0.248579
URB	0.443094	0.008270	-0.368274	0.248579	1.000000

Source: Author's computation (2020)

The result in Table 2 gives us a preliminary idea of the relationship existing among the series indicates that PEXE has negative correlation with SCH while GRV, HTEXP and URB show sign of positive correlation with SCH.

Testing the Stationarity of the Series using Unit Root Test

Table 3: Phillip-Perron Unit Root Test

Series	At Levels		1st Difference		Level of Integration
	Statistics Probability		Statistics Probability		
SCH	23.1377	0.6520	179.769	0.0000	1(1)
HTEXP	23.1377	0.0000	-	-	1(0)
PEXE	23.1377	0.0004	-	-	1(0)
GRV	23.1377	0.8852	179.769	0.0001	1(1)
URB	23.1377	0.0000	-	-	1(0)

Source: Author's computation (2020)

The result in Table 3 confirms that HTEXP, PEXE and URB are stationary at levels while SCH and GRV are integrated of order one which indicates that the condition for Johansen cointegration is not met. Therefore, the Bounds Testing (or Autoregressive distributed lag (ARDL) cointegration procedure is adopted.

Testing the Long-run relationship Among the Series

Table 4: Co-integration Test based on Bound Test for SCH

F- Statistic	3.674484	
K	4	
Level of Significance	I(0) Bound	I(1) Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Author's Computation (2020)

This result in Table 5 indicates the rejection of the null hypothesis of no cointegration between the dependent variable (SCH) and all the explanatory variables in the model implying that the estimated model for Schooling establishes that the fact that a valid long-run relationship is found in the bound test. This is because the F-statistic value of 3.674484 is greater than the critical values at both the lower bound (2.56) and upper bound (3.49) using 5% significant level. Based on this, the study confirms that there is evidence of a long-run relationship existing among Schooling (SCH), public health expenditure (HTEXP), public education expenditure (PEXE), government revenue (GRV) and urbanization (URB) in Nigeria.

Table 5: Estimated Long-run coefficients using ARDL Technique

Variable	Coefficient	Std. Error	T-Statistic	Prob.
HTEXP	-0.079018	0.054449	-1.451228	0.1597
PEXE	0.204647	0.070404	2.906747	0.0077
GRV	-0.004325	0.001462	-2.957089	0.0069
URB	-7.054308	3.575747	-1.972821	0.0601
C	49.40854	20.62971	2.395018	0.0248
R-squared	0.973314	Mean dependent var	109.3192	
Adjusted R-squared	0.961083	S.D. dependent var	24.66254	
S.E. of regression	4.865304	Akaike info criterion	6.263337	
Sum squared resid	568.1084	Schwarz criterion	6.791177	
Log likelihood	-100.7401	Hannan-Quinn criter.	6.447567	
F-statistic	79.57629	Durbin-Watson stat	2.258982	
Prob(F-statistic)	0.000000			

Source: Author's Computation (2020)

The estimated long-run coefficients for ARDL model in Table 5 confirms that in the long-run, public expenditure on health (HTEXP) at 1.45 t-statistic value has a negative impact on schooling (SCH) in Nigeria. Furthermore, public expenditure on education (PEXE) at 2.91 t-statistic was found to have a positive and significant impact on schooling (SCH) in Nigeria at 5% level of significance. In addition, government revenue (GRV) at 2.96 t-statistic has a negative and significant impact on schooling (SCH) in Nigeria at 5% level of significance while urbanization (URB) at 1.97 t-statistic has a negative and significant impact on schooling (SCH) in Nigeria at 5% level of significance.

The Short-run Dynamic Relationship among the Series

Table 6: Short-run Dynamic Relationship among the Series using ARDL Error Correction Regression

ARDL Error Correction Regression				
Dependent Variable: D(SCH)				
Selected Model: ARDL(2, 0, 0, 0, 0)				
Sample: 1981-2018				
Included observations: 36				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCH(-1))	0.612656	0.118009	5.191603	0.0000
D(HTEXP)	-0.079018	0.041589	-1.899969	0.0695
D(HTEXP(-1))	0.294218	0.057407	5.125164	0.0000
D(PEXE)	0.204647	0.052033	3.932999	0.0006
D(GRV)	-0.004325	0.001071	-4.036948	0.0005
D(GRV(-1))	-0.003915	0.001000	-3.914334	0.0007
CointEq(-1)*	-0.104991	0.020342	-5.161396	0.0000
R-squared	0.504648	Mean dependent var	1.865264	
Adjusted R-squared	0.490079	S.D.dependent var	7.411795	
S.E. of regression	5.292669	Akaike info criterion	6.224475	
Sum squared resid	952.4198	Schwarz criterion	6.312448	
Log likelihood	-110.0406	Hannan-Quinn criter.	6.255180	
Durbin-Watson stat	1.978176			

Source: Author's Computation, (2020)

Table 6 confirms the error correction term is well defined since it is negative and statistically significant at 5% significant level which further affirms the presence of long-run relationship between schooling and all the independent variables in Nigeria. The coefficient is -0.104991 which implies that about 11% of any disequilibrium in SCH is corrected by the explanatory variables

within one period (one year). This also shows the speed at which the model converges to equilibrium

Testing for Structural Stability

In order to test for the stability of the model used in this paper, we applied the cumulative sum of the recursive residuals (CUSUM) and the cumulative sum of squares according to Brown, Durbin and Evans (1975). The test finds parameters instability if the plots of the cumulative sum of the recursive residuals (CUSUM) and the cumulative sum of squares go outside the area between the two critical lines. The plots are shown in figures 1 and 2 below:

Fig. 1: CUSUM Test for Structural Stability of the Parameters

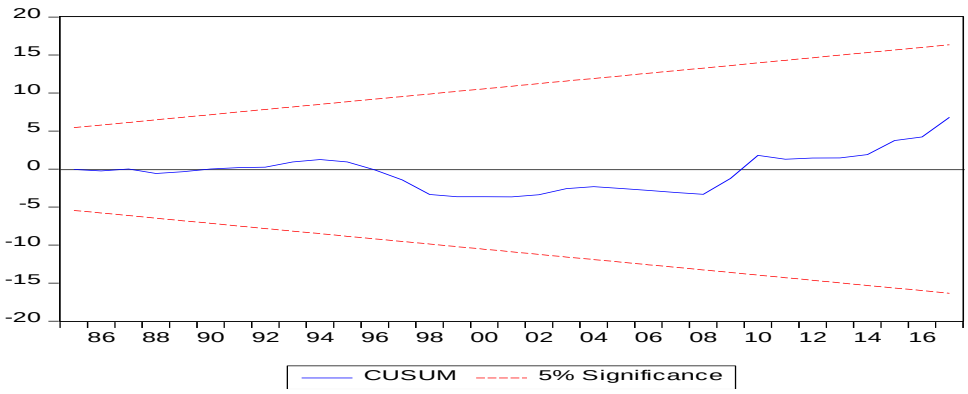
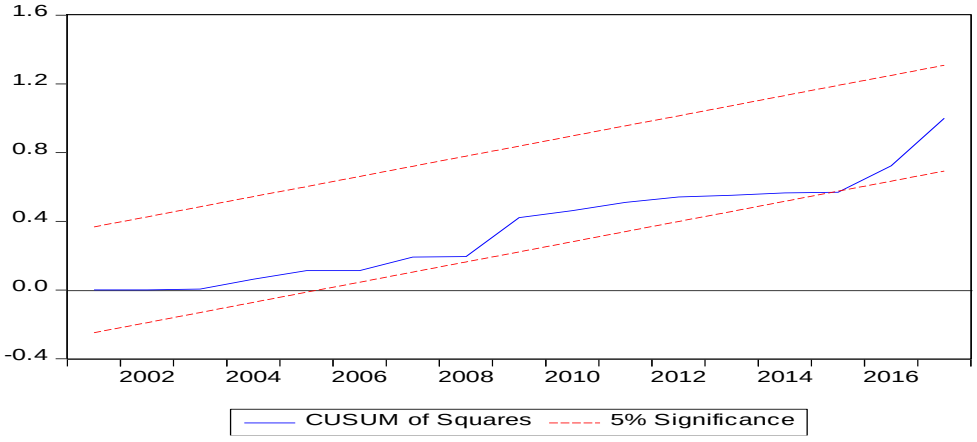


Fig. 2: CUSUM of Squares Test for Structural Stability of the Parameters



As shown in fig 1 and fig.2, the results are suggestive of coefficient stability since the plots did not move outside the 5% critical bound. This confirms the existence of coefficient stability for the estimated parameters for the short run dynamics and long run of schooling function over the sample periods as the results indicate tendency of further coefficients stability. From the results of CUSUM and CUSUM of squares structural stability tests which attest to the coefficient stability for the estimated parameters in the study, one can conclude that the model is well estimated and

the observed data fit the model specification adequately, hence the coefficients are valid for policy discussions in Nigeria.

4.2 Discussion of Findings

Public expenditure on health as percent of GDP has a significant and dynamic impact on schooling in Nigeria as a unit change in public expenditure on health causes 0.08 change in schooling in Nigeria. In the same vein, public expenditure on education as percent of GDP has a significant and dynamic impact on schooling in Nigeria as a unit change in public expenditure on education contributes to 0.20 change in schooling in Nigeria. This result is in congruence with Gupta et al (2002) and Baldacci, et al (2004) who confirm that public education spending has significant impact on schooling outcome. In contrast, Pedro and Arjun (2011) affirm that increased educational expenditure does not have impact on educational outcomes in Portugal. On the other hand, urbanization has a significant impact on schooling in Nigeria as a unit change in urbanization contributes to 7.05 change in schooling in Nigeria. This is in agreement with Dauda (2011) and Nukhet, Gamze and Yuksel (2016) who assert that urban dwellers encourage their children to go to school as urbanization exposes a lot to appreciate the importance of education. In the same vein, government revenue has a significant and dynamic impact on schooling in Nigeria as a unit change in government revenue contributes to 0.04 change in schooling in Nigeria. This is in line with Lyndon and Binaebi (2019) who agree that the quantum of funds made available for investment in education is to a large extent dependent on the revenue available to the government.

5. CONCLUSION AND RECOMMENDATIONS

The study concludes that macroeconomic environment has a dynamic and significant impact on schooling in Nigeria. The policy implication of the findings of this paper is that public health expenditure, public education expenditure, government revenue and urbanization provide useful information about schooling in Nigeria.

In view of the findings of the study, it is hereby recommended that Nigerian government should encourage stability in macroeconomic variables capturing macroeconomic environment and be more focused on growth oriented, urbanization and stabilization policies especially at macro level which can stimulate schooling in Nigeria. In addition, there is need for government to sustain its revenue generation drive through tax and her education sector funding like Tertiary Education Trust Fund (TETFUND) and the Universal Basic Education (UBE) counterpart-funding initiatives channeled towards educational development as this step will enhance schooling in Nigeria.

REFERENCES

Ahmed, S. & Adepoju, O. A, (2013). Meeting the challenges of Funding University Education in Nigeria. P.K Ojedele, M.O., Arikewuyo & A.C. Njoku (Eds.) Challenges of Educational Development in Nigeria. Pp. 708-724.

Ahmed, S. (2015), Public and Private Higher Education Financing in Nigeria, *European Scientific Journal*, 11(7), 96-106.

Ahmed, D. & Tahar, H. (2016). Macroeconomic and School Variables to Reveal Country Choices of General and Vocational Education: A Cross-Country Analysis with focus on Arab Economies, *Munich Personal Archive,* (73455), 3-34.

Baldacci., E., Guin-Sui, M. T., & De-Mello, L. (2004). More on the Effectiveness of Public Spending on Healthcare and Education: A Covariance Structure Model. *Journal of International Development,*15(6), 709-725.

Behrman, J. R., Duryea, S., & Szekely, M. (2000). Schooling Investments and Aggregate Conditions. A Household-Survey-Based Approach for Latin America and the Caribbean. Unpublished manuscript, Inter American Development Bank.

Cameron, L. (2000). The Impact of the Indonesian Financial Crisis on Children: An Analysis Using the 100 Villages Data. Unpublished manuscript, University of Melbourne, Australia.

Dauda, R.O.S. (2011). Effect of Public Educational Spending and Macroeconomic Uncertainty on Schooling Outcomes: Evidence from Nigeria, *Journal of Economics, Finance and Administrative Science* 8, J. econ. finance adm. sci., 16(31),8-19.

Devi. S. & Devi A. (2014). Determinants of School Enrolment in Pakistan. *Journal of Education and Practice,* 5(17), 1-10.

Evans-Obinna, R. N., Ogwo-Agu, J. N. & Ikpekogu, G. O. (2017). Funding gaps: A clog in the wheel of management of Higher Education in Nigeria in the 21st century, *International Journal of Education*, 2(2), 118-131.

Flug, K., Spilimbergo, A., & Wachtenheim, E. (1998). Investments in Education: Do Economic Volatility and Credit Constraints Matter? *Journal of Development Economics*, 55, 81-465.

Fosu, O.E. & Magnus, F.J. (2008). Aggregate Import Demand and Expenditure Components in Ghana. *Journal of Social Sciences,* 4(1), 1-6.

Granger, C.W.J. (1969). Investigating Causal Relations by Econometric Models and Cross Spectral Methods, *Econometrica*, 37, 424-438

Gupta, S., Verhoeven, M., & Tiongsan, E. (2002). The Effectiveness of Government Spending on Education and Health Care in Developing and Transition Economics. *European Journal of Political Economy,* 18(4), 717-737.

Iyoha, M A. &. Arodoye, N. L. (2015). Government Education Expenditure, Taxation and Growth in Nigeria *West African Financial and Economic Review*,13 (2), 1-12.

Jafarov, E. & Gunnarsson,V. (2008). Government Spending on Health Care and Education in Croatia: Efficiency and Reform Options, *International Monetary Fund*, 8(136), 1-27.

Naiyeju, J. K. (1996). Value Added Tax: Facts of a Positive Tax in Nigerian, Kupac Publications Ltd.

Nukhet, K. Gamze, T, & Yuksel A (2016). The Importance of Urbanization in Education, *The Eurasia Proceedings of Educational & Social Sciences* (5), 232-236.

Olaniyan, O. (2000). The Effect of Economic Stability on Aggregate Investment in Nigeria. *The Nigerian Journal of Economic and Social Studies*, 42 (1), 23-36.

Olulu, R. M, Erhieyovwe, E. K & Andrew, U (2014). 'Government Expenditures and Economic Growth: The Nigerian experience' *Mediterranean Journal of Social Sciences*.5 (1), 89 – 94.

Pedro, G. & Arjun S.B. (2011). The Impact of interest in School on Educational Success in Portugal. *IZA Discussion Paper*, (5462), 1-27.

Pesaran, H.M.Y., Shin R.J.& Smith, R.J. (2001). Bounds Testing Approaches to the Analysis of Long-run relationships. *Journal of Applied Economics, (16), 289-326.*

Philips, P.C.B, (1987). Towards a United Asymptotic Theory of Autoregressive. *Biometrika, (74),535-48.*

Pradhan, M., & Sparrow, R. (2000). Basic Education Outcomes during Crisis: An Analysis Using the 1995, 1997, 1998, and 1999 SUSENAS. Unpublished manuscript. Washington, D. C.: World Bank.

Ramanathan, R. (1992). Introductory Econometrics with Applications,3rd ed. Fort. Worth: Dryden Press.

Schady, N. R. (2002). The (Positive) Effect of Macroeconomic Crises on the Schooling and Employment Decisions of Children in a Middle-Income Country (*WB Policy Research, Working Paper Series 2762).* Development Research Group: The World Bank.

Wang Chia-Nan & Le A. L. (2018). Measuring the Macroeconomic Performance among

Developed Countries and Asian Developing Countries: Past, Present, and Future, *Sustainability,* 10(3664), 2-18; doi: 10.3390/su10103664.

World Bank (1990). *World Development Report*, Washington D.C.