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Abstract: The study assessed the relationship between public health expenditure, health outcome and economic growth in Nigeria between 1980 to 2019. This is due to the relevance of human capital development as a propeller of National development, especially in time like this when the global economy has become knowledge based. ARDL was used to achieve the objective of the study. The result established that there exist a relationship between health human capital development and economic growth in Nigeria. Hence, the short run result for Average Adult Survival Rate shows a positive and significant effect on the economic growth; while the long run result of the same variable shows an insignificant negative effect on the economic growth. The result further revealed a positive and significant relationship between Food Supply and economic growth both in the short run and long run. In the same vein, the result for Population Growth rate shows a positive and significant effect on the economic growth both in the short run and long run. However, the result for Healthcare Expenditure reveal a negative but insignificant effect on the economic growth both in short run and long run; and similarly, the result for Nitro Oxide Emission shows a negative effect on the economic growth both in the short run and long run; and lastly, the result for school enrollment revealed a positive but insignificant effect on the economic growth both in the short run and long run.

Based on the research findings of this study, it is recommended that government should redesign her policy toward health care expenditure in particular and human capital development in general; and put in place machineries for implementing and monitoring this policy for effective implementation. Fiscal policy can also be used to improve the allocation and utilization of funds in this sector. In addition, there should be higher investment in health infrastructure and control of diseases that will reduce the death rate in order to reduce the negative effect of the death rate on growth.

Keywords: Health Expenditures, Adult Survival rate, Population, School Enrolment rate, Economic Growth.

I. INTRODUCTION

Health is one of the vital factors that determine the quality of human capital, a necessary factor for economic growth. Therefore, any public expenditure on health can be viewed as a form of investment in the human capital development of a nation (Dang et al., 2016). To this end a consensus of opinion have been formed among researchers recognizing health and it other counterpart education as a public good, and the demand and supply of which cannot be left at the mercy of invisible hands or profit maximizing individual as well as on considerations of utility maximizing conduct alone. However, the recognition of human capital as impetus to sustainable economic development, given the empirical evidence of Asian Tiger countries has led the World Health Organization (WHO) to propose at the 2010 World Health Assembly, issues that addresses the finance of the health sector and by extension education under UNESCO. The purpose of the meeting was to ensure qualitative and affordable healthcare and educational services to everyone in the country (Ataguba and Akazili, 2010).

Therefore, to this effect the Nigeria government has taken the responsibility of providing good healthcare facility by conducting expenditure on health and also education. The Available data indicates that on the average about 2.1% to 5.8% of total government expenditure were expended on health between 2000 and 2017 (Mordi, 2010; Olarinde and Bello, 2014). The Nigeria government’s commitment to the sector is still low compare to recommendation by the world health organization; therefore the country is ranked low in human capital development (UNDP report, 2018). Hence, there is need to adequately invest in the sector in order to raise the human capital stock needed to develop the economy.

An assessment by the World Bank (1995) shows that human capital account for close to 64 percent of the wealth in about 192 advanced countries, while physical and natural capital account for 16 percent and 20 percent respectively. There is therefore the need for a country to improve on her human capital development visa-vise health and education, if such country wants to become relevant and competitive in this 21st century which skill and knowledge based economy. To this effect, improving population’s health conditions is considered an important means of raising human capital; achieve sustainable development; reducing poverty and inequalities; and improving welfare of the citizens (Von Schirnding 2005; and Sen 2006).

1.1 Statement of Problem

The importance of health as a key aspect of development and economic wellbeing of individuals and nations is increasingly being recognized in the world. This can be seen from urgency
of some global health issues which has pushed global health policy to the top of the international agenda of a series of reforms taken by African countries to increase investments in health in order to meet the health Millennium Development Goals (MDGs). To this end, African leaders have expressed their trust through actions such as the 2001 Abuja Declaration on an increase in government funding for health by allocating 15% of the government budget to the health sector. The importance of good health also led to 2006 Addis-Ababa Declaration on community health in the African Region and the 2008 Ouagadougou Declaration on primary health care and health systems in Africa. This is because good health yields utility to the individual and enhances his/her market value, it’s also increases national output (Weisbrod 1966; Grossman 1972; World Bank 1993).

Meanwhile, the budgetary allocation of Nigeria government to the health sector over the years are as follows; 7.1% in 1998, 7.7% in 2008, 5.9% in 2009, 4.4% in 2010, 5.6% in 2013, 6% in 2014, 3.95% in 2018 and 4.5% in 2019 (NBS, 2019). It is obvious that Public health expenditure in Nigeria as a percentage of government expenditure has been fluctuating over the years and that the country has not met with the statutory allocation requirement of 15% to the sector. However, there are believes that increased public health expenditure would improve the health status that will translate into healthy human capital formation with its attendant multiplier effect on growth and development; and this inform the reason for this study.

In addition, it can be deduced from the reviewed literatures below that the topic of health expenditure, health outcome and economic growth has been widely studied from different perspectives. However, the researchers had not been unanimous in studying the topic and also there is no consensus among the empirical literatures reviewed on the effect, the direction of the relationship and causality between health expenditure, health outcome and the economic growth both in the short-run and long-run. E.g the following researchers such as Mankiw Romer and Weil (1992), Sharma (2018), Boachie e.t al (2018), Piabuo and Tieguhong (2017) among others found a positive relationship among the public health expenditures, health outcome as a component of human capital and economic growth. But on the contrary Wang (2015), Ogundipe and Lawal (2011) and Oni (2014) found a negative relationship among the variables. While, Matthew e.tal (2015), failed to established the direction of the relationship among the variables.

Therefore, given the arguments above; this study seeks to contribute to the existing body of knowledge on the topic by conducting a study on public health expenditure, health outcome and economic growth in Nigeria between 1980 till 2019.

1.2 Justification for the study

Investment in human capital is fast becoming very significant because of new challenges e.g falling in the world market price of and demand for crude oil that confronts the global economy, especially the Nigeria economy in particular. This has led to the discovery of healthy and educated work force as impetus to economic growth and sustainable development, given the empirical reality of Asian Tiger countries.

In essence, health human capital is a fundamental asset and the economic consequences are immense when not adequately attended to. In this sense, when investment is made towards improving health and educational status of the citizen, a stream of higher returns in term of income and health status as quality of life is expected; this is because healthy individuals are more fit both physically and mentally. Hence, they are expected to contribute to production more than the unhealthy and have a positive impact on economic growth. This is because human capital is the active resources that put the passive resources to use Adamu (2002).

II. LITERATURE REVIEW

Empirical Evidence on the Relationship between Health Human Capital Development and Economic Growth

Sharma (2018) show that population health exert a positive and significant effect on both real income per capita and growth. This finding is however more robust because of the presence of long-term data, appropriate econometric procedure and alternate model specifications. Similarly, Boachie et al. (2018) re-examines the relationship between public health expenditures and health outcomes in Ghana. The result suggests that, apart from income, public health expenditure contributed to the improvement of health outcome for the period covered by the study. In order to contribute to the study, a study was conducted by Piabuo and Tieguhong (2017) on comparative analysis of the impact of health expenditure and economic growth between the economic community for central African states (CEMAC) and selected African countries, the study concluded that health expenditure is positively related with economic growth. It was found that an increase in health expenditure has the potency of improving economic growth by 0.4 and 0.3 units for the African and CEMAC countries respectively. Also the study established a long-run relationship between public expenditure and economic growth; this is however achievable if the countries allocate at least 15 percent of their expenditure on health.

Also, Ahmad and Hasan (2016) analyzed the impact of public health expenditure and governance on health outcome in Malaysia using data from 1984-2009. The result based on Autoregressive Distributed Lag (ARDL) co-integration framework revealed that a stable, long-run relationship exists between health outcomes and public health expenditure and governance. The finding also suggests that public health expenditure and corruption affect long and short run health
outcome. Similarly, Bedir (2016) examined healthcare expenditure and economic growth in developing countries from 1995 to 2013. Toda and Yamamoto granger causality test was used in selected emerging markets in Europe, Middle East, African and Asian countries. According to the analysis of the results, two way causality was found for the Czech Republic and Russian Federation. The evidence from the Egypt, Hungary, Korean Republic, South Africa, and the Philippines supports the health view over the income view, while the evidence from Greece, Poland, the United Arab Emirates, China, Indonesia, and the Korean Republic supports the income view over the health view. Thus, income is an important factor in explaining the difference in healthcare expenditures among countries.

In addition, Maduka, Chekwube and Chukwunonso (2016) used Toda and Yamamoto (TY) causality analysis to examined healthcare expenditure, health outcomes, and economic growth nexus in Nigeria during the period 1970 to 2013. The TY causality test revealed that government health expenditures do not directly influence economic growth, but indirectly through the health outcomes such as mortality rate and life expectancy. Providing further, empirical evidence on the impact of public health expenditure on health outcomes by Matthew et al. (2015). He used data from Nigeria from 1979-2012 and found that public health spending has significant relationship with health outcomes. In view of this, it was recommended that government should further improve expenditure on the health sector in order to reduce environmental hazards such as carbon dioxide emissions that negatively affect health condition of the citizens. With the provision of appropriate healthcare, a large population of the citizens could have better health care and thus improving human capital that could contribute to economic growth. However, Wang (2015) argued that recent economic down turns have caused dramatic reduction in health care spending by many countries, especially developing ones. Applying the experience of countries from OECD, he indicated that when the share of health expenditure is less than optimal level of 7.6 percent, increase in health expenditure leads to better economic performance but more spending does not guarantee better care; and

To contribute to the discussion, Ogundi and Lawal (2011) equally examined the impact of health expenditure on economic growth in Nigeria. They made use of the OLS and the authors noticed a negative effect of total health expenditure on growth. Similar to this, Oni (2014) equally verified the relationship between health expenditure and economic growth in Nigeria; she made use of multiple OLS regression. Her results showed that labour force productivity, total health expenditure and gross capital formation are important determinants of economic growth in Nigeria while life expectancy rate has negative impact on growth for the period covered by the study.

2.1 Theoretical Literatures Review
The analysis of health status in economics is within the framework of production theory (Adedapo and Oladeji, 2006); therefore, this study is located within the theory of production where good health is an output measured by the level of economic activity (GDPPC), and it is assumed to be a function of average adult survival rate, food supply, population growth rate, nitrous oxides emission and the school enrolment rate used as a control variable to make the model robust.

The relationship between dependent and independent variables above can be captured in what economists called PRODUCTION FUNCTION. The function is just a mathematical expression of how the level of output depends on the quantity of various inputs, as given below:

\[ \text{GDPPC} = f(\text{AADR}, \text{HEXP}, \text{FS}, \text{NOE}, \text{SEN}, \text{POPG}) \]

However, the equation above can be modified as thus:

\[ \ln\text{GDPPC} = f(\ln\text{AADR}_t, \ln\text{FS}_t, \ln\text{NOE}_t, \ln\text{SEN}_t, \ln\text{POPG}_t) \]

With little application of econometrics, the equation above can become thus,

\[ \ln\text{GDPPC} = \alpha + \beta_1\ln\text{AADR} + \beta_2\ln\text{FS} + \beta_3\ln\text{NOE} + \beta_4\ln\text{SEN} + \beta_5\ln\text{POPG} + \epsilon_t \]

The apriori expectations are \( \alpha, \beta_1, \beta_2, ..., \beta_5 > 0 \); this shows that dependent variables have positive functional relationships with good health status captured by Gross Domestic Product per capital. Where, \( \epsilon_t \) is the error term that captures other factors that may affect economic growth

III. RESEARCH METHODOLOGY

3.1 Sources of Data
The study utilized time series secondary data spanning between 1981 to 2018 to obtain values for the variables in the model. Data on good health proxy by gross domestic product per-capita, average adult survival rate, food supply, population growth rate, nitrous oxides emission and the school enrolment rate were obtained from World Bank indicators year 2018 publication.

Time series properties of the variables were examined. The augmented Dickey-Fuller (ADF) test was employed to determine the existence of unit root. The research uses autoregressive distribution lag (ARDL) bounds testing model that was developed by Paseran and Shin (1997, 1999, 2000) because it provides unbiased and valid estimates of the long run model even when some of the regressors are endogenous.
3.2 Definition and measurement of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Measurement</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDPP C</td>
<td>Economic Growth</td>
<td>Gross Domestic Product Per-</td>
<td>World Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital</td>
<td>Indicator</td>
</tr>
<tr>
<td>AADS</td>
<td>Average Adult</td>
<td>Component of Health Human</td>
<td>World Bank</td>
</tr>
<tr>
<td></td>
<td>Survival Rate</td>
<td>Capital</td>
<td>Indicator</td>
</tr>
<tr>
<td>FS</td>
<td>Food Supply</td>
<td>Component of Health Human</td>
<td>World Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital</td>
<td>Indicator</td>
</tr>
<tr>
<td>HEXP</td>
<td>Healthcare Expenditure</td>
<td>Component of Health Human</td>
<td>World Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital</td>
<td>Indicator</td>
</tr>
<tr>
<td>NOE</td>
<td>Nitrous Oxide Emission</td>
<td>Environmental Pollution</td>
<td>World Bank</td>
</tr>
<tr>
<td>NOE</td>
<td></td>
<td></td>
<td>Indicator</td>
</tr>
<tr>
<td>POPG</td>
<td>Population Growth Rate</td>
<td>Control Variable</td>
<td>World Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indicator</td>
</tr>
<tr>
<td>SEN</td>
<td>School Enrollment Rate</td>
<td>Education Human Capital</td>
<td>World Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indicator</td>
</tr>
</tbody>
</table>

3.3 Model Specification

The generalized ARDL (p,q) model is shown as follows (Green, 2003):

\[ Y_t = c + \alpha_1 Y_{t-1} + \alpha_2 Y_{t-2} + \ldots + \alpha_p Y_{t-p} + \beta_1 X_{t-1} + \ldots + \beta_q X_{t-q} + e_t \]

Where c, \( t \), and \( e_t \) are intercept, time trend and white noise error terms respectively and \( Y_t \) and \( X_t \) are stationary variables. The above model is called “autoregressive” since it includes p lags of dependent variable. At the same time, it is also a “distributed lag” model because it includes q lags of explanatory variable.

After testing the existence of a long run relationship between the variables through the Bound Testing, Error Correction model (ECM) will be formed.

Therefore, following the ARDL approach proposed by Pesaran and Shin (1997, 1999 and 2001), the following model is specified in order to determine or test the long-run co-integration relationships between the variables.

\[
\Delta \ln GDPP_t = \beta_0 + \beta_1 \Delta \ln GDPP_{t-1} + \beta_2 \Delta \ln AADS_{t-1} + \beta_3 \Delta \ln HEXP_{t-1} + \beta_4 \Delta \ln FS_{t-1} + \beta_5 \Delta \ln NOE_{t-1} + \beta_6 \Delta \ln POPG_{t-1} + \beta_7 \Delta \ln SEN_{t-1} + e_t
\]

\[+ \ldots \]

Where, \( \beta_1, \beta_2, \beta_3, \ldots, \beta_7 \) are coefficients that measure long run relationships.

While, \( \beta_1, \beta_2, \beta_3, \ldots, \beta_7 \) are the coefficients that measure short run relationships.

To test whether there is a long run equilibrium relationship between the variables; bounds test for co-integration was carried out as proposed by Pesaran and Shin (1999 and 2001). The hypotheses shown below:

\[ H_0 = \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = \lambda_7 = 0. \]

This means there is no long run relationship among the variables.

\[ H_a \neq \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = \lambda_7 \neq 0. \]

This means there is a long-run relationship among the variables.

The non-standard F-statistics is used to test the above hypothesis. The critical values of the F-statistics for this test are available in Pesaran and Shin, and Smith (2001). If the computed F-statistics is higher than the appropriate upper bound of the critical value, the null hypothesis of no co-integration will be rejected. If it is below the appropriate lower bound, the null hypothesis cannot be rejected, and if it lies within the lower and upper bounds, the result would be inconclusive.

After confirming the existence of long run relationship among the variables, the following stable long run model is estimated after a short run disturbance. The standard ECM is estimated as follows:

\[
\Delta \ln GDPP_t = \beta_0 + \beta_1 \Delta \ln GDPP_{t-1} + \beta_2 \Delta \ln AADS_{t-1} + \beta_3 \Delta \ln HEXP_{t-1} + \beta_4 \Delta \ln FS_{t-1} + \beta_5 \Delta \ln NOE_{t-1} + \beta_6 \Delta \ln POPG_{t-1} + \beta_7 \Delta \ln SEN_{t-1} + e_t
\]

\[+ \ldots \]
Variables | Level | After Differencing | Status
--- | --- | --- | ---
LGDPPC | -0.82362 (0.8002) | -4.22958 (0.0020) | I(1)
HEXP | 2.41353 (0.9999) | -6.38558 (0.0000) | I(1)
LFS | -3.37403 (0.9985) | -2.91871 (0.0468) | I(0)
POPG | -0.49590 (0.8805) | -5.18495 (0.0001) | I(1)
LNOE | -1.36552 (0.5881) | -5.50062 (0.0000) | I(1)
AADS | 1.02898 (0.9961) | -5.50616 (0.0001) | I(1)
SEN | -6.78406 (0.0001) | I(1)

Source: Authors’ Computation, using E-stat views 9, 2020. Note: * and ** denote 1% and 5% critical values respectively. The unit root test showed that all the variables were integrated of order one, indicating that the variables were I(1) variables except lag of food supply which is integrated of order zero, indicating that the variables are I(0) series. The mix in the order of cointegration indicates the need for the testing of the co-integration through the use of bound co-integration technique.

4.2 ARDL Bound Co-integration Test

Sequel to the mix in the result of the unit root tests presented in table 1 above, the study carried out the co-integration test using the Auto-Regressive Distributed Lag Bound Co-integration test. Pesaran, Shin and Smith (2001) provided two asymptotic critical values (lower and upper) bounds for testing the existence of co-integration when the regressors are purely I(0) or I(1). A lower value assumes the regressors are purely I(0) while an upper value assumes the regressors are purely I(1). If the F-statistic falls outside the critical values, then a conclusive statement can be made regarding the nature of co-integration among the variables in the ARDL model; without a priori information on the order of integration of the independent variables. For instance, if the F-statistic is higher than the upper critical value, then the null hypothesis of no co-integration is rejected, suggesting the existence of co-integration among the variables. Conversely, if the F-statistic is lower than the lower critical value, then the null hypothesis of no co-integration cannot be rejected, suggesting the absence of co-integration among the variables. However, if the F-statistic falls between the upper and lower critical values, then the result is inconclusive.

4.3 The ARDL Result

Therefore, the study presents both the long run and short run ARDL regression estimates below. From the long run estimate presented on table 3 below:

<table>
<thead>
<tr>
<th>Estimated Model</th>
<th>F- Statistics</th>
<th>Co-integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>(GDPPC, AADS, HEXP, LFS, LGOE, POPG, SEN)</td>
<td>5.157892</td>
<td>Co-integration</td>
</tr>
</tbody>
</table>

Critical Values

<table>
<thead>
<tr>
<th>Status</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>2.45</td>
<td>3.52</td>
</tr>
<tr>
<td>5%</td>
<td>2.86</td>
<td>4.01</td>
</tr>
<tr>
<td>1%</td>
<td>3.74</td>
<td>5.06</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation, using E-stat views 9, 2020. Note: ** implies five percent significance level. From the co-integration result presented in table 2 above, it was observed that the value of the F-statistics for the estimating model which is approximately 5.157892 is higher than the upper bound critical value at 5%, suggesting the presence of co-integration among the variables in the model.
4.4 Discussion of Result

The result for AADS (i.e Average adult survival rate) in the table above shows a positive and significant effect on the economic growth; hence a unit increase in the variable will increase economic growth by about 25%. However, the long run result of the same variable shows an insignificant negative effect on the economic growth. This could be as a result of high level of unemployment and the under-employment rate which rendered the stock of human resource useless in the country. The result further revealed a positive and significant relationship between LFS (i.e lag of Food supply) and economic growth both in the short run and long run. Therefore, a unit increase in the variable will cause about 27% and 56% increase in economic growth both in the short run and long run respectively. In the same vein, POPG (i.e Population growth rate) has a positive and significant effect on the economic growth both in the short run and long run. Therefore, a unit increase in the variable will increase the economic growth by about 49% and 37% in the short run and long run respectively. This, suggest that an increase in the quality of the population growth rate other than the quantity will cause an increase in the economic growth. Hence, human resources are the driven force of any economy; this is because no country can develop beyond the quality of her human resources.

Further still, the result of HEXP (i.e Health Expenditure) revealed a negative but insignificant effect on the economic growth both in short run and long run. This may be due to high level of corruption, misappropriation and embezzlement of public fund that were supposed to be used for good educational human capital development in the country.

Finally, (ECM term (-1)) had the expected negative signed and it’s statistically significant. The coefficient estimate of the error correction term of -0.494990 implied that the regression estimate corrects its short-run disequilibrium by about 49 percent speed of adjustment in order to return to the long-run equilibrium.

4.5 Diagnostic Test Statistic

To ensure the robustness of the regression estimate, some diagnostic tests (such as normality and heteroskedasticity ARCH tests) were conducted. The normality test results showed that the probability value of the Jarque-Bera statistics is greater than 5%, indicating that the residuals from the estimates are normally distributed while the heteroskedaticity (ARCH test) also showed the absence of serial correlation in the estimates. This is because the probability value is greater than 0.05. The results of the diagnostic tests showed the appropriateness of the regression estimates.

V. CONCLUSION

The paper carried out an empirical assessment on public health expenditure, health outcome and economic growth in Nigeria between 1980 till 2019, the study shown that there exist a relationship between public health expenditure, health outcome and economic growth. To achieve the objectives of the study, the author adopted the ARDL technique to estimate the specified model. The overall health and education human capital results were not encouraging as the p-values of the two variables revealed insignificant effects on the economic growth. Having argued that there is a mutual interaction between a population’s health and their level of education and economic growth in the introduction of the study; it should be noted that these sectors are the major means of developing human resources of any nation for sustainable growth.

However, in spite of the importance of the health and education as a social goods towards the national development, the commitment of the Nigeria government is still very low, the Nigeria government budget provision for health and education sectors has substantially remained below the recommended 15% as stated in the Abuja declaration of 2001. A close look at budgetary allocation to these sectors depict an under- funded sectors which has kept them in a dysfunctional state; hence, poor health and education outcomes and negative indices of the sector in Nigeria among the countries of the world. Even, despite the fact that country’s economy is one of the fastest growing in the world with growth rate of 5.21 percent in 2014 from 5.65% in 2008; and also the country’s gross domestic product rebased, making it the largest economy in Africa, with a GDP of US $510 billion (CBN, 2018).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (Short Run)</th>
<th>Coefficient (Long Run)</th>
<th>p-value (Short Run)</th>
<th>p-value (Long Run)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXP</td>
<td>-0.00045</td>
<td>-0.118129</td>
<td>0.0069</td>
<td></td>
</tr>
<tr>
<td>LFS</td>
<td>0.564608</td>
<td>5.648721</td>
<td>0.0000</td>
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</tr>
<tr>
<td>LGOE</td>
<td>-0.053577</td>
<td>-0.708371</td>
<td>0.4850</td>
<td></td>
</tr>
<tr>
<td>POPG</td>
<td>0.379177</td>
<td>2.181108</td>
<td>0.0384</td>
<td></td>
</tr>
<tr>
<td>SEN</td>
<td>0.002989</td>
<td>0.973201</td>
<td>0.3394</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>8.557178</td>
<td>13.153907</td>
<td>0.0000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Pearson Correlation</th>
<th>Probability Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normality</td>
<td>0.973201</td>
<td>0.003072</td>
</tr>
<tr>
<td>ARCH Test</td>
<td>0.708371</td>
<td>0.099953</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>0.3394</td>
<td>0.4850</td>
</tr>
</tbody>
</table>
VI. POLICY RECOMMENDATION

Based on the results and findings of this study it is recommended that government should redesign her policy towards health care expenditure in particular and human capital development in general; and to put in place machineries for implementing and monitoring this policy for effective implementation. Fiscal policy can also be used to improve the allocation and utilization of funds; also and effective monetary policy can be used to further promote the health sector. In addition, there should be higher investment in health infrastructure and control of diseases that will reduce the death rate in order to reduce the negative effect of the death rate on growth. Effort should also be made to train more doctors based on its importance on life expectancy. Incentives should be provided to attract people to take up the medical profession; and lastly, there should be good governance: this is essential for efficient and equitable health systems. Weak governance undermines the functioning of health system and has a serious impact on public health in Nigeria, particularly since it is the public sector that is often the sole or main provider of health services. These recommendations will enhance positive and significant impact of health care and education expenditure on economic growth in Nigeria.

REFERENCES