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HUMAN CAPITAL AND ECONOMIC GROWTH NEXUS IN NIGERIA

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Abstract

The importance of human capital to economic growth and development cannot be overstressed, particularly for the fact that human capital is central to the development process of any economy. Therefore, this study examines the impact of human capital development on economic growth in Nigeria from 1981 – 2018. The study used the Ordinary Least Square (OLS) technique, and it focuses on the impact of government expenditure on education, health, and economic growth and the direction of causality between the human capital variables and economic growth in Nigeria. The findings show that government expenditure on education statistically and significantly affects real GDP. However, government expenditure on health had a positive and insignificant impact on real GDP. It was also found that gross fixed capital formation and population growth positively and statistically significantly affects real GDP and foreign direct investment had a negative and insignificant impact on real GDP. Also, a significant unidirectional causality was found running from government expenditures on education and health to real GDP. The study recommends, therefore, that expenditure on education be sustained and increase healthcare expenditure. These recommendations, no doubt, would bring about qualitative human capital that would further enhance economic growth and development in Nigeria.

Keywords: *Causality, Economic Growth, Education, Health, Human Capital.*

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1. Introduction

The need for a sustainable economic growth and development occupies the center stage of scholars, particularly in less developing nations, in order to find a solution to achieving meaningful economic growth and bringing about desired economic development. Economic growth increases a nation's production capacity over time which leads to a rise in the level of national output and income.

A growing economy offers the prospect for the reduction of poverty, increase provision of goods and services, and create jobs and income for the people. Thus, it brings material benefits and comfort to the citizens and guarantees economic power and prestige to the nation (Rasmidatta, 2011). Human capital is the accumulation of education, training, experience, and health that enables a worker to enter an occupation and be productive (Tucker, 2011).

The origin of human capital can be traced back to Adam Smith in the 18th century, and the modern theory was popularized by Gary Becker, an economist and Nobel Laureate from the University of Chicago, Jacob Mincer, and Theodore Schultz, and Paul Romer, who founded the modern innovation-driven approach to understanding economic growth. Technological advancements, for instance, are of little value to countries with low human capital and human capital development effort. Human capital is the stock of habits, knowledge, social and personality attributes (including creativity) embodied in the ability to perform labour so as to produce economic value. This further suggests that the increase in productive activities is mostly determined by the level of human capital development. Therefore, the importance of human capital development and economic growth nexus cannot be overemphasized.

However, human capital is acquired through formal learning, substantiated by the school and university degree as well as through non-certified means, which include accumulation of knowledge through work experience. According to the Organization for Economic Co-operation and Development (OECD), human capital is the knowledge, skills, competencies and other attributes embodied in individuals or groups of individuals acquired during their life and used to produce goods and services or ideas in market circumstances. These factors enhances earnings, improves health and eventually economic growth. For this reason, expenditures on education, healthcare, training, etc. are regarded as an investment in human capital. They are viewed as human capital since individuals cannot be separated from their knowledge, skills,

health, or values the way they can be separated from financial and fiscal assets (Nickolas, 2019).

Nations with human capital development initiative over the years, were faster in economic growth than those without human capital development efforts. The economic growth records of Japan, Taiwan, and many other Asian economies in recent decades, for instance, clearly supports the relevance of human capital to economic growth (Ali, Egbetokun & Memon, 2018).

In Nigeria, the records of economic growth and development of human capital is not without conflicting argument. According to the Human Development Report (2018), the human development index (HDI) increased from 0.465 in 2005 to 0.532 in 2017; this means only 14.4 % increase in a space of 12 years. In 2012, Nigeria ranked 156 out of 187 in terms of HDI, with a line value of O.459. It is also a fact that, HDI in 2015 ranked Nigeria 152 out of 187 with a value of 0.514 and in 2017, the ranking declined to 157 out of 187 though with a slightly increased line value of 0.532 which still puts the country in the low human development category and below the average of 0.537 for countries in Sub-Saharan Africa. This is a sad record for Nigeria.

Despite the budgetary allocation to the human development effort, Nigeria still records negativities in the human development as shown in the Human Development Report, 2018. The very disturbing questions, therefore, are that: What is the impact of government education expenditure on economic growth? What impact does government expenditure on health and economic growth? And what is the direction of causality between the human capital development variables and economic growth in Nigeria? In proffering answers to the questions raised, motivated our study to investigate the human capital and economic growth nexus in Nigeria from 1970 - 2018.

2. Theoretical Framework and Empirical Literature

2.1. Theories of Economic Growth

2.1.1 The Augmented Solow growth model

The theoretical framework of this study is based on the augmented Solow growth theory. The augmented Solow growth theory according to Ogunniyi (2017) is an extension of the Solow growth theory. This model can be differentiated from the Solow growth theory on the basis that

this theory included human capital as a factor that can enhance output growth .The model shows that human capital can also be used to influence the different income levels of economies. It emphasizes that education is a way in which human capital can be better improved, as it allows labour to acquire skills, knowledge and competencies that can enhance productivity as well as output growth. The human capital augmented Solow model is credited to Mankiw, Romer, and Weil (1992). The model is (Ogunniyi, 2017):

$$Y(t) = K(t)^{a} H(t)^{\beta} A(t)\, L(t)^{1-a-\beta} \quad . \quad . \quad . \quad (2.1)$$

Where;

Y = Output level

K = physical capital

H = human capital

(AL) = productivity-augmented labour

t = time

The above equation is a Cobb-Douglas production function, assumed to be perfectly competitive. It is assumed that all firms are identical. The economy can, therefore, be seen as a representative agent. It is also assumed that Physical capital and human capital accumulating factors. In other words, the representative agent saves the output to have more physical or human capital. This can be shown as (Ogunniyi, 2017):

$$\dot{L(t)} = nL(t) \quad . \quad . \quad . \quad (2.2)$$

$$\dot{A(t)} = gA(t). \quad . \quad . \quad (2.3)$$

Where n and g are exogenous growth rates. Giving output per worker on the balanced growth path, we have:

$$\left(\frac{Y(t)}{L(t)}\right)^{*} = A(t)\ddot{y}(t) \quad . \quad . \quad . \quad (2.4)$$

Irrespective of the inclusion of human capital in the growth equation, the growth of output per worker on the balanced growth path remains g, which is the rate of technological progress or the growth rate of labour-augmenting productivity. This makes the human capital augmented Solow model to be identical to the standard model (Ogunniyi, 2017):

$$\frac{\left(\frac{Y(t)}{L(t)}\right)}{\left(\frac{Y(t)}{L(t)}\right)} = g \quad . \quad . \quad . \quad (2.5)$$

For the fact that every country draws upon the same stock of technology, the model explains similar long-run growth experiences for every country. Mankiw, Romer and Weil pointed out that individuals invest in human capital just like they invest in physical capital, and that human capital depreciates at the same constant rate δ as physical capital. They also stated that output can be used for either consumption or investment in physical or human capital development (Ogunniyi, 2017).

2.1.2. Theory of Human Capital Development

Human capital as a concept was first propounded by Theodore Shultz and Gary Becker both from the University of Chicago. This theory emphasizes the importance of education to production of goods and services and enhances efficiency of workers through training. According to Adelakun (2011), the combination of innate abilities with investment in human beings, investment in education and an increase in the stock of capabilities can be formed. These investments could be expenditure in on- the- job training, health, nutrition, education such as building of schools and institutions.

Proponents of human capital theory consider human capital to be equal or more important than physical capital. These proponents saw that investment in education is a productive investment in human capital. Increase in the marginal productivity of workers in high skill or profession, leads to tasks that demand logical and analytical reasoning and helps in providing specialized and technical knowledge (Todaro, 2003). These theorists concludes that national productivity and economic growth is dependent on the availability of qualitative human capital. Human capital accumulation includes expenditures on education, on-the-job training, health, migration, and other factors that increase individual productive capacities and earnings.

2.2. Empirical Literature

The study reviewed some related works, for instance Usman & Adeyinka (2019) examined the random effect of human capital development on economic growth of ECOWAS member States from 1980-2016. Four human capital variables were expenditures on education (EED), expenditures on health (EHE), gross domestic product (GDP) and school enrollment (SCE). The Pedroni residual co-integration approach was employed to test for the long-run relationship

among the variables. The findings of the study showed evidence of a positive and significant relationship between GDP and government expenditure on education, expenditure on health and school enrollment in the ECOWAS counties. However, our study disaggregated the ECOWAS by considering Nigeria.

Olure-Bank & Usman (2018) examine the impact of human capital development (proxied by capital expenditures on education and health) on economic growth in Nigeria, 1986 – 2016. The study employed ordinary least square (OLS) technique. The result shows a significant and positive relationship between health expenditures and economic growth. On the other hand, a negative and significant relationship was found between education expenditures and economic growth.

Obialor (2017) examined the effect of government human capital investment on the economic growth of three Sub-Sahara African (SSA) countries – Nigeria, South Africa and Ghana from 1980 to 2013. The study used the Co-integration and Vector Error Correction mechanism (ECM) techniques. Expenditures on Health (GIH) and Education (GIE) were found to be significant and positive to economic growth only in Nigeria, while literacy ratio (LR) was positive and insignificant in all the three Sub-Sahara African (SSA) countries.

Also, Ogunleye, Owolabi, Sanyaolu & Lawa (2017) examined the impact of human capital development on economic growth in Nigeria from 1981 – 2015. The study used the ordinary least square regression technique. The finding indicates that human capital development had a significant impact on economic growth.

Osoba & Tella (2017) examined the interactive effects of human capital investment components and economic growth in Nigeria for the period of 1986 – 2014. The study employed secondary annual time series data on education expenditure, health expenditure, real gross domestic product and gross capital formation. The Fully Modified Ordinary Least Squares (FMOLS) technique was employed for the study. The results clearly shows evidence of a positive and significant relationship between the interactive effects of human capital components and growth in Nigeria.

Adeyemi & Ogunsola (2016) examined the relationship between human capital indices (education and health) and economic growth in Nigeria for the period of 1980 – 2013. Autoregressive Distributed Lag (ARDL) Cointegration approach was employed for the study. The findings of the study showed a positive long-run relationship among secondary school

enrolment, public expenditure on education, life expectancy rate, gross capital formation and economic growth, although none of the variables were statistically significant. It also shows, a negative long-run relationship among primary, tertiary school enrolment, public expenditure on health and economic growth in Nigeria.

Anyanwu, Adam, Obi & Yelwa (2015) also examined the impact of human capital development on economic growth in Nigeria from 1981-2010. The study employed the autoregressive distributed lag (ARDL) model. The result of the study showed that human capital development indicators had a positive impact on economic growth in Nigeria. However, their impacts were found to be largely statistically insignificant.

Similarly, Mat, Mansur & Mahmud (2015) examined the effects of human capital development on education, health and migration to economic development in Sabah (Malaysia) from 1980 to 2010. The Ordinary least square (OLS) technique was employed. It was found that higher gross domestic product (GDP) per capita was influenced by better literacy rate, the longevity of life expectancy at birth and required number of immigrants with sustainable gross domestic savings and improvement in the unemployment rate. This is a clear confirmation of the importance of human capital development and economic growth.

Studies abounds on the relationship between human capital investment and economic growth both domestic and foreign empirical studies (see, for example, Usman & Adeyinka, 2019; Olure-Bank & Usman, 2018; Obialor, 2017; Osoba & Tella, 2017). Different measures of human capital development were used by authors and mixed results have been found. The departure of this study from others, therefore, is that, this study incorporates control variables under the framework of the augmented Solow human-capital-growth theory and the causal relationship of the variables were examined.

3. Methodology

This study employs correlational research design in order to find out determining variation(s) in dependent variables as a result of variation in independent variable. This is because, it measures the relationship between government expenditure on human capital and economic growth in Nigeria. Data were sourced from Central Bank of Nigeria Statistical Bulletins, 2009 and 2018, which comprises of real GDP growth, government expenditure on education, government expenditure on health, gross fixed capital formation, population growth rate and foreign direct investment.

Model Specification

Following the study by Eigbiremolen & Anaduaka (2014), the functional form of the model for objectives one and two is specified as:

$$\text{RGDPG} = \text{f}(\text{GXPE}, \text{GXPH}, \text{GFCF}, \text{POPG}, \text{FDI}) \ldots \quad (3.1)$$

Where;

RGDP = Real GDP growth, a proxy for economic growth

GXPE = government expenditure on education

GXPH = government expenditure on health

GFCF = gross fixed capital formation, for capital stock

POPG = population growth rate

FDI = foreign direct investment

Econometric form of the equation (3.1) is given as;

$$\text{RGDPG} = \alpha_0 + \alpha_1 \text{gxpe} + \alpha_2 \text{gxph} + \alpha_3 \text{gfcf} + \alpha_4 \text{POPG} + \alpha_5 \text{fdi} + \varepsilon_t \ldots \quad (3.2)$$

Where all the variables remained as defined above while ε_t is the stochastic error term. Small lettered variables are logged variables. RGDPG and POPG are not logged because the variables are already in rate. The reason for logging the variables is to enable the investigator to handle situations where a non-linear relationship exists between the independent and the dependent variable. Therefore, logging variables instead of the un-logged form makes the effective relationship non-linear, while still preserving the linear model (Benoit, 2011). α_0, α_1, α_2, α_3 and α_4, are respectively the coefficients of the variables in equation (3.2). The variables are expected to have a positive coefficient.

In order to capture objective three, the study estimates a time-stationary VAR model as shown below:

$$RGDPG_t = \vartheta_0 + \sum_{j=1}^{m} \varphi_j \, RGDPG_{t-j} + \sum_{j=1}^{n} \beta_j \, \text{gxpe}_{t-j} + \sum_{j=1}^{n} \gamma_j \, \text{gxph}_{,t-j} + \sum_{j=1}^{n} a_j \, \text{POPG}_{t-j} + \sum_{j=1}^{n} \psi_j \, \text{fdi}_{t-j} + \sum_{j=1}^{n} \Omega_j \, \text{gfcf}_{t-j} + u_{jt} \ldots \quad (3.3)$$

Where;

RGDP = Real GDP growth, a proxy for economic growth

GXPE = government expenditure on education

GXPH = government expenditure on health

GFCF = gross capital formation, for capital stock

POPG = population growth rate

FDI = foreign direct investment

t = time period

The disturbance term, u_{jt} is considered to have a zero mean and the small lettered variables are logged variables. RGDPG and POPG are not logged because the variables are already in rate as earlier stated.

Definition of Variables in the Model

- **Real GDP (RGDP):** is the value of goods and services produced in a country by both foreigners and indigenes within the boundaries of a domestic economy, less inflation. In Nigeria, real GDP is measured mainly in 1990 or 2000 constant prices. It is commonly used by authors to proxy economic growth. In this study, however, the real GDP growth rate is used as a measure for economic growth.

- **Gross Fixed Capital Formation** (**GFCF)**. This is the total expenditure on investment in the production units of a county. It refers to changes in the stock in a year and the net acquisition valuables by businesses and households. Since investment is the expenditure incurred on the acquisition of capital goods that result in capital formation, the gross fixed capital formation is used as a measure of capital formation - domestic investment in this study.

- **Population Growth Rate (POPG)**: Population of a country is the number of persons in a particular country. Therefore, the population growth rate could be described as the rate at which the population of a country (the respective ECOWAS countries) grows. Solow's growth model postulates the labour force as a source of output growth. Therefore, this study uses population growth rate as a proxy for the growth of the labour force because a growing population in many cases endured with a growing labour force.

- **Government expenditure on education (GXE):** This is the government expenditure on primary, secondary and tertiary education. Following the new growth theory, it is believed that countries with a high level of education will have more human capital and are anticipated to be in a better position in regards to their income level than countries that are backward in education. The role of human capital (including expenditure on education) is required in the growth process.

- **Government Expenditure on health:** This is the expenditure of government on healthcare in order to improve the health status of the people. This is part of human capital development.

- **Foreign Direct Investment (FDI)**: This is a foreign capital in the form of equity and other assets of international or multinational corporations in other countries.

4. Results and Discussion

The model specified in chapter three of this study was estimated using the Ordinary Least Square (OLS) technique. However, before the estimation, the data were tested for unit root to examine the level of stationarity in order to avoid spurious results. The variables were also tested for cointegration and multicollinearity. The estimated results are presented and discussed.

4.1. Augmented Dickey-Fuller Unit Root Test

The variables were tested for unit root. The essence of this test is to ascertain the level of stationarity to avoid the problem of spurious regression. The Augmented Dickey-Fuller unit root test was conducted and the result is presented in table 4.1.

Table 4.1: Augmented Dickey-Fuller Unit Root Test Results

Variable	ADF – Statistic		Model	Lag order	~I(d)
	Level	1st Difference			
RGDP	-1.886	-3.380 *	Constant	2	I(1)
GXE	-1.893	-3.737 *	Constant	2	I(1)
GXH	-1.820	-3.416 *	Constant	2	I(1)
GFCF	-2.595	-5.086 *	Constant	2	I(1)
POPG	-1.823	-4.685 *	Constant	2	I(1)
FDI	-1.053	-2.987 *	Constant	2	I(1)

Where * denotes significance at 5% and the rejection of the null hypothesis of the presence of unit root. The optimal lag lengths were chosen according to Akaike's final Prediction Error (FPE), and Akaike's information criteria. The critical value obtained at the level form is -2.972 while the critical value obtained at 1st difference is -2.975.

***Source**:* Author's Computation.

None of the variables were stationary at level, as the test statistics of the respective variables are all less than the 5 per cent critical value level of -2972, as shown in Table 4.1. At their 1st difference, all the variables became stationary – 5 per cent 1st difference critical value of -2.975 is less than the respective test statistics of the variables. That is, all the variables are stationary at order 1. Since all the variables are stationary in the same order, there is a possibility of a long-run relationship among the variables.

4.2. Johansen Cointegration Test

Cointegration is a test to show the existence of a long-run relationship between variables in a regression equation. The Johansen test for cointegration was conducted and the result is reported in Table 4.2.

Table 4.2: Result of the Johansen Test for Cointegration

Maximum Rank	Eigenvalue	Trace Statistics	5% critical value
0	-	127.9642	82.49
1	0.83687	62.6885	59.46
2	0.67949	21.7257*	39.89
3	0.30622	8.5641	24.31
4	0.21079	0.0420	12.53
5	0.00117	0.0000	3.84
6	0.00000		

***Source**:* Author's computation.

The result shows two co-integrating equations. This is revealed by comparing the trace statistics with the 5 per cent critical value and found two trace statistics greater than the respective critical values. Clearly, a long-run relationship exists among the variables in equation (3.2).

4.3. Government Education and Health Expenditures on Economic Growth in Nigeria

The model for the objectives was estimated using the Ordinary Least Square (OLS) technique and the result is reported in Table 4.3.

Table 4.3: Results of the Impact of Government Education and Health Expenditures on Economic Growth.

RGDP	Coefficients	Standard Errors	t-stat	P-value
gxpe	19566.61	5620.913	3.48	0.001
gxph	7607.453	6458.498	1.18	0.248
gfcf	48680.83	18091.43	2.69	0.011
POPG	511871.6	68880.17	7.43	0.000
fdi	-2945.549	3964.29	-0.74	0.463
_cons	2565476	493167.1	-5.20	0.000
R-Squared		0.9363		
Adj. R-Squared		0.9264		
F(5, 32)		94.15 (0.0000)		
Durbin-Watson d-statistic (6, 38)		0.8581		
Breusch-Godfrey LM chi2		10.497 (0.0012)		

Source: Author's computation.

Table 4.4: Variance Inflation Factors (VIFs) of All the Variables

Variable	VIF	1/VIF
gxph	5.56	0.039121
gxpe	3.98	0.041708
fdi	4.39	0.227854
POPG	1.82	0.548098
gfcf	1.46	0.685119
Mean VIF	3.46	

Source: Author's Computation.

The coefficient for government expenditure on education is 19566.61 with a t-value of 3.48. Since the t-value of 3.48 is greater than 2 in an absolute sense, the null hypothesis of government expenditure on education has no significant impact on real GDP is rejected at the

5 per cent level using the 2-t rule of thumb. This mean that government expenditure on education statistically significantly affects real GDP in Nigeria. It also mean that a unit increase in government expenditure on education leads to an increase in real GDP by 19566.61 units. This is confirmed by the probability value of 0.001, which shows that there is an insignificant error in rejecting the null hypothesis.

The coefficient of government expenditure on health is 7607.453 with a t-value of 1.18. Since the t-value of 1.18 is lower than 2 in an absolute sense, the null hypothesis of government expenditure on health having no significant impact on real GDP is accepted at 5 per cent level using the 2-t rule of thumb. This means that government expenditure on health statistically insignificantly affects real GDP in Nigeria. It means a percentage increase in government expenditure on health leads to a corresponding increase in real GDP by 7607.453 units. This is confirmed by the probability value of 0.248, which shows that there is no significant error in accepting the null hypothesis.

Gross fixed capital formation had a coefficient of 48680.83 with a t-value of 2.69. Since the t-value of 2.69 is greater than 2 in an absolute sense, the null hypothesis of Gross fixed capital formation has no significant impact on real GDP is rejected at 5 per cent level using the 2-t rule of thumb. This means that Gross fixed capital formation statistically significantly affects real GDP in Nigeria. It means a percentage increase in Gross fixed capital formation leads to an increase in real GDP by over 100 per cent. This is confirmed by the probability value of 0.011, which shows that there is an insignificant error in rejecting the null hypothesis.

The coefficient and t-value of population growth rate are respectively 511871.6 and 7.43. Since the t-value is significant at the 5 per cent level, the null hypothesis of population growth rate had no significant impact on real GDP is rejected. This means that population growth has a significant impact on real GDP. The p-value of population growth rate also confirmed the rejection of the null hypothesis.

Foreign direct investment brings about a coefficient of -2945.549. This means that any increase in foreign direct investment leads to a reduction in real GDP. The t-value of -0.74, however, is insignificant, indicating the acceptance of the null hypothesis that foreign direct investment has no significant impact on real GDP in Nigeria. The insignificant p-value of 0.463 also means that there is no significant error in rejecting the null hypothesis.

The coefficient of determination (R^2) measures the percentage of the total variation in the dependent variable that is explained by the independent variables. The R^2 from our result is 0.9363, which means that the independent variables in the model could explain 93.63 per cent change in the dependent variable. The F-statistics (5, 32) value of 94.15 (0.0000) indicates significance, as its probability value is less than 0.05. Therefore, the variables in the model affects real GDP in Nigeria. The Durbin-Watson d-statistic (6, 38) value is 0.8581. Since this value is approximately 1, we, therefore, conclude that the test is inconclusive. Also, the Breusch-Godfrey LM chi2 test with a test statistic (and significant probability value) of 10.497 (0.0012) points to the acceptance of the null hypothesis of autocorrelation. This confirms that the variables have autocorrelation.

The variables were also tested for the existence of multicollinearity using the Variance Inflation Factor (VIF) technique. The reason for this test was establish if autocorrelation exists among the explanatory variables. This test is necessary because the presence of autocorrelation could affect the standard errors and thus, the t-statistics. The result of the test is presented in Table 4.4. Conventionally, as reported by Asteriou & Hall (2004), a variable with a Variance Inflation Factor of 10 and above poses a problem of multicollinearity in a regression, while a variable with VIF of less than 10 has no problem of multicollinearity.

None of the variables has a VIF of as high as 10, as shown in Table 4.4. Based on the result, we conclude that the variables are free from multicollinearity problem, hence, the variables in the model will pose no problem on the regression results. Thus, it is appropriate to include government expenditure on education, government expenditure on health, foreign direct investment, population growth and gross fixed capital formation as explanatory variables in the model.

4.4. Causality between variables Human Capital Development and Economic Growth

In order to examine the causality between human capital development and real GDP, we employed the Granger causality Wald test. The result shows that a significant unidirectional causality runs from government expenditure on education to real GDP. Similarly, a significant unidirectional causality was found running from government expenditure on health to real GDP. This means that government expenditures on education and health Granger causes real GDP but real GDP does not Granger cause education and health expenditures in Nigeria.

Population growth rate and gross fixed capital formation significantly Granger causes real GDP while foreign direct investment does not Granger cause real GDP. The result also showed that population growth rate, foreign direct investment and gross fixed capital formation does not Granger cause government expenditure on education. Similarly, population growth rate, foreign direct investment and gross fixed capital formation does not Granger cause government expenditure on health. The result shows that real GDP, government expenditure on education, government expenditure on health and gross fixed capital formation does not granger cause population growth, whereas foreign direct investment does Granger cause population growth. Furthermore, real GDP, population growth, gross fixed capital formation does not Granger cause foreign direct investment while government expenditure on education and government expenditure on health Granger causes foreign direct investment. Also, real GDP and government expenditures on education and health does not Granger causes gross fixed capital formation. On the other hand, population growth rate and foreign direct investment Granger causes gross fixed capital formation in Nigeria.

5. Conclusion and Recommendations

5.1. Conclusion

This study has examined the impact of human capital development on economic growth in Nigeria using the Ordinary Least Square technique. The statistical significance of the findings implies that government expenditures on education and health are influential to economic growth. Based on the findings, the study concludes that human capital development has a significant impact on economic growth in Nigeria. Also, domestic investment and population growth enhances economic growth in Nigeria. The major findings of this study are summarized as follows:

i. The study found that government expenditure on education statistically significantly affects real GDP in Nigeria. Also, government expenditure on health had a positive and insignificant impact on real GDP
ii. Gross fixed capital formation and population growth positively and statistically significantly affects real GDP in Nigeria. However, foreign direct investment had a negative and insignificant impact on real GDP.

iii. A significant unidirectional causality was found running from human capital development (government expenditures on education and health) to real GDP. Also, population growth and gross fixed capital formation significantly Granger causes real GDP, while insignificant Granger causality was found running from foreign direct investment to real GDP in Nigeria.

5.2. Recommendations

Based on the findings of the study, the following recommendations are made:

i. The government expenditure on education in Nigeria should be sustained. This is because there is a positive impact of education on economic growth in Nigeria.

ii. There should be more concentration on the health sector expenditure in order to bring about the needed impact on Nigeria's gross domestic product (GDP). This recommendation is made because, from the result, there is a positive but insignificant relationship between government health expenditure and economic growth in Nigeria.

iii. Domestic savings and investment should be encouraged. This could be by way of provision of low-interest loans with flexible loan conditions that encourages accessibility of investment funds. This recommendation is made because when government educates and improves the health status of people, it empowers citizens to be productive. However, the availability of loan facilities shall further motivate productivity and self-employment and further enhance economic growth.

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