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Human Capital Investment and Economic Growth in Nigeria

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Abstract

The link between economic growth and human capital investment cannot be overemphasized. The 2019 Human Development Index (HDI) placed Nigeria in the 161st position out of 191 countries with the value of 0.539. In the four broad categories of HDI: very high human development, high human development, medium human development and low human development; Nigeria was classed among the low human development countries. Public spending on education and health care are low in Nigeria. The inadequate education and health spending has persistently lowered the standard of the sectors. Therefore, this study examined the relationship between human capital investment and economic growth in Nigeria that spans the period from 1981-2021. The study is anchored on the endogenous growth theory. In line with Romer (1994), an augmented Solow model was estimated to examine the relationship between human capital investment and economic growth. The model considered real gross domestic product (RGDP), as well as public expenditure on education and health. All variables were first tested for their time series properties, using Augmented Dickey-Fuller and Phillip Perron test. The test of co-integrations among them was examined using Auto-regressive Distributive Lag (ARDL) bound approach. The series are of mixed order of integration. The result showed that public expenditure on education and health have not impacted significantly on the growth of the Nigerian economy. Government should intensify measures aimed at raising investment in education and health sectors in Nigeria to improve the quality of service.

Keywords: *Human Capital, Health, Education, Economic Growth*
JEL Classification: I15, I25, E22

Contribution to/Originality Knowledge: Grounded on the premises that there are mixed findings on the relationship between human capital investment and the growth of Nigerian economy , this paper provides new evidence on the capability of human capital investment and on economic growth in Nigeria over the last four decades. Specifically, the study explores the role of health capital as productive mechanism, as well as education on economic growth.

1.0 Introduction

The relationship between health status, level of education and economic growth has received bountiful investigation in the literature (Isola & Alani, 2012; Jaiyeoba, 2015; Osiobe, 2019; Oladele, & Tubolayefa, 2020). Outcome of several research works deduce the existence of a direct connection between human capital development (health and education) and economic growth. The wide acknowledgement of this nexus prompted the prominence of human capital issues in the Sustainable Development Goals (SDGs). In fact, the third and fourth goals aimed at ensuring good health, promoting well-being, and ensuring provision of inclusive and equitable quality education for all, respectively, while the remaining goals can be viewed as human capital augmenting.

According to Kanayo (2013), no economy can achieve sustainable development without a significant investment in human capital. Some economies, such as Asian tigers, Singapore, China and others across the globe witnessed rapid development owing to huge funding in human capital (Jaiyeoba, 2015). While high investment expenditure in health and education is seen as a medium of developing the human capital status of a country, the results vary among countries and regions. Therefore, investment in human capital, measured by financing of health care and education is imperative for the growth of thee economy in many resource-restraint nations.

The main problem of human capital development in Nigeria is poor or inadequate funding that results in shortage of skilled labour, unemployment, illness and poverty (Jaiyeoba, 2015). Government spending on social and community services, such as education and health is generally sparse in Nigeria. For instance, the average budgetary allocation to education, health, and other community services put together as a percentage of total budget for 2015, 2016, 2017, 2018, and 2019 are 10.14, 10.53, 13.50, 12.09, and 11.56, correspondingly (CBN, 2020). The country's budgetary allocations to education are far below the 26 per cent of the national budget recommended by the United Nations Educational, Scientific and Cultural Organization (UNESCO). . .

According to the Global Competitiveness Index (2020), the value for school enrolment, Tertiary (% Gross); secondary (% Gross), and Primary (% Gross) are 10.1, 55.7, and 63.8, respectively. Meanwhile, the country ranks 113, 112, and 132 equivalently out of the 137 countries considered, while in terms of quality of education system, the country ranks 117. The meagre allocation to the education sector may be responsible for falling opportunities and standard of education in the country.

In the same vein, the health sector is appalling. Government spending on health as a proportion of the total government expenditure ranges from 4.44% in 2015 to 5.32% in 2018 (World Bank, 2020). The health status is remarkably low and fall shorts of what is obtainable in most developed countries of the world. This is evidenced by the poor health outcomes which characterized Nigeria's health system. There are prevalence of communicable diseases and infant death from preventable and curable diseases. Some other features of the Nigerian health system are high infant and maternal mortality rate, short life expectancy at birth. Others are Malaria, tuberculosis, Hepatitis B, and Lassa fever prevalence. Life expectancy at birth in Nigeria was 53.9 years in 2019, the country has a high figure of women who lost their life as a result of difficulties encountered during child-bearing. The country recorded about 917 per 100 000 live births maternal mortality ratio in 2017, while in 2018, about 120 children in every 1000 live births died before age five. Also, in 2018, the country reports about 36 neonatal deaths per 1000 live births (WHO, 2019). The Nigerian health sector is further characterized by high incidence of illnesses. For instance, new HIV infections rate is 0.65 per 1000 of uninfected population, the tuberculosis prevalence rate is 219 per 100 000 population, while the incidence of Malaria is 291.9 per 100, 000 population in 2018. Hepatitis B was reported at 2.65 per cent among children under 5 years in 2015 (WHO, 2020).

The aforementioned challenges and problems are indicative of a poor human capital investment climate in Nigeria. However, only a genuine human capital funding of education and training,

as well as provision of health care are mechanisms through which human's knowledge, skills, and productivity can be enhanced (Shobande, Odeleye, & Olunkwa, 2014).

In Nigeria, there exists a plethora of studies on the nexus between human capital development and economic growth (Dauda, 2010; Shobande et al., 2014; Ibrahim, 2016; Makwe et al., 2020). However, the findings are mixed depending on the measure of human capital adopted. Also, most studies placed emphasis on education as a determinant of human capital development (Dauda, 2010; Shobande et al., 2014; Lawanson & Umar, 2020). These studies had a narrow view of human capital by considering only education, for instance: primary or secondary school enrolment as a measure of human capital investment. This may be attributed to availability of data on education. Thus, less emphasis has been placed on the health component of human capital. Meanwhile, the need for human capital development emanates from the desire to make people more productive. This can be achieved by improving their education level, and raising health status. That is, education and health are twin component of human capital that must interact for an individual to be productive (Lawanson, 2009, Isola & Alani, 2012). While Nigerian government has put in place various policies for education and health, the economy is still underdeveloped. Also, the reviewed literatures revealed mixed findings on the relationship between human capital investment and economic growth in Nigeria. This study explored the connection between the twin (education and health) components of human capital and economic growth.

This study is structured into five sections, following the introduction is section two that provides a review of relevant literatures. The third section focuses on the research methodology and theoretical framework. Section four involves the presentation, interpretation and discussion of results. Lastly, section five, summarizes, concludes and gives policy recommendations.

2.0 Literature Review

The study of human capital investment and economic growth generally relies on the human capital theory (Becker, 1962; Rosen, 1976), and the endogenous growth theory (Romer, 1986; Lucas, 1988). The human capital theory assumes that increased investments in education, training and health will bring about rising productivity and social stability. Hence, an increase in economic growth. While the endogenous growth theory posits that economic growth is the outcome of genuine investment in human capital within the system. That is, investment in human capital facilitates the growth of the economy as against exogenous forces that are mainly technological and scientific process which are not dependent on economic forces. Improvement in human capital of a country will lead to growth of the economy through the development of new technical knowhow and efficient utilization of productive resources Makwe, et al. (2020).

Empirical review on the relationship between human capital investment and economic growth has experienced numerous contributions by different authors. However, the empirical evidence is mixed.

Some studies found a positive relationship between human capital investment and economic growth in developing and developed countries. In Ghana, Ayertey-Odonkor, Asiedu-Nketiah,

Brown and Mamun-Miah (2018) found that human capital development has an important influence on economic growth both in the short and long term. Boztosun, Aksoylu, and Ulucak (2016), based on the endogenous growth model, found that human capital investment increased incomes in Turkey. Hakooma and Seshamani (2017) revealed that productivity level is a function of investment in human capital using Zambian data. Also, Maitra (2016) found that human capital investment causes economic growth in Singapore

Hadir and Lahrech (2015) revealed a positive relationship between human capital investment (via rising government spending on health, education) and economic growth in Morocco. Arguing that improvements in health will not only raise labour productivity through rising output, but also spur capital accumulation.

Some previous cross-country analyses have examined the nexus between human capital and economic growth. For instance, Ali, Egbetokun, and Memon (2018) revealed that human capital acts as catalyst in the growth of GDP per capital given favorable economic environment and functioning legal framework. Usman and Adeyinka (2019) found a direct and significant relation between GDP and expenditure on education, health and school enrollment in some selected countries, and concluded that investment in human capital has an effect on economic growth in the region.

Akpolat (2014) compared the effect of human capital investment on Gross Domestic Product of some selected developed and developing countries. The findings show that expenditures on education raised gross domestic product in the developed economies than in developing countries. Obialor (2017) showed that public spending on education and health has a positive and significant effect on growth in Nigeria, while the contrary holds in Ghana and South Africa.

In Nigeria, some studies suggest that human capital development positively affect the growth of the economy. Oladeji (2015), Eigbiremolen and Anaduaka (2014) argued that human capital development is indispensable in the attainment of development that can be sustain overtime in Nigeria. The study advocates the need for policymakers to build and develop human capital through adequate funding of education at all levels. Similarly, Ogunniyi (2017), Abdullahi, Jelilov, and Tetik (2018) and Agbarakwe (2019) found a positive relationship between human capital formation and economic growth in Nigeria. While, Isola and Alani (2012) found that education and health components of human capital development are fundamental in the growth of Nigerian economy, Ilegbinosa (2013) argued that inadequate funding of health and education is a major impediment to the growth of the Nigerian economy. Meanwhile, the study found a positive relationship between human capital development and growth of the economy.

Some studies found a negative relationship between human capital investment and economic growth. For instance, Makwe, Oladele and Tubolayefa (2020) reported that both capital and recurrent expenditures on education and health failed to impact the economy positively. Also, Pelinescu (2015) found a negative relationship between education expenditure and GDP per capital. Meanwhile, Keji (2021) reported a positive but insignificant relationship between human capital and economic growth. Jaiyeoba (2015) empirically investigated the relationship between investment in human capital and economic growth and reported mixed findings. The

findings showed a positive and significant relationship between human capital development and growth of the economy, but found a negative and insignificant relationship between expenditure on education and economic growth.

The reviewed studies revealed lack of consensus in the literature on the relationship between human capital investment and economic growth in Nigeria. This can be attributed to factors such as different measures or indicators of human capital, and measurement errors associated with variables. In view of these diverse views, this study examines the strength of public spending on education and health on economic growth in order to establish the capability or otherwise of human capital investment to spur growth of the economy in Nigeria.

3.0 Methodology

3.1 Theoretical Framework

The theoretical framework of this study is based on the endogenous growth model developed by Romer (1990). The new endogenous growth model built on the concept of capital by including the human capital. The theory suggests that if firm invests in physical capital, chooses to employ the services of educated and well-trained workers who are certified to be medically fit, then the workers will not only be productive, but they will be able to organize and utilize capital and technical knowhow more efficiently. This will shift the production frontier outward, thereby resulting in rising returns from investment. In the words of Makwe, et al. (2020), technology and human capital are endogenous to the model.

The relationship between human capital investment and economic growth could be viewed using the aggregate production function that relates output (Y) to the level of capital (K) and labour (L).

$$Y = AK^{\alpha}(hL)^{\beta} \tag{1}$$

Where, *A* is economic efficiency parameter, which can be influenced by technical progress, $\propto$ and β are the elasticities of output with respect to capital and labour, respectively. Given the theoretical postulation of the Romer's endogenous growth theory, the impact of human capital investment on economic growth in Nigeria is examined by specifying a growth model that directly incorporates human capital as a key factor in growth process. The model is also in line with other extant studies (see Makwe et al., 2020).

3.2 Model specification

In line with the theoretical argument, with modification, an estimable linear econometric equation for the above equation is specified as

$$RGDP_t = \alpha + \beta_1 PEE_t + \beta_2 PEH_t + \mu_t \tag{2}$$

The log-log form of equation (2) is expressed below;

$$\log GDP_t = \alpha + \beta_1 \log(PEE_t) + \beta_2 \log(PEH_t) + \mu_t \quad (3)$$

Where $logGDP_t$ is natural logarithm of gross domestic product per capital at time t, $logPEE_t$ is the natural logarithm of public expenditure on education at time t, $logPEH_t$ is natural logarithm of public expenditure on health at time t and μ_t the white noise error term.

Unit Root

The series (real gross domestic product, public expenditure on education and public expenditure on health) have been tested for stationarity using Phillip–Peron (PP) and Augmented Dickey–Fuller tests. The null hypothesis of a unit root against the one-sided alternative will be accepted if the ADF or PP statistic is greater than the critical value and concludes that the series is non-stationary; otherwise (that is, if it is less), the series is stationary.

Autoregressive Distribution Lag (ARDL)

In order to examine the impact of human capital investment on economic growth in Nigeria, this study utilized the Autoregressive Distributed Lag (ARDL) cointegration technique developed by Pesaran and Shin (1999) and Pesaran, Shin, and Smith (2001). The study used ARDL estimator because the series under study are of mixed order of integration I(0) and I(1). Also, Pesaran and Shin (1999) found that the ARDL technique is able to differentiate between the regressand and regressors, and account for endogeneity among the explanatory variables. This is an essential issue in the study of human capital investment and economic growth, given that there are conflicting findings in literature as to whether changes in education and health investment brings about economic growth, and vice versa.

The ARDL framework of equation 3 is given as

$$\begin{aligned} \Delta LRGDP_t = \alpha_0 + \sum_{i=1}^{p} \beta_1 \Delta LRGDP_{t-1} + \sum_{i=1}^{p} \beta_2 \Delta LPEE_{t-1} + \\ \sum_{i=1}^{p} \beta_3 \Delta LPEH_{t-1} + \lambda_1 LRGDP_{t-1} + \lambda_2 LPEE_{t-1} + \lambda_3 LPEH_{t-1} + \mu_t \end{aligned} \quad (4)$$

The expression λ_1 to λ_3 on the right-hand side of equation 4 denotes the long run relationship between the series, while the expression from β_1 to β_3 with summation notations are associated to the short run dynamics of the series under consideration. α_0 is the drift parameter, and μ_t is the white noise error term.

The computed *F* statistics figure is compared with the upper and lower critical figures as advanced by Pesaran et al. (2001). If the computed F value is greater the upper critical value, the absence of cointegration hypothesis will be rejected, and conclude that cointegration exists among the series irrespective of whether the series are I(0) or I(1). The long-run relation will be established by estimating the chosen ARDL model via Schwarz Criterion.

Further, an error correction model is expressed:

$$\Delta LRGDP_t = \delta_0 + \sum_{i=1}^{p} \beta_1 \Delta LRGDP_{t-1} + \sum_{i=1}^{p} \beta_2 \Delta LPEE_{t-1} + \sum_{i=1}^{p} \beta_3 \Delta LPEH_{t-1} + \beta ECM_{t-1} + \mu_t \quad (5)$$

The coefficient of the error correction model (ECM) measures the speed of adjustment back to equilibrium after an initial shock in the immediate period. Post estimation diagnostic tests are performed to ascertain the goodness of fit of the model. The tests include serial correlation (LM test), normality test (Jarque-Bera), and heteroscedasticity test using ARCH test. The cumulative (CUSUM) and cumulative sum of squares (CUSUMSQ) are used in testing the stability of the coefficient of the regression.

Based on a plethora of empirical analysis and the Romer's endogenous theoretical stipulations, public expenditure on education and health are expected to have a positive relationship with economic growth. Intuitively, an increase in the public expenditure on education and health will have a direct (positive) impact on GDP.

3.3 Sources of data

This research employed time series annual data covering the period 1981 – 2019. The main source of data is the World Bank database, 2020, and the Central Bank of Nigeria (CBN) statistical bulletin. RGDP is sourced from WDI (world development indicators, 2020) while public expenditure on education (PEE) and public expenditure on health (PEH) are sourced from CBN statistical bulletin (2019).

4.0 Results

4.1 Descriptive Statistics

The descriptive statistics of the variable used in the estimation are reported in Table 1.

Table 1: Descriptive Statistics of the Variables

	RGDP	PEH	PEE
Mean	34690668	93424.23	145529.1
Medianz	23688280	24025.60	59742.60
Maximum	71387827	479070.0	687530.0
Minimum	13779256	110.8000	343.8000
Std. Dev.	20237776	124327.5	185480.2
Skewness	0.673787	1.325765	1.202480
Kurtosis	1.880848	3.926110	3.404039
Jarque-Bera	4.986242	12.81847	9.664004
Probability	0.082652	0.001646	0.007971
Observations	39	39	39

Source: Authors' computation using E-View 10.

It is evidenced that both the mean and the median for each of the variables are above 10,000 (in million ₦). The three variables recorded positive skewness that means the data has a long right tail. The RGDP is platykurtic, while variables (PEE and PEH) are leptokurtic.

The result of the descriptive statistics of real gross domestic product, public expenditure on education and public expenditure on health are presented in Table 1. The table shows that given the rejection criteria, the variables are not normally distributed since the probability values computed for Jacque–Bera Chi-square distribution are greater than the conventional statistical significances level, the null hypothesis that the series is normally distributed is rejected. That is, the series are not normally distributed. This result is further evidenced by the skewness and kurtosis statistics of the series. The standard deviation indicates that real gross domestic product has the highest deviation from its mean among the series under consideration, while public expenditure on health has the least variation from its mean.

4.2 Results of Stationarity Test

The Augmented Dickey–Fuller (ADF) and Phillip Peron (PP) unit root test results are presented in Table 2. The results revealed that two of the series (RGDP, PEE) are integrated of order one, that is I(1), while PEH is stationary at level, that is I(0). Given the mixed order of integration, a probable cointegration is investigated.

Table 2. Summary of Unit Root Test Results

Specification	Augmented Dickey–Fuller (ADF)			Phillip Peron (PP)		
	Level	**First Difference**	**I(d)**	**Level**	**First Difference**	**I(d)**
RGDP	−1.49(b)	−3.43**(a)	I(1)	−2.55(b)	−3.31**(a)	I(1)
PEE	−2.95(b)	−7.52***(a)	I(1)	−2.95(b)	−13.47***(a)	I(1)
PEH	−4.07***(a)		I(0)	−2.59(b)	−9.61***(a)	I(1)

Source: Authors' computation using Eview-10
Note: Where I (d) denotes the order of integration; a = test equation with intercept; b = test equation with trend and intercept. ***, **, * imply 1%, 5% and 10% level of significance, respectively.

4.3 Results of Cointegration Test

The result of the unit root test in Table 2 showed that the variables are of different order of integration. As a result, the appropriate co-integration test is the bound co-integration test developed by Pesaran et al. (2001).

Having established the unit root properties of the variables in the model and subsequently settled for the appropriate lag length based on Schwartz Criterion (SC), the ARDL long-run form and bounds test of co-integration was carried out to investigate the possible long run equilibrium relationship among the variables. The result of the bound test is presented in Table 3.

Table 3. Results of ARDL Bound Test

Test Statistic	Value	K
F-statistic	3.14	2
Critical Value Bounds		
Significance	I (0) Bound	I (1) Bound
10%	2.63	3.35
5%	3.1	3.87
2.50%	3.55	4.38
1%	4.13	5

Source: Authors' computation from Eview 10

The calculated F-statistics lies in-between the critical value of the lower bound I(0) and the upper bound I(1), at 5% and 10% level of significance. Therefore, the study considered both long-run and short-run models.

4.4 Impact of Human Capital Investment on Economic Growth in Nigeria

Given that there is existence of possible long run and short run relationship between the variables, both the short and long run dynamics are presented in Table 4. In order to examine the effect of human capital investment on economic growth in Nigeria, the VECM (Vector Error Correction Model) version of the ARDL model (pesaran et al., 2001) with lag 2 of the economic growth equation is estimated.

4.4.1 The Short-run dynamics and Long-Run Effects

The short run dynamics, which describes the speed at which equilibrium is restored in the model is displayed in Table 4.

Table 4: ARDL Regression Result

Long-run Results		**Short-run Result**	
Variable	**Coefficient**	**Variable**	**Coefficient**
PEE	0.25 (0.57)	ΔPEE	0.01 (0.61)
PEH	0.002 (0.004)	ΔPEH	0.0001 (0.004)
		ECM (-1)	-0.06 (3.71)
		R-square	0.39214
		Adjusted R-squared	0.375877
		Durbin-Watson stat	2.009424

Source: Authors' computation using Eview 10. t - statistics in parentheses

The error correction term, denoted as ECM, is negative and statistically significant, this tends to suggests that the series are cointegrated and indicate a low speed of adjustment to equilibrium after a shock. The coefficient of ECM (–1) is -0.06, this implies, assuming other factors are held constant, about 6 percent of last year's deviation from equilibrium owing to shock moves back to long-run equilibrium within a year.

The human capital measures PEE and PEH have an insignificant relationship with economic growth (RGDP), though they are positively signed in the short run. The positive signs tend to suggest that an improvement in human capital investment may tends to influence the level of economic growth in Nigeria overtime.

The long run coefficients are presented in the second column of Table 4. The PEE and PEH have a positive relationship with economic growth in the long run, though, the coefficients are not statistically significant.

4.4.3 Results of Diagnostic Tests

In order to test for the adequacy of the model, the following diagnostic tests were conducted: Jarque-Bera (normality) test, Breusch–Godfrey (serial correlation) LM test, the ARCH (heteroscedasticity) test and Ramsey RESET test. The findings are presented in Table 5.

Table 5. Results of the Diagnostic Test

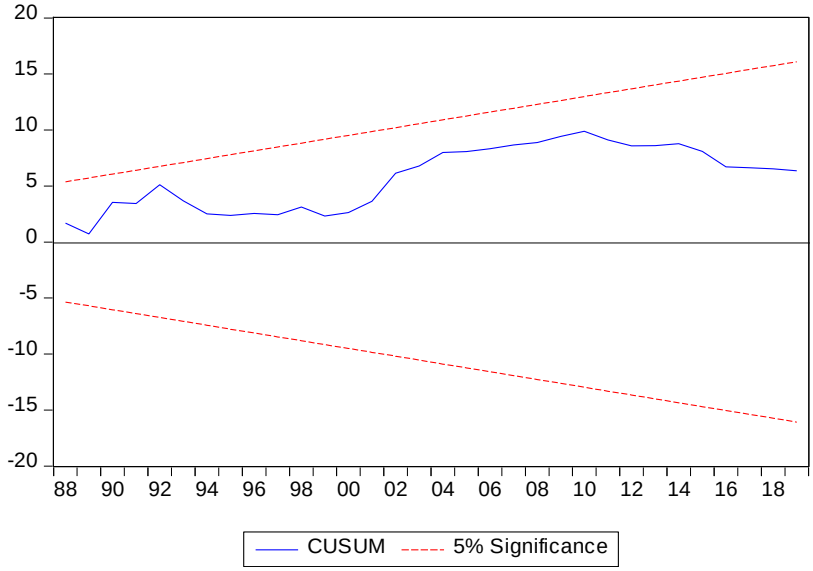
Test Statistics	Probability
Breusch–Godfrey test (Serial Correlation)	(0.23)
Heteroskedasticity (ARCH)	(0.93)
Linearity (Ramsey Reset)	(0.54)
Normality (Jarque–Bera)	(0.88)
CUSUM Test	Stable

Source: Authors' computation using Eview 10

The diagnostic tests revealed that the long-run model is statistically valid over time. The model has the correct specification, there is neither serial correlation nor heteroscedasticity among the residuals as revealed by the non-significant probability statistics of the respective tests.

Furthermore, the plot of CUSUM statistics stay within control bounds (see the figure below).

Figure 1: Cumulative sum (CUSUM)



4.5 Discussion of Findings

The ARDL Bounds test result (Table 3) shows that the calculated F-statistics value is in-between the critical value of the lower bound I(0) and the upper bound I(1), at 5% and 10% level of significance. Therefore, the study considers both long-run and short-run models.

The empirical results revealed that public expenditure on education has a positive relationship with real gross domestic product but the result is statistically insignificant in the long and short run. Similarly, the public expenditure on health has a positive relationship with real gross domestic product though the result is not statistically different from zero.

The fact that public expenditure on education and health are not statistically significant in explaining economic growth in Nigeria is not surprising. This can be attributed to the poor budgetary allocation to both sectors of the economy and probably poor utilization of budgeted fund. The budgetary allocation to education and health as percentage of the total budget was meagre 5.6 and 4.4 percent respectively in 2020.

These results tend to conform to economic theories stating that there is a direct relationship between human capital development and economic growth. The finding is in agreement with some previous empirical findings. For instance, Makwe, et al (2020), shows that capital and recurrent expenditures on education and health have not impacted significantly on the growth of the Nigerian economy both in the short run as well as the long run. Also, the result agreed with the finding of Jaiyeoba (2015) which reported an insignificant relationship between government expenditure on education and economic growth. Similarly, Hadir and lahrech (2015) reported a positive relationship between total government expenditure on education, total expenditure on health, primary school enrollment on the growth of Morocco. However, government expenditure on health and education are statistically insignificant. On the contrary, the results did not conform to the findings of Ogunleye et al. (2017) and Dauda (2020) that found a positive and significant relationship between education and economic growth.

5.1 Conclusion

The study concludes that, there exist a positive relationship between measures of human capital investment and economic growth in the shortrun and longrun. Meanwhile, there is a conflicting view as it relates to the importance of human capital development on the growth of the economy in Nigeria. While the policymakers tend to accept the economic growth capability of human capital, it has failed to adequately invest in human capital. This in turn dampens the growth of other sectors in the economy, and consequently slow down the attainments of the sustainable development goals in the country.

5.2 Policy Implication

Increase in government capital expenditure to the health and education sectors will lead to a more sustainable economic growth and development. An increased funding in these sectors will ensure that there is high turnover of trained, skilled and healthy work force within the economy. This is because a well-trained employees contribute more to the growth of the organizations and ultimately, to the general growth of the economy.

Government should intensify efforts aimed at improving human capital development in the country. This will raise the quality of education and health care facilities, as such, the quality of the human resources that could be instrumental to the achievement of desired economic growth and development.

5.3 Limitations of the Study and suggestions for future Research

There are possibilities for future research on human capital and economic growth in Nigeria. This study did not account for other forms of human capital investment, there is a need to analyse the impact of other forms of human capital investment ranging from private expenditure on education and health, informal skills among others in Nigeria. This will provide sufficient knowledge of the investment growth capability of the country's human capital. Furthermore, the likelihood of long-run relationship between measures of the human capital investment and real gross domestic product may facilitates the development of a new theoretical framework for Nigeria by incorporating the human capital factor.

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