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Analysis of the Impact of Human Capital Development on Gross Domestic Product in Nigeria

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Abstract
This study analysed the Impact of Human Capital Development on Gross Domestic Product (GDP) in Nigeria (1981-2019). Time series data from 1981 - 2019 was collected and analyzed using series of econometric procedures such as the Augmented Dickey-Fuller (ADF) unit root test, Johansen Co-integration test and the Error Correction Model (ECM). Furthermore, findings from the ECM revealed that Life Expectancy Rate (LER) and Tertiary School Enrolment Rate (TER) had positive impact on Gross Domestic Product (GDP) and were both statistically significant at the 5% (P < 0.05) and 1% (P < 0.01) probability level respectively. Fertility Rate (FR) had negative impact on GDP and statistically significant at 1% (P < 0.01) probability level. In addition, looking at the relative impact of each of the variables on GDP, the result shows that TER has the highest contribution to GDP in Nigeria. The study concluded that investment in human capital in the form of education and capacity building in form of training and healthcare had significant impact on GDP and therefore recommended that since tertiary enrolment rate has the highest contribution to GDP, more employment opportunities should be created so that capacities acquired from our educational institutions will be translated to an increase in GDP through labour services provided by the employed graduates.

Keywords: Human Capital, Development, Economic Growth

1. Introduction

By definition, human capital development is a "way to fulfil the potential of people by enlarging their capabilities and this necessarily implies empowerment of people, enabling them to participate actively in their own development" (Duraisamy & Mahal, 2005). Human capital development is also a "means since it enhances the skills, knowledge, productivity and inventiveness of people through a process of human capital formation broadly conceived" (Bakare, 2006). Thus, human capital development is a people centred strategy, and not goods centred or production centred strategy of development. What really matters are the

empowerment of people to identify their own priorities and to implement programmes and projects of direct benefit to them. This in turn implies the active participation of people in the development process and the consequent need to construct institutions that permit and indeed encourage that participation.

There is a growing consensus amongst analysts that there is widening inequality, increasing poverty, poor health, and reduction in educational standard and general poor socio-demographic indicators in Nigeria. This is because in Nigeria, certain avoidable diseases and conditions such as HIV/AIDS, malaria, tuberculosis (TB), childhood infectious diseases, maternal and prenatal conditions, micronutrient deficiencies and tobacco-related illnesses represent the main causes of (avoidable) deaths in low-income countries including Nigeria. It is also being observed that widespread diseases stunt the exploitation of arable land, migration and trade; bad health affects job productivity and an individual's ability to learn and to grow intellectually, physically and emotionally. All these necessitated the reason for the study. Based on the aforementioned, this study therefore seeks to provide answers to the following research questions:

i. Does tertiary school enrolment rate have any significant impact on GDP in Nigeria?
ii. Is life expectancy rate have any significant impact on GDP in Nigeria?
iii. Does fertility rate have any significant impact on GDP in Nigeria?

2. Literature Review

2.1 Conceptual Issues

Alani and Isola (2009) gave a more robust definition of human capital development; it is seen as human beings who possess skills, knowledge and attitudes which are utilized in the production process. They further analysed that in actual facts, the human capital components in man are the skills, knowledge, capabilities, attitudes and the experiences which are developed through education, health, on-the job training and other means. Economic growth" or "economic growth theory" typically refers to growth of potential output, i.e., production at "full employment" (Daferighe & Aje, 2009). As an area of study, economic growth is generally distinguished from development economics. The former is primarily the study of how countries can advance their economies (Li, 2006). The latter is the study of the economic development process particularly in low-income countries. Pearce and Warford (1993) defined economic developments as achieving a set of social goals, since goals are bound to change over time, economic development is, to some extent, a process.

Goulet (1971) argued that economic development involves advances in skills, knowledge, capability and choice. Todaro (1977) perceived development in terms of the reduction or elimination of poverty, inequality and unemployment that

is economic in character must involve change in the composition of an economy's outputs and inputs.

2.2 Theoretical Review

2.2.1 Human Capital Theory

Schultz (1961) as put forth by Dae-bong (2009) recognizes that human capital is one of the most important factors of national economic growth in the modern economy. The theory argues that an employee's formal education determines his or her earning power. Human capital theory holds that it is the key competences, skills, knowledge and abilities of the workforce that contributes to economic growth. According to Human Capital Theory, education is an investment because it is believed that it could potentially bestow private and social benefits. Human capital theorists believe that education and earning power are correlated, which means, theoretically, that the more education one has, the more one can earn, and that the skills, knowledge and abilities that education provides can be transferred into the work in terms of productivity and profitability (Dae-bong, 2009).

2.2.2 Modernization Theory

2.2.2 The Modernization Theory

Theodore (1991) put up the modernization theory. This theory focuses on how education transforms an individual's value, belief and behaviour. Exposure to modernization institutions such as schools, factories, and mass media inculcate modern values and attitudes. The attitude includes openness to new idea, independences from traditional authorities, willingness to plan and calculate further exigencies and growing sense of personal and social efficacy. According to the modernization theorists, these normative and attitudinal changes continue throughout the life cycle, permanently altering the individual's relationship with the social structure. The greater the number of people exposed to modernization institutions, the greater the level of individual modernity attained by the society. Once a critical segment of a population changes in this way, the pace of society's modernization and economic development is always quickening**.**

2.2.3 Endogenous Growth Theory

According to Romer (1990) endogenous growth theory has stimulated economists' interest in the empirical evidence available from cross country comparisons, bearing on the main level relationship between human capital development and economic growth. He describes physical capital accumulation as sufficient to determine the dynamic evolution of output. To specify the growth path when human capital is included, it is necessary to consider an additional sector where the growth of human capital has taken place. Given the physical

capital still has diminishing returns, the required assumption for the model to exhibit a positive growth rate of output per worker in the steady state is that the technology for generating human capital has constant returns; meaning that the growth of human capital is assumed to be the same for a given effort, whatever the level of human capital attained. With the assumption, the rate of output growth (per worker) is positive and increasing in the productivity of education or on-the-job training in the creation of human capital.

2.3 Empirical Review

Imandojemu, Ekperiware and Babatunde (2020) analyses the likely determinants of human capital development in Nigeria. Methodologically, the Autoregressive Distributed Lagged Model (ADRL) was modeled to examine the nature of relationship, where Human Capital Development Index (HCI) is presumed to depend upon changes in various list of Independent Variables estimators which were estimated over the period 1990 to 2018. Data were sourced from the National Bureau of Statistics, Word Development Indicators (WDI) as well as those provided by the Central Bank of Nigeria Statistical Bulletin. Empirical results showed that the relationship between tertiary school enrolment and human capital development was positive but insignificant. The relationship between government expenditure on education (GXE), government expenditure on health (GXH), life expectancy (LI) on human capital development (HC) was positive and significant while the relationship between Fertility Rate and human capital development in Nigeria was negative and significant. This succinctly indicates that increased fertility rate with attendant population growth can hamper human capital development. Furthermore, a trade-off exists between increasing fertility rate and the pursuit of human capital development. The research recommended increased budgetary allocation to the educational and health sector in Nigeria.

Akinlosotu (2020) investigated the relationship between human capital development and economic growth in Nigeria for the period of 1981-2017. The Augmented Dickey Fuller (ADF) and Dickey Fuller Generalized Least Squares (DF-GLS) detrending test were used to test for unit root while the AutoRegressive Distributed Lag (ARDL) or the bound testing approach was employed in the study. The result showed that human capital development (HDI), labour force participation (LABF) and remittance (REM) had direct and significant long run impact on economic growth while the shortrun estimated model revealed that the one-lagged value of gross domestic product (RGDP) and HDI had direct and significant impact on the dependent variable. The error correction term showed that in event of a disequilibrium, shock or perturbation, the system would restore itself to equilibrium at an adjustment speed of approximately 97.1%. To increase Nigeria's human development index (HDI), it was recommended that remittances

from international agencies should not only used judiciously by the government for the development of human capital. This would not only increase creativity, skill and productive capacities but also promote economic growth in Nigeria.

Nwokoye, Onugha and Kalu (2020) investigate the determinants of human capital development in Nigeria over the period 1985 to 2017. Hinged on the human capital theory as well as Sen's capabilities approach, the study developed a human capital model and employed the techniques of cointegration within the framework of autoregressive distributed lag model on Nigeria's time series. Our findings show that whereas expenditures on health and education, growth in per capita income, and employment rate are significant drivers of human capital development in Nigeria, inflationary tendencies (captured by the consumer price index) significantly deters human capital development. we recommend for government prioritization of infrastructural development so as to boost the economic and social welfare of Nigerians as well as the dividends of democracy.

Uzodigwe, Umeghalu and Ozoh (2019) examined the impact of human capital development on economic growth in Nigeria. Using OLS technique to analyse the time series data that spans from 1980-2015, human capital was quantified as total number of the country's labour force and also disaggregated into capacities from primary, secondary and tertiary levels of education, in an effort to capture both quality and quantity of human capital in the economy. The result shows that there exists a positive relationship between labour, government expenditure on education, government expenditure on health, and economic growth in Nigeria, while enrolment into various levels of educational institutions (Primary, Post-Primary and Tertiary) is negatively related to economic growth in Nigeria. The study recommends improved funding of the education sector at all levels alongside increment in remuneration packages of teachers and raising of qualifications required for employment in the sector. Furthermore, requirements for promotions of staff should take cognizance of performance of students in deciding final outcome, while school curricula should be reviewed such that it enables graduates to be more self-reliant.

Haruna, Gylych and Selman (2018) Investigate the importance of human capital formation using real GDP per capita, government expenditure on health, government expenditure on education and primary school enrolment in the case of Nigeria. It used time series data from 1980 to 2017 and employed OLS regression technique, Johanssen cointegration and Granger causality test. The results from the various methods utilized affirmed the importance of human capital formation towards actualizing economic growth and development in Nigeria. The ordinary least square regression result showed a positive relationship between Government capital expenditure on health, Education and primary school enrolment. The Johanssen cointegration result showed cointegrating vectors in both the trace and maximum Eigenvalue test. The results from the Granger causality test indicated a

bi-directional between primary school enrolment and Real GDP, a Uni-directional relationship between real GDP and government capital expenditure on health and education. The study strongly recommends a more budgetary capital allocation to health and education. The study went further to suggest strategies that would ensure the increase in primary school enrolment.

Oladeji (2015) investigate the relationship between human capital (through education and effective health care services) and economic growth in Nigeria, using annual time series data from 1980 to 2012. The paper employs OLS methodology. The result shows that considering the magnitude, 1% increase in GDP is brought about by 22% increase in human capital. This postulates that an increase in allocation to education and health will lead to increase in GDP. The estimated value of R2 (goodness of fit) of 0.80 or 80% and it show that the independent variables explain about 80% of the variation in the dependent variable. The findings have a strong implication on educational and health policy in Nigeria.

Adelakun (2011) evaluates human capital development and economic growth in Nigeria by adopting conceptual analytical framework that employs the theoretical and ordinary least square (OLS) to analyze the relationship using the GDP as proxy for economic growth; total government expenditure on education and health, and the enrolment pattern of tertiary, secondary and primary schools as proxy for human capital. The analysis confirms that there is strong positive relationship between human capital development and economic growth.

Jaiyeoba (2015) empirical investigation on the relationship between investment in education, health and economic growth in Nigeria, using time series data from 1982 to 2011. They employed trend analysis, the Johansen cointegration and ordinary least square technique. Empirical findings however indicate that there is a long -run relationship between government expenditure on education, health and economic growth. The variables: health and education expenditure, secondary and tertiary enrolment rate and gross fixed capital formation appear with the expected positive signs and are statistically significant (except government expenditure on education and primary enrolment rate). The findings of this work have strong implications on education and health policies and considering that they are of great debate in the country.

Godstime and Uchechi (2014) employ the augmented Solow to study human-capital-growth model using to investigate the impact of human capital development on national output, a proxy for economic growth. Quarterly time-series data from 1999-2012 were used and the result indicates that human capital development, in line with theory, exhibits significant positive impact on output level. This implies that human capital development is indispensable in the achievement of sustainable economic growth in Nigeria, as there is an increase in economic performance for every increase in human capital development. The

results further reveal a relatively inelastic relationship between human capital development and output level.

Oboh, Rahmah and Abu (2010) investigate the impact of human capital development on economic growth in Nigeria during the period 1970 to 2008. Johansen cointegration technique and vector error correction analyses were used to ascertain this relationship. The basic macroeconomic variables of concern derived from the literature review are: Real gross domestic product (RGDP), real capital expenditure (RCE) on education, real recurrent expenditure (RRE) on education, real capital stock (RCS), total school (SCHE) enrolments and labour force (LF) are used to proxy human capital development. The result indicated that human capital development has insignificant impact on Nigeria's economic growth.

Anyanwu et al. (2014) investigate the relationship between human capital and economic growth in Nigeria with time series data which covers periods 1981-2010. Adopting the endogenous modelling approach cast within the autoregressive distributed lag (ARDL) framework, the bounds testing analysis indicated existence of co integration between economic growth and human capital development indicators. Findings also show that human capital development indicators had positive impact on economic growth in Nigeria within the reviewed periods; however, their impacts were largely statistically insignificant. Further evidence indicated that equilibrium is fully restored for any distortion in the short-run.

2.4 Theoretical Framework

According to Romer (1990) endogenous growth theory has stimulated economists' interest in the empirical evidence available from cross country comparisons, bearing on the main level relationship between human capital development and economic growth. He describes physical capital accumulation as sufficient to determine the dynamic evolution of output. To specify the growth path when human capital is included, it is necessary to consider an additional sector where the growth of human capital has taken place. Given the physical capital still has diminishing returns, the required assumption for the model to exhibit a positive growth rate of output per worker in the steady state is that the technology for generating human capital has constant returns; meaning that the growth of human capital is assumed to be the same for a given effort, whatever the level of human capital attained. With the assumption, the rate of output growth (per worker) is positive and increasing in the productivity of education or on-the-job training in the creation of human capital. The basis for choosing Endogenous Theory of Growth as theoretical framework is that all the suitable variables used are endogenous as well.

3. Methodology

The study used annual time series data from 1981 to 2019 and these data was sourced from Central Bank of Nigeria (CBN) publications and National bureau of statistic. Since the data collected are secondary, Unit root test of stationarity was conducted on each variable before the estimation of the equation. If the variables are stationary at level, the ordinary least square technique of estimation will be employed in estimating the equation. OLS will be used owing to its desirable BLUE properties. If the variables are differenced stationary, the co-integration test will be conducted to ascertain the existence of long run relationship between the variables. The the Error Correction Model (ECM) was used to estimate the variables.

3.1 Model Specification

The functional form of the model is stated below:

GDP = f (FR, LR, PER, SER TER) .....(1)

Where:

GDP = Gross Domestic product

FR = Fertility Rate

LR = Life Expectant Rate

PER = Primary School Enrolment Rate

SER = Secondary School Enrolment Rate

TER = Tertiary School Enrolment Rate

The operational form of the model is given as:

$$\Delta GDP_t = \alpha_1 + \rho_1 ECM_{t-1} + \sum_{t=1}^{k} \alpha_{1i}\, \Delta GDP_{t-1} + \sum_{t=1}^{k} \alpha_{1i}\, \Delta FR_{t-1} + \sum_{t=1}^{k} \alpha_{1i}\, \Delta LR_{t-1} + \sum_{t=1}^{k} \alpha_{1i}\, \Delta PER_{t-1} + \sum_{t=1}^{k} \alpha_{1i}\, \Delta SER_{t-1} + \sum_{t=1}^{k} \alpha_{1i}\, \Delta TER_{t-1} + \cup_{1t} \quad \text{.....(2)}$$

3.1.1 Augmented Dickey Fuller (ADF) Unit Root Test

As first step in the analysis involving time-series data, the investigation of the presence of unit root in the data is very important for the reason that it helps to ensure that the variables used for the analysis do not result in spurious regression. The ADF unit root test was carried out on the data in order to test for the stationarity of each time series data set. The test also enables the determination of the order of integration of the series, which is the number of times a series has to be differenced for it to become stationary.

3.1.2 Johansen Co-integration Test

The next logical step was to test for co-integration using Johansen co-integration techniques (Trace and Eigen-value Test). It was used to test the hypothesis.

H_0: The time series variables are not co integrated (r=0)

If two series are individually stationary at same order, the theories of Johansen and Juselius (1990) can be used to estimate the long run co-integrating vector from a Vector Auto Regression (VAR) model of the form:

$$\Delta_{pt} = \propto + \sum_{i=1}^{k-1} \tau_i \Delta P_{t-1} + \pi P_{t-1} + \mu_t \quad (3)$$

Where: P_t is a (n x 1) vector containing the price series at time (t), Δ is the first difference operator. Γ_I and Π are (m x n) matrix of parameters on the i^{th} and k^{th} lag of p_t, $\tau_i = (\sum_{i=1}^{k} A) - I_g$, $\pi_i = (\sum_{i=1}^{k} Ai) - I_g$, I_g is the identity matrix of dimension g, α is constant term, μ_t is (n x 1) white noise vector. Throughout, p is restricted to be (at most) integrated of order one, denoted by 1(1), where 1(j) variable requires j^{th} differencing to make it stationary.

3.1.3 Error Correction Model (ECM)

This involved estimating the Error Correction Model (ECM). ECM captures the short-run disequilibrium situations as well as the long-run equilibrium adjustments between variables.

An ECM formulation, which describes both the short-run and long-run behaviours of variables, is expressed as follows:

$$\Delta P_{Bt} = \gamma_1 + \gamma_2 \Delta P_{At} + \pi \ddot{\upsilon}_{Bt-I} + V_{it} \quad (4)$$

In this model,

γ_2 = the impact multiplier (the short-run effect) that measure the immediate impact that a change in P_{At} will have on a change in P_{Bt}.

π = the feedback effect or the adjustment effect that shows how much of the disequilibrium is being corrected, that is the extent to which any disequilibrium in the previous affects any adjustment in the P_{Bt} period. Note that, $\ddot{\upsilon}_{t-I} = P_{Bt-1} - \rho_1 - \rho_2 P_{At-1}$ therefore from this equation we also have ρ_2 being the long-run response.

4. Results and Discussion

4.1 Augmented Dickey Fuller (ADF) Test Results

As first step in the analysis involving the use of time series data, the stationarity of the variables is required. The properties of the time series data were tested using Augmented Dickey Fuller (ADF) test in order to determine the stationarity of the variables under consideration as presented in Table 1. The ADF test shows that all the variables namely; Gross Domestic Product (GDP), Fertility Rate (FR), Life Expectancy Rate (LER), Tertiary Expectancy Rate (TER), Secondary Expectancy Rate (SER) and Primary Expectancy Rate (PER) were non stationary at levels but only became stationary at first difference with order of integration 1, I (1). The results as presented shows that the variables used were all significant at the 0.01 probability level ($P < 0.01$). This implies that the variables used for the analysis were all stationary at first difference, leading to the acceptance of the null hypothesis of non-stationarity at levels.

Table 1: Results of Augmented Dickey Fuller (ADF) Unit Root Test

Variables Tested	Level	1st Difference	Order of Integration
Gross Domestic Product (GDP)	-1.544 (0.5114)	-4.513*** (0.0014)	I(1)
Fertility Rate (FR)	-1.960 (0.3045)	-4.486*** (0.0050)	I(1)
Life Expectancy Rate (LER)	-2.520 (0.9991)	-6.151*** (0.0000)	I(1)
Tertiary Enrolment Rate (TER)	1.082 (0.7221)	-4.197*** (0.0045)	I(1)
Secondary Enrolment Rate (SER)	1.861 (0.3508)	-5.636*** (0.0000)	I(1)
Primary Enrolment Rate (PER)	-1.287 (0.6353)	-4.411*** (0.0021)	I(1)

*** implies significance at the 1% significant level.
Figures in parentheses are probability values.
Source: Author's Computation Using STATA Software, 2021

4.2 Johansen Co-integration Test

The results of Johansen co-integration test of variables presented in Table 2 shows a trace statistic of 128.15 which is greater than the critical value of 68.52 at 5% level of significance ($P < 0.05$) and a max statistic of 58.06 which is also greater than the critical value of 33.46 at 5% level of significance. The result further shows that there was at least five co-integrating and one co-integrating equations among the variables for trace and max statistics respectively. Therefore, based on the decision rule, the null hypothesis of no co-integration among the variables was rejected. This implies that there is a long run relationship among the variables and are therefore co-integrated.

Table 2: Results of Johansen Co-integration Rank Test

Hypothesized No. of CE(s)	Trace Statistics	Critical Value (5%)	Max Statistics	Critical Value (5%)
r = 0	128.15	68.52	58.06	33.46
r = 1	70.09	47.21	31.84*	27.07
r = 2	38.25	29.68	19.64	20.97
r = 3	18.61	15.41	9.89	14.07
r = 4	8.72	3.76	8.72	3.76
r = 5	6.55*	1.34	6.54	1.34

* denotes rejection of null hypothesis at 5% significant level.

Source: Author's Computation Using STATA Software, 2021

4.3 Error Correction Model (ECM)

The Error Correction Model (ECM) was employed in order to analyse the impact of human capital development on gross domestic product in Nigeria, having established the fact that a long run relationship existed among the variables. The result of the ECM as presented in Table 3 shows that the coefficient of the error correction term (0.8880), which signifies the overall impact of human capital development on gross domestic product, was found to be positively related and statistically significant at 1% probability level. This implies a direct relationship between human capital development and gross domestic product; it means that a unit increase in human capital development led to about 88% increase in the gross domestic product of the nation and vice versa. This therefore shows that human capital development has a significant impact on gross domestic product in Nigeria during the period of study. Also, the coefficient of determination was found to be 0.7391 which implies that about 74% of the variations in gross domestic product of the nation was attributed to human capital development while the remaining 24% was explained by other variables and the error correction term included in the ECM model. The F-statistics was 48.73 and statistically significant at 1% level of significance, this show that the entire ECM model was statistically significant in the determination of the impact of human capital development on gross domestic product.

Furthermore, the individual impact of the variables on gross domestic product was considered as presented by the estimates of the ECM in Table 3. The result shows that all the variables; Gross Domestic Product (GDP), Life Expectancy Rate (LER), Fertility Rate (FR), Primary Enrolment Rate (PER) and Tertiary Enrolment Rate (TER) were statistically significant at 1% level of significance, except for Secondary Enrolment Rate (SER) which was statistically significant at 5% level of significance. Also, LER, FR, SER and TER were positively related to GDP; this implies that a unit increase in these variables led to a corresponding increase in the GDP of the nation over the study period and vice versa. Based on the result obtained from the Error Correction Model (ECM), this study therefore ascertained that human capital development has a significant impact on gross domestic product in Nigeria between 1983 – 2019 as indicated by the variables which combined to show the effect of human capital development (LER, FR, PER, SER and TER).

Table 3: Estimates of Error Correction Model (ECM)

Variable	Coefficient	Standard Error	t-statistics
CointEq1			
ECM (-1)	0.8880	0.2841	3.13***
GDP	-2.1111	0.2686	7.86***
LER	34.0729	0.7144	47.70***
FR	0.7592	0.1609	4.72***
PER	-6.9928	1.5752	4.44***
SER	282.6698	116.0669	2.44**
TER	1.5057	0.3763	4.00***
Constant	-0.7904	0.3541	2.23**
R-squared	0.7391		
F-Statistics	48.73***		
AIC	23.03		
HQIC	104.38		
SC	253.78		

***and**implies significant at 1% and 5% significance level respectively.
AIC = Akaike information criterion; HQIC = Hannan Quinn Criterion; SC = Schwarz criterion.
Source: Author's Computation Using STATA Software, 2021.

4.4 Discussion of Results

In order to achieve the stated objectives of this study, the individual impact of each variable on GDP was analyzed and the economic implications considered. The empirical results showed that Life Expectancy Rate (LER), Fertility Rate (FR) and Tertiary Enrolment Rate (TER) has positive impact on Gross Domestic Product (GDP) in Nigeria over the period of study.

Tertiary education enrolment and GDP showed positive impact which is statistically significant at the 1% probability level ($P < 0.01$). The implication of this is that an increase in tertiary education enrolment may lead to increase in the amount of skilled and semi-skilled labour needed for improvement in economic activities. The parameter estimates of 1.5057 showed that a percent increase in tertiary education enrolment would on the average cause labour force participation and productivity to rise by about 0.015%. This suggested that there is sufficient evidence to accept that tertiary education enrolment statistically impacted GDP significantly in Nigeria during the period of study. The implication of this is that as more productive people graduate from the tertiary institution, the more the available skilled/semi-skilled labour or manpower increases which also lead to an increase in the welfare of the economy through labour productivity and efficiency. It is therefore imperative for the government to improve the educational finance of

tertiary education in order to boost its enrolment so that the stock of human capital (skilled and semi-skilled) can improve economic activities in the country.

Also, the coefficient of Life Expectancy Rate (34.0729) was positive related to GDP and statistically significant at 5% Probability level ($P < 0.05$). This shows a direct impact of LER on the GDP of the nation and that an increase in LER led to an increase in the economic growth of the country. The parameter estimate can be explained as a percent increase in life expectancy rate would result on average to about 0.34% increase in the growth of gross domestic product meaning that there is a complementary increase in economic growth as a result of increase in life expectancy rate. This means improvement in the longevity of the people in the country will increase the level of economic productivity in the country. This also implies that increase in the life expectancy rate could be as a result of improvement in the health care services in the country or increase in the health care financing by the government, this would help in strengthening the health of the productive units of the economy and thereby result to increase in the level of productivity. Thus, it is suggested that government should improve spending on the health sector to be able to meet with the health needs of Nigerian citizens.

Furthermore, the empirical findings from this study showed that fertility rate has negative impact on GDP but statistically significantt at the 1% probability level ($P < 0.01$). The parameter estimates of 0.7592 showed that a percent increase in fertility rate resulted to about 0.007% decrease in the growth of the GDP. This implies that there is greater implication of increase in fertility rate which does not increase in line with the available economic resources on the growth of the economy. It is therefore advised based on empirical evidence that government should monitor the rate of child birth so as to tailor it in line with the available resources in the country so that larger population would not be competing on the few available resources and facilities. This implies that while the government is financing health care in the country, other measures of birth control should also be put in place to accelerate the availability of economic resources in the country.

5. Conclusion and Policy Recommendations

The study concluded that investment in human capital in the form of education and capacity building in form of training and healthcare had significant impact on GDP and that Nigeria can only reposition herself as a potent force through the quality of her human capital development as well as making her manpower relevant in the highly competitive and globalize economy through a structured and strategic planning of her institutions.

The major policy recommendation that emerges from the study is that, with the positive impact school enrolment has on GDP; the Government should increase school enrolment by granting free education, scholarship programmes and

educational development programme through the availability of education trust fund. Since life expectancy rate has positive impact on GDP, people should be given equal access to health care facilities irrespective of their social status. Health care service delivery shouldn't be based on the ability to pay. In addition, since tertiary enrolment rate has the highest contribution to GDP, more employment opportunities should be created so that capacities acquired from our educational institutions will be translated to an increase in GDP through labour services provided by our employed graduates.

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