

Human Capital Development and Economic Growth in Nigeria: An Empirical Investigation

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Abstract: *Human capital development has been identified as bedrock of any nation's economic development. Therefore, this study intends to investigate the impact of human capital development on economic growth in Nigeria. The data used in this study was derived from secondary data only. The data included capital expenditure on education, recurrent expenditure on education and total number of students' enrolments in tertiary institutions for the period of 2000 to 2013. These were collated from the Central Bank of Nigeria Statistical Bulletin. Inferential statistics such as Pearson Product Moment Correlation Coefficient (PPMCC) and Ordinary Least Square (OLS) were used to analyse the data. Result shows that human capital development indicators jointly ($R^2 = 0.9739$, $P = 0.000$) have positive and significant impact on Nigeria economic growth. The study concludes that human capital development is a strong predictor of economic growth in Nigeria. Subsequently, the study recommends that government should be determined to make provision for effective funding of education by earmarking 26% of the total budget for educational development as recommended in the United Nations Organization. Also, government at all levels must commit vast resources towards the school infrastructures and education manpower to the extent that the propagation of worthwhile knowledge can be guaranteed.*

Keywords: *Human Capital Development, Economic Growth, Tertiary Institutions, Capital Expenditure.*

1. Introduction

Nigeria as a country is immensely endowed both in natural and human resources with a population of over one hundred and seventy (170) million, and GDP of about US\$415 billion, it is the largest economy in Africa. Nigeria holds the record for being the largest oil producer on the continent and the sixth in OPEC. The country is well endowed with petroleum, gas and yet-untapped mineral resources. In spite of all these abundant resources, Nigeria has failed to realize its full development potential with the topmost priority currently given to sustainable human capital development. Nigeria has been experiencing political violence, social insecurity and crimes which are traceable to a high rate of unemployment among youths who constitute the economically active groups, political machinery and the largest population of every nation (Eso, 2015).

Human capital development has been documented in the literatures and recognized by scholars, educationalists, and professionals as an alternative paradigm for economic growth and sustainable development globally. According to Okojie (1995), human capital development is associated with investment in man and his development as a creative and productive person. Odusola (1998) notes that the concept of human capital development refers to a conscious and continuous process of acquiring and increasing the number of people with requisite knowledge, education, and skill and experience that are crucial for the economic development of a country. Ogujiuba (2013) describes human capital development as an end or objective of achieving development. It is a way to fulfil peoples' potentials by enlarging their capabilities, and this necessarily implies empowering them and enabling them to participate actively in their own development. Obasanjo (2012) states that education trains individuals to relate and interact meaningfully with others in the society and to appreciate the importance of effective organization for human progress. This implies that education trains an individual to be useful in the society and to meet up the need of the society for national development. Therefore, it should be clear that without education, no positive transformation can take place. Studies confirm that substantial investment in human capital development would lead to economic growth and development (Kidanemariam, 2014; Atoyebi, Olaleye, Ishola, Adekunjo & Kadiri, 2013; Adelakun, 2011; Oluwatobi & Ogunrinola, 2011).

Realizing the important of human capital development, successful governments have put a programme in place in order to have inclusive and equitable quality education at all levels irrespective of ethnicity, sex, region, etc., especially vulnerable ones. For example, Thursday, September 30, 1999, Nigeria's former civilian president, Chief Olusegun Obasanjo, launched the Universal Basic Education (UBE) programme at Shehu Kangiwa Square, Sokoto, Sokoto State. The scheme comprised six-year primary education for all children of school age, and three years of junior secondary education. The UBE Act was passed in April 2004, to support an educational programme of the Nigerian Government that provides free, compulsory, and continuous 9-year education in two levels: 6 years of primary and 3 years of junior secondary education for all school-aged children.

In spite of this programme, Nigeria's education sector has been bedeviled for lack of funds. The percentage of budget allocation to education sector in Nigeria is far below United Nations Education, Scientific and Cultural Organization (UNESCO) recommendation of 26% of national budget. Consequently, the quality of education in Nigeria has been in disrepute. In line with this view, UNESCO report on "Financing education in Nigeria (2015) affirms that about 8.7 million primary children are out of school in Nigeria. Also, a survey conducted by "United Nations Children Fund" (UNICEF) in 2011 revealed that Nigeria had the highest number of out-of-school children in the world. The survey showed that one (1) out of every three (3) school-age children was out of school. The problem was said to be more in the North and girls constituted the higher proportion of out-of-school children. If Nigeria wants to reach its full potential in terms of economic and social developments, it cannot afford to invest on human capital development (Ariyo, 2008).

In the light of this background, the study aims at examining the impact of human capital development on economic growth in Nigeria.

1.1. Objective of the Study

The general objective of this study was to examine the impact of human capital development on economic growth in Nigeria. Other specific objective was:

- To examine the impact of human capital development indicators on economic growth in Nigeria.

1.2. Research Question

The following research question was the focus of this study:

- To what extent does human capital development indicators have impact on economic growth in Nigeria?

1.3. Hypothesis Formulation

The following hypothesis was formulated for the study:

- H01: Human capital development indicators have no significant impact on economic growth in Nigeria.

2. Review of Related Literature

Human capital development is related to procedure that includes training, compensation, performance appraisal, leadership practices and other professional initiatives so that level of knowledge, skills, abilities and social values of employees are increased. This will relate to employees satisfaction and performance and ultimately organizational performance. According to Ogujiuba (2013), human capital development is strategic to the socio-economic development of a nation and includes education, health, labour and employment and women affairs. Investing in human capital development is therefore critical as it is targeted at ensuring that the nation's human resource endowment is knowledgeable, skilled, productive and healthy to enable the optimal exploitation and utilization of other resources to engender growth and development. Ogujiuba confirms that no country can achieve sustained economic development without substantial investment in human capital.

Jane, Mike and Nanusonge, (2012) and Obi and Obi (2014) assert that education improved citizens and helped to upgrade the general standard of living in a society. Therefore, positive social change is likely to be

associated with the production of qualitative citizenry. This implies that expanding education promotes economic growth. The need for increasing public expenditure could be found in various theories of public expenditure. The theories of Wagner, Musgrave theory of increasing state activities, the Keynesian theory of deficit financing, all emphasized the need for government spending to enhance economic welfare through its spending in the provision of public goods.

A number of studies including, Adelakun (2011), Ogujiuba (2013), Atoyebi, Olaleye and Isola (2013), Ejogu, Okezie and Chinadu (2013), Amin, Malik and Shaheen (2012), Adelakun (2011), Oluwatobi and Ogunrinola (2011), Omojimite (2010), Babatunde and Adefabi (2005), Ogujiuba and Adeniyi (2004), Benhabib and Spiegel (2002), Bassanini and Scarpetta (2001) and Barro and Sala-i-Martin (1995) affirm that human capital development has significant impact on economic growth. However, the result of Maku (2009) is contrary to the previous studies. His result shows that human capital investment as a share of real output has positive but statistically insignificant effect on the growth rate of real GDP. He concludes that government expenditure had no significant influence on economic growth in Nigeria.

TABLE 1: Human Capital Development Indicators and Gross Domestic Product

Year	Capital expenditure on education (₦ Million)	Recurrent expenditure on education (₦ Million)	Number of Students enrolment in Tertiary Institutions	Gross Domestic Product (₦ Million)
2000	23,342.60	57,956.64	64,176	81,299.24
2001	19,860.00	39,882.60	51,843	59,742.6
2002	9,215.00	80,530.88	105,157	89,745.88
2003	14,680.20	64,782.15	46,120	79,462.35
2004	21,550.00	76,524.65	119,819	98,074.65
2005	27,440.80	82,795.06	122,492	110,235.9
2006	35,791.80	119,000.00	76,984	154,791.8
2007	48,293.51	150,800.00	88,524	199,093.5
2008	50,488.30	164,000.00	107,370	214,488.3
2009	40,005.00	137,116.00	125,870	177,121.0
2010	43,644.65	158,640.00	148,000	202,284.7
2011	51,830.00	152,639.00	360,000	204,469.0
2012	62,890.50	168,978.00	400,000	246,945.0
2013	78,980.72	187,908.98	500,000	398,614.0

Source: NBS, 2015; CBN Bulletin, 2015.

3. Methodology

The data used in this study was thus derived from secondary data only. The data included capital expenditure on education, recurrent expenditure on education and total number of students' enrolments in tertiary institutions for the period of 2000 to 2013. These were collated from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics. Inferential statistics such as Pearson Product Moment Correlation Coefficient (PPMCC) and Ordinary Least Square (OLS) were used to analyze the data with the aid of STATA version 13.

3.1. Model Specification

To evaluate the impact of human capital development on Nigerian economic growth;

(Human Capital Development is measured by Capital Expenditure on Education (CDE), Recurrent Expenditure on Education (REE) and Number of Students' Enrolment in Tertiary Institutions (NSE). Economic growth is measured by Gross Domestic Product (GDP), mathematically, the model is expressed as follows:

$$GDP = f(\text{Human Capital Development}) \dots\dots\dots(i)$$

$$GDP = f(CDE, REE, NSE) \dots\dots\dots(ii)$$

$$\ln GDP = \beta_0 + \beta_1 \ln CDE + \beta_2 \ln REE + \beta_3 \ln NSE + \mu \dots\dots\dots(iii)$$

Where;

The a priori expectation is $\beta_1, \beta_2, \beta_3 > 0$

$LnGDP$ = Gross Domestic Product

$LnCDE$ = Capital Expenditure on Education

$LnREE$ = Recurrent Expenditure on Education

$LnNSE$ = Number of Students' Enrolment in Tertiary Institutions

μ_i = stochastic error term

β = Intercept

$\beta_1 - \beta_3$ = Coefficient of the Independent Variables.

Note: All variables are in their natural logarithm form.

3.2. Data Presentation and Discussion of Results

TABLE 1: Relationship Between Human Capital Development Indicators and Economic Growth.

Model 1	Mean	SD	1	2	3	4
GDP	165454	90571	1.000			
Capital expenditure on education	37715	19787	0.760**	1.000		
Recurrent expenditure on education	117253	48667	0.713**	0.715**	1.000	
Students enrolment in tertiary institutions	156903	150120	0.637**	0.627**	0.507**	1.000

Source: Data Analysis, 2017

Table 1 shows that capital expenditure on education ($r = 0.760^{**}$, $P < .01$) has positive and significant relationship with economic growth. Result also reveals that recurrent expenditure on education ($r = 0.713^{**}$, $P < .01$) has positive and significant relationship with economic growth. Result also indicates that students enrolment in tertiary institutions ($r = 0.637^{**}$, $P < .01$) has positive and significant relationship with economic growth. This implies that human capital development indicators are major predictors of economic growth in Nigeria. This study is consistent with Ogujiuba (2013), Obi and Obi (2014), Atoyebi, Olaleye and Ishola (2013), Ejogu, Okezie and Chinadu (2013), Amin et al (2012), Oluwatobi and Ogunrinola (2011), Adelakun (2011) Omojimiti (2010) that investment on human capital development has significant impact on economic growth.

However, this study is contrary to the findings of Maku (2009) who concludes that government expenditure on human capital development had no significant influence on economic growth in Nigeria.

3.3. Testing of Hypothesis

H01: Human Capital Development indicators have no significant impact on economic growth of Nigeria.

TABLE 2 (a): Summary Statistics of the Analysis of the Human Capital Development Variables.

Source	SS	Df	MS	Number of Obs = 14
Model	3.67549453	3	1.22516484	F(3, 10) = 124.24
Residual	.098611335	10	.009861133	Prob > F = 0.000
				R-squared = 0.9739
				Adj R-squared = 0.9660
Total	3.77410586	13	.290315835	Root MSE = .0993

Source: Authors' Computation, 2017.

Table 2(a) shows that human capital development indicators were joint predictors of human capital development ($F = (3, 10) = 124.24$) at 1% significant level. The coefficient of determination (R^2) = 0.9739; $Adj.R^2 = 0.9660$ and the Root MSE = 0.993, indicating that 97.39% of the economic growth can be associated to the capital expenditure on education, recurrent expenditure on education and number of students enrol in tertiary institutions in Nigeria.

TABLE 2(b) Coefficient

LnGDP	Coef.	Std. Error	T	p> (t)	95% Coef. Interval
LnCDE	.2482423	.0822518	3.02	0.013	.0649739 .4315106
LnREE	.7028169	.107757	6.52	0.000	.4627195 .9429144
LnNSE	.1075796	.0562256	1.91	0.085	-.0176988 .2328579
-Cons	-.0931455	.6699656	-0.14	0.892	-1.585922 1.399631

Source: Authors' Computation, 2017.

Table 2(b) reveals that capital expenditure on education ($\beta = .2482423$; $t = 3.02$) has positive and significant impact on economic growth at 5%. This implies that the higher the capital expenditure on education, the higher the economic growth. The study is consistent with Ejogu *et al* (2013) that capital expenditure on education has positive and significant impact on Nigerian economy growth. However, this result is not in support of Oluwatobi and Ogunrinola (2011) and Ogujiuba and Adeniyi (2004) how found that capital expenditure on education in Nigeria has negative impact on economic growth.

Table 2(b) also reveals that recurrent expenditure on education ($\beta = .7028169$; $t = 6.52$) has positive and significant impact on economic growth at 1% level. This implies that recurrent expenditure on education has contributed significantly to Nigeria economic growth. The study is in line with Oluwatobi and Ogunrinola (2011) and Ogujiuba and Adeniyi (2004) who found that there is statistically significant positive relationship between economic growth and recurrent expenditure on education in Nigeria.

Table 2(b) also shows that students enrolment in tertiary institutions ($\beta = .1075796$; $t = 1.91$) has positive impact on economic growth but not significant. This implies that the education enrolment rates in Nigeria tertiary institutions has not significantly influence economic growth. Result conforms to work of Barro and Sala-i-Martin (1995) who confirms that countries with relatively low initial GDP grow faster when they have higher levels of human capital in the form of educational attainment. The implication of this finding is that human capital development is a strong predictor of economic growth.

4. Conclusion and Recommendations

This paper explores empirically the relationship between economic growth and human capital development in Nigeria. Economic growth is proxied by gross domestic product, while, human capital development is proxied by capital expenditure on education, recurrent expenditure on education and Number of students' enrolment in tertiary institutions. Result confirms that human capital development indicators jointly have positive and significant impact on Nigeria economy growth. The study concludes that human capital development is a strong predictor of economic growth in Nigeria. Subsequently, the study recommends that government should be determined to make provision for effective funding of education by ear marking 26% of the total budget for educational development as recommended in the United Nations Organization. Also, government at all levels must commit vast resources towards the school infrastructures and education manpower to the extent that the propagation of worthwhile knowledge can be guaranteed.

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