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PERCEIVED RELATION OF HUMAN CAPITAL DEVELOPMENT AND POVERTY ALLEVIATION IN NIGERIA (1970-2016): A LINEAR PROBABILITY MODEL APPROACH

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ABSTRACT

This study examined the relationship between human capital development and poverty alleviation in Nigeria. Specifically the study investigated the profile of poverty in Nigeria in the wake of human capital investment drive, education and health expenditures on poverty level. A Linear Probability Model (LPM) Regression approach were employed with data from 1970 to 2016 and a cross sectional data of 365 respondents in north central-Nigeria (Kogi and Niger states and Abuja FCT). A set of data was collected using structured questionnaires and analyzed with appropriate technique in order to identify the perception of socio-economic impact of human capital development on poverty alleviation in Nigeria. The findings show that negative relationship exists between Investment, Education expenditure, Health care expenditure andpoverty alleviation in north central-states. Also there is positive and significant relationship between GDP and poverty alleviation in north central state-Nigeria. The study therefore concludes that Human capital development has significant impact on poverty alleviation in Nigeria. The study recommends among other things that more conscious effort be made on the war against public sector corruption in Nigeria. Through this, human capital sectors could improve their financial situation by improving the efficiency, transparency, accountability and effectiveness of resource use and thereby cutting costs.

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INTRODUCTION

Nigeria is a country with a population of over 170 million people and over 70% of Nigerian living in the rural areas are poor(NBS Report, 2016). This is because in rural areas, social services and infrastructure are limited or nonexistent. Nigeria is the most populous black African country where about 70% of the population live under two dollar per day and as a result, has been classified as a poor nation. (NISER: 2013) In Nigeria, majority of those living in rural areas depends on agriculture for food and income. Small scale farmers who cultivate tiny plots of land and depend on rainfall rather than irrigation system produce about 90% of the country's food. The poorest group go on subsistence living but are often short of food, particularly during the pre-harvest period. Many poor Nigerians suffer from malnutrition and other diseases related to poor nutrition such as ulcerative, gingivitis and many more.

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The HIV/AIDS pandemic has also taken a heavy toll on the rural population and could be considered an emerging public health problem. Despite the massive campaign for human capital investment, extreme poverty in Nigeria is still very outrageous. The outrage is not just avoidable deprivation and sufferings but death are inevitable. It is also funnythat this situations coexist with affluence by less than one percent of the Nigerian population. Corruption is endemic in Nigeria and this has impoverished the nation. Intergenerational poverty exists in the country. Fight against poverty is necessary to reduce intergenerational transfer of poverty in Nigeria because most Nigerian children are born into poverty. With the outrageous poverty rate in Nigeria, one wonders if there are positive results from massive human capital investment such as in education, health care; fight against inequality and so on. One may wonder more what actually is the relationship between human capital investment and poverty in Nigeria. The role of human capital investment in poverty alleviation of an economy has been carried out in many studies. Education and viable health care, as key components of human capital investment

are recognized as being vital in increasing the productive capacity of people. Education in particular, especially at the tertiary level, contributes directly to poverty alleviation and economic growth by making individual workers more productive, leading to the creation of knowledge, ideas, and technological innovation (Larocque, 2008). An investment in human capital is very beneficial in a society where poverty is a serious problem, both at the micro level as well as macro level and it affects the system both directly and indirectly. Increase in individual's wage is a direct effect while the increase in externalities associated to education is an indirect effect (Dahlin 2005, Klenow 2011 and Michael, 2010). Education is a vital issue to development, which is seen as an important instrument through which the society can be transformed from poor to rich (Okojie, 2005; Yesufu, 2000; Todaro, 2007). The growing evidence on the relationship that exist between human capital development and poverty alleviation and the importance of human capital investment, especially educational investment in the development process has made social sector investment an important component of national strategies for poverty reduction strategies and sustained growth and development.

In Nigeria, in terms of budget estimates, the ratio of public expenditure on social and community services to total public expenditure averaged 2.2 percent between 1977 and 2007. Out of this amount, about 6.5 percent has been directed to education during the same period. Nevertheless, a major trend in education in Nigeria is that investment on the sector has not been encouraging. Public expenditure on education as a percentage of the gross national product was 1.5% (1960); 1.7% (1985-87) and 0.7% (1995). This compares very unfavorably with other developing countries such as Jamaica 4.9% (1985-87), 7.5% (1995-97) and Malawi 3.5% (1985-87), 5.4% (1995-97). (UNDP, 2004). In recent times, the percentage of the annual federal government budget to education in Nigeria for the periods 2013-2016 was 0.88%, 0.85%, 0.85% and 1.67% respectively instead of 26.0 percent as recommended by the United Nations Educational Scientific and Cultural Organization (UNESCO) (Bakare, 2016). Evidently, there is still a significant shortfall in educational investment necessary for the realization of poverty alleviation and sustainable growth and development in the country. The future direction of the macroeconomic policy of investing in human capital in Nigeria is uncertain. This uncertainty may be attributed to the existence of macroeconomic disequilibrium in financial allocation and unsatisfactory performance of the country's economy in recent times.

A review of Nigeria's economic development between 2000 to date revealed that overall macroeconomic policies and development strategies have failed to provide an enabling environment that could alter the structure of production and consumption activities in order to diversify the economic base that would improve the welfare state of the citizenry. The country has continued to be a mono-cultural economy, depending on oil, indicating that the export base is yet to be significantly diversified. Widening saving investment gap, high rates of inflation, chronic balance of payment problems and underutilization of resources have continued to be the order of the day. Poverty and inequality is wide spread with about 71 million Nigerians living below $1 a day and the gini coefficient of 0.49. Statistics reveals that infant mortality of under 5years, and maternal mortality rate as well as unemployment rate are higher than the averages for developing countries (Fakiyesi and Ajakaiye, 2009). In the light of Nigeria's current economic problems, and particularly its poverty situation and the rate of human capital investment and unimpressive rates of economic growth, this study seeks to ascertain the relationship between human capital development and poverty alleviation in Nigeria. Since a healthy and well-educated people make an economy more productive, it is apparent that capacity building through investment in human capital will enhance welfare by alleviating poverty and protect the Nigerian economy from further distortions. Accordingly, there is however, a need to critically examine the relationship between investment in human capital, health care expenditure and household education on poverty alleviation in Nigeria, with a view to deriving implications for policy direction.

Literature review

Conceptual Review

Human Capital Development

Human capital development as a concept according to Harbison (2013) is defined as human resources such as energies, skills and knowledge of which are, or which potentially can or should be applied to the production of goods and services. To Barney (1995), human resources include all the experience, skills, judgement, abilities, knowledge, contacts, risk-taking and wisdom of individuals and associates with an organization. Similarly, Tobias (2009) defines manpower as people, humanity, and society with all its aspirations, needs and capacities. From the above definitions, human resources or manpower constitute the labour force available in a particular organization or nation with the requisite know-how and capacities to meet the needs and aspirations of an organization or nation. In Nigeria, about 60% of the population is youth (see Yelwa *et al.* (2015). This implied that the country is blessed with high human resource potentials and if adequately developed and utilized, could turn the table of the present underdevelopment to that of a developed and prosperous nation.

Thus, poverty, unemployment and other developmental challenges would be tackled headlong. Human Capital goes beyond the number of labour force available to a nation. As enunciated by Schultz (1961). It is obvious that people acquire useful skills and knowledge; it is not obvious that these skills and knowledge are a form of Capital and that this Capital is, in substantial part, a product of deliberate investment. Thus Samuelson (1964) noted that the concept of 'Capital' as it relates to humans is investing in people, thereby making them more productive factors of production. Dudley, (2012) sees development as a means of creating the condition for the realization of human personality. He postulated certain criteria for measuring development, that is, whether there has been reduction in poverty, unemployment and inequality; whether there is improvement in education and demographic characteristics; and whether there is self- reliance and social justice. A country that experiences a downward trend in the above criteria cannot be said to be developed. Development can be seen as an improvement in the reduction of poverty, unemployment, and inequality, improvement in education, demographic characteristics, self-reliance and social justice. Thus, development is achieved when people's needs and aspirations are met, thereby enhancing their wellbeing.

Poverty

Poverty has been defined by different authors from different perspectives. These definitions cover the absolute and relative dimensions of poverty. In a simple term, poverty is a condition in which individuals and households cannot meet or satisfy the basic necessities of life i.e. food, clothing and shelter and other basic social services and privileges that will make them to live a decent and fulfilled life. Yelwa *et al.* (2014) defines poverty as a state of deprivation in terms of both economic and social indicators, such as income, education, health care, and access to food, social status, and self-esteem and self- actualization. Poverty is a pronounced deprivation in well-being, and comprises of many dimensions. It includes low incomes and inability to acquire the basic goods and services necessary for survival with dignity. it also encompasses low levels of health and education, poor access to clean water, and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one's life (World Bank Report, 2010). Poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family; not having a school or clinic to go to; not having the land on which to grow one's food or a job to earn one's living; not having access to credit.

Empirical Review

Uwatt` (2012) empirically examined the impact of human capital on economic growth, using five variants of the original Solow Model linking physical capital, labour and human capital proxied by total enrolment in educational system to real Gross Domestic Product. The result showed that physical capital exerted a positive and very statistical impact on economic growth. Its coefficient was statistically different from zero at 5% significant level. Labour force that entered all the models in log form had also positive but statistically insignificant effect on economic growth. On human capital variable, it was human capital from primary school education that was statistically very significant on the growth of the Nigerian economy. In the case of tertiary education, the result failed to tally with a priori expectations. One of the reasons advanced by the author (Uwatt) was that Nigerian tertiary institutions produce more graduates in humanities than in Mathematics and Sciences. Ndiyo (2012) on the "Paradox of education and Economic Growth in Nigeria" modeled for contribution of education growth.

He considered real growth of the Real Gross Domestic Product (RGDP) as respondent variable and gross fixed capital formation (GFCT), aggregate labour force (LAF) and real budget allocation to education (REDUB) as explanatory variables. He estimated the models in both level form and in logarithmic form respectively. From the two sources, it was observed that the growth of real gross domestic product (RGDP) is positively affected by the amount of physical capital and labour inputs in all the specifications but in most cases they have insignificant effects. He observed that contrary to a priori expectations, the estimate for the impact of growth in educational capital on the growth of real Gross Domestic Product was consistently negative. That growth in educational capital crowds outgrowth of GDP was a puzzle. However, Ndiyo in this position believes that the contribution of education to economic growth certainly depends on the quality of education.

Gylfason and Zoega (2013), examined the impact of gross secondary-school enrolment, public expenditure on education relative to national income and expected years of schooling for girls to the distribution of income as measured by the Gini coefficient as well as to economic growth across countries. The study found that these measures of education are directly related to income equality. It also finds that more and better education appears to encourage economic growth directly as well as indirectly through increased social equality and cohesion. More and better education financed by public expenditure can encourage economic growth and reduce inequality in the distribution of income as well. In the work of Bakare (2016), he investigated the growth implications of human capital investment in Nigeria using vector autoregressive error corrections mechanism. The study revealed that there is a significant functional and institutional relationship between the investments in human capital and economic growth in Nigeria. It was revealed that 1% fall in human capital investment led to a 48.1% fall in the rate of growth in gross domestic output between 1970 and 2000. On the contrary, Ayara (2013) provided evidence on the relationship between the paradox of education and economic growth in Nigeria using the standard growth-accounting model. The findings suggest that education has not had the expected positive growth impact on economic growth.

Ararat (2007) analysed the role and impact of education on economic growth in the two largest economies of the former Soviet Bloc, namely, the Russian Federation and Ukraine. The study attempts to estimate the significance of different educational levels, including secondary and tertiary education, for initiating substantial economic growth that now takes place in the two countries. This study estimates the model of endogenous economic growth and the system of linear and log-linear equations that account for different time lags in the possible impact of higher education on economic growth. The model estimation shows that there is no significant impact of educational attainment on economic growth. The results from the system of equations indicate that an increase in access of population to higher education brings positive results for the per capita GDP growth in the long term. Increasing the number of college-educated specialists leads to sustainable economic growth. Babatunde and Adefabi (2005) investigated the long run relationship between education and economic growth in Nigeria between 1970 and 2003 through the application of Johansen cointegration technique and vector error correction methodology.

Their findings reveal that the Johansen cointegration result establishes a long run relationship between education and economic growth. A well-educated labour force appears to significantly influence economic growth both as a factor in the production function and through total factor productivity. Risikat, (2010) in the study on the investment in education and economic growth employed Johansen cointegration technique and error correction methodology and found empirically that there is, indeed a long-run relationship between investment in education and economic growth. He found that all the variables used, including labour force, gross fixed capital formation and educational capital appeared with the expected positive signs and are statistically significant (except labour force) in the Nigerian economy. The study seems to suggest that a concerted effort should be made by policy makers to enhance educational investment in order to accelerate growth which would engender economic development.

Adawo (2011) used an econometric model to examine the contributions of primary education, secondary education and tertiary education to economic growth of Nigeria. He made some proxy such as education by school enrolments at various levels, physical capital formation, and health measured through total expenditure on health. He found that primary school input, physical capital formation and health contribute to growth. Secondary school input and tertiary institutions were also found to dampen growth. He recommended that there should be adjustment in admission process in favour of core science and technical oriented course and schools should be adequately funded.

Human Capital Development and Poverty

The development of human capital is to ensure that they acquire meaningful and productive skills that enhance their capabilities to engage in productive activities that lead to earning of livelihood (Adamu, 2000). Human capital is thus defined by Meir (2015) as the development of human resources concerned with the two-fold objective of building skills and providing productive employment for non-utilized or under-utilized manpower. This view is corroborated by the United Nation Economic Commission for Africa (1988) and Awopegba (2012) when they argued that human capital is the knowledge, skills, attitudes, physical and managerial efforts required to manipulate capital, technology, land and material to produce goods and services for human consumption. Therefore, human capital impacts on productivity, employment, income generation and standard of living. By implication human capital development leads to improved capability and ultimately reduction in poverty.

Theoretical Framework

Solow Growth Model

The framework of this work is rooted to Solow growth model in the work of Ayara, (2013) which explained that output of an economy grows in response to larger inputs of capital and labour. However, investment in educated and skilled workers will reduce poverty and bring out efficient use of labour and capital resources for greater productivity. Hence, the framework adopted in this study to measure the relationship between human capital development and poverty is similar to Okojie (2012) which relies on the Solow (1957), Klenow (2011) and Mankiw et al (1992). The theoretical framework assumes a pro-poor and stable production function in which changes in output are as a result of changes in the quantity and quality of inputs, economies of scale and advances in knowledge through human capital investment. When considering such aggregate production function wherein technical changes are due to inputs qualities, Solow argues that disembodied technical change is input augmenting, in which existing capital and labour are by one means or another, made more productive in order to fight poverty. According to Jhingan (2000) cited in Ayara (2013), Solow expresses the aggregate production function for such technical change as:

$$Y = f(K, L, t) \quad (1)$$

Where Y = output; K = capital input; L = labour input; t = technical change. Taking Hicks – neutral technical changes as the basis, Solow suggests the production function in a special form as;

$$Y = E(t)\, F(K, L) \quad (2)$$

Where E(t) is an index of technical changes representing total factor productivity (TFP).

MATERIALS AND METHODS

Nature and sources of Data

This study relied on both primary and secondary data. The primary data was obtained via the administration of questionnaire. A total of 386 questionnaires were distributed across the federal capital territory (FCT) to operators of the Small and Medium scale Enterprises (SMEs) using systematic random sampling procedure. Our choice of this technique is to reduce the chances of error which a small population size may cause. In addition, Personal interview was conducted to enable the researcher obtain more information from those who could not express themselves clearly in writing. However, the secondary data was obtained from the Central bank of Nigeria (CBN), National Bureau of Statistics (NBS) and World Bank data. The data obtained includes: GDP, INV., EDU, and HCARE.

Model Specification

Based on the theoretical framework and objectives of the study, the foregoing discussion will rely on previous studies such as Okojie (2012), Ayara (2013) and Mankiw et al (1992), the model would be employed in an attempt to determine the relationship between human capital development and poverty alleviation in Nigeria. However, the model is specified with little modification as:

$$Povt = \lambda 0 + \lambda 1\, GDP + \lambda 2\, INV + \lambda 3\, EDU + \lambda 4\, HCARE + \varepsilon it \quad ..(3.1)$$

Where:

Povt = P =1 if human capital development reduces poverty and 0 if otherwise. [Based on world Bank proposition that people living below $2US per day are classified as being poor (World Bank, 2015)].

GDP = the Gross Domestic Product
INV = Investment on human capital
EDU = Education of entrepreneur
HCARE = Health care expenditure
ε = other factors influencing poverty other than economic growth.

Methods of Data Analysis

Linear Probability Model (LPM) technique was employed in computing the numerical estimates of the constant and co-efficient of the variables in the specified model. The LPM was chosen because of the admixture of both time series and cross sectional data which the dependent variable is measured from a cross sectional data. Also its computation procedure is fairly simple and of course it is an essential component of most other estimation technique as it has the ability to capture the long term relationship between several variables especially economic variables**.** However, since the Linear Probability Model (LPM) is highly exposed to heteroscedasticity problem which violates the assumption of the Ordinary Least Square (OLS), Bruesh-Pagan (1980) test of null hypothesis of no heteroskedasticity against heteroskedasticity of unknown in general form was used as alternative.

The test statistic is computed by an auxiliary regression, where we regress the squared residuals on all possible (nonredundant) cross products of the regressors.

Sample Size Determination

The cross sectional data for this study was obtained using questionnaires. Based on the Krejcie and Morgan, (1970) table with a deterministic model as:

$$S = \frac{X^2 NP\ (1-P)}{d^2(N-1) + X^2 P(1-P)}$$

Where:

S = Sample size
X^2 = Value of Chi-square
N = Population size
P = Population proportion
d = Degree of accuracy

Based on this proposition by Krejcie and Morgan, (1970), a sample size of 386 questionnaires was recommended using 95% confidence interval.

In addition, the minimum sample size would be determined on the basis of 30 cases per variable/item for an accurate representation of the first canonical root (Stevens, 2001). The Bowley's model of deriving objective, valid and reliable sample was used which reduced the chances of error.

Distribution of Questionnaires and Response rate

A total of three hundred and eighty six (386) copies of the questionnaire were administered across the two States and the FCT in the North Central covered by the study. The basis of distribution of the copies of the questionnaire was based on the population from each region which is in line with Krejcie and Morgan (1970).

The details of the questionnaire distribution and response rate are shown in Table 3.2 below: As mentioned earlier, Table 3.2 shows the questionnaire distribution and response rate across the three regions in the North Central geopolitical zone. A total of 140 copies of the questionnaires were administered in Abuja, FCT. In Kogi State, a total of 110 copies of the questionnaire were distributed, representing 28.77%. In Niger, 122 questionnaires representing 33.43% were distributed.

Table 3.2 Questionnaire Distribution / Response Rate

	I	II	III
States in North Central Zone	No. of Questionnaire distributed	No. of questionnaires returned	Rate of Response (%)
Abuja FCT	140	138	37.81
Kogi	110	105	28.77
Niger	126	122	33.43
	386	365	100

Source: Researcher's Analysis of Field Survey, 2017

Table 4.1: Income of Respondents per Annum

INCOME in ₦	NO. OF RESPONDENTS	PERCENTAGE (%)
100,000-500,000	115	31.51
600,000-1m	130	35.62
1.1m-2m	85	23.29
2.1m – 10m	21	5.75
11m- Above	4	1.10
Total	365	100

Source: Field Survey, 2017.

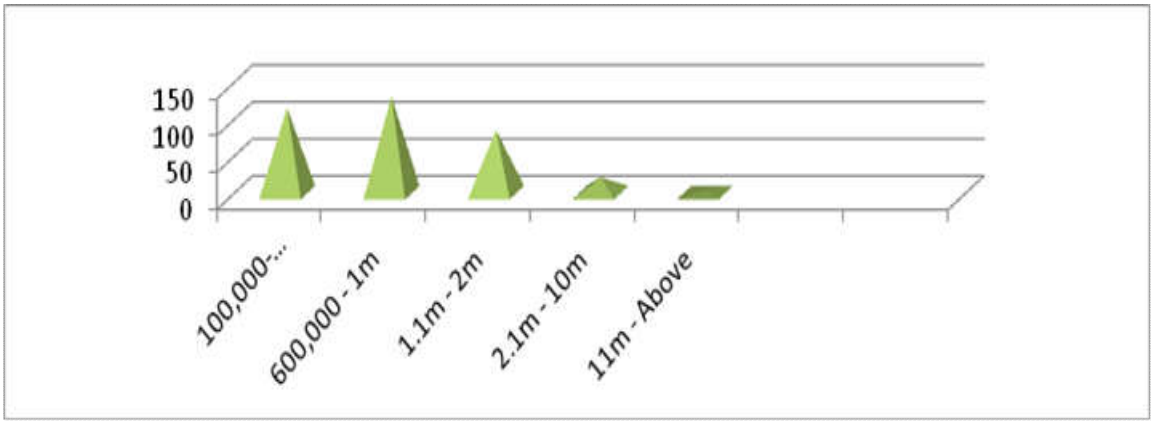

Fig. 4.1. Income of the respondents

RESULTS

Characteristics of Respondents

Table 4.2 shows that 115 respondents representing (31.51%) earn income between ₦100,000 - ₦500,000 per annum, 130 representing (35.62%) earn between ₦600,000 - ₦1m, 85 respondents (23.29%) earn between ₦1.1 - ₦2m, 21 respondents (5.75%) earn between ₦2.1m - ₦10m and 4respondents (1.10%) earn from ₦11m and above. This shows that majority of people are still living below accepted poverty line on the average.

DISCUSSION

The regression result reveals that most of the variables have expected signs. However, the result shows that a unit increase in GDP is associated with 11% point increase in the probability that Human Capital Developmentwill alleviate poverty (L = 1). The result also shows that a unit change in Investment (INV) is associated with 25% point increase in the probability that Human Capital Development cannot help to alleviate poverty (L=0).

Table 4.2. Results of the stationarity (unit root) test

Variables	ADF-statistic	Critical values	Order of integration
GDPg	*-5.790676*	1% = -3.588509 5% = -2.929734 10% = -2.603064	*Stationary at level.*
INV	*2.685597*	1% = -3.626784 5% = -2.945842 10% = -2.611531	*Stationary at level.*
EDU	*-3.148823*	1% = -3.588509 5% = -2.929734 10% = -2.603064	*Stationary at level.*
HCARE	*-5.693443* *(0.214601)*	1% = -3.592462 5% = -2.931404 10% = -2.603944	*Stationary at 1st diff.*

Presentation of Results

Breusch -Pagan Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey				
F-statistic	0.908277	Prob. F(4,39)		0.4687
Obs*R-squared	3.749592	Prob. Chi-Square(4)		0.4410
Scaled explained SS	3.949864	Prob. Chi-Square(4)		0.4128
Test Equation: Dependent Variable: RESID^2 Method: Least Squares Date: 01/13/18 Time: 12:20 Sample: 1970 2016 Included observations: 46				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.099345	0.064890	1.530992	0.2338
GDP	0.101166	0.004442	22.77459	0.0003
INV	0.200677	0.000918	218.6021	0.0012
EDU	-0.28E-08	1.57E-08	-1.783106	0.3322
HCARE	0.401876	0.002197	182.9153	0.0014
R-squared	0.825218	Mean dependent var		0.132435
Adjusted R-squared	0.808606	S.D. dependent var		0.219380
S.E. of regression	0.220322	Akaike info criterion		-0.080811
Sum squared resid	1.893125	Schwarz criterion		0.121938
Log likelihood	6.777838	Hannan-Quinn criter.		-0.005622
F-statistic	0.908277	Durbin-Watson stat		2.386679
Prob(F-statistic)	0.000663			

H_0: P-V > 0.05 = (Presence of heteroscedasticity)
H_1: P-V < 0.05 = (Absence of heteroscedasticity)

A simple linear regression method of estimation was applied to our earlier outlined methods. The overall results are expressed below:

$Povt = 0.937834 + \lambda_1 0.106965GDP - \lambda_2 0.252004INV + \lambda_3 0.401358\ EDU - \lambda_4\ 0.4937834HCARE$
t- ratio = (8.23784)(13.72910) (-156.5207) (-1.451630) (-128.1018)
$R^2 = 0.709743$

Adj. $R^2 = 0.668435$
$S.E = 0.386541$
D.W = 2.340266

The finding also indicates that a unit change in Education (EDU) is associated with 40% increase in the probability that Human Capital Development will not alleviate poverty (L=0). Lastly, the result revealed that a unit increase in Health care Expenditure (HCARE) is associated with a 49% increase in the probability that Human Capital Development cannot help in alleviating poverty in Nigeria (L=0). Likewise, the result also shows a positive and significant relationship between GDP and Poverty alleviation in Nigeria; while there is negative and significant relationship between Investment, Health care expenditure and Human Capital Development in Nigeria.

This shows that the model is free from heteroscedasticity problem.

LPM

Dependent Variable: POV

Method: Least Squares
Date: 01/13/18 Time: 14:12
Sample (adjusted): 1970 2016
Included observations: 46 after adjustments
White heteroskedasticity-consistent standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	0.106965	0.007793	13.72910	0.0000
INV	-0.252004	0.001610	-156.5207	0.0004
EDU	-0.40E-08	2.76E-08	-1.451630	0.7306
HCARE`	-0.493713	0.003854	-128.1018	0.0003
C	0.937834	0.113845	8.237840	0.0000

R-squared	0.709743	Mean dependent var	0.818182
Adjusted R-squared	0.668435	S.D. dependent var	0.390154
S.E. of regression	0.386541	Akaike info criterion	1.043486
Sum squared resid	5.827135	Schwarz criterion	1.246234
Log likelihood	17.95668	Hannan-Quinn criter.	1.118675
F-statistic	8.201897	Durbin-Watson stat	2.340266
Prob(F-statistic)	0.003510		

Source: E-views 7

Lastly, the result revealed a negative but insignificant relationship between Education expenditure and poverty alleviation in North central states, Nigeria. However, the positive result that exists between GDP and poverty alleviation in Nigeria is an indication that Nigerian GDP has been growing without inclusive growth. That is, the impact of growth has not been felt on the citizens. This result concise with the outcome of Uwatt, (2012), Ndiyo, (2012)and Bakare, (2016) which came up with a positive relationship between Human Capital Development and the Gross Domestic Products in Nigeria. Similarly, the result is also in line with the outcome of Gylfason and Zoega, (2013) who concluded that Education has a positive impact on growth; but disagreed with the outcome of Ararat, (2007) who reported that there is no significant impact of Education on growth. The results of unit root test revealed that all the variables of the model are found to be stationary at both 1 percent, 5percent, and 10 percent level with first difference (d(1)), which is indicated by ADF results at all levels less than the critical values in negative direction.

Conclusion and recommendations

The major challenge that faces the public sector, especially the educational and health systems in Nigeria is large scale corruption, and several inefficiencies. Unless there is a better check on this syndrome, no matter how much is designated for human capital investment, the outcome may not achieve its target of reducing poverty in the economy. However, based on the significant relationship in the result, we therefore conclude that there is significant impact of human capital development on poverty alleviation in Nigeria. The study therefore recommends for more conscious effort on the war against public sector corruption in Nigeria. Through this, human capital sectors could improve their financial situation by improving the efficiency, transparency, accountability and effectiveness of resource use and thereby cutting costs. On the other hand, besides, government spending on these human capital sectors, public health and educational institutions should be encouraged to develop resource mobilization strategies, in order to generate revenue by themselves. For this purpose, educational foundations can be set up in order to mobilize financial support from private donations.

This calls for both the government and private individual to scale up their expenditures on education and health as to redirect the ravaging level of poverty in the country. Also the findings of this study suggest a conscious effort at the policy level to redress poverty by increasing the human capital of individuals through provision of adequate education to individuals especially in rural areas. Since capabilities also explain substantial part of poverty in Nigeria, there is the need for better provision of social services, infrastructure and public goods. It should be noted that any increase in public incomes in the rural area would inevitably lead to significant decrease in rural poverty.

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