Effect of Human Capital Development on Poverty Reduction in Nigeria

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Abstract: *This study was informed by the rising poverty level in Nigeria. Despite Nigeria's plentiful agricultural resources and oil wealth, poverty is widespread in the country and has increased since the late 1990s. Some 70 per cent of Nigerians live on less than US$1.25 a day. Arguably, it has been asserted that government investment in education, health, agriculture, skill acquisition and small and medium enterprises measured through financial intermediation can help in the reduction of poverty as observed in other developed economies of the world. It is against this back drop that this study tries to examine the effect of human capital development on poverty reduction in Nigeria by modelling the effect of government investment in education, health, agriculture, skill acquisition and small and medium enterprises on poverty reduction in Nigeria using econometric regression model of the Ordinary Least Square (OLS). Findings revealed that human capital development, government expenditure on agriculture, health, education, skill acquisition and small scale enterprises are statistically significant in reducing poverty in Nigeria. The study therefore recommends among others thatgovernment should prioritize its investment in education, health, agriculture, skill acquisition and small and medium enterprises and also make sure that its investment in these areas is structurally balanced, supervised and focused because they have been identified to significantly influence poverty reduction in Nigeria.*
Key Words*: Poverty, Human Capital, Regression, Model*

1. INTRODUCTION:

Poverty is a multifaceted phenomenon and a multifaceted challenge facing virtually all countries of the world today (Okoli, 2016). It is a plague which is an issue of serious concern in all countries of the world at various degrees (Akaakohol& Aye, 2014; Akinbode, 2013). No nation, not even the most technically and economically advanced economy, could boastfully assert the absence of at least a single dimension of poverty within her economy. However, poverty seems to be predominantly a fundamental trait among developing and the Less Developed Countries alike(Anigbogu, Onwuteaka, Anyanwu&Okoli, 2014). According to Ilesanmi and Lasisi (2015), Nigeria has been rated as one of the poorest countries in the world in that we seem to have one of the highest numbers of poor people in spite of the tremendous wealth of natural and human resources with which we are endowed. Ilesanmi and Lasisi (2015) further stated that the World Bank's report (2013) revealed that the Human Development Index (HDI) of Nigeria was 0.47 and almost 70 percent of the population was living below poverty level. According to Anigbogu, et al (2014), this is a glaring paradox and sometimes subtly incomprehensible that a country blessed by nature is ranked among the league of top, poverty- stricken nations in the world. However, investment in human capital development has been identified as an agent of national development in all countries of the world. Providing education and health services to people is one of the major ways of improving the quality of human resources. Apart from being issues of social concern, both provide an economy with healthy trained human resources required for economic growth and development (Isola and Alani (2008). In other to give poverty a tough fight, a plethora of policies a plethora of poverty alleviation programmes have been instigated to reduce the pervasiveness and incidence of poverty in the country (Anigbogu et al, 2014). A more recent of the poverty reduction programmes is Millennium Development Goals (MDGs), which was introduced as a new global partnership to tackle poverty - the global development dilemma. Millennium Development Goals (MDGs) terminated in 2015 but answer has not been given to the rising poverty incidence in Nigeria. However, doubts have been raised regarding the effectiveness of these programmes in achieving their overarching goal of poverty alleviation and promoting household welfare, as the country experiences soaring and wide-spread poverty incidence. A close inspection of these programmes reveals priority misplacement. Anyanwu (2012) asserts that most policy direction towards the fight against poverty in Nigeria has never been structurally designed to focus on those options that significantly alleviate poverty in its context.

1.1. STATEMENT OF THE PROBLEM:

This study was informed by the rising poverty level in Nigeria (Okoli, 2016). According to Okoli, (2016), despite Nigeria's plentiful agricultural resources and oil wealth, poverty is widespread in the country and has increased since the late 1990s. Some 70 per cent of Nigerians live on less than US$1.25 a day. IFAD (2012) went further to state that poverty is especially severe in rural areas, where up to 80 per cent of the population lives below the poverty line, and social services and infrastructure are limited. Arguably, it has been asserted that government investment in education, health, agriculture, skill acquisition and small and medium enterprises measured through financial intermediation can help in the reduction poverty as observed in other developed economies of the world

(Ilesanmi&Lasisi, 2015). But despite government investment in the aforementioned areas, poverty level in the country still soars. It against this back drop that this study tries to juxtapose human capital development and poverty reduction in Nigeria by modelling the effect of government investment in education, health, agriculture, skill acquisition and small and medium enterprises on poverty reduction in Nigeria.

1.2. OBJECTIVES OF THE STUDY:

The main objective of the study is to examine the effect of human capital development on poverty reduction in Nigeria. Specifically, the study intends to:

- Ascertain the extent to which government investment in education and health has reduced poverty in Nigeria.
- Ascertain the extent to which government investment in agriculture has reduced poverty in Nigeria.
- Determine the extent to which government investment in skill acquisition and small and medium enterprises development has reduced poverty in Nigeria.

2. REVIEW OF RELATED LITERATURE:

2.1. CONCEPTUAL FRAMEWORK:

- **Concept of Human Capital Development**

The building of a nation depends upon the development of the people and the organisation of human activities. The importance of human factor in attaining success or any meaningful socio-economic development in any given society cannot be over emphasized. Goetz and Hu (1996), human capital development refers to the process of acquiring and increasing the number of number of people who have the skills, education and experience which are critical for the economic and the political development of a country. Human capital development is therefore associated with investment in man and his development as a creative and productive resource. Human capital development is the process of further developing the productive capacity of human resources through investment in education or other means (Garavan, Morley, Gunnigle& Collins 2001). Institute of Personnel and Development defines human capital development is the systematic and continuing process of analysing an organisation's human capital needs under changing conditions and developing personnel policies to the longer term effectiveness of the organisation. Armstrong (2009) sees human capital development as the determinant of human capital required by the organisation to achieve its strategic goals. It is the process for ensuring that human capital requirements of an organisation are identified and plans are made for satisfying those requirements. According to Ijaiya (2010), there are four ways human capital can be developed. They are:

- Through health care facilities and services, broadly conceived to include all expenditure that affects the life expectancy, strength and stamina and the vigour and vitality of the people;
- On-the-job training, including old style apprenticeship organised by firms; formally organised education at the elementary, secondary and higher levels;
- Study programmes for adults that are not organised by firms including extension programmes notably in agriculture; and
- Migration of individuals and families to adjust to changing job opportunities.

In the wider sense, therefore, investment in human capital means expenditure on health, education and social services and in its narrow sense it implies investment in education and training.

- **CONCEPT OF POVERTY :**

Poverty is in general, a state in which an individual or household is unable to meet the basic needs of life considered as minimum requirements, to sustain livelihood in the given society. Some of these basic needs include adequate food, portable water, decent shelter, health, education, transportation, work, etc. In Nigeria access to most of these basic needs is market determined (Aluko, 1975). Thus, income or disposal resources available to the individual or household invariably determine access to them. An individual household that does not have enough income to satisfy the minimum level of these basic needs in a given society is therefore said to be poor. The literature abounds with both economic and non economic concepts of poverty. Some of these concepts of poverty include: absolute and relative poverty, subjective poverty and chronic and transitory poverty (Anyanwu 1997).

Absolute poverty definition starts by establishing a certain minimum levels of bundles of commodities that are fixed over time and individuals whose income or expenditure cannot meet such minimum requirements are considered poor. Relative poverty on the other hand, compares the welfare of those with the lowest amount of resources with others in the society/country without necessarily specifying minimum requirement in terms of bundles goods/services. Subjective poverty definition requires the individuals (including the poor) to define what they consider to be a decent or minimally adequate standard of living. Transitory poverty is temporary, transient and short term in nature while chronic poverty is a long-term persistent poverty, the causes of which are largely structural. Measures of poverty include those that emphasise the incidence, depth and severity of poverty. Incidence of poverty is often determined through the establishment of a poverty line. This line separates the poor from the non poor; hence how this line is measured can largely influence our interpretation of poverty and possibly the policies allocated for its eradication. Per capita income, real disposable income etc and expenditure are often used as indicators of poverty (Imam, 1998).

However, expenditure is often preferred to income due to the problem of under reporting of income (Ajakaiye&Olomola 1999). Non economic indicators of poverty include access to basic education, nutrition, health, safe drinking water and work. This enables us not only to separate the poor from the non poor but also to differentiate among the poor themselves on the basis of these other dimensions. For insistence, the non-income indicators may show significant difference with economic, indicators. But the nature and extent of deprivation in terms of both economic and non economic indicators would have been determined to facilitate targeting through policy intervention (Ajakaiye&Olomola 1999; Ogwumike, 2001;).

3.RELATED EMPIRICAL LITERATURE:

Ilesanmi and Lasisi (2015) examined the interface between government policies, human capital development and poverty reduction in Nigeria, thereby examining the policies of various regimes in Nigeria and how these policies have affected level of inequality and poverty in Nigeria. The study posits that the poor implementation mechanism were the major causes of failure of these policies, resulting into high level of poverty and inequality in the society. Ogundipe and Lawal(2013) examined the relationship among health, poverty and economic growth 1980 –2011. The results showed that relationship between GDP per capital growth and the level of gross domestic is positive and is statistically insignificant. The relationship between unemployment rate and economic growth is negative satisfying and statistically significant. Ozoana (2013) examined the impact of public spending on poverty reduction in Nigeria (1980-2011) using multiple regression analysis. The findings showed that government expenditure on health, education and transport and communication are insignificant, while, agriculture and water resources, and housing and environment are significant.Adamu (2012) examined the impact of public expenditure on human capital development in Kano state in the last twenty years. The results of the study showed that there was insufficient funding and inappropriate expenditure in education service, school buildings were inadequate and not in good shape, equity in providing education is neglected. Public expenditure is statistically significant in building human capital in the state.Asaju (2012) carried out a review on human capital development and poverty alleviation in Nigeria: A symbiotic overview. The study posits that investing in human capital through education is the best strategy for overcoming the developmental challenges in the country, especially poverty reduction. Alagba (2011) examines the nexus between human capital investment and poverty reduction in Nigeria using probit regression model. The major findings of the study revealed that expenditure on health and education reduces the probability that the household will be poor. Ogu (2011) investigated human capital development and poverty in Nigeria using panel data regression model from National Living Standard Survey 2008. The findings indicate that sex, age in years, mother education, total expenditure on education, quintile, and school enrolment significantly impact on poverty reduction in Nigeria. Adawo (2010) used an econometric model to examine the contributions of primary education, secondary education, tertiary education, physical capital formation and health measured through total expenditure on health. In all primary school input, physical capital formation and health were found to contribute to growth. Secondary school input and tertiary institutions were found to dampen growth**.**Isola and Alani (2008) examined the contribution of different measures of human capital development to economic growth in Nigeria using an econometric growth model which specifies the growth of GDP as a function of labour, capital and policy reforms. They found that though little commitment had been accorded health compare to education, empirical analysis showed that both education and health components of human capital development are crucial to economic growth in Nigeria.

From the literature reviewed, a number studies have been carried out on human capital development and poverty reduction in Nigeria. While some studies focused on human capital development and Economic Growth in Nigeria. However, this study has a dual literature gap. Firstly, is the time gap - data for most of the studies were data between 1980 and 2011, which warranted the inclusion of data from 1991-2017 when poverty began to trend in Nigeria till date. Secondly, in addition to school enrolment, government expenditure on health and education at various level included in other studies, our model has incorporated government agricultural expenditure, government skill acquisition expenditure and small and medium enterprises measured by SMEs growth rate which is another instrument of poverty reduction.

4.RESEARCH METHODOLOGY

4.1. Model Specification

The essence of economic modelling is to represent the phenomenon under investigation in such a way to enable the researcher to attribute numerical values to the concept. The model for this study is a modified growth model adopted from related empirical literature of Adawo (2010) and Alagba (2011). Thus, the study examined the impact of human capital development on poverty reduction in Nigeria by incorporate human capital development, government expenditure on agriculture, education, health, skill acquisition and SMEs as the explanatory variables, while poverty is proxied by poverty incidence was used as the dependent variable. Thus, the study model is specified as:

The structural form of the model is:

$$POV = f(HCD, AGX, HEX, EDX, SQX, SME) \quad (1)$$

The mathematical form of the model is:

$POV = \beta 0 + \beta_1 HCD + \beta_2 AGX + \beta_3 HEX + \beta_4 EDX + \beta_5 SQX + \beta_5 SME$ (2)

The econometric form of the model is:

$POV = \beta 0 + \beta_1 HCD + \beta_2 AGX + \beta_3 HEX + \beta_4 EDX + \beta_5 SQX + \beta_5 SME + \mu_i$ (3)

Where; POV = Poverty reduction proxied by poverty incidence
HCD = Human capital development measured by Human development index
AGX = Government agricultural expenditure
HEX = Government health expenditure
EDX = Government education expenditure
SQX = Government skill acquisition expenditure
SME = Small and medium enterprises measured by SMEs growth rate
β_0 = Intercept of the model
$\beta_1 - \beta_5$ = Parameters of the regression coefficients of the model
μ = Stochastic error term.

Method of data analysis

The economic technique employed in the study is the ordinary least square (OLS). This is because (i) the OLS estimators are expressed solely in terms of the observable (i.e. sample) quantities. Therefore, they can be easily computed. (ii) They are point estimators; that is, given the sample, each estimator will provide only a single value of the relevant population parameter. (iii) The mechanism of the OLS is simple to comprehend and interpret. (iv)Once the OLS estimates are obtained from the same data, the sample regression line can be easily obtained.

5. DATA PRESENTATION AND ANALYSIS

In this section, data are analyzed and results presented. The OLS results of the model are presented and the parameter estimates subjected to some economic a priori, statistical and econometric tests. The estimation was carried out using the E-views software. Thus, the hypotheses posed earlier in this study were tested based on these empirical results.

5,1 ,PRESENTATION OF RESULT:

The result of the regression test result is presented in table 1below.

Table 1: Summary of regression result

Dependent Variable: POV
Method: Least Squares
Sample: 1991 2017
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	49.65170	27.47136	8.807399	0.0000
HCD	-16.91465	8.954068	-5.889046	0.0001
AGX	-0.012549	0.009982	-3.257161	0.0028
HEX	-0.000160	0.004009	-3.009798	0.0087
EDX	-0.000963	0.000575	-3.673134	0.0019
SQX	-0.033699	0.039022	-4.863595	0.0002
SME	-3.509876	3.387021	-3.036272	0.0038

R-squared	0.692276	F-statistic	16.78986
Adjusted R-squared	0.589701	Prob (F-statistic)	0.000013
S.E. of regression	6.859314	Durbin-Watson stat	1.633069

Source: Researchers computation

5.2. EVALUATION OF FINDINGS:

To discuss the regression results as presented in table 1, the study employ economic a priori criteria, statistical criteria and econometric criteria.

5.3.. EVALUATION BASED ON ECONOMIC A PRIORI CRITERIA

This subsection is concerned with evaluating the regression results based on a priori (i.e., theoretical) expectations. The sign and magnitude of each variable coefficient is evaluated against theoretical expectations.From Table 1, it is observed that the regression line have a positive intercept as presented by the constant (c) = 49.65170. This means that if all the variables of the study are held constant or fixed (zero), poverty reduction will be valued at 49.65170. Thus, the a-priori expectation is that the intercept could be positive or negative, so it conforms to the theoretical expectation.It is observed in table 1 that human capital development, agricultural expenditure, health expenditure, education expenditure, skill acquisition and small and medium enterprises have a negative impact on poverty reduction in Nigeria. Thus, increases in human capital development, agricultural expenditure, health expenditure, education expenditure, skill acquisition and small and medium enterprises will bring about a decline in poverty rate in Nigeria.

5.4. EVALUATION BASED ON STATISTICAL CRITERIA:

This subsection applies the R^2, adjusted R^2 and the f–test to determine the statistical reliability of the estimated parameters. These tests are performed as follows: From the regression result, the coefficient of determination (R^2) is given as 0.692276, which shows that the explanatory power of the variables is moderately high and/or strong. This implies that 69% of the variations in poverty alleviation are being accounted for or explained by the variations in human capital development, agricultural expenditure, health expenditure, education expenditure, skill acquisition and small and medium expenditure in Nigeria. While other determinants of poverty reduction not captured in the model explain about 31% of the variation in poverty reduction in Nigeria. The adjusted R^2 supports the claim of the R^2 with a value of 0.589701 indicating that 59% of the total variation in the dependent variable (poverty reduction) is explained by the independent variables (the regressors)). Thus, this supports the statement that the explanatory power of the variables is moderately high and strong.TheF-statistic:The F-test is applied to check the overall significance of the model.

6. SUMMARY OF FINDINGS:

- From the result it is observed that human capital development, government expenditure on agriculture, health, education, skill acquisition and small scale enterprises have a negative impact on poverty reduction in Nigeria.
- Human capital development, government expenditure on agriculture, health, education, skill acquisition and small scale enterprises are statistically significant in determining poverty reduction in Nigeria.
- The F-test conducted in the study shows that the model has a goodness of fit and is statistically different from zero. In other words, there is a significant impact between the dependent and independent variables in the model.
- The study also revealed that both R^2 and adjusted R^2 showed that the explanatory power of the variables is moderately high and/or strong in explaining the poverty reduction in Nigeria. The standard errors showed that all the explanatory variables were all low. The low values of the standard errors in the results show that some level of confidence can be placed on the estimates.

7. RECOMMENDATIONS

All the variables included in the model have significant impact on poverty reduction. The study therefore recommends that:

- The federal government should increase its monetary budget on education for the purpose of procuring educational materials, equipments, conducive environment for both staffs and students and enhance skill acquisition equipment to technical school to enhance human capital development which will also lead to self employment.
- Government should budget more fund on health sector for the purpose of procuring health equipment and channel more money on university teaching hospital and institutions in Nigeria for the purpose of training and equipment medical practitioners and other health workers in order to attain the goals and objectives of the world health organization (WHO) and also to reduce high infant and maternal mortality rate, HIV/AIDS and other killers diseases.
- Despite the negativity of government expenditure on agriculture and poverty reduction in the country, federal, state and local government needs to improve their budgetary expenditure in this sector. For the purpose of acquiring more agricultural equipments and machinery, government should ensure that its expenditure ischannelled towards projects and programmes that will reduce the rate of poverty in Nigeria.
- Finally, various poverty alleviation programmes in Nigeria should be co-ordinate and consolidated with the development of a comprehensive framework geared towards human capital development. Therefore government should ensure that capital expenditure and recurrent expenditure are properly managed in a manner that it will raise the production capacity and accelerate economic growth and reduce poverty in the country.

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