Innovations

Effects of Human Capital Development on Poverty Reduction in Nigeria

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Abstract: *This paper determines the effects of Human Capital Development on Poverty Reduction in Nigeria. The proxy of poverty reduction which is the dependent variable is unemployment. Life expectancy, GDP per capita, Infant mortality rate, and fertility rate are the independent variables using a model for the regression and the relationship among the variables, the study make use of descriptive statistics, augmented Dickey-Fuller test statistic to check the unit root. Nigeria as a whole is the population. The research sourced and analysed its'data from the world bank indicator from 1990 to 2023. The study finds that there are negative relationship between life expectancy, GDP per capita, Infant mortality rate and Poverty reduction (Unemployment) while fertility rate positively influenced poverty reduction (Unemployment). The study how ever conclude that improving human capital development (HCD) leads to decrease in poverty and to improve fertility rate of the Nigeria residents. Major policy implication is that to reduce poverty and ensure a considerable improved and better society, government at all levels should pay more attention to life expectancy, GDP per capital and Infant mortality rate of average Nigerians.*

Keywords: *Human capital development, poverty reduction (unemployment), life expectancy, fertility rate, GDP per capital, infant mortality rate, and society.*

1.0 Introduction

Human development implies unsusceptibility enlargement, opportunities and individuals' well being living in a country. Implies human capital improvement acknowledged as one of the star factors of the factual wealth countries. Additionally, meaning capacities knowledge skills development, abilities, and peoples' wellness can enhance their economic performance. Lots of resources were expended by the UK on its' HD with effect from 1980 to 2014. United Kingdom residents today benefit from free healthcare being provided the public health. UK department of education department works with Universities and institutions to improve education accessibility. In spite of this, UK HDI expanded from 0.738 to 0.940 with yearly growth of 0.6% (UNDP, 2023). The UK GDP growth rate was -2.0% in 1980, andin 2024, its' now 3.502% GDP (USD billion). The USA government initiated lots of human development via better healthcare programs, enlarged educational outreach (Scholarship), job opportunities and so on.

Nigeria today home to more than 200 million persons, the country is the most populous country in African, and 7th largest worldwide. Yet, over 100 million Nigerians are living in less than 50cent (0.50c of American currency) each day in spite of the nation's status of the biggest market size in African continent. The increasing in GDP on daily basis attributed to the growing rate in the proportion soaring in poverty. The country's real GDP development rate improving from -1.92 percent in 2020 to +3.40 percent in 2021(National Bureau of Statistics, 2021). 133million Nigerians are said to be suffering from multidimensional poverty, in proportion to a 63% poverty headcount as of 2021 meaning that six out of ten Nigerians are multidimensional poor. As at 2021, Nigeria MPI was estimated at 0.257 which implies that poor Nigerians experienced approximately 26% of all realizable deprivations, viz-a-viz lack of access to basic social services like education and health and so on. Besides, the hallmark of poverty in Nigeria is reduction in per capital income (Gross Domestic Product). Economic growth accretive significantly concomitant to reductions in all families poverty rate using an error-correction model. Broadly, in the expansionary periods of the 1960s, 1970s, 1980s, 1990s, and 2000s, GDP seems to be more pronounced with its' impact on poverty. Poverty has made tough for any person who may want to put his/her resources in improving human capital development fruitfulness. Huge sizeable Nigeria wealth is in the hands of few while large populace live in penury. The essence of government being in power is to make live lots easier for the people, measured by its ability to ameliorate poverty, health, education, wealth create and jobs through livable income, human capital development investment.

A major problem confronting any developing nation is her inability to tackle issue of poverty. In the SDGs' roles, issue of poverty ranked eight points and going by UN declaration to the whole world to bring poverty by half in 2015. As at March,

2023, world global poverty rate is put at 46.9 percent and the poor people in the world only have access to 5% of the global income. In spite of tremendous improvement globally. The world still faces challenge of poverty and inequality. African continent has over 25% of poor individuals while in West African sub region constitute over 45%. Poverty is seen in Nigeria today as pathless to basic necessities of life like food security, housing, healthcare facilities, education, high unemployment e.g. youth unemployment, harlotry, subjugation among others. Successive governments launched several programmes aimed at alleviating poverty such as operations feed the nation, Poverty alleviation programmes, Directorate of food, road, and infrastructure (DFRRI), National directorate of employment (NDE), and so on. Nigeria is favored with human and capital resources but yet to make little impact in the country in spite of these policies and programmes. This study is so important in order to lessen poverty and improve gross domestic product per capita which could avert serious insecurity in the nearest future. The HDI previously developed by Mahbub UI Hag, which focuses on these components: i) health-life expectancy; ii) infant mortality rate as well as iii) fertility rate, and iv) standard of living (GDP per capital), and poverty reduction (unemployment) will serve as variables. These emphasized mainly health which are important factors to HCD and has the highest and most significant effect on economic growth.

Despite plenteous human and natural resources in Nigeria, policies and programmes of past governments to address challenges of poverty, are regrettably as Nigeria is said to have highest poor persons worldwide (Jaiyeola and Bayat, 2019). Hence, the worsening situation of poor people necessitates continuous assessment of effectiveness of human capital development. It's on this basis that this study seeks to study human capital development proxies effects on reducing poverty among the poor people. This research is so significance to the policy makers, researchers and law makers, government at all levels whose commitment is to ensure necessary laws are made and policies put in place to address poverty. For those in academics and researchers, it will serve as a guide to further research in this areas and come up with findings to alleviate poverty. Having done with the introduction, the study will review literature, then methodology, results and discussion of findings, summary and recommendation.

2.0. Literature Review

2.1. Conceptual Review

It will interest to note that not much studies have been done poverty-reduction and human capital development even though many scholars have worked extensively on human development and poverty alleviation. This study will explore several proxies of human capital development as well as poverty which is per capital. Growth

process and change that occur from birth to maturity is reffered to Human development. It is also implies biological and psychological development of the human being throughout the lifespan. Per capital income, education, and life expectancy are three principal components of human development index.Human development means development in knowledge skills capacities, individuals health and abilities which can enhance their economic performance (Rahman, Raja and Ryan, 2020). It also consists of the development from infancy, childhood, and adolescence to adulthood. Four pillars of human development include Productivity, Equity, Empowerment, and Sustainability (PEES). Process of expanding opportunities, improving their wellbeing, and livelihood. Human development encompasses the physical, cognitive, and psychosocial changes that happen throughout one lifetime (UNDP, 2022). United Nations develops Human Development Index to evaluate nations socio-economic development worldwide. Policy-makers attention, the media and nongovernmental organizations are captured by HDI.

Ali, Raza and Yousuf (2012), human development is the brain behind economic growth of a nation as it enhances the economy's strength and peoples' living standard, increases the choices and maximizes the society's welfare.Human capabilities development essential for sustainable growth. Several means like labour productivity, employment and output are utilised for economic growth. GDP per capita (standard of living), purchasing power parity (cost of living and welfare) are some proxies of human development. Disparities in the healthcare distribution among lower income households within India states (Drèze and Sen, 2013).HDI first component is health for determining a long and healthy life. World Health Organization (2017) define health as a absolute well-being state of a man physically, psychologically, emotionally, physiologically and spiritually. Twenty years minimal value as well as eighty-five years of maximal value was usedto calculate life expectancy at birth of HDI component.Nations environmental and health conditions determines life expectancy globally. Life expectancy higher in developed nations than underdeveloped nations. Mortality rate is the total death per thousand in a year. Amount of monies earmark or appropriated for residents' health improvement in both health facilities as well as drugs provision is called total expenditure of health.Rashid, Saeed and Ali (2022) established that health indicators like, infant mortality and life expectancy enhances the GDP per capital in short run as well as long run. Improved human capital resulted to decrease in poverty and to improve the health and education sector of the society.

Human development has a significant rate to improve the living conditions in every society (Sharafat, Ali and Ahmed, 2013). Important factors for human development are said to be health, education, and income (Afzal,

Farooq, Ahmed, Begun, and Quddus, 2010). Health are being affected by labour force productivity and mobility which hitherto speeding up economic development mobility and improved process. Nigeria public health expenditures account for twenty to thirty percent of total health expenditures. Enhancing budgetary provision for public health will improve health and decrease overall mortality rate. Primary gross enrolment and life expectancy ratio are used as measures of education and health, respectively affect economic growth negatively. Crucial to poverty reduction is said to be human capital development which support growth inclusion and the most poor persons in communities are being provided resources. For instance, there are certain strategies for reducing poverty, social risk management, and social protection among the hapless and non-poor which are prevalent to the programmes and policies of world countries (Holtzman, 2009) emphasize improvement of life expectancy situation through spending on health as well as food. Literacy reduces life expectancy while urbanization enhances it (Shahbaz, Loganathan, Mujahid, Ali and Nawaz, 2016).

According to Chakraborty (2004), raising public investment in health bring lots of advantages to life expectancy which hitherto decrease both saving and domestic income per worker. Also, Fanti and Gori (2014) revealed present under investing and over investing of both underdeveloped and developed economies of the world in health as well as increasing public health spending from its' present existing level. Sede and Ohemeng (2015) suggested improvement of life expectancy in Nigeria when focus is on unemployment, putting an end to nigeria currency devaluation as well as quality of government health expenditure. In addition, in determining developing nations life expectancy which are insignificant in Nigeria instance, socio-economic variables like government expenditure on health, education and per capita income, education should be for considered for effective determination.

The development in education is the solution to the poverty man misery, and mankind (UNDP,2022) necessitating United Nations Organization for Education, Science and Culture suggesting a minimum 26% of any country's budget to the educational sector even though Nigeria as country yet to meet this required standard (UNESCO,2021). The mean schooling year for adults aged is put at 25 while expected schooling year for children school entering age is put at 18 years using HDI educational component for measurement while the dimension for living conditions is calculated by the gross domestic product per capita. Education is seen as a development and progress of any country as well as fundamental of any individual. In the labour market, enlightened persons far better compared to less enlightened as widely believed (Opuala-Charles and Oshilike, 2023). Programs aim at improving food security at the household level, improving enrolment rates of school pupils, reduction in absenteeism, the poor children are provided with both

health & educational benefits (World Bank, 2023). Falade et.al. (2012) stated that literacy rate program aim to fighting short-term hunger by ensuring a nutritious meal is provided daily to encourage access to education as being accepted by several countries of the world. Posso (2011) recommend privatization of educational institutions, and not government involvement, seem norm all over most of the other HPAEs during the 2000s. Cost of education as well as improved quality is as a results of privatisation.

Shafuda and Kumar (2020) found a significant long-run positive relationship of tertiary and primary gross enrolment rate, and educational government spending with literacy rate while no co-integration gross enrolment rate at secondary and elementary level as well as educational government spending is seen. However, a significant effects of expenditure on education and healthcare on the GDP development was revealed using vector auto-regression analysis in the long run via better human resources. Caribbean invested in human development which helps in enhancing quality of life and economic development sustainability. Also, a study revealed no considerable effect on either primary or secondary school enrolment having expended on education while expenditure on health has a significant and positive impact on health status (Roland and Shane, 2012). In the short term, government's expenditure on educational sector and national literacy level supports educational performance effectiveness. However, the effectiveness of education performance was supported by literacy level in the long term (Opuala-Charles and Oshilike, 2023). Labour force participation rate is statistically significant (Opuala-Charles and Oshilike, 2023).

United Nations' Human Development Index (HDI), measured living standard of 189 countries scoring them based on factors like education, per capita income, and life expectancy at birth. Five nations with highest HDI scores include Ireland and Switzerland (0.955), Norway (0.957), Germany (0.947), and Hong Kong and Iceland (0.949) as at 2019. Conversely, the five countries with lowest HDI in 2019 include Mali (0.434), Central African Republic (0.397), Niger (0.394), Burundi and South Sudan (0.433), and Chad (0.398). Standard of living means average person’s well being in a given population using gross domestic product (GDP) per capital to measure. Standard of living focuses gross domestic product (GDP), income, life expectancy, and economic opportunity which are factors of basic materials. Standards of living are usually higher in developed countries while it occurs gradually over time in emerging economies as they changes and grow into current, industrialised economies.$100 (PPP) is the minimum income goalpost while $75000 (PPP) is the maximum value goalpost for the standard of living (Marlena, 2020).

Poverty is a undynamic thought that measures proxies for wellbeing at a point in time. According to the World Development Indicators (2020), Sub-Saharan Africa is said to be on top of persons living in extreme poverty, totaling 413.3 million individuals. In

comparison, 216.4 million of such persons in South Asia, 47.2 million in Eastern Asia and the Pacific, 25.9 million in the Caribbean and Latin America, 18.6 million in the North Africa and the Middle East, while 7.1 million of people in Central Asia and Europe are living in extreme poverty. Poverty in Nigeria is characterized by several dimensions, including unemployment, low-income levels, limited social mobility, and inadequate entree to education and healthcare.Zhang and Zhang (2022) believe improvement in education, health & income can help country eliminate poverty & provision of human rights. Inability to fulfill basic needs is said to be poverty (Watts, 2000).Going by all indicators, poverty is yet to be eliminated in Nigeria as successive governments have failed to do so. Harmonized National Living Standard Survey showed that approximately 69% of nigeria population are poor. The adversely growth of the any economy is affected by poverty. Poverty is caused by unemployment and inflation.

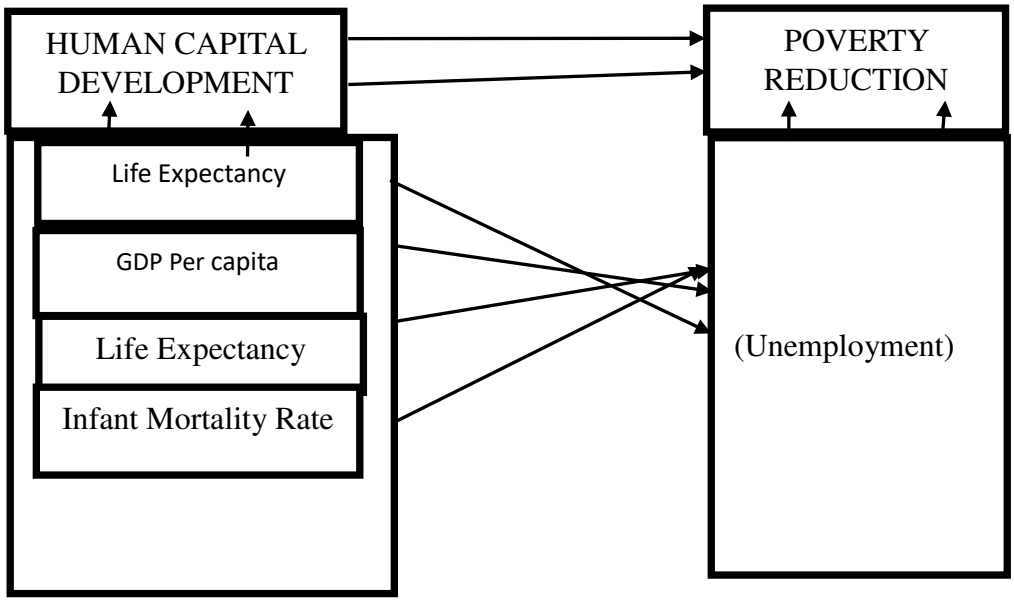
It's against this backdrop that Nigeria president Mohammadu Buhari launched a lots of social protection programmes aimed at reducing poverty in the country vis-a-viz the Government Enterprises Empowerment Program which offers soft loans to micro, small and medium-sized enterprises in order to provide assistance and to enhance the economic activity of small business owners. These programmes are tradermoni and marketmoni being oversee by Bank of Industry. N100,000 MarketMoni affordable loans were provided to MSMEs business owners, charging only a onetime administrative fee of 5% with no interest rate.The N-Power which is another laudable programme of federal government began in December, 2019 towards poverty reduction was planned as a stopgap for five hundred thousand unemployed graduates for 2 years duration and equip these graduate youths with the requisite skills as well as improve their employ-ability (Bennel, 2017).

The program designs for both non-schooled youths and non-graduate and improves entrepreneurship and skills acquisitions,via vocational trainings to provide self-employment (Godwin, 2019).These programs are divided into 3 categories: N-Power Volunteer Corps (N-teach), N-Power Knowledge, and N-Power Build (Bernard-Oyoyo, Ogbette & Okoh, 2019). However, Akujuru and Enyioko (2019) identify key components of the N-Power programmes as N-Power Tax, N-Power Build, N-Power Agro,N-Power Teach, N-Power Creative, N-Power Health, N-Power Tech Hardware, and N-Power Tech Software. Monthly stipends are being paid to volunteers graduates by Federal Government who served in the communities where they are residents. FG is in partnership with the state government (Akujuru & Enyioko, 2019). However, Ayeni, Sani, Idris, & Uzoigwe, 2019) describe the N-Power programme has unemployment insurance scheme since it takes care of unemployed graduates from Nigerian tertiary institutions like polytechnics, colleges of education, and universities. These programmes are meant to improve the living standards of the people. Healthcare, education, income inequality, and governance among other

influencing factors keep Nigeria in the low human development category as revealed by recent date. The HDI for Nigeria is 22% increase in 19 years but remains low at 0.548, classifying the nation as having low human development. HDI value of over 0.8 implies a very high human development, HDI value between 0.799-0.700 means high human development, and HDI value between 0.699-0.560 connotes medium human development while HDI value below 0.560 is means low human development as HDI ranges from 0 to 1. Human security, empowerment, inequalities, poverty, and gender disparity were not meditated by HD index (UNDP, 2023).

2.2. Conceptual framework

Provide explanation on the relationships between human capital development and poverty reduction via its' proxies of Life Expectancy at birth, Fertility Rate, Infant Mortality Rate, and GDP Per Capital (Standard of Living) for Independent Variables while it is also shows poverty reduction being measured by Poverty Unemployment (Dependent Variable) is depended on these proxies.



Source: Own's design (2024)

Figure 1: Showing the connectivity between Human Capital Development and Poverty Reduction

Source: Researcher's Work (2024)

2.3. The oretical review

There are Seven identifiable pertinent theories associated to poverty, and human capital development namely the Guaranteed Minimum Income, Modernization Theory, Human Development Theory, Human Capital Theory (Theodore Schultz, 1961; Garry Becker, 1967), Classical Poverty Theory (Lewis, 1961), Capability Approach and the Dependency Theory were proposed as theoretical framework for poverty reduction and Human Development. Any system of social well-being improvement of nation's citizens is referred to Guaranteed minimum income. Modernization theory means when people are exposed to modernized facilities, their values and beliefs change. Human development theory made popular by Armartya Sen, Mahbubul Hag, and Unerkindas measuring human welfare and probing influence of uneconomic growth on human health. The Capability Approach, proposed by economist Armartya Sen, argues that poverty should be understood as the deprivation of essential opportunities and capabilities, rather than simply a lack of monetary resources. Classical Poverty Theory proposed by Lewis (1961) explains poverty in the context of poor living conditions i.e. underdevelopment, unemployment, poor health, and poor education which emphasizes the relationship between financial gain and productivity. Attaining good educational standard aimed at enhancing their knowledge level, skills, and capabilities is key to human capital theory. Inadequate incentive system for fulfilling person's capabilities, economic underdevelopment nature, and many more refers to as poverty (Shaffer, 2008).

2.4. Theoretical framework

Having painstaking reviewed the above theories, the research work is narrowed to two theories for the Nigeria context. Human Capital Theory is said to be a vital theory aimed at enhancing labour efficiency and productivity. It revealed education influence on workers' cognitive/thinking skills level and how such skills translate in enhancing workers productivity level. Persons can go to any length in investing in their education in order to be well equipped for future higher responsibilities and challenges in their workplace. In addition, by ensuring attainment of good educational standards and highest academic qualification like Ph.D., and their participation in several symposiums, seminars, workshops, conferences, and international meetings help in broaden one skills, capabilities, and knowledge needed for higher tasks. Individuals invest heavily in their food and nutrition, health, education, education as well as training as self development activities. The theory was proposed by (Theodore Schultz, 1961; Garry Becker, 1967). For instance, expenditures on education, on the-job training is seen as assets. Furthermore, human developed theory measures human welfare and ensure optimality well-being of the people through integration between instructional capital and social capital development.

Edralin, Tibon, and Tugas (2015), recommended four approaches to solve poverty which are Rural Development Approach, Basic Needs Approach, Target Approach, and Economic Growth Approach.Basic Needs Approach ensure that necessary necessities are provided like nutrient, accommodation, portable water, healthcare, basic education, sanitation, healthcare, and affordable transport system. Economic Growth Approach talk about accumulating physical and human capital, financing education, health, nutrition, and ensuring houses for work force. Rural Development Approach rural people basic requirement are being met, which include access to abundant food, primary healthcare, houses, clean water, job opportunities, and wealth opportunities, which center at helping the poor. However, problem of getting the poor people in rural areas are the major challenge in executing these poverty reduction programmes. Target Approachsupports the idea of focusing certain individual in a country aim at reducing poverty alleviation programmes (Mansuri and Rao, 2004). However, in spite of the objections by certain studies to human capital theory, and economic growth approach, this study uses these two theories to link human capital development and poverty in order to understand the effect.

2.5. Empirical review

Many researchers (Rahman, Raja and Ryan, 2020; Onyedikachi and Nwabueze, 2013; Miranda-Lescano, Leonel Muinelo-Gallo and Roca-Sagalés, 2022; Linden & Ray, 2017; Castells-Quintana, Royuela & Thiel, 2019; Ajayi, Eghafona and Ibiezugbe, 2013; Odo et. al., 2016; Yolanda, 2017; Linden & Ray, 2019; Ray & Linden, 2020) have carefully looked into the effect of human capital development and poverty reduction. The results of their finding showed positive relationship, and negative relationship between the two variables.

Studies with positive relationship between human capital development and poverty reduction

Rahman, Raja and Ryan, (2020) examined economic growth was affected by the human development significantly. Using ordinary least square, fixed effects, and random effects model to analyse data sourced from HD report (UNDP) and World Bank development indicators. A set of equation utilize HDI as an aggregated measure of HD while the second set assess corporate effect on growth making use of health and education as dis-aggregated measures of HD. A significant positive relationship between economic growth and HDI and was established in the cases of both developed and developing economies.

Onyedikachi and Nwabueze (2013) conducted a study on the connectedness between poverty and economic growth in Nigeria between 1990 and 2010 making

use of OLS regression technique.Economic growth indexed by the GDP is the dependent variable. Adult literacy rate (education), per capita income (decent standard of living), and Life expectancy (health) are the three dimensions of independent variablesand the discomfort index (unemployment rate). It was revealed that life expectancy and per capita income were positively related to GDP having 0.09 and 0.45 as their co-efficient respectively.On the other hand, adult literacy rate and unemployment rate were adversely connected to GDP having co-efficient of -0.003 and -0.01. Government failure to appropriate to education sector at least 26 percent of the Nigeria budget due to adult literacy rate negativity.Increased economic growth was affected by higher life expectancy, economic growth will also be influenced by massive investment, growth is influenced by high per capita income. Government was advised to embark on human development activities as poverty solutions.In order to be self reliant and self employed, educational system should be restructured.

Miranda-Lescano, Leonel Muinelo-Gallo and Roca-Sagalés (2022) looked into impacts of expenditure on public health and education on the Human Development Index, life expectancy, education, and income dimensions.Applying data panel for analysis, empirical evidence shows that central and sub-national government value health expenditure as positively impacting on HDI components, while ineducation expenditure, HDI educational dimension confirms the positive effect. Human development was induced by government, improving the citizens well-being, appropriating more financial resources in health sector through various administrative levels.

Linden and Ray (2017) look into influence of health and education public expenditure on HDI and education, life expectancy, and income dimensions. Importance of central and sub-national show empirical evidence of government health expenditure positively impacting on HDI components, while education expenditure confirmed positive effect on the educational dimension of HDI using data panel analysis. Study showed human development stimulation, citizens well-being improvement, healthcare should be given more resources through the different administrative levels.

Ajayi, Eghafona and Ibiezugbe (2013) examined the impact of human capital investment and economic growth from 1986 to 2018 using ordinary least square to analysing data. Government expenditure on health (GEH) and real GDP showed positive relationship while expenditure on education and on health has significant effect on Nigeria economic growth which is in line of Odo et. al(2016). Standard of living, access to health and educational services may be worsened by socioeconomic instability conditions (Yolanda, 2017). Life expectancy at birth measures health dimension making use of health index. On the other hand, private health spending has a positive impact on HDI indicating health component

robustness. Their findings in the influence of private and public health expenditure on health outcomes are in line with previous studies (Linden & Ray, 2019; Ray & Linden, 2020).

Studies with negative relationship between human capital development and poverty reduction

Castells-Quintana, Royuela, and Thiel (2019) looked into the relationship between income inequality and dimensions of human development. A negativity at long-run revealed the inequality influence on human development, while in the short run, found a positive in the influence of inequality on income and a negative inequality effect on educational results. Variable was considered like Gini Net Index measures "income inequality" from the Standardized World Income Inequality Database (SWIID) developed by Solt. A significant negative effect of income differences was found on health, education, and income of human development. In contrast, preceding studies provide evidence that income inequality is significant and negatively related with the HDI income dimension(Castells-Quintana et al., 2019).

2.6. Gap in the literature

Scope gap

There are lots of literature dearth on human development, human capital development from across the continents like Asian, Europe, American both north and south, and African and in areas of unemployment, underdevelopment, poor education and poor health which are components of human development and poverty reduction. However, the studies from most countries did not really pay more attention to governments at all levels since they have the primary responsibilities to improve peoples' welfare generally rather than private sectors, organisations, and even individuals. This study centre on government at all levels (FGN, States, and LGAs') to get their inputs towards alleviating poverty and various programmes put in place.

Theoretical gap

The theoretical framework also differs with the studies read. The study has several theoretical framework different from the studies reviewed viz-a-viz the Guaranteed Minimum Income, Classical Poverty Theory, Capability Approach, the Dependency Theory, Human Capital Theory, Economic Growth Approach, Theories of Human Development are Cognitive development, Learning theory, Psycho-sexual theory, Modernization Theory, Socio-cultural theory, Attachment theory, Behavioral theory, Human Development Theory, Ego integrity versus despair, Generativity versus stagnation, Human growth and development theories, Confusion, Intimacy versus Isolation, Inferiority Complex, Guilt, Moral development, Systems Theories, and Trust

versus Mistrust in which Economic Growth approach and Human Capital theory were adopted for this study.

Methodological gap

Having gone through several studies on human development and poverty, all the studies were able to recognize the significance of human capital development to poverty reduction and based their sources of data from secondary data like World Bank indicator website as well as using several other techniques. This research work observed usage of techniques like such as Vector Error Correction Mechanism (VECM), Augmented Dickey-Fuller (ADF), Based Causality Test, Causality and Johansen Cointegration tests and so on for analysis and to establish the relationship between the concerned variables, regression analysis of various types was used by other studies. This study has chosen to use descriptive statistics, and ADF test statistic to check the unit root.

3.0. Methodology

The study incorporate quantitative study with secondary data sources was incorporated for the study. Human Development reports data of UNDP. Life expectancy, GDP per capital, infant mortality, and fertility rate data, were all sourced from World Bank and World Development Indicators. Human Development Report (UNDP), WB Indicators (World Bank) from 1991 to 2023 data were used. World bank serves as primary collection on development indicators from officially recognised international sourced as compiled in World bank development indicators. The data often updated and accurate worldwide development data that are national, regional, and globally estimates using Ordinary Least Square (OLS) for the regression analysis.

3.1. Model specification

The study makes use a model which is an attempt to provide detailed explanation to human capital development variables and poverty reduction (unemployment). The model is theoretically stated as poverty reduction-unemployment (PR_UEM) which is poverty reduction proxy that relies on Life Expectancy (LIE), Gross Domestic Product Per Capital (GDPPC), Infant Mortality Rate (IMR), Fertility Rate(FR) independent variables proxies. The following is the functional model specification for the study:

$PR\_UEM = f(GDPPC + LIE + IMR + FR)$ ……(1)

The mathematically form of the Model is given below

Multiple linear regression is stated thus,

$PR\_UEM = \beta_0 + \beta_1 GDPPC + \beta_2 LIE + \beta_3 IMR + \beta_4 FR + \mu_0$……(2)

f= functional relationship,
A prior expectation are $\beta_0\beta_1\beta_2\beta_3\beta_4 <0$. It means that most independent variables in the model have negative relationship with poverty reduction (unemployment).
PR_UEM = Poverty Reduction (Unemployment)
LIE = Life Expectancy
IMR = Infant Mortality
GDPPC = GDP Per Capita (Standard of Living)
FR = Fertility Rate
β_0 = constant
μ_0 = error term
Where all variables are defined earlier μ is the error term

3.2. Scope of the study

The research considers the yearly series data of human capital development indices and poverty reduction (unemployment) rate covering 1991-2023. This period is chosen simply time series data is not only available for this period but intend to cover wider coverage. The independent variables are Life Expectancy; Infant Mortality Rate; GDP Per Capita (Standard of Living); and Fertility Rate(FR) while the dependent variable: poverty reduction (unemployment).

4. 0. Results and Discussion

4.1 Descriptive statistics for the model

Table 1: shows the statistical properties of the data used in the relation of Human Capital Development and poverty reduction (unemployment). The mean, median, maximum and minimum, standard deviation, skewness, kurtosis, probability and Jarque-Bera of the variables of the model are presented for the specified time frame. The data includes poverty reduction-unemployment(PR_UEM), life expectancy (LIE), gross domestic product per capita(GDPPC), infant mortality rate(IMR), and fertility rate(FR), all the variables were depicted an increasing trend with some undulating trend a period of time; some of their trends may be non-linear and non-normal.

Table 1: Descriptive Statistics

	PR_UEM	LIE	GDPPC	IMR	FR
Mean	4.078182	49.46133	3794.858	92.06221	5.868455
Median	3.878000	50.03300	3887.737	92.25500	5.938000
Maximum	5.633000	52.91000	5862.235	125.8700	6.464000
Minimum	3.507000	45.48700	2062.199	54.74000	5.076000
Std. Dev.	0.543099	2.759366	1380.728	24.58660	0.385957

Skewness	1.515063	-0.240444	-0.049655	-0.039297	-0.465893
Kurtosis	4.258775	1.503803	1.336400	1.572019	2.243303
Jarque-Bera	14.80349	3.396057	3.818964	2.812297	1.981121
Probability	0.000610	0.183044	0.148157	0.245085	0.371369
Sum	134.5800	1632.224	125230.3	3038.053	193.6590
Sum Sq. Dev.	9.438599	243.6513	61005079	19344.02	4.766800
Observations	33	33	33	33	33

Source: Researcher's Work (2024)

The statistical summary used in this empirical research is as indicated in Table 1. Gross domestic product per capita has the highest mean value of 3794.858 as shown while poverty reduction-unemployment (PR_UEM) has the lowest mean value of 4.078182 whereas infant mortality rate (IMR), Life expectancy (LIE), and fertility rate (FR) have mean values of 92.06221, 49.46133 and 5.868455 severally. The data concentration around the mean was measured by the standard deviation, therefore as observed in the study shown in **Table 1** that GDP per capita with the highest mean value of 1380.728 while fertility rate (FR) with the lowest mean value of 0.385957 whereas infant mortality rate (IMR), life expectancy (LIE), and poverty reduction_unemployment (PR_UEM) have mean values of 24.58660, 2.759366 and 0.543099 respectively. This infers that the operational data values are farther from the mean on averages. How asymmetric a distribution is was measured by skewness.

On Kurtosis, present positive values were used by all the variable indicating that the distribution is (too tall) leptokurtic. Whether a random variable follows a normal distribution was determined by skewness and kurtosis. Jarque Bera statistic showed that all variables are comparatively not normally distributed as indicated by the p-values, (having value above 3) except for infant mortality rate and fertility rate which have value less than 3.

4.2 Pretest analysis

4.2.1 Unit root test

In analyzing the order of integration based on a series of unit root tests by using Augmented Dickey Fuller (ADF) test, the stochastic properties of the variables are well thought out in the model. ADF test, unit roots test were run on the variables at levels and first differences. The outcomes are laid in Tables 2.

Table 2: Result of unit root (Stationarity) test

Variables	Augmented Dickey-Fuller **LEVEL**	5% Critical Level	Augmented Dickey-Fuller (ADF) **FIRST DIFFERENCE**	5% Critical Level	Order of Integration ADF
PR_UEM	-2.628992	-2.967767	-3.404772	-2.963972	I(1)
LIE	-0.137710	-2.954021	-3.399280	-2.957110	I(0)
GDPPC	-0.284794	-2.954021	-1.095178	-1.952473	I(1)
IMR	-3.079395	-1.951687	-0.293930	-1.951687	I(1)
FR	1.878028	-2.957110	0.345644	-1.951687	I(1)

Source: Researcher's Work (2024)

A common characteristics of time series data is Non-stationarity.Standard Ordinary Least Square estimator produces bias which is seen as challenge to trended data and incorrect regression estimates that lead astray the researcher to incorrect conclusions. In other words, the application of OLS on non-stationary series leads to spurious regression results. In examining the integration order of the series, it's crucial to carryout unit root test to avert spurious regression. The research conducts Augmented Dickey Fuller unit root tests and the outcome is given in table 2 above. ADF test reveals results thus: that only life expectancy (LIE) was stationary at levels, that is it was of order zero. Meaning: I(0). However, outcomes of the Augmented Dickey Fuller test reveals that poverty reduction_unemployment (PR_UEM), gross domestic product per capita (GDPPC), infant mortality rate (IMR), and fertility rate were stationary at first difference, that is, order one. Meaning: I(1).

4.3 Data analysis

4.3.1 Regression analysis

The data analysis presents the analysis of data obtained from the research variables which was sourced from World Bank website. All the items were subjected to analysis using multiple regression technique on Eviews 12 software for this research.

Table 3: Regression Coefficient

Dependent Variable: PR_UEM				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	51.51781	12.27846	4.195788	0.0002
Life Expectancy	-0.956384	0.280414	-3.410619	0.0020
Gdp Per Capita	-0.001382	0.000388	-3.560435	0.0013
Infant Mort Rate	-0.269446	0.067052	-4.018470	0.0004
Fertility Rate	5.097796	1.729935	2.946814	0.0064
R-squared	0.555469	Mean dependent var		4.078182
Adjusted R-squared	0.491965	S.D. dependent var		0.543099
S.E. of regression	0.387102	Akaike info criterion		1.078472
Sum squared resid	4.195749	Schwarz criterion		1.305215
Log likelihood	-12.79478	Hannan-Quinn criter.		1.154764
F-statistic	8.746938	Durbin-Watson stat		0.709999
Prob(F-statistic)	0.000103			

Source: Researcher's Work (2024)

In Table 3, The regression coefficient for life expectancy (LIE), gross domestic product per capita (GDPPC), infant mortality rate are -0.956384; -0.001382; and -0.269446. The significance level associated with the coefficients are 0.0020, 0.0013, and 0.0004respectively show that these coefficients are statistically significant at level of 0.05 (assuming a typical significance level of 0.05.This means, the impact of life expectancy (LIE), gross domestic product per capita (GDPPC), and infant mortality rate (IMR) on poverty reduction (unemployment) are negatively and statistically significant with poverty reduction (unemployment). Afterward, the regression coefficient for fertility rate (FR) is 5.097796. The significance level linked with the coefficient is 0.0064 which indicates that this coefficient is statistically significant at 0.05 level (assuming a typical significance level of 0.05). Simply mean that the impact of fertility rate (FR) on poverty reduction (unemployment) showed that fertility rate is positively and statistically significant with poverty reduction (unemployment). The R^2 value of 0.555469 (and adjusted R^2 of 0.491965) indicates that approximately 55% or 49% in the adjusted model, which adjusts for the number of predictors) of the dependent variable variance, poverty reduction as explained by independent variables in the model, including fertility rate, infant mortality rate, GDP per capita, and life expectancy.

The probability associated with the Prob F-statistic (0.000103) is low, indicating that the overall regression model is statistically significant. Meaning that at least one of the independent variables (life expectancy, GDP per capita, infant mortality rate, and fertility rate) has a statistically significant influence on the dependent variable poverty reduction-unemployment. The F-statistic (8.746938) related with the

regression coefficient for life expectancy, gross domestic product per capita, infant mortality rate, and fertility rate indicate that the coefficient is significantly different from zero. This reinforces the finding that changes in life expectancy, gross domestic product per capita, infant mortality rate, and fertility rate have a statistically significant influence on poverty reduction (unemployment).

4.4 Discussion of findings

Life Expectancy (LIE) are negatively and statistically significant with poverty reduction (unemployment). This is in agreement with Daron and Simon (2021) which suggest that life expectancy has a much smaller impact on overall GDP, however, there is no evidence that the huge increment in life expectancy enhanced poverty reduction(unemployment). A 1% increase in life expectancy leads to a 1.7–2 percent increase in population. GDP per capita (GDPPC) showed a negatively and statistically significant with poverty reduction (unemployment). This result is in agreement with the study of Hassan (2015). This study looked into impact of GDP growth rate on poverty reduction in Nigeria. Unemployment rate and the Nigerian Gross Domestic Product (GDP) growth rate indicate a weak relationship as revealed by the outcome, and that instead of an inverse relationship, it was positive. It means GDP growth hasn't impacted positively on the poor. Infant Mortality Rate (IMR) is negatively and statistically significant with poverty reduction (unemployment), a proxy of human capital development. Infant mortality rate does not in anyway reduce poverty in Nigeria. This outcome agree with the finding of Sari and Prasetyani (2021) which investigated the effect of HCD in which infant mortality rate is a proxy on the poverty reduction. However, IMR indicates that the health status of a country. GDP per capita had a negative effect on infant mortality rate (Sari and Prasetyani, 2021). Finally, Fertility Rate (FR) had a significant and positive influence on poverty reduction (unemployment) economic proxy of HCD. This show that reduction in poverty can be very much related to the improved fertility rate. This is in line with the outcome of Mohanty and Ram (2011) which looked into the spatial pattern of poverty reduction and fertility in India transition. He found that decrease in poverty and fertility is weak and the effect of space (region) is huge in relation to the contraceptive usage change.

4.5 Post estimation test

The table 4, 5, 6 and figure 2 present post estimation tests which are carried out as tabulated which indicate model consistency and efficiency. The model is normal and homoscedastic since it passed both serial correlation and heteroskedasticity tests which are the acute time series challenges as their null hypothesis cannot be spurned.

Table 4: Serial correlation LM test

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	16.88194	Prob. F(2,26)	0.0000
Obs*R-squared	18.64350	Prob. Chi-Square(2)	0.0001

Source: Researcher's Work (2024)

From the above result on the table 4, probability value is less than 5%, the null hypothesis will be rejected and the alternative hypothesis meaning that there is a serial correlation in the residual which is not desirable.

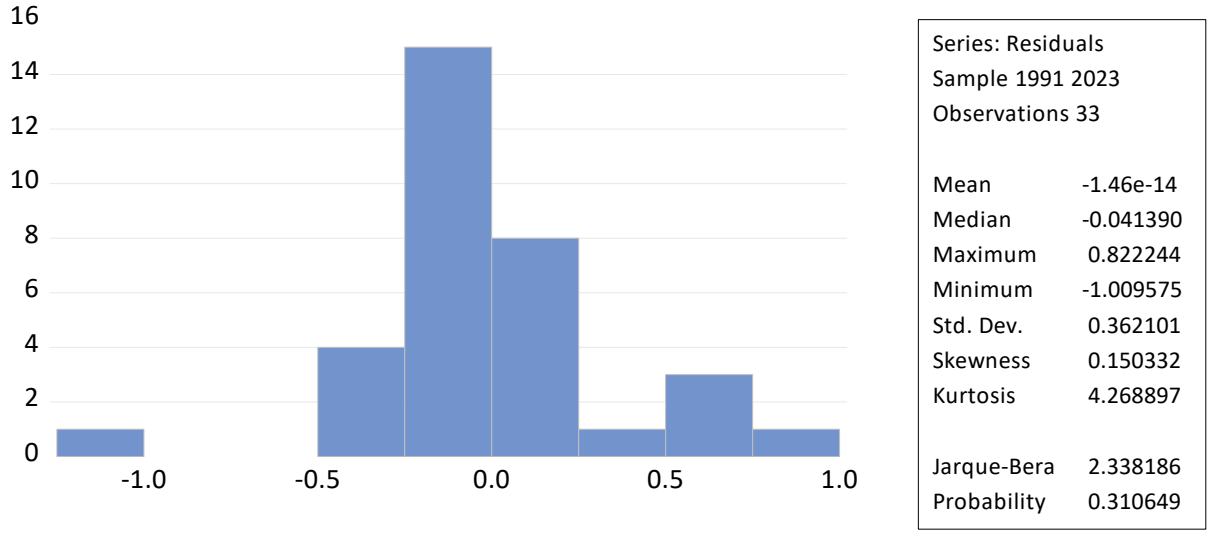
Table 5: Heteroskedasticity test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	4.626564	Prob. F(4,28)	0.0054
Obs*R-squared	13.13170	Prob. Chi-Square(4)	0.0106
Scaled explained SS	15.45185	Prob. Chi-Square(4)	0.0039

Source: Researcher's Work (2024)

Post estimation test

Residual diagnostic – histogram normality test



FigFigure 2: Residual Diagnostic – Histogram Normality Test, (2024)

This is done through residuals check. The study hypothesize that the data follows a normal distribution. The normality test result shows that the probability value is greater than 5%, thus the null hypothesis was rejected, the residual is normally distributed.

Table 6: Stability diagnostic test – Ramsey reset test

Equation: EQ01				
Omitted Variables: Squares of fitted values				
Specification: PR_UEM C LIE GDPPC IMR FR				
	Value	Df	Probability	
t-statistic	3.017081	27	0.0055	
F-statistic	9.102779	(1, 27)	0.0055	
Likelihood ratio	9.587588	1	0.0020	

Source: Researcher's Work (2024)

The stability test result below shows that the model is very steady going by the probability value of lesser than 5%.

5.0. Conclusion

The research used ARDL bound testing technique in considering the effect of human capital development on poverty reduction in Nigeria. It reveals that the variables used were co-integrated which means that they have long-run relationship. The research reveals that life expectancy, GDP per capita, Infant mortality all have negative effects on poverty reduction (unemployment) in Nigeria. Additionally, fertility rate has a significantly positive influence on poverty reduction (unemployment).

6.0 Recommendation

The policy recommendation based on this outcome is that government at all levels should show considerable attention towards ensuring better and improved society, more interest should be shown to life expectancy, GDP per capita and Infant mortality rate of average Nigeria residents.

To improve country's standard of living hitherto GDP per capita, the Nigeria state must not only improve infrastructure, increasing productivity, healthcare facilities, enhancing education, export promotion, encouraging entrepreneurship, encouraging innovation, encouraging foreign direct investment, and small business development, and other fundamental requirements, ease of doing business, putting friendly policies in place to combat poverty, and residents must have access to the improved facilities. Efficient means of reducing fertility rates and poverty is by investing in family planning amongst the poor. Availability of contraceptives to people for enlightenment campaign to females residents by the professional health workers as well as education, lifestyle changes meaning avoiding cigarette smoking, illicit drug use as well as alcohol, quality nutrition, exercise, psychological stress, environmental and occupational exposures associated to substantial effect of fertility rate on poverty reduction.

7.0 References

1. *Akujuru, C. A. & Enyioko, N. C. (2019). The impact of N-Power programmes on poverty alleviation in Nigeria: A Study of Rivers State, Global Journal of Political Science and Administration,7(3), 29-50.*
2. *Ali, S.A., Raza, H. and Yousuf, M.U. (2012). The Role of Fiscal Policy in Human Development: The Pakistan's Perspective, Pakistan Development Review; Islamabad, 51(4): 381-394.*
3. *Ayeni, E. O., Sani, K., Idris, I. & Uzoigwe, M. O. (2019). Stomach infrastructure and politics of redistribution in Africa: A study of Nigeria (2014-2019), Ilorin Journal of Administration and Development (IJAD), 5(2), 54-61.*
4. *Ajayi, O.O., Eghofona, K.A. and Ibiezugbe, M.I.(2013). Human Capital Investment and Poverty Reduction: Challenges and Opportunities for Sustainable Development in*

Nigeria, IOSR Journal of Humanities and Social Sciences (IOSR-JHSS), 25,5(8), 2279-0837, P-ISSN: 2279-0845.

5. *Castells-Quintana, D., Royuela, V. & Thiel, F. (2019) Inequality and Sustainable Development: Insights from an Analysis of the Human Development Index. Journal of Sustainable Development, 27: 448–460.*
6. *Central Bank of Nigeria (2013), Statistics for National development. Satistical Bulletin, Journal of Applied Statistics, (4)l.*
7. *Falade, O. S., I. Otemuyiwa, O. Oluwasola, W. Oladipo, and S. A. Adewusi. 2012. "School Feeding Programme in Nigeria: The Nutritional Status of Pupils in a Public Primary School in Ile-Ife, Osun State, Nigeria." Food and Nutrition Sciences 3 (5): 596–605.*
8. *Fanti, L. and Gori, L. (2014). Endogenous fertility, endogenous lifetime and economic growth: The role of child policies. Journal of Population Economics, 27(2), 529-564*
9. *Federal Government of Nigeria, (2020). National Social Investment Programme, NSIP. statehouse.gov.ng.*
10. *Hassan, O.M.(2015). The impact of the growth rate of the gross domestic product (GDP) on poverty reduction in Nigeria. Journal of Emerging Trends in Economics and Management Sciences, 6(3). hdl.handle.net.*
11. *Linden, M., & Ray, D. (2017). Life Expectancy Effects of Public and Private Health Expenditures in OECD Countries 1970–2012: Panel time Series Approach. Economic Analysis and Policy, 56, 101–113.*
12. *Marlena, P. (2020). Living Standards in One-Person Households of the Elderly Population Sustainability; Basel 12, (3): 992.*
13. *Miranda-Lescano,R., Leonel Muinelo-Gallo, L. and Roca-Sagalés, O. (2022). Human development and decentralization: The importance of public health expenditure.*
14. *Mohanty, S.K. and Ram, F.(2011). Spatial Pattern of Poverty Reduction and Fertility Transition in India, Population Review Publications. 50(1).*
15. *Ogbette, A. S., Bernard-Oyoyo, C. & Okoh, J. O. (2019). All Progressives Congress (APC) N-power programmes and unemployed Nigerians in Nigeria, Journal of Resources Development and Management, 54(8), 69-75.*
16. *Opuala-Charles, S. and Oshilike, I. V. (2023) Educational Investment and Unemployment in Nigeria. International Journal of Development and Economic Sustainability. 11(3), 1–20.*
17. *Posso, A. (2011) Government expenditure on education and enrolment rates in Indonesia in the new millennium: an East Asian perspective, Journal of the Asia Pacific Economy, 16(2), 233–240.*
18. *Roland, C. and Shane, L.(2012). The effectiveness of government expenditure on education and health care in the Caribbean. International Journal of Development Issues; Bingley, 11(1): 4-18.*
19. *Sen, A. (1999). Economic Policy and Equity: An Overview. In Economic Policy and Equity, edited by V. Tanzi, K. Chu, & S. Gupta: 28–42. Washington, DC.:*

International Monetary Fund

20. *Shafuda, C.P.P. and Kumar, D.U.(2020). Government expenditure on human capital and growth in Namibia: a time series analysis. Journal of Economic Structures; Heidelberg, 9(1).*
21. *Shahbaz, M., Loganathan, N., Mujahid, N., Ali, A. and Nawaz, A. (2016). Determinants of Life Expectancy and its Prospects Under the Role of Economic Misery: A Case of Pakistan. Social Indicators Research, 126(3), 1299-1316. www.jstor.org.*
22. *Traeger, B.(2020)Poverty and Fertility in India: Some Factors Contributing to a Positive Correlation. Global Majority E-Journal, 2(2), 87-98*
23. *UNDP. 2020. Human Development Report technical notes. New York: United Nations Development Programme*
24. *World Bank. 2013. Do School Feeding Programme Help Children? Washington, DC: World Bank.*
25. *Yolanda, Y. 2017. Analysis of Factors Affecting Inflation and its Impact on Human Development Index and Poverty in Indonesia. European Research Studies Journal 20: 38–56.*