Human Capital Investment and Human Development Index in Nigeria

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Abstract

This study examined Human Capital Investment and Human Development Index in Nigeria. Human Capital Investment was proxied by capital expenditure on education, recurrent expenditure on education, capital expenditure on health, recurrent expenditure on health and tertiary enrolment, which was regressed against HDI. Hypotheses that guided the study were formulated in line with the study objectives and relevant literature were reviewed and evaluated. Relevant data were extracted from the annual Statistical Bulletin of the Central Bank of Nigeria and the National Bureau of Statistics. Unit root test was conducted using Augmented Dickey Fuller method which revealed that the variables were integrated at level and first difference necessitating the use of autoregressive distributive lag/bond test to explore the long run relationship existing among the variables in the model and the result showed that the variables in the model were co-integrated thus the researchers proceeded in evaluating the long run relationship as well as the co-integrating form in the model. From the result of the various tests, it was revealed that while some of the outcomes conformed to apriori expectations, others did not conform to apriori expectations. Based on the findings from the analysis, the study recommended amongst others, that; Capital expenditures on health and education must be sustained and increased. The result shows a positive relationship and this will end up improving on the human development index of Nigeria in the long run; Recurrent expenditures on health and education must be studied as well so as to cut down on wasteful spending as they also impact on the human development capacity of the country and the economy significantly. Proper accounting and blocking of leakages will go a long way in improving the Nigerian economy.

Keywords: Human Capital Investment, Education, Health, Tertiary Enrolment, Human Development Index.

1.1 Introduction

The gaps in human capital investment rates between countries are very large. These gaps are most easily visible in the standard metrics used to assess human capital, such as school attendance rates and the highest grade completed among the working age population. In recent times, economists have broadened the measures used to assess human capital investment to include test scores, as a measure of school quality, and health inputs and outcomes, as measures of the physical abilities of

workers. Not surprisingly, examination of these extended measures of human capital investments shows that differences between countries tend to be even larger that had previously been thought: on average, children in poor countries not only receive fewer years of schooling, but the schooling that they do receive is of lower quality, and they enter the labor force less healthy than their contemporaries in rich countries.

Values of Human Capital Investment range from between 0.8 and 0.9 in the highest investing countries to between 0.3 and 0.4in the lowest. Not surprisingly, there is a tight correlation between income and human capital investment. There are also some interesting outliers: China and Vietnam have unexpectedly high HCI given their levels of income, while a number of oil producers (Nigeria inclusive) have unexpectedly low levels of HCI rates. The high correlation of HCI and income reflects causality owing in both directions: human capital contributes to the production of output, and richer countries can afford to invest more in their children. The correlation also reflects the impact of other factors, such as the quality of institutions, that effect both income and human capital investment.

In addition, there is a follow-on effect from higher human capital investment, via the accumulation of physical capital, to higher output. This, too, takes time to fully play out. Assessing these effects thus requires a more elaborate dynamic model, as in Ashraf, Lester, and Weil (2008). Bringing this issue closer home, the best composite measure of the state of human development is perhaps UNDP's Human Development Index (HDI), which is widely utilized in its various Human Development Reports. The most striking observation about Africa that emerges out of the HDI ranking is the continent's extremely low level of human capital development. According to the **_Human Development Report 1994 (HDR94)_** there is not a single African country in the category of countries with high human development. This becomes even more worrisome. There are only eleven countries in the medium category, including South Africa (Algeria, Botswana, Egypt, Gabon, Libya, Mauritius, Morocco, Seychelles, Swaziland and South Africa). Five of them (Mauritius, Seychelles, Botswana, Gabon and Swaziland) have a combined population of 4.6 million. When Libya and Tunisia are added, the figure rises to 17.9 million. All the remaining 41 countries are in the low human development category.

The overall trends in human development have been positive in some respects. Thus, life expectancy has increased from 40 to 51 years and infant mortality declined from 165 to 101 per 1000 births between 1960 and 1991. Likewise, there has been an increase in adult literacy from 28 to 51 per cent and in primary school enrolment between 1970 and 1990. And there has been an increase in the percentage of the population having access to safe water between 1975 and 1991. But these developments have not been of a magnitude enough to make an appreciable dent in Africa's formidable array of social problems. In fact, in certain instances, the situation has grown much worse. For example, in many countries' per capita expenditure on health and education has been declining. There have also been reversals in school enrolment ratios and increases in school dropout rates relative to the appreciable gains made in the 1960s and 1970s.

African continent is still at a crossroad in terms of identifying the most pragmatic approach to achieving human capital development. Education plays fundamental roles in producing human capital for the state. This explains why UNESCO insists that 26% of the annual budget of every country should be allocated to education (Ihejirika, 2020). A country like Nigeria, whose economic mainstay is export of crude oil, is continuously buffeted by the price volatility of such raw

materials. Thus, growth and development cannot be in sight except a determined restructuring is embarked on.

1.2 Statement of the Problem

Health and education are two closely related human (resource) capital components that work together to make the individual more productive. One component cannot be considered important than the other (Lawanson, 2009). Health connotes the ability to lead a socially and economically productive life (Anyawu, 1997). A healthy populace will be highly productive and the educated have the tendency to apply a degree of sophistication in the production process. In political terms, investment in human capital prepares people for participation in the political processes, particularly as citizens in a democratic society. From the social, economic and cultural points of view, human capital investment helps to lead fuller and richer lives, less bound by tradition. It is a way to empower people; this in turn will help them contribute substantially to the growth process in the economy.

It was recommended by the United Nations that developing countries should invest a minimum of 26% on education and the world Health Organization specified at least 5% on health. Nigeria has not been able to meet this bench mark. In 2012, the education sector got a meagre 8.4% of the budget while the health sector got about 6% and in 2020, the educational sector got 6% and the health sector got 15% (Source; 2012, 2020 National Budget-Provisional). It is of importance to state that the Academic Staff Union of Universities was on strike for nearly 9 months while the corona virus pandemic contributed in putting on hold the academic process of the universities. These have greatly contributed in deteriorating the schooling process as well as the human development goals of the government. The human development index (HDI) has three indicators: income, life expectancy (proxy for health), and knowledge (proxy for education). The rank of countries (as indicated in the 2011 report of the UNDP, page 131) showed that Nigeria ranked 156 with a value of 0.459 among 187 countries.

Recognizing the importance of human capital outcomes for social and economic well-being of all countries, the World Bank launched the Human Capital Project (HCP) in October 2018 to help countries improve their education, health and social protection systems to raise the next generation of well-equipped and healthy people. The Human Capital Index (HCI) is one of the key pillars of the HCP and it measures how human capital contributes to productivity. It captures three main indicators, namely: survival, education and health. Despite some progress against some of the indicators, Nigeria is lagging in all three components of the index, partly because it spends too little and inefficiently on human capital (World Bank, 2020). Nigeria has not internally deemed it pertinent to calve out a well-tailored strategy to rejig the ineffective imperialist-styled human capital development system. This glaring lacuna has been the bane of sustainable growth in Nigeria. It is against these backdrops that this study investigated the impact of human capital investment on the human development index in Nigeria.

1.3 Objectives of the Study

The aim of this study was to examine the effects of human capital investment on human development index in Nigeria. The specific objectives included:

1. To examine the effect of capital expenditure on education on human development index in Nigeria
2. To examine the effect of recurrent expenditure on education on human development index in Nigeria
3. To evaluate the effect of capital expenditure on health on human development index in Nigeria.
4. To evaluate the effect of recurrent expenditure on health on human development index in Nigeria.
5. To determine the effect of tertiary enrolment on human development index in Nigeria.

1.4 Hypotheses

H_{o1}: There is no significant relationship between capital expenditure on education and human development index in Nigerian.

H_{o2}: There is no significant relationship between recurrent expenditure on education and human development index in Nigerian.

H_{o3}: There is no significant relationship between capital expenditure on health and human development index in Nigerian.

H_{o4}: There is no significant relationship between recurrent expenditure on health and human development index in Nigerian.

H_{o5}: There is no significant relationship between tertiary enrolment and human development index in Nigerian.

2.0 Literature Review
2.1 Theoretical Framework
2.1.1 Theory of Healthcare Demand

Some theories have attempted to explain the role of government spending (human capital development) in the growth process. This study will draw the opinions of such theories as to the endogenous and exogenous growth models. But we would first of all look at the theory of healthcare demand and healthcare supply. The theory of demand assumes that the individual is capable of making a rational choice between alternative bundles of goods and services to maximize his utility. Here, the idea of demand in the health market is different from that of the ordinary market, the consumer's knowledge of his actual state of health and the effect of an alternative treatment on that state is likely to diverge from the conventional assumption of the consumer's theory (theory of demand). The consumer in the health market does not possess the knowledge and freedom that the consumer in the ordinary market exhibits. Sustainable growth depends on levels of human capital whose stocks increase as a result of better education, improved level of health, and new learning/training procedures. According to a study by Phelps and Newhouse (1974), who modeled the behavior of utility-maximizing individuals whose expenditure on healthcare is covered by a simple form of insurance. In their analysis of the demand for healthcare, the consumer is covered for a fixed percentage of health care. Thus:

Using CP_u per unit of healthcare

here C = proportion of the cost of care.

P_u = market prices

They explained that for each unit of healthcare, a consumer requires an input of time (t) valued at an opportunity cost (W) per unit.

Therefore, they arrived at the total cost of healthcare as;

$CP_u + W_t$ per unit of time and the demand for healthcare is given by;

$D_h = f (CP_u + W_t)$. where;

D_h = demand for health

CP_u = money cost of health care

W_t = time cost of healthcare

Health care demand is concerned with the relationship between the quantity of healthcare demanded and its price. Much of the recent progress in healthcare demand research is due to the theoretical insights of Grossman (1972). Essentially, Grossman's proposition is that the demand for healthcare is a derived demand. He assumed in his work that the level of health of an individual is endogenous which depends on the resources allocated to its production as well as its maintenance. Health is demanded as an argument in the direct utility function of the individual as both a source of utility in itself and as capital or investment good since it determines the amount of time available to the individual for the production of other goods and services. He opined that the demand for health stresses that the shadow price of health depends on many other factors other than price which include; effect of consumer's time and insurance. Generally, the demand for healthcare implies that as there is a reduction in the cost price of healthcare, this will also influence consumer's demand for healthcare. This means that as the cost of healthcare in an economy decreases overtime, the demand for healthcare by the people of that country will increase beyond the level it was when the cost of healthcare was high. For the more, an economy increases its expenditure on the health of its population, the more the demand for healthcare by the population because of cost reduction through policy implementation.

Grossman (1972), concluded that health is a durable stock that produces an output of a healthy time. This theory is of great importance as it falls in line with the study, as it demonstrates the relevance of spending on health.

2.1.2 Theory of Healthcare Supply

WHO Commission on Macroeconomics and Health (Sachs, 2001) wrote that improving the health and longevity of the poor is an end in itself, a fundamental goal of economic development. But it is also a means to achieving the other development goals relating to poverty reduction. The linkages of health to poverty reduction and too long- term economic growth are powerful, much stronger than is generally understood. The burden of disease in some low-income regions, especially sub-Saharan Africa, stands as a stark barrier to economic growth and therefore must be addressed frontally and centrally in any comprehensive development strategy. Public health programs or the provision of "free" health services tend to redistribute resources toward the poor (Caselli &Ventura 1996).

The theory of healthcare supply in its perspective under sees the divergence in the organization and behavior of hospitals which is different from the usual theory of supply. Like in the normal market structure (perfect competition), where both sellers and buyers have complete information about the market or product, in this case, the consumer lacks complete knowledge in the healthcare

market which thereby gives the producer the monopoly power in such a market. Newhouse (1970), examined the theory of non-profit making hospital behavior and suggested that non-profit making hospitals maximize both quantity and quality in light of zero profit. And the discovery from the study was that the production is either for pure profit or pure patient welfare motivation. And the conclusion from the study is based on the fact that the decision-makers of the hospitals are assumed to have two major objectives which they aim to achieve: these are the quantity and quality of healthcare delivered (Newhouse, 1992). Furthermore, that the demand curve for healthcare shifts upwards as the quality rises because quality healthcare is of a greater significance to the consumer, as individual needs the supply of healthcare he can trust and only the non-profit hospitals can provide such services as maintained (Hansmann, 1980 in West 1989).

In the same view with Frank and Salkever (1991), Harrison and Lybecker (2005) and Horwitz and Nichols (2011), posited that non-profit making hospitals compete for public goodwill which is demonstrated in their provision of healthcare to poor or indigent patients. These hospitals show no change in their operation margin even when faced with profit competition; which implies that non-profit hospitals pursue output maximization. Thus, the non-profit-making hospitals measure the quantity in the number of cases treated but much more concerned about the quality in the type of healthcare given to patients. In that, the operation of non-profit hospitals, quality is an important factor. This implies giving the patient the best treatment which means giving the very best quality of input, especially a doctor committed to having the best interest of the patient at heart.

2.1.3 Human Capital Theory
Human capital theory sees education as a tool that increases the stock of human capacities available in a nation which then determines the level of economic growth. This theory further explains that the stock of output in an economy can be consumed, invested in physical capital and human capital. The equilibrium condition for the goods market is:
$dK/dt + K + dH/dt + H = [s' + s'']Y$ denotes the depreciation rate. The share of output devoted to gross physical capital formation is s' and the share devoted to human capital formation is s''. (s' and s'' are positive parameters).

Human capital theory rests on the assumption that formal education is highly instrumental and necessary to improve the productive capacity of a population. In short, human capital theorists argue that an educated population is a productive population. Human capital theory emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability, which is a product of innate abilities and investment in human beings. The provision of formal education is seen as an investment in human capital, which proponents of the theory have considered as equally or even more worthwhile than that of physical capital (Woodhall, 1997).

Human Capital Theory (HCT) concludes that investment in human capital will lead to greater economic outputs. However, the validity of the theory is sometimes hard to prove and contradictory. In the past, economic strength was largely dependent on tangible physical assets such as land, factories and equipment. Labor was a necessary component, but increases in the value

of the business came from investment in capital equipment. Modern economists seem to concur that education and health care are the key to improving human capital and ultimately increasing the economic outputs of the nation (Becker 1993).

In the new global economy, hard tangible assets may not be as important as investing in human capital. Thomas Friedman, in his wildly successful book, *The World is Flat* 2007, wrote extensively about the importance of education in the new global knowledge economy. Friedman, not to be confused with the famous economist Milton Friedman, is a journalist. His popular book has exposed millions of people to human capital theory. The term itself is not introduced, but evidence as to why people and education (human capital) are vital to a nation's economic success, is a common reoccurring theme in the book.

Throughout western countries, education has recently been re-theorized under human capital theory as primarily an economic device. Human capital theory is the most influential economic theory of western education, setting the framework of government policies since the early 1960s. It is increasingly seen as a key determinant of economic performance. A key strategy in determining economic performance has been to employ a conception of individuals as human capital and various economic metaphors such as *technological change*, *research*, *innovation*, *productivity*, *education*, and *competitiveness*. Economic consideration *per se* in the past, however, has not determined education.

Human capital theory stresses the significance of education and training as the key to participation in the new global economy. In one if its recent reports, the Organization of Economic Cooperation and Development (OECD), for example, claims that the radical changes to the public and private sectors of the economy introduced over recent years in response to globalization will be severe and disturbing to many established values and procedures. In another report, it explains internationalism in higher education as a component of globalization. The OECD believes that internationalism should be seen as an imperative in 21st Century capitalism. This form of capitalism is based on investment in financial markets rather than in manufacturing of commodities, thus requiring dependence on electronic technology.

The OECD also boldly asserts that internationalism is a means to improve the quality of education. In keeping with human capital theory, it has been argued that the overall economic performance of the OECD countries is increasingly more directly based upon their knowledge stock and their learning capabilities. Clearly, the OECD is attempting to produce a new role for education in terms of human capital subject required in globalized institutions.

The success of any nation in terms of human development is largely dependent upon the physical and human capital stock. Thus, recent social research focuses on the behavioral sciences of humanity in relation to economic productivity. Generally, human capital represents the assets each individual develops to enhance economic productivity. Further, human capital is concerned with the wholesome adoption of the policies of education and development. In short, the human capital theorists argue that an educated population is a productive population. Human capital theory

emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability, which is a product of innate abilities and investment in human beings. The provision of formal education is seen as a productive investment in human capital, which the proponents of the theory have considered as equally or even more equally worthwhile than that of physical capital.

According to Babalola (2003), the rationality behind investment in human capital is based on three arguments:

1. The new generation must be given the appropriate parts of the knowledge which has already been accumulated by previous generations.
2. The new generation should be taught how existing knowledge should be used to develop new products, to introduce new processes and production methods and social services;
3. People must be encouraged to develop entirely new ideas, products, processes, and methods through creative approaches.

Fagerland and Saha (1997) posit that human capital theory provides a basic justification for large public expenditure on education both in developing and developed nations. The theory is consistent with the ideologies of democracy and liberal progression found in most western societies and also in Nigeria – as a practicing democratic society. Its appeal was based upon the presumed economic return of investment in education at both the macro and micro levels. Efforts to promote investment in human capital were seen to result in rapid economic growth for society. For individuals, such investment was seen to provide returns in the form of individual economic success and achievement. Most economists agree that it is human resources of nation, not its capital nor its material resources, which ultimately determine the character and pace of its economic and social development. Human resources constitute the ultimate basis of the wealth of nations. Capital and natural resources are passive factors of production, human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic, and political organizations, and carry forward national development.

In summary, the human capital theory places emphasis on investment in humans than in physical capital because the human capital works on the physical capital through adequate skill being acquired to operate the physical capital in place. This prepares the country for a better future since the productive capacity of individuals is improved, thus economic growth will be enhanced.

2.2 Conceptual Framework

2.2.1 Human Capital Investment

The concept of human capital refers to the abilities and skills of human resources of a country, while human capital development refers to the process of acquiring and increasing the number of persons who have the skills, education and experience that are critical for economic growth and development an economy (Okojie, 2005). Human capital consists of knowledge, skills or

competencies and abilities of the workforce. Human beings are the only factor of production among others, that is capable of learning, adapting or changing, innovative and creative (Lyakurwa, 2007; Ejere, 2011). Human capital formation or development, according to Harbison (1973), is the deliberate and continuous process of acquiring requisite knowledge, skills and experiences that are applied to produce economic value for driving sustainable national development. The significance and relevance of human capital development in the achievement of meaningful and sustainable economic growth and development have been widely acknowledged some literatures such as Iganiga and Obafemi (2014).

They stated that in the absence of substantial investment in the development of human capital in any country, sustained economic growth and development would only be a mere wish, never a reality. Jhingan (2005) stated that economic growth cannot take place without the importance human capital. He aggregated human capital development as education or schooling, training and health care delivery. These aggregations of human resource development can further increase productivity, income, improve health and fitness, good habits in individuals such as being trustworthy and responsible. Therefore, education and training are the most important factors in human resource development. Scholars like Todaro, Smith and Jhingha often use the term human capital for education, health and other human capabilities that can enhance productivity (Todaro and Smith, 2009). Thus, the quality of human resources connotes the state of education, health and other human capabilities that can raise productivity when increased.

Ejere (2011) noted that human capital development is the purposeful and continuous process of acquiring skills, knowledge and expenditure that are applied to create economic value that drive sustainable national growth. Jhingan (2005), stated that economic growth cannot take place without improvement in human capital development. He aggregated human capital development as training, education, schooling and quality health care delivery. Available record indicates that there has been an increase in Nigerian government revenue within the past years and government spending has grown immensely. However, education and health sector are beneficial of these government expenditures. Evidence from reliable records shows that Nigeria education and health sectors have constantly received less allotment than advocated by the United Nation education, scientific and cultural organization, Asiyai (2013), stated that under funding, death of qualified and trained teachers, infrastructures deficits and policy inconsistencies are the constraints to human capital development in Nigeria. Government budgetary allotment for education and health in Nigerian has been consistency on the declaimed rate over the pass years.

Aluko (2015) defined Human capital development to denote enhances the skills, knowledge, efficiency and resourcefulness of citizens through a process of human capital formation generally conceived. Thus, human capital development is a citizen's centered stratagem, and not goods centered or production centered tactic of growth. Torruam & Abur (2014) Human capital development can be seen to mean increasing skills, knowledge, productivity and resourcefulness of citizens through process of human capital formation. It is a citizen's centered strategy of growth which is documented as an agent of nationwide growth in all nations of the globe. Human capital formation refers to the procedure of acquiring and raising the number of people who have the skills, good health, education and experience that are critical for economic development. Human

capital development refers to the process of acquiring and increasing the number of human beings who have the skill, education, experience which are significant for the fiscal and political growth of a nation. Human capital development is thus connected with investment in man and his expansion as an inventive and prolific resource.

2.2.2 Dimensions of Human Capital Investment

(i) Public Education Expenditure

Education has been considered as one of the most significant investments in human capital and has been discussed extensively in the literature of economic growth. It has been argued that education can affect growth through many different mechanisms. For instance, education can affect growth by increasing the efficiency of the workforce, by reducing inequity, by promoting health, by reducing fertility levels, by creating better conditions for good governance, and by increasing the knowledge and the innovation capacity of an economy (Hanushek & Woessmann, 2008). Education being one of the major components of human capital ought to be given adequate attention. It has been argued that Nigerian government, over the years, has performed abysmally poorly in its budgetary allocation to the sector despite the outrageous tuition fees paid by students in the various federal education institutions in the country, especially at the tertiary level. For instance, public expenditure on education in 1962 was 3.6% of GDP and 18.2% of all government expenditure but b 1998 it had dropped to about 2.3% of GDP and 14.2% of the total expenditure of all arms of government in Nigeria (Hinchliffe, 2002).

Similarly, budgetary allocation to the education sector was 7.53% on the average between 2010 and 2014, it dropped to about 7.05% between 2015 and 2018 despite the tremendous increase in the total budgets over the period (Ndujihe 2018). The highest approved national budget (N8.612 trillion) in Nigeria is recorded in year 2018 and only a paltry sum of about N605.8 billion which represents about 7.03% of the total budget was allocated to the education sector. These figures show that the government has not been given the sector the kind of attention it deserves despite its critical role as the driver of the growth of modern economies. They are also in sharp contrast to UNESCO international benchmark of 15 to 20 percent of the total annual budget as contained in the EFA global monitoring report for 2000- 2015 (Adedigba, 2017).

However, the evidence on the effect of public education expenditure on education attainment is mixed. Many studies found a strong relationship between public education expenditure and measures of education attainment. Such studies include Gupta, Verhoeven and Tiongson, (1999); McMahon, (1999); Lopes, (2002); Anyanwu and Erhijakpor, (2007); Baldacci et al, (2008); Amin et al, (2012); Diawara (2009); and Fadiya, (2010). On the contrary, Landau, (1986); Noss, (1991); Anand and Ravallion, (1993) and Al-Samarrai (2002) found a weak relationship. Rather, they attributed the development of the education sector to other factors such as per capita income, family background or parental education (Appleton, Hoddinot, and Mackinnon, 1996). Gupta, Verhoeven and Tiongson (1999) applied both ordinary least squares (OLS) and two stage least squares (2SLS) estimation techniques to a sample of 50 developing and transition countries. Their result shows that education spending has a positive and significant effect on secondary school enrolment.

The cross-country analysis shows that the link between educational access and performance and public education spending is weak. Besides, Al-Samarrai suggests that the levels of household spending, the effectiveness of the public expenditure management system and the composition of public education spending are important factors explaining the weak link. Several factors have been adduced for the weak relationship between public education expenditure and education attainment. While Al–Samarrai (2002) attributed it to poor data, omitted variables and inefficient resource utilization, Woessmann (2002) and Diawara (2009) identified the state of development of the country or region concerned as a limiting factor. It is believed that resources may render positive effects at very low endowment levels prevailing in many developing countries.

(ii) Public Health Expenditure

The importance of health as a key aspect of development and economic wellbeing of individuals and nations is increasingly being recognized in the world. This can be seen from a series of reforms taken by African countries to increase investments in health in order to meet the health Millennium Development Goals (MDGs). African leaders have expressed this trust through actions such as the 2001 Abuja Declaration on an increase in government funding for health by allocating 15% of the government budget to the health sector, the 2006 Addis Ababa Declaration on community health in the African Region and the 2008 Ouagadougou Declaration on primary health care and health systems in Africa. The High-Level Taskforce on Innovative International Financing for Health Systems (HLTF) recommended that by 2009 low-income countries should allocate at least US$ 44 per capita to deliver an essential package of health services. More than a third of African countries have not been able to meet both the Abuja target and the HLTF recommendation except for Botswana, Rwanda and Zambia. It is equally important to note that Equatorial Guinea has not been able to attain the Abuja target but has significantly high health expenditure per capita (Michael, 2017).

African countries equally suffer from shortage in human resources for health (HRH). The World Health Organization (2020) reports that 36 out of the 46 countries in Sub-Saharan Africa are facing a HRH shortage crisis. According Amaghionyeodiwe (2019), the current shortage of health workers (physicians, nurses and midwives) in Africa is estimated to be at least 817 992. In order to address these problems, many African countries will have to increase their human health resources by at least 140% and review their institutions to train additional health workers (Aranda, 2020). Countries will encounter a lot of challenges in achieving this goal amongst which are; inequitable distribution of the available workforce, brain drain, low remuneration, reliance on expatriates in some countries, failure to attract and retain qualified staff especially in rural areas (Clements, Coady, Shang & Tyson, 2021).

According to WHO (2020), public health expenditure consists of recurrent and capital expenditure from government budgets, external borrowings and grants (including donations from global agencies and NGOs), as well as obligatory health insurance finances. History is a witness that fundamental breakthrough in public health, diseases control and enhanced nutritional intake have given increase to great takeoffs in economic growth. Nigeria's health transformation agenda is

well expressed in the National Economic Empowerment and Development Strategy (NEEDS), engineered by the National Planning Commission (NPC, 2014).

(iii) Tertiary Enrolment

From a global perspective, economic and social developments are increasingly driven by the advancement and application of knowledge. Education in general and higher education in particular, are fundamental to the construction of a knowledge-based economy and society in all nations (World Bank, 2008). Besides acting as an important vehicle of achieving equitable income distribution, human resource development is also a potent means of addressing the problem of poverty. Thus, education is very vital to the pace of social, political and economic development of any nation.

Enrollment rates and years of schooling have risen in most countries of the world and this can be attributed to successive generations of parental investment in children's education within the confine of a stable household structure. Overtime, these investments have narrowed the differences in schooling across and within countries, and between and within genders. In 1960, the average schooling of men aged 25 and over in advanced countries were 5.8 times that of men in developing countries. In 2000, this ratio fell to 2.4. During the same period, women's average schooling level as a ratio of men increased from 0.5 to 0.7 in developing countries.

In Nigeria, available evidence has shown that tertiary enrolment growth rates are quite inconsistent and sluggish. The profile of tertiary enrolment in Nigeria reveals that tertiary enrolment has relatively been increasing over the years with the highest growth rate of 219.64 percent in 1997 and the lowest growth rate in 2004. However, 1995 and 2004 recorded major distortions in the tertiary enrolment in Nigeria. This is essentially due to the political crisis and industrial dispute witnessed during these periods.

It should be noted that in spite of various policy interventions initiated by the government over the years to stimulate schooling at all levels of education, enrolment rates of school-aged children still remain abysmally poor. Apart from this, documentary evidence of the impact of education, generally, on economic growth is legion but the impact of tertiary enrolment specifically is still very nascent.

2.2.3 Human Development Index (HDI)

Human development index is a composite indicator that measures the extent to which a country has developed in three broad areas including per capita income, health (life expectancy) and education. It is also used to mirror the degree of poverty in a nation. The scale of measurement ranges from 0 (no development) to 1 (complete development) and is based on three equally weighted components – Longevity (life expectancy at birth), knowledge (adult literacy and the number of years enrolled in school) and Standard of Living (measured by real GDP per capita at purchasing power parity).

The human development paradigm emphasizes two simultaneous processes: The building of human abilities and how people use them to function in society and make choices between options

that they have in all aspects of their lives (UNDP, 2014). The phenomenon of human development, which takes into account the close links between economic, social, cultural, spatial, educational, and healthcare, encompasses a safe economy, adequate nutrition, environmental protection, personal safety, community security, and broader political security. Current and future generations must be aware of their responsibilities when it comes to development. Personal and social security should be sought if it enables a decent life, in an economy where profit is distributed equally to all and not only to a few and the environment whose fruits and pleasure can be used without fear. This concept provides a long and healthy life people.

The world is characterized by dynamic processes and significant changes in the overall social, political, economic and social environment, determining, and multiplying developmental specifics. Positive changes result in a better opportunity for people's lives, longer life expectancy, and better education, while adverse changes create developmental problems. It is important to emphasize that development problems cannot be explained exclusively by economic indicators. The process of measuring and interpreting differences in development is a much more complex problem. Measuring growth in a new globalized world requires a shift from the economic and to the noneconomic sphere (social and society). Development indicators should give a more realistic picture of the economic progress of a particular country. Only in this way, economists will identify the underlying development problems, offering suggestions to macroeconomic policymakers how to act in certain situations.

The first Human Development Report correctly recognized that 'development is much more than just the expansion of income and wealth' and defined human development as 'the process of enlarging people's choices' (UNDP, 1990). This report also stressed that, ''in principle, the choices available to people can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and have access to resources for a decent standard of living'' (UNDP, 1990). This report made its most distinctive contribution to the larger development discourse by highlighting these dimensions as being basic to human development and in asserting that all three are 'essential.' Based on this framework, the report then constructed the HDI of a country as a measure of its human development along these three dimensions.

For each dimension, it selected a suitable indicator to represent and capture the essence of the dimension with the attempt to ''balance the virtues of broad scope with those of retaining sensitivity to critical aspects of human development'' (UNDP, 1990). In the latest versions of the HDRs, adult literacy and combined enrolment ratios have been selected as indicators for the knowledge dimension, life expectancy at birth as the indicator for a healthy life and an adjusted GDP as the indicator for the standard of living. For each dimension, the value of the index is computed on a scale of 0 – 1 where 0 corresponds to the minimum, and 1 to the maximum assigned value for the corresponding indicator. The overall HDI is then determined as the arithmetic average of the three indices.

The ranges are graded as follows according to the United Nations Development Report (2012):

      (i)   An Index of 0 – 0.49 means low development

(ii)   An Index of 0.5 – 0.69 means medium development

(iii)   An Index of 0.7 – 0.79 means high development

(iv)   An Index above 0.8 means very high development

3.0 Methodology

3.1 Research Design

The research design for this study was based on the use of time-series data in the analysis. Therefore, the study adopted the quasi-experimental research design in determining the structural relationship existing between human capital investment and the selected economic development variables in Nigerian. Quasi-experimental design is also referred to as survey. According to (Cook, 1983 cited in Baridam, 2008), quasi-experimental design constitutes a set of empirical studies involving human beings that lack the true major attributes of experimentation. First, they rarely occur in a laboratory, and they do not involve the random assignment of unit to the treatments being contrasted. It is sometimes called the survey study that constitutes a class of empirical studies which lacks the usual features of experimentation. The quasi-experimental designs are widely used in administrative and social sciences research because of the complex relationship that exists between variables, as such relationship is not subject to manipulation. Therefore, the choice of quasi-experimental research design (particularly the ex-post factor analysis) is premised on the fact that the research variables could not be subjected to controlled laboratory tests which made the experimental design option not suitable for this study.

3.2 Nature and Sources of Data

The major source of data used in this study was the secondary source. Thus, the data for this research analysis was obtained from various issues of the Central Bank of Nigeria Statistical Bulletin, the National Bureau of Statistics Summary of Abstract (1980 to 2020) and the United Nations Development Programme Reports. These data covered information on Human Capital Investment in Education, Human Capital Investment in Health and tertiary enrolment statistics serving as the dimensions of Human Capital Investment, and the values Human Development Index for the periods under investigation.

3.3 Model Specification

Model is the simplification of a complex reality (Gujarati, 2004 and Encarta, 2009). The study adopted a model to capture the nature of the relationship between human capital investment and human development index in Nigeria over the study period. In this study, human capital investment in education (capital and recurrent), human capital investment in health (capital and recurrent) and tertiary enrolment were adopted as proxies for human capital investment. The model specification for this study is presented below.

$HDI_t = f(CEE_t, REE_t, CEH_t, REH_t, TER_{tt})$………………………………….………(1)

This is further stated in econometric form below:

$HDI_t = \beta_0 + \beta_1 CEE_t + \beta_2 REE_t + \beta_3 CEH_t + \beta_4 REH_t + \beta_5 TER_t + U_i$

Where:

HDI = Human Development Index

CEE = Capital Expenditure on Education

REE = Recurrent Expenditure on Education

CEH = Capital Expenditure on Health

REH = Recurrent Expenditure on Health

TER = Tertiary Enrolment

β_0 = The slope (intercept) of the function

Check Variables

Check variables were introduced to reduce the possibility of having spurious results from the model. The check variables used are:

INF = Inflation

POPG = Population growth

β_1 = coefficient (slope) of capital expenditure on Education

β_2 = coefficient (slope) of recurrent expenditure on Education

β_3 = Coefficient (slope) of capital expenditure on health

β_4 = Coefficient (slope) of recurrent expenditure on health

β_5 = Coefficient (slope) of tertiary enrolment

u = stochastic term

t = unit of time.

3.4 Methods of Data Analysis

This study adopted the econometric technique. According to Theil (1971), cited in Gujarati and Sangeetha (2007), econometrics is concerned with the empirical determination of economic laws. It is a combination of economic theory, mathematical economics and statistics, but is completely distinguished from each of these three branches of science (Koutsoyianis, 1977).

For the purpose of our analysis here, the Autoregressive Distributive Lag (ARDL)/bond test approach developed by Peseran et al (2001) were adopted as our data sets consisted of variables integrating both at level (0) and at first difference (order I).

The Autoregressive Distributive Lag (ARDL)/bond test approach were used to establish a long run relationship between the variables in the model. This approach was adopted at this instance because it is suitable for use with a mixture of variables integrated at level I (0), variables integrated at first difference I (1) or variables that are fractionally integrated (see Peseran et al, 2001).

However, for the avoidance of having any variables integrated at order 2, the researcher made use of the Augmented Dickey Fuller (ADF) test to formally explore the stochastic properties of each individual series. Another reason for the suitability of the ARDL approach is because it involves

a single equation setup, making it simple to implement and interpret. Also, different variables can be assigned different lag lengths as they enter the model. And finally, because of its extra robustness and better performance for small sample size such as this study period (see Peseran & Shin, 1997). However, the ADF method was authenticated with the non-parametric techniques of Philip & Perron (1987). This is because statistical techniques have some level of biasness or simply put, statistical techniques are not bias free.

The bond test is based on the f-test which has a non-standard distribution and with two sets of critical bounds provided by Peseran et al (2001). The lower critical bound assumes that all the variables are integrated at level I (0), while the upper bound assumes all the variables to be integrated at first difference I (1).

Table 4.1: Presentation of the data for the study variable

Year	CEE	REE	CEH	REH	TER	HDI	INF	POPG
1980	952.60				57742.00		9.97%	72,951,439
1981	440.90	0.17	0.3	0.08	77791.00	0.40	20.81%	75,175,387
1982	488.40	0.19	0.12	0.10	90751.00	0.36	7.70%	77,388,067
1983	346.60	0.16	0.14	0.08	104774.00	0.32	23.21%	79,351,586
1984	144.90	0.20	0.05	0.10	116822.00	0.36	17.82%	81,337,553
1985	180.70	0.26	0.06	0.13	126285.00	0.39	7.44%	83,585,251
1986	442.00	0.26	0.07	0.13	125783.00	0.39	5.72%	85,804,185
1987	139.10	0.23	0.06	0.04	151967.00	0.38	11.29%	88,044,187
1988	281.80	1.46	0.16	0.42	160767.00	0.37	54.51%	90,351,467
1989	221.90	3.01	0.22	0.58	174133.00	0.38	50.47%	92,744,064
1990	331.70	2.40	0.32	0.50	179494.00	0.44	7.36%	95,214,257
1991	289.10	1.26	0.15	0.62	200774.00	0.33	13.01%	97,685,360
1992	384.10	0.29	0.24	0.15	232282.00	0.35	44.59%	100,182,045
1993	1563.00	8.88	0.24	3.87	255730.00	0.39	57.17%	102,775,465
1994	2405.70	7.38	0.75	2.09	281303.00	0.38	57.03%	105,456,121
1995	3307.40	9.75	1.31	3.32	309433.00	0.45	72.84%	108,187,610
1996	3215.80	11.67	1.66	3.18	269687.00	0.39	29.27%	110,956,183
1997	3808.00	14.85	2.62	3.89	862023.00	0.46	8.53%	113,791,181
1998	12793.00	13.59	8.31	4.74	941329.00	0.44	10.00%	116,690,527
1999	8516.60	43.61	7.39	16.64	983689.00	0.46	6.62%	119,695,565
2000	23342.60	57.96	27.97	15.22	1032873.00	0.47	6.93%	122,851,984
2001	19860.00	39.88	53.34	24.52	1136160.00	0.46	18.87%	126,152,678
2002	9215.00	80.53	32.47	40.62	124776.00	0.45	12.88%	129,583,026
2003	14680.20	64.78	55.74	33.27	1272772.00	0.45	14.03%	133,119,801
2004	9053.10	76.50	30.03	34.20	417281.00	0.46	15.00%	136,756,848
2005	13451.40	82.80	71.36	55.70	1540021.00	0.47	17.86%	140,490,722
2006	14127.95	119.02	78.68	62.25	1562010.00	0.48	8.23%	144,329,764

2007	14804.51	150.78	150.90	81.91	1567550.00	0.48	5.39%	148,294,028
2008	15481.06	163.98	152.17	98.22	1602441.00	0.49	11.58%	152,382,506
2009	16157.62	137.12	144.93	90.20	1680112.00	0.49	12.56%	156,595,758
2010	16834.17	170.80	151.77	99.10	1701123.00	0.50	13.72%	160,952,853
2011	17510.73	335.80	92.85	231.80	986673.00	0.51	10.84%	165,463,745
2012	18187.29	348.40	97.40	197.90	862, 601	0.51	12.22%	170,075,932
2013	18863.84	390.40	154.71	180.00	1252913.00	0.52	8.48%	174,726,123
2014	19540.40	343.75	111.29	195.98	1622123.00	0.53	8.06%	179,379,016
2015	20216.95	325.19	82.98	257.70	1529049.22	0.53	9.01%	183,995,785
2016	20893.51	339.28	79.63	200.82	1583221.99	0.53	15.68%	188,666,931
2017	21570.06	403.96	137.74	245.19	1637394.77	0.54	16.52%	193,495,907
2018	22246.62	465.30	142.80	296.44	1691567.54	0.54	12.09%	198,387,623
2019	22923.18	593.33	147.86	388.37	1745740.31	0.54	11.40%	203,304,492
2020	23599.73	646.75	152.92	423.33	1799913.09	0.55	13.25%	208,327,405

Source: CBN Statistical Bulletin, 2021.

4.2 Descriptive Statistics

Table 4.2: HDI Model

	LOG(HDI)	LOG(CEE)	LOG(CEH)	LOG(REH)	LOG(REE)	LOG(TRE)
Mean	96.66777	54426.91	22.40296	7316.222	1016.118	6366.118
Median	62.10640	6211.904	21.88320	1488.993	2637.913	2637.901
Maximum	255.2053	9847.821	36.18340	9123.522	17680.52	17420.52
Minimum	4.272290	22.04129	18.76340	731.9902	52.85702	52.85702
Std. Dev.	76.50341	7833.972	4.053449	6203.711	6490.706	6110.706
Skewness	0.228426	0.334214	1.722320	0.403221	0.447171	0.084571
Kurtosis	1.564333	1.091091	5.093428	1.400773	1.478887	1.453297
Jarque-Bera	2.227640	3.963058	25.76457	4.49045	4.021775	6.985475
Probability	0.243536	0.137858	0.083313	0.30430	0.133870	0.197440
Sum	2986.221	70248.81	697.2235	120844.9	197664.9	198474.9
Sum Sq. Dev.	154237.5	1.377848	138.3343	1.809422	1.119849	1.109849
Observations	40	40	40	40	40	40

4.3 Unit Root Tests

The unit root tests test for the stationarity of the variables used. Any issue of none stationarity of any variable is corrected before being used for the analysis. This is to avoid spurious regression results in case the variables are not stationarity.

Table 4.3: Unit Root Test

Coefficient	At levels (Prob)	First Difference (Prob)	Stationarity
LOG(RGDP)	0.9761	0.0015	I(0) at first diff
LOG(CEE)	0.8251	0.0000	I(0) at first diff
LOG(REE)	0.1985	0.0000	I(0) at first diff
LOG(CEH)	0.7918	0.0000	I(0) at first diff
LOG(REH)	0.4548	0.0000	I(0) at first diff
LOG(TER)	0.5367	0.0000	I(0) at first diff
HDI	0.8482	0.0000	I(0) at first diff
NPI	0.3076	0.0000	I(0) at first diff
INF	0.0479	0.0016	I(0) at levels
POPG	0.0002	0.0408	I(0) at levels

Source: Author's computation using Eviews.
The table shows that the variables have a mixed results of stationarity at levels and first difference using the ADF unit root tests. This meets the required condition to use the ARDL method of analysis in testing the hypotheses of the analysis.

4.4 Bounds Tests for Cointegration
The bounds tests for cointegration test whether there is a long-term relationship between the variables used in the model. As shown below, the results for each of the models shows that there is a long-term relationship between the dependent and the independent variables. This is confirmed with the f-stat is higher than the lower and upper bounds of the results.
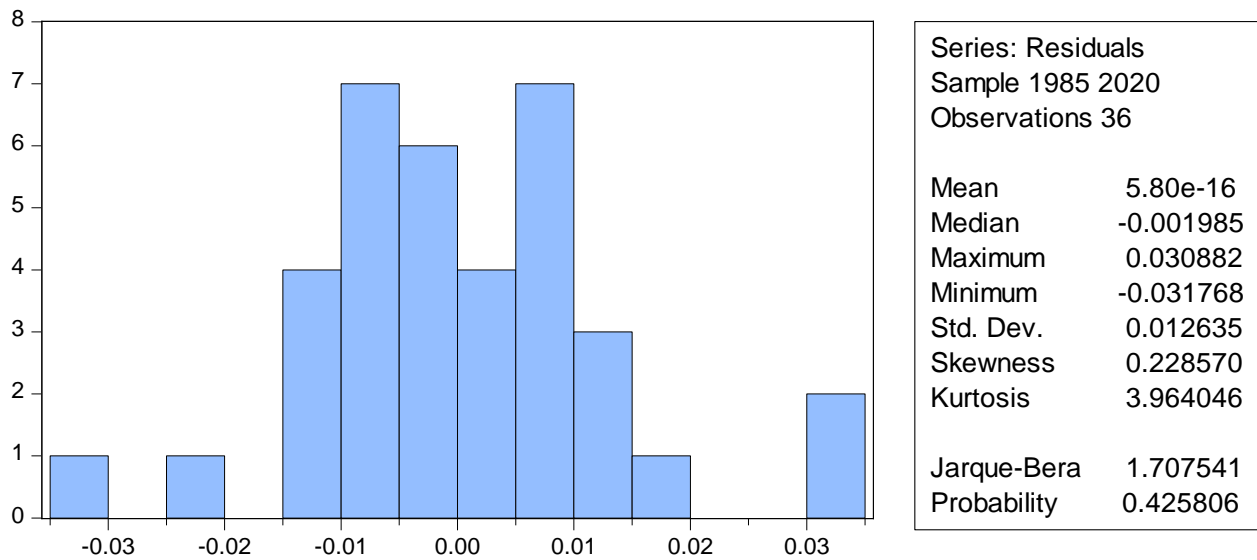
Table 4.4: HDI Model

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.899480	10%	2.45	3.52
K	4	5%	2.86	4.01
		2.5%	3.25	4.49
		1%	3.74	5.06

Source: Eviews

4.5: Normality Tests
The normality tests examine the distribution of the time series variables. It shows if there are outliers and the sources. More so, it reveals how much the outliers will affect the results of the regression analysis.

Figure 4.1: HDI Normality Test

Series: Residuals	
Sample 1985 2020	
Observations 36	
Mean	5.80e-16
Median	-0.001985
Maximum	0.030882
Minimum	-0.031768
Std. Dev.	0.012635
Skewness	0.228570
Kurtosis	3.964046
Jarque-Bera	1.707541
Probability	0.425806

The results show that the model is normally distributed using the JB probability.

Table 4.5: HDI ECM Regression

ECM Regression
Case: Unrestricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.163366	0.277789	-4.187957	0.0013
DLOG(HDI(-1))	-0.655330	0.108858	-6.020065	0.0001
DLOG(HDI(-2))	-0.662829	0.095901	-6.911624	0.0000
DLOG(HDI(-3))	-0.280337	0.088670	-3.161582	0.0082
DLOG(CEE)	0.055412	0.013818	4.010066	0.0017
DLOG(CEE(-1))	0.002238	0.014801	0.151182	0.8823
DLOG(CEE(-2))	0.031319	0.010020	3.125559	0.0088
DLOG(REE)	0.017286	0.020232	0.854381	0.4096
DLOG(REE(-1))	0.139963	0.023016	6.081138	0.0001
DLOG(REE(-2))	0.134477	0.020560	6.540638	0.0000
DLOG(REE(-3))	0.073512	0.014221	5.169150	0.0002
DLOG(CEH)	-0.030098	0.013554	-2.220654	0.0464
DLOG(CEH(-1))	0.035103	0.015387	2.281365	0.0416
DLOG(REH(-1))	-0.011345	0.021388	-0.530412	0.6055
DLOG(REH(-2))	-0.145326	0.021435	-6.779951	0.0000
DLOG(TRE(-1))	-0.118806	0.019065	-6.231515	0.0000

DLOG(TRE(-2))	-0.096858	0.016763	-5.777917	0.0001
INF	-0.002157	0.000367	-5.883603	0.0001
POPG	0.104809	0.076427	1.371354	0.1954
CointEq(-1)*	-0.685108	0.094407	-7.256941	0.0000

R-squared	0.973309	Mean dependent var	0.011773
Adjusted R-squared	0.941613	S.D. dependent var	0.077336
S.E. of regression	0.018687	Akaike info criterion	-4.821789
Sum squared resid	0.005587	Schwarz criterion	-3.942057
		Hannan-Quinn	
Log likelihood	106.7922	criter.	-4.514739
F-statistic	30.70785	Durbin-Watson stat	1.767784
Prob(F-statistic)	0.000000		

Source: Eviews

The result of the analysis shows that the goodness-of-fit (R-Square) is 0.97. This means that 97% of the changes in the dependent variable is explained by the changes in the independent variables. 3% is taken care of by the stockastic term (all other variables that affect the dependent variable but were not included in the model). The annual speed of adjustment is 69%. The model is statistically significant when taken together based on the f-stat 30.7.

4.6: Post Estimation Test Results

4.6.1 Serial Correlation Tests

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.769252	Prob. F(2,10)	0.2199
Obs*R-squared	9.409173	Prob. Chi-Square (2)	0.0091

Serial Correlation analysis shows how much a variable affects itself over the period of study. The effect will result to spurious result from the regression analysis. The results of the analysis show that the variables do not have problem of serial correlation of the first order.

4.7 Heteroskedasticity Tests

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.036381	Prob. F(23,12)	0.4934
		Prob. Chi-	
Obs*R-squared	23.94534	Square(23)	0.4068

Scaled explained SS	3.943060	Prob. Chi-Square(23)	1.0000

Heteroskedasticity Tests test for the consistency of the variance of the model. Constant variance (homoskedasticity) is ideal for analysis. If the time series data used is found to be heteroskedastic, the results will be spurious. The results of the models above, using F-stat probability, show that the model is not heteroskedastic and therefore, suitable for the required analysis.

4.8 CUSUM Test

Figure 4.2: CUSUM Test
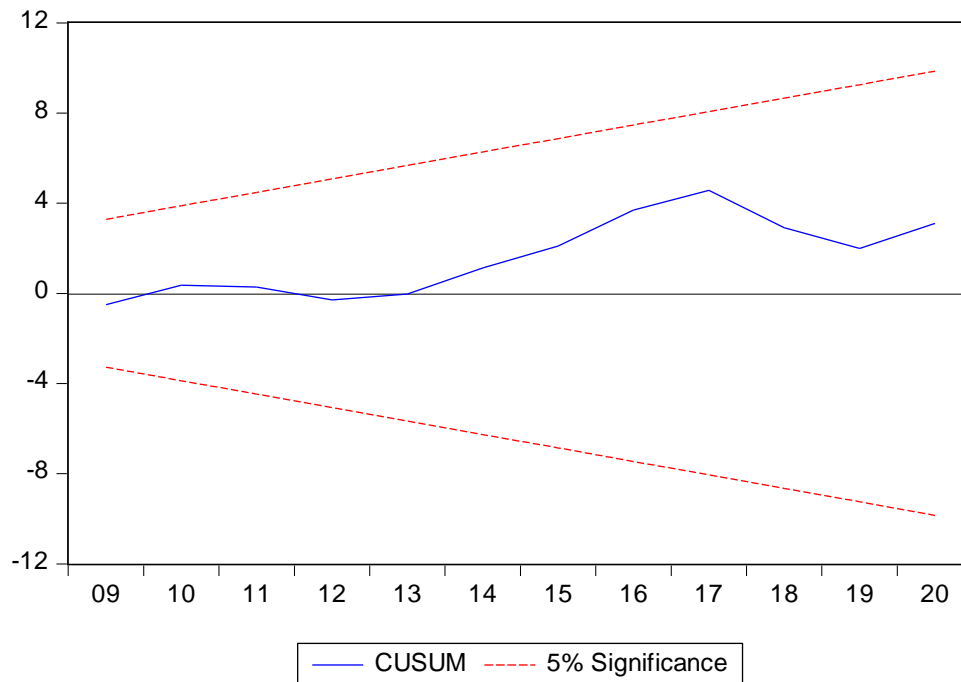
The CUSUM test confirms that the models are well stated. As the graphs for models I-III show, the models are well stated and therefore, can be used for the required analysis.

4.9 Tests of Hypotheses

H₁: *There is no relationship between human development index and capital expenditure on education.*

The result of the analysis using the ECM shows that Human Development Index is positively related to Capital Expenditure on Education. As Capital Expenditure on Education increases by a unit,

Human Development Index increases by 0.055 and vice versa. Capital Expenditure on Education is shown to be statistically significant using the t-stat based on 5% confidence level. We will therefore reject the null hypothesis, accept the alternative and conclude that there is a significant relationship between Human Development Index and Capital Expenditure on Education over the period of study.

H₂: *There is no relationship between Human development index and recurrent expenditure on education.*

The result of the analysis using the ECM shows that Human Development Index is positively related to Recurrent Expenditure on Education. As Recurrent Expenditure on Education increases by a unit, Human Development Index increases by 0.13 and vice versa. Recurrent Expenditure on Education is shown to be statistically significant using the t-stat probability at 5% confidence level. We will therefore reject the null hypothesis, accept the alternative and conclude that there is a significant relationship between Human Development Index and Recurrent Expenditure on Education over the period of study.

H₃: *There is no relationship between human development index and capital expenditure on health*

The result also shows that there is a positive relationship between Human Development Index and Capital Expenditure on Health. The analysis reveals that as Capital Expenditure on Health increases by a unit, Human Development Index increases by 0.035 and vice versa. Capital Expenditure on Health is statistically significant using the t-stat based on 5% confidence level. We will therefore reject the null hypothesis, accept the alternative and conclude that there is a significant relationship between the Human Development Index and Capital Expenditure on Health over the period of study.

H₄: *There is no relationship between human development index and recurrent expenditure on health.*

The result also shows that there is a negative relationship between Human Development Index and Recurrent Expenditure on Health. The analysis reveals that as Recurrent Expenditure on Health increases by a unit, Human Development Index decreases by -0.15 and vice versa. Recurrent Expenditure on Health is statistically significant using the t-stat based on 5% confidence level. We will therefore reject the null hypothesis, accept the alternative and conclude that there is a significant relationship between the Human Development Index and Recurrent Expenditure on Health over the period of study.

H₅: *There is no relationship between human development index and tertiary enrolment.*

The result also shows that there is a positive relationship between Human Development Index and Tertiary Enrolment. The analysis reveals that as Tertiary Enrolment increases by a unit, Human Development Index increases by 0.096858 and vice versa. Tertiary Enrolment is statistically significant using the t-stat based on 5% confidence level. We will therefore reject the null hypothesis, accept the alternative and conclude that there is a significant relationship between the Human Development Index and Tertiary Enrolment over the period of study.

5.0 Conclusion and Recommendations

5.1 Conclusion

With the use of Auto Regressive Distributive Lag test and Error Correction Mechanism models, it was revealed that, there is a high relationship between the independent variables and the dependent variables. The analysis shows that the capital and recurrent expenditures on health and education as well as tertiary enrolment, have both negative and positive relationships with human development index as used in this study. Also, the observed relationship between the independent and dependent variables of this study were found to be significant.

5.2 Recommendations

1. Capital expenditures on health and education must be sustained and increased. The result shows a positive relationship and this will end up improving on the human development index of Nigeria in the long run.
2. Recurrent expenditures on health and education must be studied as well so as to cut down on wasteful spending as they also impact on the human development capacity of the country and the economy significantly. Proper accounting and blocking of leakages will go a long way in improving the Nigerian economy.
3. It is also important that the government pay more attention to the development and standardization of tertiary institutions in Nigeria, especially those within the public domain as the quality of output that comes out of there institutions have the potentials to improve on the human development index and bring about economic development in Nigeria.

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