IMPACT OF HUMAN CAPITAL DEVELOPMENT ON ECONOMIC GROWTH IN NIGERIA

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Abstract

Nigeria is one of the most populous countries in Africa and possesses vast natural resources, including oil and gas. However, the country has faced challenges in converting these resources into sustained economic growth and improved living standards for its citizens. Despite its potential, Nigeria faces significant human capital deficits. These deficits include issues such as low literacy rates, inadequate healthcare access, skills gaps, and high levels of unemployment and underemployment. Nigeria's performance in terms of human capital development indicators, such as education and healthcare, often lags many other countries with similar or even lower levels of economic development. This study therefore sought to examine the impact of human capital development on the performance of the Nigerian economy Nigeria over the period 1990-2022. The study adopted the ex-post facto research design based on data from the Central Bank of Nigeria's economic and financial review, CBN financial statistics report and data from the Nigeria Bureau of Statistics (NBS).Time series data was generated from CBN bulletin from 1990 to 2022. The study made use of the Ordinary Least square method of estimation. The study discovered that government expenditure on health (GEXH) has a positive (co-efficient of 143.0199) and a statistically significant relationship (P-value 0.0036) with real gross domestic product in the long run. This means that a one percent increase in GEXH, will lead to about 143.0199 increases in RGDP, this result conforms to our earlier anticipated A priori theoretical expectation. Based on the findings, the study recommended that the federal, state, and local government in Nigeria should increase their budgetary allocations to education and health sectors and ensure that proper implementation in other to enhance human capital development in the Nigerian economy.

Keywords: Human Capital Development, GDP, Performance, Nigerian Economy

Introduction

The most valuable assets in both developed and developing countries, according to Hadir and Lahrech (2015) are humans. To achieve development, it therefore becomes imperative for these assets to be managed properly and effectively used. One way this can be done is by ensuring adequate investment is made in human capital. Human Capital can be described as the collective skills, knowledge, and intangible assets of individuals that can be used to create economic value. Human capital according to Schultz (1993) can also be described as a tool for enhancing competitive advantage since it involves the process of training, knowledge acquisition (education), initiatives and others which are all geared towards skill acquisition. Human Capital can be developed through the process of human empowerment since it is expected to facilitate active participation and from that perspective may be affirmed a major source of economic growth.Human capital development is thus associated with investment in man as a creative and development resource (Jhingan 2012).

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significant human capital deficits. These deficits include issues such as low literacy rates, inadequate healthcare access, skills gaps, and high levels of unemployment and underemployment. Nigeria's performance in terms of human capital development indicators, such as education and healthcare, often lags many other countries with similar or even lower levels of economic development. This disparity has prompted concerns about Nigeria's long-term economic prospects. In an increasingly globalized and competitive world, the quality and productivity of a nation's workforce play a crucial role in determining its economic competitiveness. Nigeria's ability to attract foreign investment and participate in global markets hinges on its human capital.

Over the years, the Nigerian government has launched various initiatives and programs aimed at improving human capital development. These include education reforms, healthcare interventions, and youth empowerment schemes. However, the effectiveness of these policies and programs varies, and there is a need for critical evaluation and evidence-based policy recommendations. Nigeria, like many other countries, has committed to achieving the United Nations' Sustainable Development Goals (SDGs), which include targets related to education, healthcare, gender equality, and economic growth. Progress in human capital development is vital for achieving these goals.

Developing countries generally are described by their low levels of literacy, low income, poor health care system, gender inequality, and low standard of living (Todaro and Smith, 2011). Further with low and often inadequate spending by government on health care and education, requisite infrastructure necessary for improved human capital development in developing countries is extremely low. This low level of human capital development hinders the productivity level of individuals and results in a range of socio-economic challenges which include poverty and unemployment in society, and which have risen overtime to a high level in a number of developing countries especially those of Sub-Sahara Africa. Countries with significantly developed human capital on the other hand enjoy quite a number of benefits such as reduced poverty, increased employment opportunities, equitable income and wealth distribution, gender equality and sustainable economic growth rate. Countries with poor human capital development further feature demographic indicators such as low life expectancy, and high mortality rate.

Statement of the research problem

Nigeria, despite its considerable human and natural resources, continues to grapple with significant challenges in translating its demographic advantage into sustained economic growth and development. While the country has made strides in various sectors, including education and healthcare, persistent disparities in human capital development indicators and economic performance underscore the presence of critical issues that require comprehensive investigation and resolution.

Despite government's efforts to improve access to education, Nigeria still faces persistently low enrolment rates, high dropout rates, and concerns about the quality of education. A substantial portion of the population lacks the essential knowledge and skills required to participate effectively in the modern workforce, access to quality healthcare remains a challenge in many parts of Nigeria, resulting in high maternal and child mortality rates, a prevalence of preventable diseases, and overall poor health outcomes. Health disparities between urban and rural areas exacerbate these issues.

Resource allocation and policy effectiveness questions surround the allocation of resources and the effectiveness of policies and programs aimed at human capital development. Assessing the impact of past and current initiatives is essential for evidence-based policy formulation and targeted interventions. Also, Nigeria's competitiveness in the global economy is hindered by these human capital challenges,

impacting its ability to attract foreign investment, engage in international trade, and achieve sustainable economic growth. Meeting Nigeria's commitments to the SDGs, which include targets related to education, healthcare, and economic growth, requires addressing these pressing human capital issues. In the light of these problems, this study was conducted to comprehensively analyse the current state of human capital development in Nigeria, identify the critical obstacles impeding progress, and propose evidence-based strategies and policy recommendations to foster synergy between human capital development and economic growth in the nation.

Significance of the paper

The study will reveal the level of human capital investment in Nigeria, in terms of government expenditure on education and health. Over the years, it has been observed that investment on human capital contributes in numerous ways to development and economic progress. The study intends to carry out a detailed study on the current state of the nation's human resource development and, serve as a reference material for research purposes on human capital investment and other related field. This study will be useful to policy makers, economists, health and education experts, and students.

Conceptual Review

Concept of Human Capital

Authors and scholars often use the notion or concept of human capital interchangeably with terms such as manpower and human resources, mostly because of their varying individual preferences and academic backgrounds. Whatever may be the preferences of particular scholars, the point to note is that the terms imply the same thing. There exist various definitions offered by scholars in a bid to explain the meaning of the concept 'human capital'. According to Aluko and Aluko (2012), human capital is the abilities and skills of human resources of a country. Barney (1995) opines that the term refers to all the experience, skills, judgments, abilities, knowledge, contacts, risk-taking and wisdom of individuals and associates within an organization. Similarly, Stiglitz and Boadway (1994) explain the concept to mean the stock of accumulated skills and experiences that make workers more productive. Harbison (1973) in his views also conceived of the term in a closely related manner as he defines it as the energies, skills, and knowledge of which are, or which potentially can or should be applied to the production of goods and services. In view of the foregoing definitions, therefore, the term 'human capital' simply implies the aggregate economically productive human population available in a country. In other words, it refers to the wealth of manpower or human resources with requisite skills, knowledge and training that can be transformed into factor of production for the purpose of accomplishing the goals of a nation in terms of meeting its steady demands for developmental goods and services.

The concept of human capital hence connotes the actual right quality and quantity of human population available for economic productive activities in a country and not the magnitude of its labour force. Human capital is the product of accumulated investment in humans. Ojo (1997) corroborates this assertion as he argues that human capital represents the present value of past investments in the skills of people. In relations to humans, the concept of 'Capital' means deliberately investing in people with the aim of making them more productive factors of production (Samuelson, 1964). It becomes plausible therefore to conclude that education is a decisive factor for human capital (Asaju, 2012), with sound health also being an important element.

The Concept of Human Capital Development

Human capital accumulation is described as the most effective strategy for transforming the development dreams and aspirations of a nation into reality. Scholars and policy makers agree that investments in human beings through education and health produce immense benefits both to the individual and the society at large. On the definition of the concept, scholars can be said to be in almost perfect agreement as they emphasize the essentiality of investing in human capital as a sure means of achieving real and authentic development. Human capital development, according to African Development Bank Report (1998) is conceived as a critical means of sustained economic growth and poverty reduction and an end in itself.

Harbison (1962) sees it as, "the process of acquiring and increasing the numbers of people who have the skills, education and experiences that are critical for socio-economic development of a country". Okojie (1995) says the term is associated with investment in man and his development as creative and productive resources. Human capital development refers to the process of acquiring and increasing the number of skilled persons who have the education and experience which are critical for the economic growth of the country (Harbison, 1973).

For Ojo (1997), human capital development encapsulates not only the expenditure on education and training, but also the development of attitudes towards productive activities. A salient point worthy of note about the above views is that they all emphasize the primacy of human development as a very critical factor in achieving holistic growth and development in any country. The most possible means of ensuring development and wellbeing of individuals are through purported investment in education and health as well as other social welfare services capable of improving the quality of human population. Healthy and well-informed (literate) workforce or population is a major determinant of the pace of social and economic growth and development in any nation. As Awe and Ajayi (2010, p. 2) argue, "a well-educated population is an objective in itself as well as the conduct to accelerate social and economic development". On the other hand, Yesufu (2010) avers that, "a good health policy is a means by which government can at once, ensure that manpower is generated in the right mixes, distributed in accordance with national priorities and ensure the highest level of labour productivity" (Awe & Ajayi, 2010). To this end, human capital development can be rightly regarded as an end or objective of development; "a means, since it enhances the skills, knowledge, productivity and inventiveness of people through a process of human capital formation broadly conceived" (Aluko & Aluko, 2012, p. 166). The development successes recorded by the advance countries of Europe and America as well as the evolving industrialized nations of Asia can be attributed to long-term investment in human resources. These countries provide empirical evidence for justifying the imperative of deliberate investment in human beings as a roadmap to national development.

Trends of Human Capital Development in Nigeria

Nigeria has long realized that quality education and health are essential for national development. Thus, Successive governments in Nigeria right from independence in 1960 have experimented with various policy measures in attempt to evolving robust and viable education and health care delivery systems that would facilitate the building of quality human resources for its national development. On the education front, the first education policy that Nigeria launched immediately after independence was based on the Ashby Commission report of 1960 which was titled "investment in education" (Gyang, 2007). The policy introduced the 6-3-3-4 system of education in Nigeria which was anchored on the popular National Policy

on Education (NPE) established in 1977, revised 1981, 1998 and 2004. The Policy was a product of a National Curriculum Conference organized in Lagos in 1969 by the Federal Government, which featured experts from various religious bodies, groups, individuals, and government representatives (Gyang, 2007). This policy aimed at improving the general quality of education in country. In 1976, the military government initiated another education reform policy called Universal Primary Education scheme (UPE), which aimed at making education in Nigeria free in 1976 and compulsory in 1979 (Gyang, 2007). This policy, however, did not produce the expected results as it was undermined by many developments (Azikiwe, 2007). Next to this was the famous Universal Basic Education programme launched on the 30th of September 1999 at Sokoto under the leadership of the then President Olusegun Obasanjo. The UBE policy aimed at providing basic education to children between the ages of 3 and 14 years for 3 years Early Children Care Development and Education (ECCDE), 6 years primary and 3 years Junior Secondary Education (Gyang, 2007). Nomadic and migrant children, mass literacy, the almajirais' as well as other vulnerable and excluded groups are also component targets of the scheme.

The policy is pursued in line with the two global development programmes of the United Nations (UN) namely, Education for All (EFA) and the Millennium Development Goals (MDGs). In 2003, Nigeria launched the National Economic Empowerment and Development Strategy (NEEDS) to facilitate the achievement of these goals (Gyang, 2007). The NEEDS have five major concerns namely, Value Reorientation, Poverty Eradication, Job Creation, Wealth Generation; and Mass Empowerment through Education (Obioma, 2007). These are all aimed at improving the general wellbeing and quality of lives of Nigerian citizens, and to make them valuable agents of social and economic transformations.

Furthermore, coming of recent is the new policy document introduced by the Federal Ministry of Education (FME) in April 2009, known as the Roadmap for the Nigerian Education Sector. This reform measure aims at addressing the inadequacies and deficiencies in Nigeria's educational sector, and it comprises of four major grand strategies namely; Access and Equality, Standards and Quality Assurance, Technical and Vocational Education and Training; and Funding, Resource Mobilization and Utilization (Gyang, 2007). As pointed out by Gyang; This reform intends to involve stakeholders such as; government, organized private sectors and international funding partners to transform all Nigerian schools into producing high achieving, functional and self-reliant students, from all three subsectors of education namely; basic education, post basic education and tertiary education (Gyang, 2007, p. 75).

The Human Capital Theory (HCT)

The Human Capital Theory (HCT) as propounded by Becker (1964) and built on by Rosen "emphasizes the importance of human capital in enhancing the economic growth of nations and individual wellbeing. The theory has as its base the principle that individuals or nations can pursue their development not only for present gains but also for anticipated future wellbeing". The drive for personal development boosts the productivity of individuals thereby enhancing economic growth.

This theory shows how education leads to increase in productivity and efficiency of workers by increasing the level of their cognitive skills. Theodore, Schultz, Gory Bucker and Jacob Mincer introduced the notion that people invest in education or as to increase their stock of human capabilities which can be formed by combining innate abilities with investment in human beings (Babalola, 2000). Examples of such investments include expenditure on education, on- the- job training, health, and nutrition. However, the stock of human capital increases in a period only when gross investment exceeds depreciation with the passage of time, with intense use or lack of use. The provision of education is seen as a productive

investment in human capital, an investment which the proponents of human capital theory considers to be equally or even more equally worthwhile than that in physical capital. Human capital theorists have established that basic literacy enhances the productivity of workers low skill occupations. They further state instruction that demands logical and analytical reasoning that provides technical and specialized knowledge increases the marginal productivity of workers in high skill or profession and positions.

Theoretical Framework

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Justification for the adoption of the theory

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Methodology

The methodology adopted here was the ex-post facto research design. The term ex-post facto according to Landman (1988) is used to refer to an experiment in which a researcher, instead of finding a treatment, examines the effect of a naturally occurring treatment after it has occurred. In other words it is a study that attempts to discover the pre-existing causal conditions between groups.

Model Specification

The model formulation takes after Rami and Bassami (2017), who adopted the ex-post facto research design for the purpose of analysing the effects of human capital development on Nigeria's economic growth. Based on this, the model for this study is specified in its functional form as follows:

The model for this study is specified functionally as;

$RGDP = f(GEXE, GEXH, LEXP)$ ..... (1)

Transforming equation 1 into the econometric form yields:

Mathematical linear model

$RGDP = \beta_0 + \beta_1 GEXE + \beta_2 GEXH + \beta_2 LEXP$ ..... (2)

Econometric Linear Model

$RGDP = \beta_0 + \beta_1 GEXE + \beta_2 GEXH + \beta_3 LEXP + \mu i$ ..... (3)

Where;

GDP = Real Gross Domestic Product

GEXE = Government Expenditure on Education

GEXH = Government Expenditure on Health

LEXP = life Expectancy

β_0 = Constant

$\beta_1, \beta_2, \beta_3$ = explanatory variables coefficients

μi = the error term

Table 1 A priori expectation

Parameter	A priori Sign
B0	Positive/Negative
B1	Positive
B2	Positive
B3	Positive

Source: *Researcher's computation*

From table 3.1 above, the expected relationships are stated as follows:

1. $\alpha_1 > 0$: This means that government expenditure on education is expected to contribute positively to real Gross Domestic Product in Nigeria.
2. $\alpha_2 > 0$: This means that government expenditure on health is expected to contribute positively to real Gross Domestic Product in Nigeria.
3. $\alpha_3 > 0$: This means that life expectancy is expected to contribute positively to real Gross Domestic Product in Nigeria.

Model Justification

Linear multiple regression model is used when a dependent variable is linearly related to more than one independent variable. The ordinary least square method will produce estimates that are BLU (best, linear, and unbiased) once the necessary assumptions are satisfied. The result so obtained is reliable for policy makers to fall back on. Using this model will help to know if, economic policy has impacts on economic diversification.

Results and Discussion

Table 2: Data Presentation

YEAR	RGDP(N'B)	GEXE(N'B)	GEXH(N'B)	LEXP(Average)
1990	494.64	8.29	3.95	45.9
1991	590.06	9.89	4.71	45.875
1992	1257.17	25.48	12.14	45.857
1993	1768.79	37.09	17.67	45.845
1994	3100.24	42.97	20.47	45.843
1995	4086.07	49.65	23.65	45.854
1996	4418.71	51.13	24.36	45.88
1997	4805.16	55.38	30.36	45.923
1998	5482.35	90.78	43.25	45.994
1999	7062.75	104.25	49.62	46.103
2000	8234.49	205.95	98.12	46.267
2001	11501.45	260.17	123.95	46.15
2002	13556.97	273.22	130.09	46.835
2003	18124.06	300.57	142.86	47.242
2004	23121.88	336.66	159.67	47.72
2005	30375.18	383.82	181.61	48.252
2006	34675.94	437.57	206.59	48.812
2007	39954.21	491.61	231.72	49.373
2008	43461.46	580.59	264.21	49.913
2009	55469.35	694.1	294.09	50.422
2010	63713.36	826.67	330.96	50.896
2011	63713.36	1110.72	387.19	51.346
2012	72.599.63	1252.72	442.94	51.228
2013	81.009.96	1549.93	518.74	52.672
2014	90136.98	1804.4	615.03	53.112
2015	95177.74	2116.35	682.7	53.541
2016	102575.4	2445.95	745.58	53.95
2017	114899.3	2590.86	784.8	54.332
2018	129086.9	2734.53	821.69	54.687
2019	145639.1	2969.32	896.19	55.042
2020	154252.3	2707.44	951.34	55.88
2021	73,382.77	620.59	386.24	55.12
2022	74,752.42	702.98	437.52	55.44

Source: CBN statistical Bulletin (2022)

Trend analysis

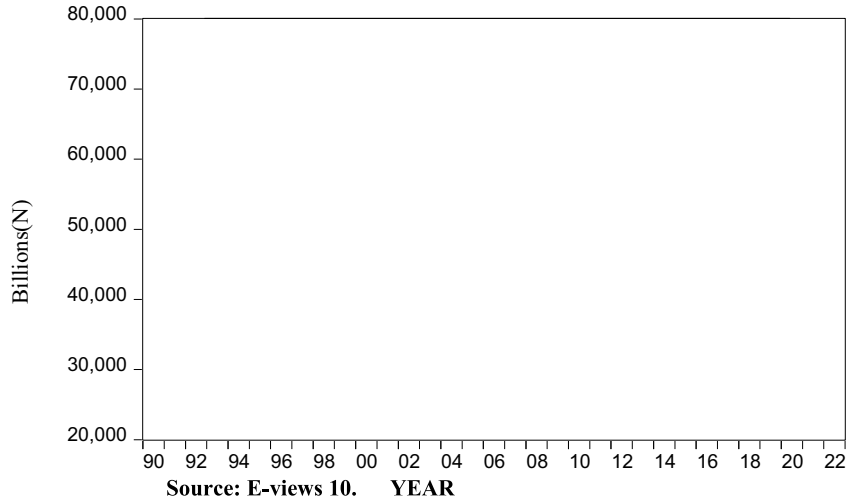

Figure 1: Trend Analysis on Real Gross Domestic Product (RGDP).

From the above graph, RGDP experienced a constant rate of increase over the years. RGDP experienced an upward trend between 1990 and 2000 and then there was a little bit of fluctuation between 2008 and 2010 after which it continued to trend upwardly RGDP climaxed in 2022.

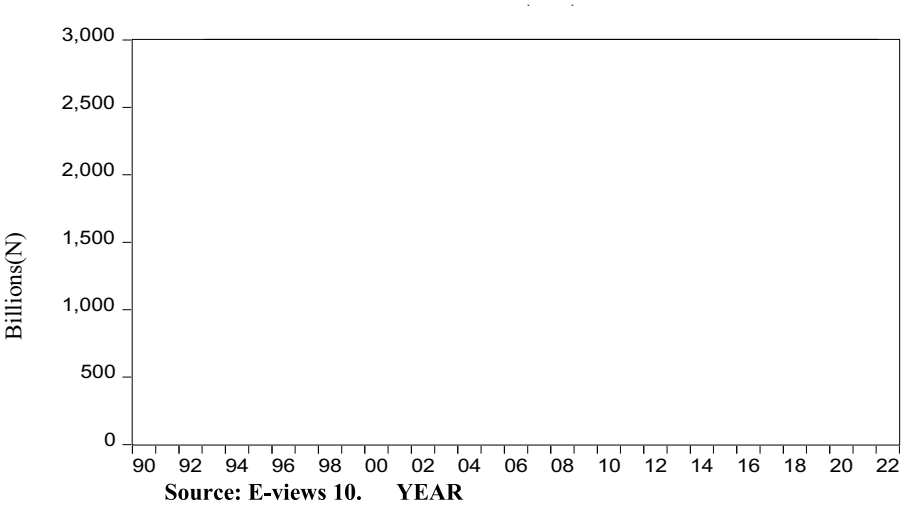

Figure 2: Trend Analysis on Government Expenditure on Health (GEXE).

From the above graph, GEXE experienced a constant rate of increase over the years. GEXE experienced an upward trend between 1990 and 2000 and then there was a little bit of fluctuation between 2000 and 2002 after which it continued to trend upwardly and then it climaxed in 2019. GEXE fell sharply in 2020. It continued to decline until 2022.

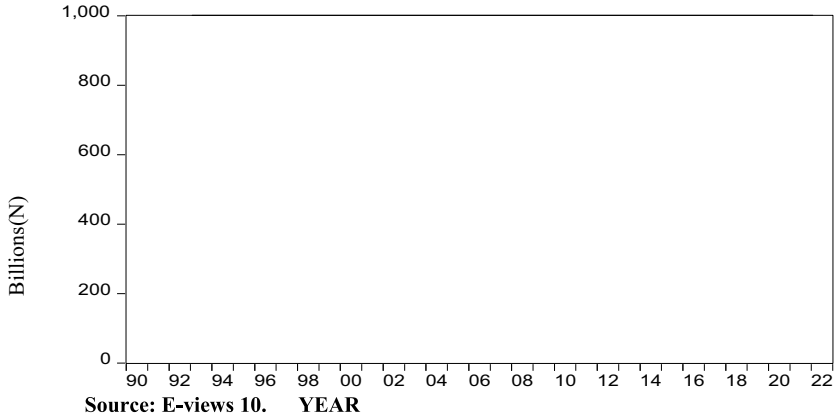

Figure 3: Trend Analysis on Government Expenditure on Education (GEXE).

From the above graph, GEXH experienced a constant rate of increase over the years. GEXH experienced an upward trend between 1990 and 2000 and then there was a little bit of fluctuation between 2000 and 2002 after which it continued to trend upwardly and then it climaxed in 2019. GEXH fell sharply in 2020. It continued to decline until 2022.

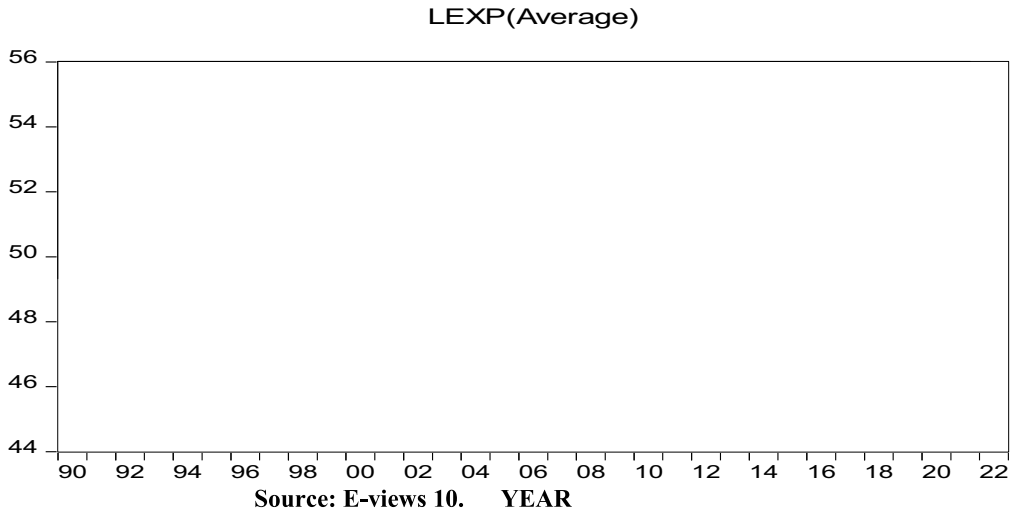

Figure 4: Trend Analysis on Life Expectancy (LEXP).

From the above graph, LEXP experienced a constant rate of increase over the years. LEXP experienced a steady growth rate between 1990 and 2001 and then there was a sharp upward trend between 2002 and 2012 after which it continued to trend upwardly and then it climaxed in 2019. LEXP fell in 2020. It continued to decline until 2022.

Descriptive Statistics

Table 3: Descriptive Statistics result based on time series data collected

	RGDP	GEXE	GEXH	LEXP
Mean	45770.02	808.6768	293.6237	49.46471
Median	30375.18	383.8200	181.6100	48.25200
Maximum	154252.3	2969.320	951.3400	55.88000
Minimum	494.6400	8.290000	3.950000	45.84300
Std. Dev.	47192.27	972.9254	300.4282	3.707095
Skewness	0.868746	1.177020	0.916525	0.498865
Kurtosis	2.563210	2.829739	2.492085	1.651384
Jarque-Bera	4.145818	7.195218	4.673310	3.635045
Probability	0.125819	0.027389	0.096650	0.162428
Sum	1418871.	25068.98	9102.336	1533.406
Sum Sq. Dev.	6.68E+10	28397518	2707712.	412.2767
Observations	33	33	33	33

Source: E-views 10.

The table 4.3.1 above shows the descriptive statistics on real gross domestic product (RGDP), government expenditure on education (GEXE), government expenditure on health (GEXH) and life expectancy (LEXP). The descriptive statistics output is presented under the following subheads:

Mean: From the table, RGDP has the highest mean value of 45770.02 percent followed by 808.6768 and 2936237 representing GEXE and GEXH respectively, while LEXP has the lowest mean value of 49.06366.

Median: The median values best describe the central value of the data. 30375.18, 383.8200, 181.6100 and 48.25200 represents the central value of RGDP, GEXE, GEXH and LEXP respectively.

The maximum and minimum values show the range for RGDP which is (154252.3 to 494.6400), GEXE (2969.320 to 8.29000), GEXH (951.3400 to 3.950000) and LEXP (55.8800 to 45.84300).

Standard Deviation: Shows the level of deviation of the employed variables RGDP, GEXH and GEXE have the highest standard deviation of 47192.27, 972.9254 and 300.4282 respectively. Which suggests that RGDP, GEXE and GEXH are the most volatile variables? This is manifested in the extent of their dispersion from the mean. The LEXP shows a marginal and minimal deviation from its mean value.

Skewness: Being a measure of symmetry, all variables are seen to be positively skewed which goes a long way to show that they possess rather incremental value as most evident in RGDP, GEXE, GEXH and LEXP as they possessed skewness statistics of 0.868745, 1.177020, 0.916525 and 0.498865 respectively.

Kurtosis: which is used to measure the "tailed-ness" shows, as it can be seen that minimal kurtosis of RGDP, GEXE, GEXH, and LEXP shows the absence of outliers and the steepness and are flatter relatively showing lower growth rate.

Jarque-Bera: This goes to show the asymptotic tendency of the employed variables and can be viewed via the probability level. In this light, it can be inferred that only GEXE is normally distributed as it possesses probability level less than 0.05 significant level.

Summary of findings

This study investigates human capital development and economic growth in Nigeria, time series data was generated from CBN bulletin from 1990-2022. The study made use of the Ordinary Least square method of estimation.

Meanwhile, from the result of the OLS it was discovered that government expenditure on education (GEXE) has a negative (co-efficient of -4.192538) and a non-significant relationship (P-value 0.6726) with gross domestic product in the long run. This means for every one percent increase in government expenditure on education will lead to about –4.192538 reduction in RGDP, this result contradicts our earlier anticipated expectation. The decline in gross domestic product can be as a result of the level of corruption bedeviling the public sector in Nigeria which has led to the embezzlement and misappropriation of funds basically meant for the development of economy which also includes the educational sector. Other reasons could be as a result of poor funding of the education amongst others. All these affect the overall speed and strength of economic growth in Nigeria have not been satisfactory.

Furthermore, it was also discovered that government expenditure on health (GEXH) has a positive (co-efficient of 143.0199) and a statistically significant relationship (P-value 0.0036) with real gross domestic product in the long run. This means that a one percent increase in GEXH, will lead to about 143.0199 increase in RGDP, this result conforms to our earlier anticipated A priori theoretical expectation.

More so, the study shows that life expectancy (LEXP) has a positive (co-efficient of 2265.274.) and a statistically significant relationship with real gross domestic product in the long run. This means that a one percent increase in LEXP, will lead to about 2265.274 percent increase in RGDP, this result conforms to our earlier anticipated A priori theoretical expectation.

Conclusion

The study provided a systematic approach to the understanding of the importance of human capital development on economic growth, using Nigeria as a case study. The high level of human capital development has increased the utilization of resources both human and material and as expected, there has been a multiplier effect that has led to economic growth in Nigeria. As a result, a high sense of optimism has emerged concerning the benefits of increased continuous development of human skills and abilities.

Furthermore, an assessment of the impact of human capital development in the Nigerian economy was

made using the enrolment trend in tertiary, secondary and primary schools, and government expenditure on education and health as guide. To statistically and scientifically prove that human capital development has a significant impact on economic growth, a statistical analysis was embarked upon where a multiple regression model was used to evaluate the relationship between human capital development and economic growth for the period 1990-2022. The multiple regression performed on the model revealed that all the variables accounted for 99% variations in the real gross domestic product (RGDP) of Nigeria.

Recommendations

i. The federal, state, and local government in Nigeria should increase their budgetary allocations to education and health sectors and ensure that proper implementation in other to enhance human capital development in the Nigerian economy.

ii. The government should rehabilitate health and educational facilities and provide adequate funds for research and development and building of functional health facilities.

iii. There should be a collaborative effort among all stakeholders including the government, non-governmental organizations, and the private sector in investment in human capital.

iv. There should be establishments of special agencies with the responsibility of improving the skills and capabilities of human capital.

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