

## PUBLIC EXPENDITURE AND HUMAN CAPITAL DEVELOPMENT IN NIGERIA.

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### **Abstract**

*Human capital development is a veritable tool for achieving sustainable and inclusive growth in any economy. Since no nation grows without the contribution of the people therein, thus the roles in which the quantity and quality of a country's labour force plays is pivotal. The focus of this study is to examine how public expenditure and economic growth could be used enhance the human capital development of Nigeria. The analysed data was sourced from the Global Development Indicators covering the years 1981 to 2021. Dynamic Ordinary Least Squares (DOLS) regression technique was used. The method was used to test the complexity of the interactions between the various human capital components. Findings from the study revealed that Nigeria's economic growth is directly impacted by public spending on the different aspects of human capital development. Also, investments in health and education have a favourable and considerable impact on Nigeria's economic growth. The study further concludes that since human capital is a significant factor in determining economic growth; it could be recommended that the country should invest more in the quality of human capital through health and education to raise the standard of living for individuals and the welfare of society.*

**Keywords:** Economic Growth, Government Expenditure, Health, Education, Human Capital Development.

### **INTRODUCTION**

In both developed and developing nations, public spending on the supply of investments in health and education has been recognised as a catalyst for boosting national growth. One of the key strategies for raising the caliber of human resources is to make these services more widely accessible to the populace, which gives the economy access to the well-trained workers it needs to advance and prosper. Economic expansion has advantages and disadvantages. The benefits include a better standard of living, better health, more years of life, and more education.

For decades, economic growth has drawn more and more attention in theoretical and empirical research. However, little is known about the mechanism underpinning economic performance and growth (Easterly, 2001; Young & Norman, 2019). This is partially due to the absence of a unifying economic theory and the reductionist approach used by mainstream economics to the problem (Petraikos et al., 2007; Young & Norman, 2019). Several incomplete theories explain the significance of some factors affecting economic performance and public expenditure in achieving human capital development in Nigeria.

In essence, all nations work to accomplish macroeconomic policy goals. These goals include economic growth, price stability, equitable income, wealth distribution, full employment, public spending, and price stability. Economic growth is essential for long-term sustainability. According to Nwanne (2015), for a nation to experience economic progress, it is necessary to raise the standard of living for its expanding population. This can be done through public expenditure on the human development index (HDI) which represents the investment people make in themselves that enhances their economic productivity.

Human capital development is an investment in human beings for productivity, enhancing human abilities, and providing people with opportunities to make better decisions that support healthier, longer, and more fulfilling lives (Olopade et al., 2019). Every government's primary spending goal is to ensure that its people live long, healthy lives, are educated, and have a respectable level of living. (Grants, 2017). Education in this country is equally very low, according to Peter Obi's September 7, 2021 article in the Vanguard newspaper. Due to banditry and other forms of insecurity, there are currently about 15 million children who are not in school, and the situation is getting worse every day. In terms of per capita income, Nigeria has the most people who live in poverty than any other nation. India has about 1.35 billion people, while China has 1.4 billion. The total of the two numbers equals 2.75 billion people (World Bank, 2016). Despite having only 205 million citizens, Nigeria has more poor people than the combined populations of those two nations, he claimed.

Government investment in human capital development gives a nation the chance to have a suitable, qualified, healthy, and educated labor force that can make a significant contribution to national growth and increase the HDI [United Nations Development Programme (UNDP), 2017]. This is so because a country's ability to develop and sustain its economy depends on the quality of its human capital development.

Additionally, some elements are recognised as essential to the growth process, such as human resources. In general, people are believed to be the most important factor in productivity and economic growth (Pelinescu, 2015). This is so because human creativity has produced the fields of education and health, which may be employed to boost output. Therefore, human innovation and originality are essential to the success of any productive program. Oladeji and Adebayo (1996), referenced in Anyanwu et al. (2015), claim that human resources are essential to progress and deserving of development. They are the mean and, more significantly, the ends—that must be employed to advance the economy. As a result, investing in human capital is essential since it aims to ensure that the nation's endowment of human

resources is knowledgeable, competent, productive, and healthy. to make sure that other resources are used as effectively as possible to spur growth and development (Adeyemi & Ogunsola, 2016).

Economic growth is largely dependent on the development of human capital. While developing one's human capital can mean acquiring the necessary technical know-how and skills, it can also mean fostering human growth and finding ways to increase the population of a nation with the necessary knowledge for economic progress. (Ning & Shun, 2021). The capabilities and benefits related to productivity and income distribution and human capital can be created at the macro or micro level to accomplish this. Public investments in education and health are key elements of human capital development because they can increase labor productivity and incomes, which invariably boost economic growth.

Despite consistent improvement in government budgetary allocation and spending on health and education sectors in Nigeria, the country's HDI remained very low as compared to other countries (Dijkstra, 2018). HDI indicator shows that out of 189 countries ranked, Nigerian is placed as 163rd for three consecutive years from 2018 to 2021. The country also has low value of 0.539 which has remained unchanged (UNDP, 2021). This study adopts empirical approach to explore the possible links between public spending and economic expansion as drivers of human capital development in Nigeria. Public health and education spendings serve as proxies for public expenditure, and the HDI serves as a proxy for human capital development. Secondary data were obtained from UNDP reports and the Central Bank of Nigeria (CBN) Statistical Bulletins from various years. With the aid of E-views 10 econometric software, hypotheses were tested using the Dynamic Ordinary Least Squares (DOLS) regression technique. The results demonstrate that public education spending significantly influenced the human development index. There is evidence that public health spending significantly improved the human development index (HDI). According to empirical data, Nigeria's human development index is positively but marginally impacted by spending on education and health care. Nonetheless, it is believed that this study will give an insight on how public investments in health and educational sectors will impact on the growth of human capital in Nigeria.

In achieving this task, this paper is divided into five sections. After the introductory section, section two is the literature Review followed by the methodology used. Section four is the results and discussions while section five is the conclusion and recommendations respectively.

## **MATERIAL AND METHODS**

To empirically model the relationship between public expenditure and human capital development in achieving economic growth, it is worthwhile to understand that, it has been determined that a successful transition from public expenditure to human capital development often includes investment in education, health, a good standard of living and the creation of a conducive economic environment. Human capital development rests on the assumption that formal education is largely a tool for development, highly instrumental, and necessary to improve the productive capacity of the population. In other words, human capital emphasises

how education increases the productivity and efficiency of workers by increasing the level of intellectual standard of economically and productive human capability, which is a product of intuitive abilities and investment in human beings.

Human Capital, as defined by [Ayodeji & Adebayo \(2015\)](#), is the systematic and continuing process of analysing an organisation's capital needs under changing conditions. [Victoria \(2019\)](#) who sees human capital development as the development of human capital required by the organisation to achieve its strategic goals, they both summed up their findings that investment in human capital means expenditure on health, education, and social services. Thus, human capital provides better perspectives on the outcomes of the application of skills and knowledge in utilising and carrying out economic activities. Therefore, human capital is to create wealth to promote the material, social and economic well-being of the people which involves economic strategic actions such as reduction of unemployment, corruption, and more equitable distribution of income among others.

Any government's responsibility is to perform protection, welfare, and social service functions. The ability to fulfill these duties needs significant public investment in the resources used to support the contribution of health and education to income and productivity. The amount of public spending in Nigeria has been rising recently. According to [Bhatia \(2002\)](#), as cited in [Abayomi & Taiwo \(2011\)](#), the costs that a government incurs for its upkeep, economy, and aiding other nations are referred to as government expenditures. The entire amount of money spent by the government to achieve a set of macroeconomic goals is known as public expenditure. Over time, governments have seen growth in practically every industry. To achieve economic stability, job creation, and economic growth, government expenditure policy decisions affect the flow of money from the public sector into the private sector. It is important to assess how government spending affects the sectors of the economy that have been deemed crucial, particularly education, health, and administration, which together make up Nigeria's human capital development.

According to [Liu, Tang, Zhou & Liang \(2018\)](#), good governance encourages a helping hand of power while it inhibits the gripping hand of power resulting in a positive impact on economic growth. The components of human capital development are an essential aspect of growth in any economy which contributes to the long-run growth and well-being of a country. It comes as no shock that government expenditure and growth have slowly accounted for human capital as an endogenous variable. In a broad view, government policy implementations undermine the growth of output and human capital investment. It is capable of protecting its citizens from internal crisis and eternal violence while it encourages honesty and competence in bureaucracy. However, the more effective a government is the higher level of social welfare which leads to a higher level of food security for countries faced with famine, political stability for countries faced with crises, and a higher level of job creation for countries faced with higher rate unemployment.

Hence, the relationship between the components of public expenditure and human capital development on economic growth relates to how a country measures the government

effectiveness in terms of institutional quality of government performance in terms of rule of law, quality of both public and civil service with a degree of independence from political pressures and credibility of the government's commitment to such policies implementations on educational and health sectors. It, therefore, follows that there is a bi-causal relationship between the two components of human capital and economic growth. Nevertheless, the effect channels of human capital to an economically developed and sustained growth is through good governance, increased spending in government expenditures, productivity, entrepreneurship, and job creation to mention but a few.

### Conceptual Framework

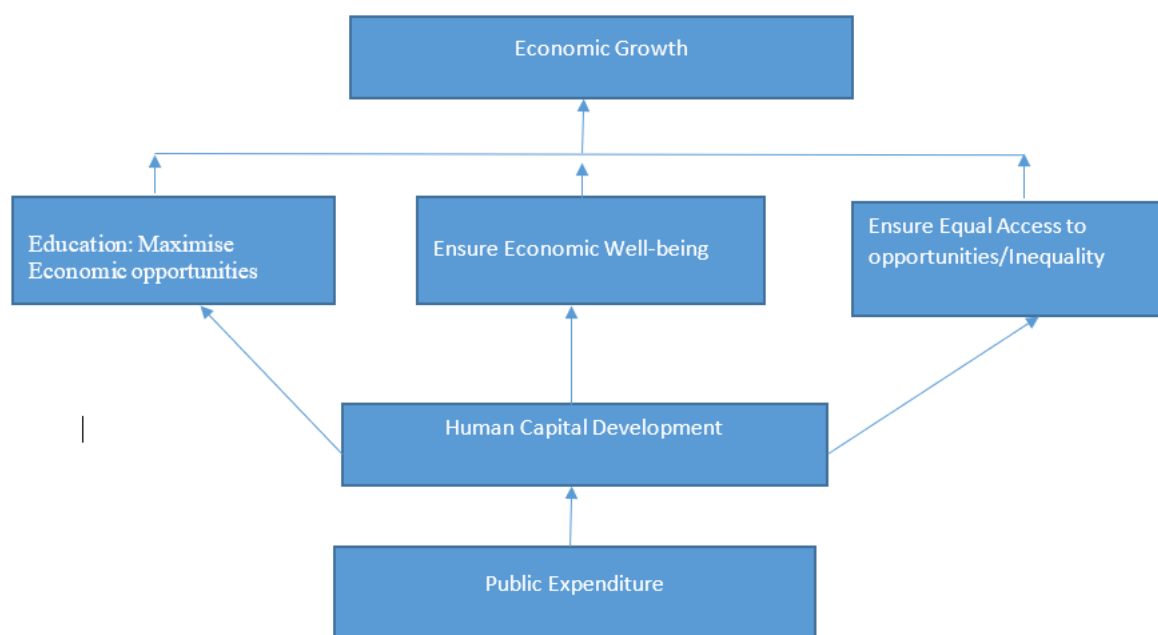


Fig 2.1. Relationship between Public expenditure and human capital development economic growth.

Source: Adapted from GMPI, 2019

### METHODOLOGY

Varios models have been used in explaining the Human Capital theory. Among this is the [Romer model \(1986\)](#). The model explains an increasing return and a stable positive equilibrium growth rate that resulted from the endogenous accumulation of knowledge. This was an important break from the existing literature, in which technological progress had largely been treated as completely exogenous. Secondary data were used in this study. The analysis included information on time series data from world development indicators for the years 1981 to 2021. The application of the Dynamic Ordinary Least Square Regression statistical tool was adopted. The dependent variable economic growth is proxied by GDP, while the independent variable is public expenditure and human capital development is proxied by expenditure on education and health.

The simple form of the model for this study is presented in equations 1

$$Y = AK \tag{1}$$

Where A, is a positive constant that reflects the level of the technology. K, is capital

The functional form for the study is presented as

$$GDP = f (TGEDU, TGHTH, INF, TRD) \tag{2}$$

Where: GDP = Gross Domestic Product, TGEEDU = Total Government Expenditure on Education, TGEHTH = Total Government Expenditure on Health, INF = Inflation, and TRD = Trade as a percentage of GDP which serves as a control variable.

Expressing equation 2 in the structural form it becomes:

$$GDP = \alpha_0 + \alpha_1 TGEEDU + \alpha_2 TGEHTH + \alpha_3 INF + \alpha_4 TRD + U_t \tag{3}$$

Where:  $U_t$  = is the error term and  $\alpha_0, \alpha_1, \alpha_2, \alpha_3,$  and  $\alpha_4$  are parameters. TGEEDU and TGEHTH are proxies for human capital development, INF = Inflation, and TRD = Trade as a percentage of GDP which serves as a control variable. Before applying the dynamic least square to estimate the long-run behavior between human capital and economic growth, we carry out the unit root test to determine the statistical properties of the series. Based on the outcome of the unit root test, the dynamic least square was chosen for this study.

## DISCUSSION OF RESULTS

### Unit Root Test

Utilizing trends and intercepts, the Augmented Dickey-Fuller was used to determine whether a unit root existed in the data. The table below shows the results.

**Table 1. Augmented Dickey-Fuller Unit Root Test (Trends and Intercept @ Level)**

Variables	ADF Statistics at Level		Phillips- Perron Statistics at Level		Remarks
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	
GDP	0.5419	0.3394	0.4028	0.8287	Not Stationary
TGEEDU	0.2130	0.45013	0.8035	0.5011	Not Stationary
TGEEDU	0.3782	0.67007	0.7082	0.6060	Not Stationary
INF	0.9529	0.8166	0.0699	0.1839	Not Stationary
TRD	0.1685	0.4683	0.1964	0.4683	Not Stationary

Sources: Author’s Compilation (2022)



**Table 2. Augmented Dickey-Fuller Unit Root Test (Trends and Intercept @ 1<sup>ST</sup> Difference)**

Variables	ADF Statistics @ 1 <sup>st</sup> Diff.		Phillips- Perron Statistics @ 1 <sup>st</sup> Diff.		Remarks Order of Integration
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	
GDP	0.0000	0.0000	0.0000	0.0000	I (1)
TGEEDU	0.0000	0.0001	0.0000	0.0000	I (1)
TGEEDU	0.0000	0.0012	0.0000	0.0000	I (1)
INF	0.0000	0.0003	0.0000	0.0000	I (1)
TRD	0.0000	0.0032	0.0000	0.0000	I (1)

**Sources:** Author’s Compilation (2022)

The result of the Augmented Dickey-Fuller (ADF) test and Phillips Perron (PP) is given in Table 1. Using the benchmark of 5 percent significance level, it is shown that total government expenditure on education, total government expenditure on health, trade percentage, and inflation are not stationary at the level. However, all the series are stationary at first difference form, that is they are integrated of order 1.

### Wald test

The Wald test (also called Wald Chi-Squared Test) is a way to find out if the explanatory variables in a model are significant. Based on the result of the test, shows all the variables are significant to the model. The f-statistic value is 8.296143 with a probability of 0.0000 showing that all the variables are jointly and highly significant.

**Table 3 Wald test**

Test Statistic	Value	df	Probability
F-statistic	8.296143	(5, 34)	0.0000
Chi-square	41.48072	5	0.0000

**Sources:** Author’s Compilation (2022)

### Serial Correlation and Heteroskedasticity

To ascertain that the model is a good fit, we have to test for serial correlation and heteroskedasticity test of the model. The hypothesis indicates no serial correlation given that the F-statistic is 0.596606 and the probability value is 0.5567 which is greater than 0.05 as seen in table 4.3. Therefore, we reject the hypothesis and this shows that this model has no serial correlation.

**Table 4 Serial correlation test Breusch-Godfrey Serial Correlation LM Test**

F-statistic	0.596606	Prob. F(2,24)	0.5567
Obs*R-squared	1.401952	Prob. Chi-Square (2)	0.49610

**Sources:** Author’s Compilation (2022)

The hypothesis indicated free heteroskedasticity given the Obs\*R-squared of 0.1733 in table 4 which is higher than 0.05, we cannot reject the null hypothesis. Therefore, this is no presence of heteroskedasticity.

**Table 5 Heteroskedasticity Test Heteroskedasticity Test: Breusch-Pagan-Godfrey**

F-statistic	1.6971691	Prob. F(4,34)	0.1733
Obs*R-squared	6.492641	Prob. Chi-Square(4)	0.1653
Scaled explained SS	7.241381	Prob. Chi-Square(84)	0.1237

**Source:** Author’s computation (2022)

**Table 6 Dynamic Least Squares (DOLS)**

Variables	Coefficient	t-value	p-value
TGEEDU	-2.248284	-2.4249211	0.0292
TGEHHTH	3.085518	2.726562	0.0164
TRD	0.365568	3.723280	0.0023
INF	-0.019203	-0.251826	0.8048
C	-5.087365	-1.268739	0.2252
R-squared	0.798329		
Adjusted R-squared	0.510228		

**Source:** Author’s computation (2022)

The result of Table 5 reveals that the R-squared report about 79.83% of the variation of economic growth, which was accounted for by the explanatory variables, while after adjusting for loss in degree of freedom; the adjusted R-squared shows that 51% of the variation was accounted for by the independent variables. The explanatory variables such as Total Government Expenditure on Education, Total Government Expenditure on Health and Trade (% of GDP) are positive and statistically significant in line with the aprior expectation while inflation is non-statistically significant.

The variables Total Government Expenditure on Education, Total Government Expenditure on Health and Trade (% of GDP) also had a positive relationship with the economic growth of Nigeria with all the p-value of respective less than 0.05 and a coefficient of -2.248284, 3.085518 with (t=-2.43, p<0.05), (t=2.73, p<0.05), and (t=3.09, p<0.05) respectively. This



implies that a rise in the Total Government Expenditure on Education will lead to a reduction in economic growth because when Expenditure on Education increases without a necessary policy for proper redistribution this in turn cause's reduction in economic growth through an increase in corruption. However, the one unit rise in Total Government Expenditure on Health would increase economic growth by 3.09 which means that the government should increase total expenditure on health which would then, in-turn increase productivity due to a high level of human performance that would then constitute an increase economic growth while one unit increase in trade percentage of GDP would cause Economic growth to increase by 0.37.

The result also shows that inflation has a negative relationship with the economic growth of the selected countries with a p-value greater than 0.05 and a coefficient of -0.019 ( $t=-0.25$ ,  $p > 0.05$ ). This implies that a rise in inflation will lead to a decrease in economic growth because inflation is the persistent increase in the price of goods and services which would reduce the purchasing power parity that cannot provide the needed growth in an economy.

### CONCLUDING REMARKS

To achieve economic growth in Nigeria between the years 1981 and 2020, this study empirically examines the relationship between public spending and the development of human capital. Utilizing E-Views, ordinary least square statistical methods were used. According to the regression estimates, public spending on health and education during the study period was statistically significant. This suggests that government spending on education aids in the expansion of human capital in Nigeria. Education directly or indirectly affects economic growth and it is an integral part of improving human capital development. When there is an increase in workers' educational level, it has an inverse relationship to improving the capacity of their human capital, it also increases the productivity of the skilled workers which has a positive relationship with poverty reduction. (Odukoya, 2017).

Public expenditure on health has a positive impact on human capital development. The health status and economic growth of a country are interlinked. Healthcare performance is strongly dependent on the economy, and also the health systems themselves. This link should not be underestimated. According to Bernard, Thomas, Yuriy, Bernard, Selden, & Pylypchuk, (2017), wealthier countries have healthier populations. The complete state of physical, mental, and social well-being including the absence of illnesses is described as the process of being healthy and one of the goals most valued by human beings. A country's health status is influenced by factors such as income, availability of health facilities, educational status, expenditure on health, etc. Thus, this study concludes that public expenditure through investment in education and health has a strong influence on economic growth in Nigeria. Based on the findings of this study, it is important to know that all the variables included in the models have significant impacts on economic growth; therefore, the study therefore recommends the following:

1. In order to ensure increased productivity across all different economic sectors, the government should build more healthcare facilities and provide health professionals with competitive salaries.
2. To meet the minimum requirements of educational, scientific, and cultural organizations, the government should increase funding for these sectors.
3. Recognizing that increased health care spending is the only way to increase economic growth, the government should also raise educational standards by inspiring and retraining educators at all educational levels. They should be aware that if the capital investment is focused on enhancing public welfare, it can increase productivity, support cultural diversity, foster a stable political climate, and advance democracy in Nigeria.

In conclusion, the researchers suggest, among other things, the following:

1. that the Nigerian government should increase funding for the education sector to meet the minimum requirements for educational, scientific, and cultural organizations.
2. To guarantee improvements in educational quality and to stop political leaders from being uncommitted to the expansion of the educational sector, education should be made a constitutional requirement.

The Nigerian government should commit to creating a master plan for the development of human capital based on short- and long-term time frames.

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