



# Educational Expenditure and Human Capital Development: Evidence from Nigeria

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Article DOI: 10.48028/iiprds/ssjprds.v7.i1.01

## Abstract

The inadequate funding of the educational sector is reflected in the poor state of infrastructural facilities, irregularity of teachers' remuneration, and poor staff morale, which has resulted in intermittent strikes by some unions, inadequate manpower, and poor human capital development. Therefore, this study set out to examine the relationship between educational expenditure and human capital development in Nigeria using data spanning from 1986 to 2023. The study employed the Augmented Dickey-Fuller and Wald Bound tests as pre-tests, while the ARDL model was used to capture the stated objective of the study. The results of the bound test established a long-run relationship among the variables. The results of the study explicitly revealed that government educational expenditure has a significant positive relationship with human capital development both in the short and long run at 5% conventional level of significance, while government health expenditure confirmed a significant positive relationship in the short run but in the long run, it was insignificantly negative. The results also exhibited an insignificant negative impact of gross domestic product on human capital development in the long run, though it was positive in the short run. In line with the findings of this study, it was concluded that government educational expenditure is capable of boosting human capital development while government health expenditure has insignificantly contributed to the human capital development in Nigeria. The study therefore recommended that government should increase the budgetary allocation both on health and education sectors to enhance greater human capital development in order to drive growth and development.

**Keywords:** *Human capital development, Government educational expenditure, Government health expenditure, Gross Domestic Product and ARDL Approach*

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<https://internationalpolicybrief.org/social-sciences-journal-of-policy-review-and-development-strategies-volume-7-number-1/>

## **Background to the Study**

Globally, the advancement of human capital is regarded as a pivotal element of development, primarily because a proficient workforce effectively orchestrates other production factors. According to the OECD (2016), human capital encompasses the knowledge, skills, abilities, and attributes inherent in individuals that facilitate the generation of personal, societal, and economic prosperity. Human capital is conceptualized through three dimensions: longevity and health, educational attainment, and an adequate standard of living (Folloni & Vittadini, 2018). In the Nigerian context, the “health aspect is assessed through life expectancy at birth, while the educational dimension is evaluated based on the average years of schooling for individuals aged 25 and above, along with the anticipated years of schooling for children commencing their education. Some scholars have also included gross national income per capita as a criterion for assessing living standards (Okwu et al., 2022; Olorunfemi & Adedeji, 2021). In this regard, the attributes of human capital are enhanced through educational pursuits. As articulated by Okojie (2020), human capital refers to the competencies and skills possessed by a nation's human resources, which encompass the educational level, expertise, and capabilities of the workforce.

The World Bank (2023) posits that human capital development pertains to the augmentation of individuals' capacities through investments in education, skills, and health, thereby equipping them for productive employment and sustained economic growth. Within this framework, education assumes a central role in the development of human capital. It elevates individuals' productivity and creativity, fosters entrepreneurship and technological innovation, and enriches their comprehension of themselves and their environment (Innocent, 2012). Psacharopoulos and Patrinos (2018) underscore that education represents one of the most significant investments a nation can make in its populace, yielding considerable dividends in terms of economic advancement and societal progress.

Eze (2014) indicates that Africa, including Nigeria, ranks lowest globally in terms of human capital development indices, as substantiated by the UNDP report (2024), which positions Nigeria among the countries with a low Human Development Index, ranking 161st worldwide and 67th in Africa. Nevertheless, the Nigerian government has enacted numerous policies (such as the National Policy on Education (NPE) in 1977, the Universal Basic Education (UBE) program in 1999, the Tertiary Education Trust Fund (TETFUND), the National Skills Qualification Framework (NSQF) in 2013, and the Education for Sustainable Development (ESD) policy in 2005, among others) aimed at enhancing the human capital development process via the educational sector. All developmental agendas (spanning from the first, second, and third development plans to Vision 2020 and the Economic Recovery and Growth Plan, ERGP) acknowledge the deficits in skilled labor (Fajana, 2019). Since the mid-1970s, policies promoting increased enrollment and graduation rates from universities have been instituted to mitigate the developmental challenges associated with workforce shortages. Consequently, educational reforms have been initiated to enhance school enrollment across all educational tiers. Moreover, in a bid to address the issue of school dropout rates, the implementation of universal basic education aimed to improve access to fundamental education (spanning pre-primary to junior secondary levels) via the provision of free

education, while higher education was substantially subsidized through the National Educational Loan Fund (NELFUND).

A significant challenge pertaining to Human Capital Development in Nigeria is the inadequate allocation of financial resources to the educational sector. Although the government has pledged to enhance educational funding, these financial resources are frequently misallocated, poorly managed, or inadequately focused on critical areas such as teacher training, curriculum enhancement, and educational infrastructure development. According to the National Bureau of Statistics (2023), Nigeria allocates considerably less than the recommended 15-20% of its national budget to education, which has led to underfunded public educational institutions, dilapidated infrastructure, and overcrowded classrooms. The insufficient financing of the education sector, manifesting in aspects such as substandard infrastructural facilities, irregular remuneration for educators, and inadequate staffing, has precipitated sporadic strikes by various labor unions including the Academic Staff Union of Universities (ASUU), the Academic Staff Union of Polytechnic (ASUP), and the Non-Academic Staff Union of Universities. This situation threatens to exacerbate the prevalence of illiteracy within the nation while diminishing the marginal productivity of the workforce.

Despite efforts to augment funding through mechanisms like the Tertiary Education Trust Fund (TETFund), the emphasis has predominantly been placed on tertiary education, with a stark lack of focus on primary and secondary education, which are integral to human capital development. The disjunction between educational expenditure and labor market requirements further aggravates the situation. Graduates frequently lack the technical and vocational competencies sought by employers, thereby rendering them less employable.

Furthermore, Oparah et al. (2023) identified that expenditures in both education and health positively affect indicators of human capital development such as life expectancy and enrollment rates; Olorunfemi and Adedeji (2021) found that increased educational spending was significantly correlated with enhancements in gross enrollment ratios and adult literacy rates; while Onazi (2022) indicated that governmental expenditures on education and health positively impacted human capital development metrics like school enrollment, life expectancy, and literacy rates in Nigeria. Conversely, other studies point to a negative or statistically insignificant correlation, raising concerns regarding the efficiency and effectiveness of educational spending on human capital development in Nigeria. Researchers such as Okwu et al. (2022), Onazi (2022), and Okwu et al. (2022) reported insignificant, and in certain cases, negative relationships. Given the conflicting findings from the aforementioned studies, there exists a critical need for more comprehensive and context-specific research to elucidate the dynamics between educational expenditure and human capital development, as well as to identify the conditions under which public investment in education yields optimal outcomes for national progress from 1986 to 2023". Consequently, this underscores the necessity of the present study to investigate the relationship between educational expenditure and human capital development in Nigeria.

## Literature Review

Zhang and Li (2023) investigated the correlation between public educational expenditure and human capital in Canada and Japan during the period from 2000 to 2020. Employing cointegration and Granger causality methodologies, the research identified a “long-term equilibrium association between public education expenditure and the development of human capital, encompassing metrics such as secondary enrollment rates and participation in higher education. Furthermore, the analysis indicated a causal relationship flowing from expenditure to human capital, corroborating the notion that sustained investment enhances the stock of human capital. In a parallel study, Ali and Khan (2023) executed a more contemporary analysis utilizing a panel of 20 low-income developing nations spanning from 2005 to 2022. By applying fixed effects and threshold regression frameworks, it was revealed that a nonlinear association exists between educational spending and human capital. Specifically, the findings indicated that educational expenditure exerts a significant influence on human capital only upon surpassing a minimum investment threshold. This observation implies that inadequate levels of spending may not yield substantial advancements.

In a cross-national investigation, Asongu and Odhiambo (2022) analyzed 45 sub-Saharan African nations from 1996 to 2020, employing system GMM estimation to tackle endogeneity and dynamic panel bias. The research determined that educational expenditure exerted a positive and statistically significant effect on human capital. Notably, the analysis revealed that these effects were more pronounced in nations characterized by elevated levels of institutional quality and public accountability. In a similar vein, Ullah and Rauf (2020) explored the role of public educational expenditure in fostering human capital development across four South Asian countries: Bangladesh, India, Pakistan, and Nepal. Utilizing panel cointegration and fully modified ordinary least squares (FMOLS) on data collected from 1990 to 2018, the study established a long-term positive correlation between educational spending and human capital. A comparable investigation by Saba and Ngepah (2019) broadened the scope of inquiry to encompass 35 Sub-Saharan African nations. By applying a panel autoregressive distributed lag (ARDL) approach to data from 1990 to 2016, it became evident that public education expenditure significantly affected human capital indicators, including literacy rates and gross enrollment ratios. Nonetheless, the research also highlighted that political instability and inadequate governance diminished the effectiveness of educational spending in certain countries.

Samuel and Ngozi (2019) assessed the influence of governmental educational expenditure on human capital development in West African nations from 1985 to 2016. The study utilized the Hausman test, which indicated that the random effects model was the most efficient and suitable model for analysis. The outcomes derived from the random effects model illustrated that increased government investment in education and health positively and significantly impacted primary and secondary school enrollment rates. Moreover, in Indonesia, Arifin (2017) evaluated the efficacy of public educational spending on human development indicators through panel data regression, utilizing provincial-level data from 2000 to 2015. The findings indicated a positive correlation between educational expenditure and elevated Human Development Index (HDI) scores, primarily driven by enhancements in the education

sub-index (mean years of schooling and expected years of schooling). However, the study emphasized the pivotal role of governance, contending that the impacts of expenditure varied considerably across regions due to disparities in efficiency and levels of corruption.

In Ethiopia, Teshome (2015) investigated the influence of educational and health expenditures on human capital and productivity in the labor market. Utilizing annual datasets spanning from 1980 to 2012 and employing the Autoregressive Distributed Lag (ARDL) model, the study revealed that expenditure on education exerted a significant and affirmative long-term impact on the formation of human capital, particularly through enhancements in school enrollment and educational attainment. Furthermore, it was determined that investments with high capital intensity, such as infrastructure development, proved to be less effective in isolation without adequate recurrent funding. In addition, Osei et al. (2014) assessed the impact of governmental educational expenditure on human capital outcomes by analyzing time-series data from 1970 to 2011. By applying the Johansen cointegration methodology and the Vector Error Correction Model (VECM), their investigation found that public expenditure on education positively influenced human capital development in the long term, albeit with caution regarding the short-term effects being frequently compromised by delays and inefficiencies in budget execution.

Okwu et al. (2022) examined the influence of governmental expenditure on education regarding human capital development in Nigeria from 1990 to 2022, utilizing the Autoregressive Distributed Lag Model (ARDL). The analysis yielded results indicating that both recurrent and capital expenditures on education had an insignificant negative effect on human capital development (HCD), whereas health-related recurrent expenditure displayed an insignificant positive effect on HCD. Additionally, Okonkwo and Ogbuabor (2019) evaluated the ramifications of public expenditure on education and its correlation with human capital development in Nigeria using an ARDL approach, encompassing the timeframe from 1990 to 2017. The findings suggested that government capital investment in education significantly impacted school enrollment rates in the long run, particularly at secondary and tertiary educational levels.

In a further contribution, Lawal and Oluwatobi (2020) analyzed the relationship between educational expenditure and Nigeria's Human Development Index (HDI) from 2000 to 2018. Through the application of multiple regression analysis, a positive correlation was identified between educational spending and enhancements in literacy and life expectancy. Conversely, Adebayo and Adedokun (2022) investigated public education expenditure's effect on human capital development in Nigeria from 1999 to 2020, utilizing a Vector Autoregressive (VAR) model. Their findings corroborated that consistent increases in public educational expenditure correlate with improved literacy rates and elevated secondary school enrollment in the long term.

Ejiogu, Okezie, and Agha (2013) examined the efficacy of governmental educational spending and its implications for human capital formation in Nigeria from 1981 to 2011, employing the Vector Error Correction Model (VECM). This study uncovered a significant

and positive long-term relationship between recurrent educational expenditures and indicators of human capital, such as school enrollment and graduation rates. Additionally, it was noted that capital expenditure exerted a delayed and diminished effect attributed to inadequate infrastructure implementation and inconsistencies in policy. Olorunfemi and Adedeji (2021) explored the influence of educational expenditure on human capital development, utilizing data from 1981 to 2018 in Nigeria. By employing a co-integration and ARDL bounds testing methodology, the results indicated that increased investments in education were significantly correlated with enhancements in gross enrollment ratios and adult literacy rates. In a similar vein, Onazi (2022) scrutinized the impact of educational spending on health and education with respect to human capital development in Nigeria, utilizing the Vector Autoregressive (VAR) model for the period from 1986 to 2018. The findings indicated that public investment in education and health positively influenced human capital development, as evidenced by metrics such as school enrollment rates, life expectancy, and literacy rates in Nigeria. Conversely, government spending in these sectors negatively impacted human capital development through the mortality rate index. Additionally, Abdu and Garba (2018) applied an Autoregressive Distributed Lag (ARDL) model to time series data from 1981 to 2016. Their research demonstrated that government expenditure on education has a positive and statistically significant long-term effect on human capital development, as measured by gross enrollment and literacy rates. However, short-term analyses revealed that variations in spending patterns resulted in transient hindrances to educational outcomes.

Aladejebi and Adenugba (2019) examined the efficacy of public educational expenditure in Nigeria through Ordinary Least Squares (OLS) regression on data that spanned from 1986 to 2016. Their findings highlighted that government spending on education significantly influences enrollment in tertiary education, a vital aspect of skilled human capital development. The authors emphasized the importance of accountability in educational funding. Ajayi and Afolabi (2020) investigated the implications of government educational expenditure on human capital development in Nigeria from 1986 to 2018. By employing the Autoregressive Distributed Lag (ARDL) model, their research uncovered a significant long-term relationship between public education spending and human capital, as represented by literacy and enrollment rates. However, the short-term effects were found to be less robust due to fluctuations in budget allocations and inflationary pressures.

### **Theoretical Framework and Methodology**

This research is grounded in the endogenous growth theory, as initially articulated by Paul Romer (1986) and Robert Lucas (1988), who posited that sustained economic growth is the result of deliberate investments in knowledge, education, and skill acquisition. The theory asserts that education enhances individual productivity and empowers individuals to innovate, adapt, and contribute more effectively to economic activities. As the educated workforce expands, it facilitates technological diffusion, bolsters institutional capacity, and amplifies returns on capital. In contrast to classical and neoclassical models, which treat technological advancement and productivity as exogenous variables, the endogenous growth paradigm integrates these factors as consequences of intentional policy decisions and

institutional measures” (Onazi, 2022). For developing nations such as Nigeria, where educational outcomes and resource allocations exhibit considerable variability over decades, the endogenous growth theory serves as an apt framework for investigating “how public expenditure on education fosters human capital accumulation and, consequently, inclusive development. The theory substantiates the modeling of government educational expenditure as an independent variable, while indicators such as school enrollment, literacy rates, and life expectancy act as dependent variables representing human capital development. In this study, the endogenous growth theory constitutes the theoretical basis for assessing whether increases in educational expenditure in Nigeria from 1986 to 2024 have resulted in quantifiable advancements in human capital development.

**Model Specification**

This study adopted and modified the model of Olorunfemi and Adedeji (2021), who analyzed the effect of government education spending on human capital indicators. Thus, the baseline model is represented in a structural form as shown below:

$$HCD_t = f(EDUEX_t, GDP_t, HEALEX_t, UNEMP_t, INF_t, POP_t) \dots \dots \dots (i)$$

Where;

- HCD=Human Capital Development Index,
- EDUEXT=Government Educational Expenditure,
- GDP=Gross Domestic Product,
- HEALEX= Government Health Expenditure,
- UNEMP= Unemployment Rate, INF= Inflation Rate, and POP=Population Growth Rate

However, for the purpose of this study, equation (i) is modified as follows,

$$HCD = f(EDUEXT, GDP, HEALEX, INFT) \dots \dots \dots (ii)$$

Expressing equation (ii) in an econometric form, it gives:

$$HCD_t = \beta_0 + \beta_1EDUEX_t + \beta_2GDP_t + \beta_3HEALEX_t + \beta_4INFT + \epsilon_t \quad (iii)$$

Putting equation (iii) in autoregressive distributed lagged formats, we have equation (iv)

$$\begin{aligned} \Delta HCD = & \beta_0 + \sum_{i=1}^p \beta_1 \Delta HCD_{t-i} + \sum_{i=0}^p \beta_2 \Delta EDUEXT_{t-i} + \sum_{i=0}^p \beta_3 \Delta GDP_{t-i} + \sum_{i=0}^p \beta_4 \Delta HEALEX_{t-i} \\ & + \sum_{i=0}^p \beta_5 \Delta INFT_{t-i} + \omega_1 HCD_{t-1} + \omega_2 EDUEXT_{t-1} + \omega_3 GDP_{t-1} + \omega_4 HEALEX_{t-1} \\ & + \omega_5 INFT_{t-1} + vt \end{aligned}$$

Where:  $\omega_1 - \omega_5$  are the long run multipliers and vt is the white noise error.

**Table 1: Variable Description and Sources**

Variable	Description	Measurement	Source
HCD	This is human capital index that entails contribution of health and education to worker's productivity.	Index	World Bank Development Indicator (2025)
EDUEXT	The annual sum of expenditure on education as a percentage of GDP at constant price.	Percentage (%)	Central Bank of Nigeria, Statistical Bulletin (2023).
GDP	The sum of aggregate output at constant price	Percentage	Central Bank of Nigeria, Statistical Bulletin (2023).
HEALEX	The annual sum of expenditure on health as a percentage of GDP at constant price.	Percentage	Central Bank of Nigeria, Statistical Bulletin (2023).
INFT	General price level	Percentage (%)	Central Bank of Nigeria, Statistical Bulletin (2023).

**Source:** Researcher's compilation (2025)

## Discussion and Findings

### Descriptive Statistics

**Table 2: Descriptive Statistics**

Statistics	HCD	EDUEXT	GDP	HEALEX	INFT
Mean	0.296844	2.286326	4.124474	1.342220	25.85276
Median	0.220716	0.816640	3.900000	0.481422	6.438500
Maximum	0.913478	17.90000	15.33000	12.68061	215.4000
Minimum	0.000000	0.002250	-2.040000	0.000413	-0.300000
Std. Dev.	0.285791	3.417923	3.808600	2.246720	50.23922
Skewness	0.741037	2.802193	0.549297	3.559770	2.626896
Kurtosis	2.389227	12.65338	3.550016	18.19456	8.735341
Jarque-Bera	4.068515	197.2785	2.389922	445.8072	95.78606
Probability	0.130778	0.251111	0.302716	0.891222	0.892341
Sum	11.28006	86.88040	156.7300	51.00435	982.4050
Sum Sq. Dev.	3.022035	432.2412	536.7009	186.7667	93387.23
Observations	38	38	38	38	38

**Source:** E-view-9 output (2025)

Table 2 depicts the descriptive analysis of the sampled variables in the model. From the analysis, the mean value showed that inflation rate (INF) had the highest average value among the sampled variables, with inflation rate (INF) also depicting the sample for median. This suggests that on the average level, the spiral nature of general price to some degree shows association with how individual within the economy acquire knowledge for better well-being. Inflation rate (INF) value exhibited highest value, while gross domestic product (GDP) showed lowest value. Implying that both inflation rate (INF) and gross domestic product

(GDP) showed some degree of instability in value over the study years, with gross domestic product showing constant declining. Also, Std. Dev. showed a moderate average mean value among the sampled variables in the model. Furthermore, *Jarque-Bera's*  $p$ -values for all sampled variables were higher than 5% significant level. This implies that all sampled variables were distributed.

### Pre-Test Estimate

#### Unit Root Test

**Table 3:** Augmented Dickey Fuller (ADF)

Test at Level				
Variable	Test Statistic	5% critical value	Level	Remark
HCD	/1.812580/	/2.943427/	I(0)	Non-Stationary
EDUEXT	/1.932367/	/2.945842/	I (0)	Non-Stationary
GDP	/4.078653/	/2.943427/	I (0)	Stationary
HEALEX	/2.444361/	/2.951125/	I(0)	Non-Stationary
INFT	/2.502160/	/2.943427/	I (0)	Non-Stationary
Test at first level difference				
Variable	Test Statistic	5% critical value	Level	Remark
HCD	/3.830123/	/2.945842/	I (1)	Stationary
EDUEXT	/4.812715/	/2.945842/	I 0)	Stationary
HEALEX	/4.760061/	/2.945842/	I (1)	Stationary
INFT	/3.569061	/2.948404/	I 0)	Stationary

**Source:** E-view-9 output (2025)

The ADF's estimate confirmed that only gross domestic product (GDP) was stationary at level; while, human capital development (HCD), government educational expenditure (EDUEXT), government health expenditure (HEALEX) and inflation rate (INF) showed stationary at first level difference. This implies that the variables showed in the model confirmed with preposition of stationary of data prior before estimating, in order to reduce the probability of obtaining biased inferences.

### Bound Test Estimate

**Table 4:** Bound Test Estimate

Test Statistic	Value	K
F-value	4.810022	4
Critical Value		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

**Source:** E-view-9 output (2025)

It was confirmed as shown in Table 4 that all sampled variables, including human capital development (HCD), government educational expenditure (EDUEXT), gross domestic product (GDP), government health expenditure (HEALEX) and inflation rate (INF) showed a long-run link. The rationale for such is that estimated *F*-value (4.810022) was much higher than 4.01 at a 5% conventional level of significance.

### Estimated Result of Auto-Regressive Distributed Lag

**Table 5:** Short-run & Long-run Estimates

Short-run Estimates				
R <sup>2</sup> = 0.888872; Adjusted R <sup>2</sup> = 0.646410; Prob.(F-statistic)= 0.014427				
Variables	Coefficient	Std. Error	t-Statistic	Prob.*
ΔEDUEXT	0.307196	0.123957	2.478246	0.0014**
ΔGDP	0.000782	0.004374	0.178758	0.8594
ΔHEALEX	0.105060	0.024504	4.287463	0.0000**
ΔINF	-0.000153	0.000326	-0.468387	0.6430
Constant	0.023719	0.030288	0.783108	0.4399
ECTt	0.201647	0.094868	2.125554	0.0406**
Long-run Estimates				
Variables	Coefficient	Std. Error	t-Statistic	Prob.*
EDUEXT	2.081991	1.000593	2.080755	0.0082**
GDP	-0.003432	0.022852	-0.150193	0.8817
HEALEX	-1.469518	2.349095	-0.625568	0.5365
INF	0.000670	0.002153	0.311181	0.7579
Constant	-0.304117	0.106858	-2.845990	0.0082**
<b>Note: ** indicates significance @ 5%</b>				

### Discussion of Findings

The results revealed a favorable correlation between governmental educational expenditures (EDUEXT) and the development of human capital (HCD), applicable to both short-term and long-term assessments. The positive coefficient signifies that educational expenditures genuinely facilitate individuals in acquiring essential skills, thereby enhancing human capital development. In this context, Arifin (2017) indicated that public funding for education guarantees the provision of educational skills for a substantial segment of the population, which in turn amplifies revenue generation and fosters human capital development. The implication is that increased governmental investment in education promotes greater access to educational resources and skills, ultimately empowering individuals economically and advancing human capital. Likewise, research by Ali & Khan (2023) and Arifin (2017) found that public capital investments in education exert a robust long-run influence on school enrollment figures, particularly at secondary and tertiary educational levels". Conversely, Okwu et al. (2022) indicated that educational expenditures exert an insignificant negative effect on human capital development (HCD).

Moreover, the Autoregressive Distributed Lag (ARDL) model indicated that gross domestic product (GDP) displayed a positive yet statistically non-significant correlation at the conventional 5% significance level in short-run estimates. This finding suggests that, in the

long term, “an increase in domestic output in response to heightened aggregate demand may not suffice to enhance human capital development. This outcome aligns with prior expectations. It indicates that the expansion of economic activities necessitates a greater labor force, which may not be adequately fulfilled by insufficient human capital development. This conclusion aligns with the findings of Okwu et al. (2022), who verified that gross domestic product has an insignificant positive impact on HCD. In terms of government health expenditure (HEALEX), it was found to be positive and statistically significant at the 5% significance level in short-run estimates, while the long-run estimate yielded non-significant results. This indicates that Nigeria's investment in the health sector contributes positively to the health of its workforce, thereby enhancing human capital development. Nevertheless, the insignificance of long-run estimates may be ascribed to the current high rate of brain drain within the health sector, which diminishes healthcare access for both workers and the general populace. Additionally, ongoing strikes by healthcare professionals, including resident doctors, nurses, and other personnel, exacerbate the accessibility issues within the healthcare system. Nevertheless, studies conducted by Abdu and Garba (2018) as well as Okonkwo and Madueke (2016) have reported that governmental expenditure on health yields a positive and significant long-term effect on human capital development. It was noted that the inflation rate (INF) presented a negative coefficient with a p-value exceeding the 5% significance threshold; conversely, the long-run estimate exhibited a positive coefficient, albeit with a statistically non-significant relationship. This implies that hyperinflation may adversely affect consumption, investment, and ultimately human capital development.

### **Conclusion and Recommendations**

The study examined the relationship between educational expenditure and human capital development Nigeria, from 1986-2023. It was confirmed from the short-run results that government educational expenditure (EDUEXT) and government health expenditure (HEALEX) explicitly showed a positive sign and significant at 5%; while a long-run estimate showed that government educational expenditure (EDUEXT) was positive and significant. Gross domestic product (GDP) was positive and non-significant for both short-run and long-run estimates. Also, inflation rate (INF) was positive and non-significant. The study concluded that government investment in education boosted human capital development in Nigeria.

It was recommended that government should increase her expenditure on education to empower people more by acquiring sophisticated skills to enhance human capital and encourage accessibility to education. This can be done by ensuring that a larger share of the budget should be allocated to the education sector, particularly for initiatives that promote secondary and tertiary education. This investment in education will have a significant positive impact on human capital development, leading to a more skilled workforce that can drive economic growth and development. The government should also prioritize healthcare delivery. Although government health expenditure has a positive impact on human capital development in the short run, issues such as brain drain and accessibility problems need to be addressed. To retain healthcare professionals and improve access to healthcare services, the government should implement policies that offer competitive salaries, provide training and

development opportunities, and invest in healthcare infrastructure. By doing so, the government can ensure that its investment in healthcare leads to improved human capital development. The government should take steps to control inflation, which can worsen consumption, investment, and human capital development. Monetary policy interventions, fiscal discipline, and investment in productive sectors are needed in this area in order to control inflation; government can use this to create a favorable economic environment that supports human capital development and to spur economic growth.

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