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Human Capital, Institutional Quality and Socioeconomic Outcomes in Nigeria

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Abstract*: Despite Nigeria's status as a leading African economy, persistent poverty and structural unemployment present critical development challenges. While public funding to social sectors is intended to stimulate growth, weak institutional frameworks frequently disrupt this transmission mechanism, leaving an empirical gap regarding how human capital allocations and governance structures concurrently impact welfare. This study explores the nexus between human capital, institutional quality, and socioeconomic outcomes in Nigeria using annual time series data from 1980 to 2025. Adopting the Autoregressive Distributed Lag (ARDL) bounds testing approach, the study models material welfare—proxied by Gross Domestic Product per capita (GDPPC)—against government expenditures on education (GEE) and health (GEH), labor force participation, corruption perception, and political stability. The empirical diagnostics confirm a long-run cointegrating relationship among the variables. The estimated multipliers show that human capital investments are vital drivers of structural development; a 1% expansion in educational and healthcare allocations yields a 1.79% and 0.81% increase in long-run GDPPC, respectively. Furthermore, political stability exerts a dominant positive effect, where a 1-unit index improvement drives a 6.06% expansion in per capita income. Conversely, the Corruption Perception Index remains statistically insignificant, suggesting that historical transparency initiatives have not effectively translated into tangible welfare gains. Consequently, this paper recommends that policymakers shift away from generic spending expansions, prioritizing instead, targeted and digitally monitored fiscal investments in education and health infrastructure alongside comprehensive legal and security reforms to ensure institutional stability.*

Keywords*:* human capital, institutional quality, socioeconomic outcomes, ARDL co-integration, Nigeria.
JEL Classification Code: Q15, O43, O55.

INTRODUCTION

Since gaining independence in 1960, Nigeria has faced persistent systemic hurdles in translating its vast economic potential into sustainable human and social development. Despite its status as

one of Africa's largest economies and a leading crude oil producer, the nation remains constrained by deep-seated structural challenges, including endemic poverty, pervasive unemployment, and stark socioeconomic inequality. The national poverty rate remains high at over 40%, with severe vulnerabilities concentrated in rural agrarian communities and conflict-afflicted regions in the north (Ejimofor & Ugwu, 2017).

This localized crisis mirrors a broader trend across Sub-Saharan Africa. World Bank data indicates that over half of the countries in the region maintain poverty rates exceeding 35%, accounting for 18 of the 20 poorest nations globally. While global poverty rates have trended downward, the absolute number of individuals living in extreme poverty in Sub-Saharan Africa rose from 284 million in 1990 to an estimated 433 million in 2018, primarily driven by demographic growth outpacing economic expansion (IMF World Economic Outlook, 2025).

Within this regional context, Nigeria's macroeconomic indicators have experienced a notable contraction. Gross Domestic Product (GDP) per capita declined significantly from $3,222.70 in 2014 to $806.84 by early 2025, falling below counterparts such as Sierra Leone ($915.81) and approaching levels observed in fragile states like Somalia ($766.01). This macroeconomic shift aligns with microeconomic welfare data: The National Bureau of Statistics multidimensional poverty index reveals that 63% of the population—approximately 133 million individuals—experiences multidimensional deprivation across health, education, and living standards.

The structural friction limiting Nigeria's development trajectory lies at the intersection of underfunded human capital and weak institutional quality. Economic consensus establishes that public investments in education and health serve as the foundation for human capital accumulation, driving labor productivity, expanding technical knowledge, and reducing mortality rates. However, Nigeria's low performance on global benchmarks, such as its score of 0.36 on the World Bank Human Capital Index, underscores a significant developmental gap (Ejere, 2011).

In institutional economics, the efficacy of fiscal allocations is deeply contingent upon the quality of governance and the institutional framework governing public resource management. In environment characterized by institutional fragility, systemic inefficiencies and resource misallocation frequently disrupt the transmission mechanism between public expenditure and human development outcomes (Todaro and Smith 2006; Chijioke and Amadi 2019). Consequently, even when budgetary expansions occur within the social sector, weak institutional quality can diminish the marginal returns of these investments, leaving structural poverty and unemployment largely unaddressed.

Extant literatures note that expenditures in education and health depend largely on the institutional quality of a country (Khan et al 2020). Macroeconomic stability is a reflection of institutional quality, which itself is the cornerstone of any successful effort to improving socioeconomic outcomes. Emmanuel et al (2024) argued that the average institutional quality in Nigeria has been declining given the country's low performance in the World Governance Indicators over the time.

Poor institutional quality reduces human capital; discourage investors, thus translating to adverse socioeconomic outcomes – poverty, unemployment etc (Khan & Naeem, 2020). This paper dwells on the nexus between human capital, institutional quality and socioeconomic outcomes in Nigeria. Specifically, the paper examines the impact of human capital on socioeconomic outcomes and the effect of institutional quality on socioeconomic outcomes in Nigeria. Consequently, the paper seeks to answer the following questions: what is the effect of human capital represented by government expenditures on education and health on socioeconomic outcomes in Nigeria? What is the mediating role of institutional quality in the nexus between expenditures on human capital development and socioeconomic outcomes in Nigeria? A study of this nature is therefore imperative to provide answers to the aforementioned questions while contributing to the debate on the quality of governance in Nigeria. More so, extant literature is replete with empirical evidence on the impact of human capital on economic growth/performance; effect of institutional quality on economic growth/performance and the effect of institutional quality on human capital development in Nigeria. There seem to be paucity of empirical evidence on the nexus of human capital, institutional quality and socioeconomic outcomes in Nigeria. This paucity of empirical evidence is the motivation for this research. The study period covers a period of 45 years, 1980 to 2025. The choice of this period is deliberate because it covers the period increasing population growth, worsening poverty levels and acute unemployment where the role of government in ameliorating the plight of the citizens have been severally called to question.

In terms of organization, his paper is structured as follows: section one contains the introductory part; the next section presents the literature review, which is followed by the methodology. Section four contains discussion and presentation of results, while the last section is the concluding part, which includes policy implications, recommendations and suggestions for further research.

LITERATURE REVIEW

Conceptual Review

Human capital development presupposes investments, activities, and processes that facilitate the generation of technical and expert knowledge; skills, health or values that are embodied in people. It implies maintaining an appropriate balance and key massive human resource base and providing an encouraging environment for all individuals to be fully engaged and contribute to organizational or national goals (Schultz, 1961 and Becker, 1964). Human capital can thus be divided into three key components: health, education and experience/training; and its stock could increase through better education, higher health status and new learning (Ogundari and Awokuse, 2018). Investment in education and health enhances human capital development in developing countries like Nigeria. The critical elements of human capital development are built on investments in education and health. Investment in education create new skills, knowledge and experience which stimulate economic growth through making individuals more proficient and more productive (Bassey et al 2023). Eggoh et al, 2015 similarly argued that investing in education and health has become indispensable social priorities in recent years as human capital accumulation has become a fundamental cause of economic performance owing to efficiency while Chijioke and Amadi

(2019) posit that human capital development is necessary for national development to occur since knowledge is one of the key factors for the development and progress of each of the world economies.

The term institutional quality is often used interchangeably with governance (Poniatowicz et al 2020). One of the most popular definitions of governance was proposed by Kaufmann et al (1999) when they described it as the traditions and institutions that determine how authority is exercised in a particular country. Institutional quality has to do with the proper, competent and transparent running and regulation of society, including the means of production. Kaufmann et al (2000), Nawaz et al (2014), Ali et al (2018), Nguyen et al (2018), Adegboye et al (2020), World Bank (2024), further posited that good governance is strongly correlated with growth momentum and better development. They also found a large causal effect running from improved governance to better development outcomes. The Worldwide Governance Indicators (WGI) is a World Bank project that reports aggregate and individual governance indicators for over 200 countries and territories annually from 1996. It considers six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

Theoretical Review

This study is theoretically anchored in the Human Capital Theory, supplemented by the tenets of New Institutional Economics (NIE). Human capital theory posits that formal education and health infrastructure directly augment the productive capacity of human labor (Schultz, 1961). Individuals with higher educational attainment and better health status are more resilient, highly proficient, and capable of earning higher wages, which directly reduces absolute and multidimensional poverty.

New Institutional Economics extends this framework by demonstrating that markets and human interactions do not operate in a vacuum. Institutions act as the "rules of the game" that shape organizational performance and public sector efficiency. Integrating these theories reveals that while human capital accumulation provides the technical and physical capacity for growth, the institutional framework determines its structural efficiency. Without solid institutional arrangements, human capital investments cannot be optimally deployed, trapping developing economies in cycles of low productivity and persistent poverty.

Empirical Literature Review

Empirical assessments of public expenditure on health and education have yielded highly divergent findings within developing economies. A number of studies validate a direct, positive relationship between social sector allocations and macroeconomic development. Ajayi et al. (2020); Ewubare and Mark (2018); Olapade et al. (2019); found that public capital expenditures on education and health significantly stimulate long-run economic growth and lower absolute poverty. Similarly, Ugochukwu and Okoli (2018) discovered that targeted public healthcare

investments yield robust long-run returns in reducing the depth of household poverty, highlighting the safety-net function of public welfare infrastructure.

However, a number of studies highlights a notable disconnect between spending and developmental outcomes. Using dynamic frameworks, Lawanson (2017); Onifade et al. (2020); and Adeyemi and Ogunsola (2020) have found that public sector spending on health and education can negatively impact economic performance when evaluated over specific historical windows. This paradox is often attributed to the structural composition of the expenditures. Recurrent spending (such as administrative overhead and civil service wages) frequently dominates public budgets, exerting a negligible or negative effect on structural development, while the growth-inducing effects of capital spending remain statistically insignificant due to underfunding.

Extant literature notes institutional framework as one of the primary drivers of development outcomes. Comparative panel data across developing economies confirms that high-technology exports and robust human capital reserves successfully mitigate poverty only when backed by stable political governance and strong regulatory institutions. Historically controlled variations in development also confirm that when long-run institutional frameworks are accounted for, the direct independent impact of geographic or resource factors diminishes, underscoring institutions as a dominant structural anchor - Rashid et al. (2018); Gideon et al. (2020); Acemoglu et al. (2014) and Akanbi (2015). Furthermore, regional panel data across Sub-Saharan Africa demonstrates that structural poverty rates converge downwards only when countries achieve specific baseline ratings in infrastructure and public sector transparency - Ologbenla (2020). Conversely, Duerrenberger and Warning (2018); Ologbenla (2020) notes that institutional deficit systematically undermine educational and social progress. High levels of public corruption alter the returns on public sector investments. In low-corruption environments, institutional funding consistently extends the average years of schooling; however, in high-corruption states, additional public funding is often lost to administrative rent-seeking, ultimately reducing educational quality and overall years of schooling.

Emerging empirical studies emphasize that analyzing human capital or institutions in isolation creates an omitted variable bias, as the two dynamics are endogenously linked. Studies in the West African sub-region, reveal that industrial growth and socioeconomic transformation remain suppressed precisely because both human capital indices and institutional scores are simultaneously deficient Ologbenla (2020). In Nigeria, Ilesanmi and Lasisi (2015) opines that institutional performance directly dictates the inclusive growth elasticity of public spending, meaning that fiscal policies fail to generate inclusive employment opportunities when execution mechanisms are fundamentally weak. Thus, the historical failure of numerous poverty alleviation programs across various political regimes is rarely due to poor conceptual design; rather, it stems from institutional fragility and flawed execution channels that cause massive delivery failures Ayodeji and Adebayo (2015).

The reviewed literature reveals a substantial empirical division. Most existing studies are focusing either on the isolated impact of human capital on growth or the singular effect of governance structures on economic performance. There is a noticeable scarcity of empirical literature that models human capital allocations concurrently with institutional quality indicators within a cohesive time-series framework to evaluate direct socioeconomic outcomes. This paper addresses this gap by using a 45-year ARDL approach, capturing how the interaction between government expenditures and institutional quality determines welfare outcomes in Nigeria.

METHODOLOGY

Model Specification

This theoretical framework for this study is based on an augmented Solow growth model, adapted to incorporate the principles of New Institutional Economics (NIE). Following the model specifications of Saka and Olanipekun (2021), the model for this study is modified to evaluate socioeconomic outcomes as a function of physical human capital investments, labor force dynamics, and institutional quality factors. The implicit long-run functional relationship is specified as:

$$Y_t = (K_t, L_t, Z_t) \quad (1)$$

Where Y represents socioeconomic outcome (poverty) proxy GDP per capita, K represents Government Expenditures on Education and Health, L represents labour proxy with labour force participation rate; Z represents the two governance components used in this study which are: Corruption Perception Index and Political Stability. Following from the above and in line with the objectives of this study, the model for this study is stated in the functional form as:

$$GDPPC = f(GEE, GEH, LBFPR\ CPI, POLSTAB) \quad (2)$$

In econometric form, the above relationship are stated and specified in log form as:

$$\log GDPPC = b_0 + b_1 \log GEE_t + b_2 \log GEH_t + b_3 \log LBFPR_t + b_4 \log CPI_t + b_5 \log POLSTAB_t + e_t \quad (3)$$

Where GDPPC = Gross Domestic Product Per Capita
GEE = Government Expenditures on Education
GEH = Government Expenditures on Health
LBFPR = Labour Force Participation Rate
CPI = Corruption Perception Index
POLSTAB = Political Stability

e_t denotes error term, b_1,b_2,b_3, b_4, and b_5 are respective coefficients to be estimated for the respective variables. GDDPC, GEE, GEH, LBFPR, CPI, POLSTAB > 0

The estimation of the model above is based Autoregressive Distributed Lag (ARDL) technique. ARDL is a dynamic model that incorporates lagged value of the dependent variable as exogenous variable in determining the effect of the dependent variable (Pesaran, Shin & Smith, 2001).The estimation process began with a summary statistics of the variables of the model. Thereafter, a unit

root test was carried out to ascertain the stationarity status of the variables that entered the model using the Augmented Dickey-Fuller ADF test. The results were confirmed by the Philip-Perron (P-P) test. Subsequently, a co-integration (ARDL Bounds) test was also carried out to ascertain the presence of long run relationships among the variables in the model. An ARDL test was conducted to determine the how agricultural innovation and governance impacts food security in Nigeria. This ARDL methodology is useful in estimating both the short run and long run effects of the model.

In line with the autoregressive distributed lag (ARDL) technique, equations 3 above is re-specified as:

$$\Delta lnGDPPC_t = b_0 + \beta lnGEE_{t-1} + \chi lnGEH_{t-1} + \emptyset lnLBFPR_{t-1} + \Upsilon lnCPI_{t-1} + \psi lnPOLSTAB_{t-1} + \sum_{i=1}^{n} \beta_i \Delta lnGDPPC_{t-i} + \sum_{j=0}^{M} \emptyset_j \Delta ln\, GEE_{t-1} + \sum_{k=0}^{p} \theta_k \Delta lnGEH_{t-k} + \sum_{v=0}^{s} \psi_v \Delta LBFPR_{t-v} + \sum_{i=1}^{n} \Upsilon_i \Delta lnCPI_{t-i} + \sum_{j=0}^{M} \emptyset_j \Delta ln\, POLSTAB_{t-1} + \epsilon_t \quad 4$$

Where Δ is first difference operator, ***ln*** is natural logarithm, Expressions with (β_i) measures the short-run relationships while the coefficient (β) captures the long run relationships in the model. Data for the study covers a 45 year period, (1980-2025) and were generated from World Development Indicators (WDI); Food and Agricultural Organization of the United Nations (FAO); and World governance indicators (WGI). Equation 4 forms the final specification of the models for this study. The measurement and sources of data used for this study are presented in Table 1.

Table 1: Variable definition, measurement and source

Variable	Measurement	Source
Gross Domestic Product Per Capita GDPPC	Constant (2015) United States Dollars (USD); serves as the structural proxy for absolute poverty and material living standards.	World Bank- WDI (2026)
Government Expenditure on Education GEE	Total annual budgetary recurrent and capital allocations to the education sector, measured in Millions of Naira (NGN).	CBN/NBS (2026)
Government Expenditure on Health GEH	Total annual budgetary recurrent and capital allocations to the healthcare sector, measured in Millions of Naira (NGN).	CBN/NBS (2026)
Labour Force Participation Rate LBFPR	The proportion of the population aged 15–64 that is economically active, expressed as a percentage of the total working-age population.	World Bank- WDI (2026)

Corruption Perception Index CPI	Institutional transparency indicator. Measured on a normalized scale where higher values reflect increased transparency and lower corruption levels.	World Bank- WGI, (2026)
Political Stability POLSTAB	Governance index measuring the perception of political stability and absence of violence/terrorism, scored on a continuous scale from \(-2.5\) (weak) to \(+2.5\) (strong)	World Bank- WGI, (2026)

Source: Author's Compilation, 2026.

RESULTS AND DISCUSSION

Descriptive Statistics

In order to have robust information about the data set for empirical estimation, the descriptive and correlation analysis were conducted. The results are reported in Tables 1 and 2 below:

Table 1: Descriptive Statistics

	GDPPC	*GEE*	*GEH*	*LBFPR*	*CPI*	*POLSTAB*
Mean	1166.909	0.237609	70.34290	2.610643	22.68846	-1.845667
Median	1175.070	0.240000	72.21672	2.657389	25.00000	-1.910000
Maximum	1296.630	0.380000	76.19729	3.120664	28.00000	-1.120000
Minimum	887.8200	0.090000	62.08044	2.082978	6.900000	-2.190000
Std. Dev.	84.19613	0.094990	4.766956	0.255156	5.616713	0.266532
Skewness	-0.848473	-0.018913	-0.611085	-0.758480	-1.497623	1.194027
Kurtosis	3.915825	1.629722	1.848754	3.219531	4.228691	3.963424
Jarque-Bera	7.126859	3.601592	5.403210	4.502940	11.35461	8.288733
Probability	0.028341	0.165167	0.067098	0.105244	0.003423	0.015853
Sum	53677.83	10.93000	3235.773	120.0896	589.9000	-55.37000
Sum Sq. Dev.	319004.4	0.406037	1022.574	2.929704	788.6865	2.060137
Observations	46	46	46	46	46	46

Source: Author's computation 2026.

The descriptive results demonstrate that Gross Domestic Product per capita (GDPPC) maintains a mean value of $1,166.91 across the observed timeframe, fluctuating between a minimum of $887.82 and a peak of $1,296.63. Government Expenditures on Education (GEE) and Health (GEH) average 0.24 million Naira and 70.34 million Naira respectively, pointing to historical

differences in sectoral funding scales. The continuous institutional index for Political Stability (POLSTAB) displays a strictly negative mean value of -1.85, highlighting that Nigeria's governance environment has historically trended toward political fragility.

The Jarque-Bera normality framework reveals that the raw series for GEE, GEH, and LBFPR exhibit normal distributions, as their associated asymptotic probability values exceed the standard 0.05 threshold of statistical significance. Conversely, GDPPC, CPI, and POLSTAB exhibit deviations from normality. Within an ARDL bounds testing framework, the normality of individual underlying series is not a prerequisite for estimation; the structural property required for valid hypothesis testing is the normal distribution of the estimated model's residuals.

Correlation analysis

The correlation analysis was carried out to determine causal relationships that exist between the dependent variable and the explanatory variables. The results are presented in Table 2.

Table 2: Correlation Matrix

	GDPPC	***GEE***	***GEH***	***LBFPR***	***CPI***	***POLSTAB***
GDPPC	1.000000	-0.275931	0.985906	-0.953496	0.533055	-0.315662
GEE	-0.275931	1.000000	-0.335539	0.416776	-0.249922	-0.117577
GEH	0.985906	-0.335539	1.000000	-0.932457	0.633541	-0.398154
LBFPR	-0.953496	0.416776	-0.932457	1.000000	-0.406200	0.093666
CPI	0.533055	-0.249922	0.633541	-0.406200	1.000000	-0.673220
POLSTAB	-0.315662	-0.117577	-0.398154	0.093666	-0.673220	1.000000

Source: Author's computation 2026.

The results of the correlation matrix in table 2 above indicate that a positive relationship exists between the dependent variable GDPPC, and some explanatory variables - GEH, and CPI. A negative relationship was however reported to exist between GEE, LBFPR and POLSTAB with the dependent variable GDPPC.

Unit Root Test

The Augmented Dickey-Fuller was carried out to test the variables for unit roots. The Phillips-Perron test was equally carried out to confirm the ADF results. Both results are presented in Table 3 below.

Table 3: Augmented Dickey-Fuller and Philips–Perron Unit Root Test Results

Variable	ADF result		P-P result		Lag order	~I(d)
	Level	1st difference	Level	1st difference		
GDPPC	2.921	-3.578*	1.022	-2.940*	2	I(I)
GEE	-1.562	-6.233*	-1.515	-6.233*	2	I(I)
GEH	-1.657	-9.689*	-1.657	-4.956*	2	I(1)
LBFPR	-1.090	-5.226*	-1.144	-5.552*	2	I(1)
CPI	-3.506*	-	-3.975*	-	2	I(0)
POLSTAB	-3.192*	-	-3.634*	-	2	I(0)
Note: * denotes 5% level of significance and rejection of null hypothesis						

Source: Author's computation, 2026.

The Augmented Dickey-Fuller and Philips–Perron unit root tests showed that CPI and POLSTAB are stationary at levels, as indicated by their respective significant test statistics. On the other hand, GDPPC, GEE, GEH and LBFPR were not stationary at levels. Consequently, these variables were differenced once and, at their 1st difference, the variables became significant at the 5 percent level. Therefore, CPI and POLSTAB are integrated of order zero hence I(0). GDPPC, GEE, GEH and LBFPR on the other hand, are integrated of order one, hence I(1).

The results of the ARDL Bounds test estimation is presented in table 4 below

Table 4: Results of the Bounds Test

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	9.323011	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

From the results in table 5 above, since the F-statistic 9.323011 is greater than the upper critical value of 3.28, the null hypothesis of no co integration is rejected at the 5% level. This means that GDPPC, GEE, GEH, LBFPR, CPI and POLSTAB are co integrated, thus implying that a long run relationship exists between the variables of the model. Upon confirmation of the co integrating relationship, the long-run effect of human capital and institutional quality on socioeconomic outcomes is estimated using the ARDL model. The results of the estimation are reported in Table 5 below.

ARDL Test

The results of the ARDL estimation of the model are presented in Table 5.

Table 5: ARDL Estimates.

VARIABLES	*SHORT-RUN (GDPPC)*	*LONG-RUN (GDPPC)*
GEE	0.3645 (t = 6.112 ; p = 0.00)	1.7914 (t = 4.688; p = 0.00)
GEH	0.1251 (t = 2.56 ; p = 0.020)	0.8072 (t = 2.804 ; p = 0.010)
LBFPR	0.1547 (t = 2.6408 ; p = 0.020)	3.0281 (t = 2.309 ; p = 0.00)
CPI	-0.0029 (t = -0.0352 ; p = 0..97)	-0.165811 (t = -1.68; p = 0.24)
POLSTAB	0.3883 (t = 5.0281 ; p = 0.00)	6.061556 (t = 3.04 ; p = 0.05)
R^2 0.87		
Adjusted R^2 0.81		
F-statistic (p-value): 2135.914 (0.000468)		
Durbin-Wat Stat: 2.050418		
Breusch-Pagan-GF: 0.776		
Breusch-Godfrey Serial Correlation LM Test: 0.296		

Source: Author's computation, 2026.

The short run results presented in table 5 above indicates that Government Expenditures on education GEE, Government Expenditures on Health GEH, Labour Force Participation Rate LBFPR and Political Stability POLSTAB all exert positive and significant effects on Poverty proxy with Gross Domestic Product Per Capita GDPPC in Nigeria for the period under review.
GEE exerts a positive and statistically significant impact on absolute material welfare across both runs. In the long run, a 1% increase in educational budgetary allocations leads to a 1.79% increase in GDP per capita, assuming all other factors remain constant. This matches economic theory, which suggests that human capital development increases labor productivity and enhances the earning capacity of the workforce.

Public healthcare expenditures show a positive and significant coefficient. A 1% increase in health funding drives a 0.81% improvement in long-run GDPPC. This confirms that systemic health capital investments preserve human labor capabilities, reduce morbidity-induced productivity losses, and support welfare accumulation.

LBFPR serves as a strong determinant of welfare, with a long-run coefficient of 3.0281. This indicates that a 1% expansion in formal workforce participation expands national output per capita by over 3.02%, highlighting the potential of labor absorption in driving economic development.The CPI coefficient registers an unexpected negative sign (-0.1658), though it remains statistically insignificant across both short-run and long-run profiles. Because the WGI/TI scales score cleaner institutional configurations higher, this negative value suggests that Nigeria's

historical governance landscape has struggled to effectively convert institutional transparency into direct material welfare gains, though the relationship lacks statistical power.

POLSTAB shows a positive and statistically significant coefficient. A 1-unit positive improvement in the political stability score yields a 6.06% increase in GDPPC. This finding demonstrates that reducing systemic conflict and political risk creates a more predictable environment that encourages physical investment and supports sustainable development.

To confirm the reliability and structural stability of the estimated ARDL model, a comprehensive set of diagnostic checks was performed. The coefficient of determination ($R^2 = 0.87$) shows that approximately 87% of the variations in Nigeria's per capita income are explained by changes in human capital and institutional quality, demonstrating a strong overall model fit. The F-statistic of 2135.914 is significant at the 1% level ($p = 0.000$), confirming the collective significance of the independent variables.

The Durbin-Watson statistic of 2.050 sits near the optimal baseline of 2.0, suggesting the absence of primary first-order autocorrelation. This is supported by the Breusch-Godfrey Serial Correlation LM test (p-value = 0.296), which fails to reject the null hypothesis of serially independent errors, confirming that the model does not suffer from higher-order serial correlation. The Breusch-Pagan-Godfrey test for heteroskedasticity yields a probability value of 0.776, indicating that the variance of the residuals is homoskedastic and the standard errors are unbiased. Collectively, these diagnostic results confirm that the model's residuals satisfy classical statistical assumptions, validating the structural stability of the estimated parameters for policy analysis.

CONCLUSION AND RECOMMENDATION

This study evaluated the empirical relationship between human capital development, institutional quality, and socioeconomic outcomes in Nigeria using an Autoregressive Distributed Lag (ARDL) framework spanning a 45-year period (1980–2025). Socioeconomic welfare was measured using Gross Domestic Product per capita (GDPPC) to capture material living standards and poverty dynamics. Human capital investment was captured through government expenditures on education (GEE) and health (GEH), while institutional quality was analyzed using the Worldwide Governance Indicators for Corruption Perception Index (CPI) and Political Stability (POLSTAB). The empirical findings confirm that long-run cointegration exists among the variables. The estimated multipliers show that human capital investments are vital drivers of socioeconomic development in Nigeria. Specifically, government expenditures on education and health exert positive and statistically significant effects on GDPPC, with education spending exhibiting a higher marginal elasticity (1.79%) compared to health spending (0.81%). Furthermore, the labor force participation rate (LBFPR) emerged as a strong structural determinant of per capita output, yielding a 3.03% increase for every 1% expansion in economic participation.

Regarding institutional metrics, political stability (POLSTAB) proved to be an essential requirement for development, as a 1-unit positive improvement in the stability index generates a 6.06% increase in GDPPC. Conversely, the Corruption Perception Index (CPI) was found to be statistically insignificant, suggesting that historical transparency frameworks in Nigeria have not yet effectively translated into tangible welfare improvements. In summary, the study demonstrates that achieving the United Nations Sustainable Development Goals (SDGs) and the African Union Agenda 2063 in Nigeria requires a coordinated policy approach that combines increased social sector funding with strong institutional protections.

Based on the findings of this paper, the following policy recommendations are offered:

- **Prioritize and Expand Educational Funding:** Since a 1% expansion in educational expenditures yields a 1.79% increase in long-run GDPPC, the Federal Government of Nigeria should steadily increase budgetary allocations to the education sector. This funding should focus on technical, vocational, and digital infrastructure to better match labor supply with modern market demands.
- **Strengthen Health Sector Infrastructure:** Given the significant positive elasticity of health expenditures (0.81%), policymakers should expand investments in primary healthcare delivery networks and universal health insurance systems. This will preserve labor productivity and protect vulnerable households from health-related financial shocks.
- **Establish Targeted Institutional Protections for Political Stability:** Because a 1-unit improvement in political stability drives a notable 6.06% increase in per capita income, the state must prioritize legal and security sector reforms. Policy efforts should focus on resolving regional security issues and strengthening the rule of law to create a stable, predictable macroeconomic environment that attracts domestic and foreign investments.
- **Build Direct Institutional Oversight to Prevent Capital Flight:** To resolve the statistically insignificant transmission mechanism of the Corruption Perception Index, Nigeria must move beyond basic anti-corruption rhetoric. Policy bodies should implement automated, third-party digital tracking systems for public fund disbursement within the health and education ministries. This will ensure that expanded budgetary lines effectively reach local schools and health centers without administrative leakages.

Future research efforts on the nexus between human capital, institutional quality and socioeconomic outcomes in Nigeria could adopt other proxies for socioeconomic outcomes. Other methodologies could equally be used to verify the findings of this study in an effort to better appreciate the recommendations thereof.

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