ABUAD Journal of Social and Management Sciences (AJSMS),
Vol. 6, No. 1, 2025, pages 1-19 https://doi.org/10.53982/ajsms.2025.0601.01-j

Published by the College of Social and Management Sciences (SMS), Afe Babalola University, Ado-Ekiti (ABUAD), Nigeria.
E-mail: ajsms@abuad.edu.ng

e-ISSN: 3043-4173

Government Spending on Human Capital Development and Economic Growth in Nigeria: The Interactive Influence of Insecurity

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Abstract

Using the Vector Error Correction Methodology, this research examined the interactive nature of insecurity on the relationship between government spending on human capital development and economic growth in Nigeria from 1992 to 2022. The study revealed that in the long run, recurrent government spending on education and health positively and significantly influenced economic growth. The interactive variable (insecurity and recurrent government spending on education and health) in the long run negatively and significantly affected economic growth in Nigeria. Furthermore, the variance decomposition result revealed that in the short run, recurrent government spending on education and health caused significant variations in economic growth, followed by insecurity and then the interactive variable (insecurity and recurrent government spending on education and health). However, in the long run, the interactive variable (insecurity and recurrent government spending on education and health) has a more significant influence on economic growth, followed by insecurity and lastly, recurrent government spending on education and health. Thus, the study recommended that the government should increase spending on human capital development, especially recurrent government spending on education and health. Furthermore, increased government spending on the country's security apparatus is also advocated.

Keywords: Government Spending, Human Capital Development, Economic Growth, Insecurity, Nigeria.

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Introduction

Human capital development is believed to be important to productivity and ensuring sustainable economic growth. Human capital development is primarily made up of the education and health sectors. The consensus in the literature is that government spending in the key areas of human capital is crucial for Nigeria's economic growth because it has the potential to improve labour market outcomes and boost economic performance (Nwaogu & Ikenyiri, 2022).

Keji (2021) observed that government expenditure on human capital development has been inconsistent and not adequate to ensure the effective development of the education and health sectors in Nigeria. In 2021, only 6.2 percent of the Gross Domestic Product (GDP) was allocated to the education sector. This is below the UNESCO recommendation of 15 to 20 percent for less developed countries like Nigeria (Keji, 2021). Nigeria over the years has made efforts to increase government health expenditures to meet the demands of the World Health Organization (WHO) of 15 percent, but unfortunately, these efforts have not paid off. In 2022, the country budgeted about 7.5 percent for the health sector which is still far from meeting the targets set by WHO. The abysmal funding of human capital development in Nigeria has led to frequent industrial strikes by organised labour unions especially the Academic Staff Union of Universities (ASUU) in the education sector, and the Nigerian Medical Association (NMA) in the health sector (Abbah, Andohol & Sokpo, 2020).

Oshobande and Etukomeni (2017) observed that although Nigeria's health and education sectors receive financing, their output has remained relatively low. This problem is further made complex by frequent strikes by workers' unions in the education and health sectors. Is it that government recurrent expenditure which touches the welfare of the workers directly is not adequate? Oshobande and Etukomeni (2017) further suggest that the poor performance of these sectors may be due to corruption and mismanagement of public funds, inadequate infrastructure, policy inconsistencies, and political instability.

Additionally, Yusuf and Mohd (2023) believed that the dynamics of economic growth and human capital development in Nigeria are complicated by the problem of insecurity. The persistent threat of insecurity in the forms of terrorism, herders-farmers conflict, banditry, communal conflicts, kidnappings, and separatist agitations, religious and ethnic crises can lead to the diversion of government resources meant for the health and education sectors. The Global Peace Index (2022) ranked Nigeria as one of the least peaceful nations around the world because of the rising level of insecurity in the country which is responsible for a less productive and innovative

workforce. Since the country's terrorism emergency, about 497 classrooms have been damaged and 802 schools have remained shuttered in North-East Nigeria, according to the United Nations International Children's Emergency Fund (UNICEF, 2018).

Furthermore, 10.5 million children between the ages of five and 14 do not have access to formal education (UNICEF, 2018). The literacy rate in Nigeria has not been impressive compared to other developing nations. The World Bank (2024) noted that only 52.65 percent of women and 71.25 percent of men are literate, and the total adult literacy rate stood at 62.01 as of 2018. Furthermore, the World Bank also opined that life expectancy in Nigeria in recent years has remained a little above average. In 2021, life expectancy in Nigeria was 52.67 years, while in 2022; it stood at 53.63 years (World Bank, 2024).

The human capital development efforts in Nigeria have increasingly been challenged by the rising level of insecurity over the years. Insecurity in the form of the Boko Haram insurgency, banditry and kidnapping, ethnic and communal conflicts, and cultism and gang violence have affected human capital development in various ways. Life expectancy is shortened, thus undermining human capital accumulation. Insecurity lowers educational attainment as it limits access to education and thus, reduces human capital formation. Furthermore, insecurity worsens health outcomes and decreases human capital productivity. Economic productivity is also affected as insecurity decreases economic activities in key sectors of the economy, thereby reducing human capital utilization.

According to the aforementioned, it is essential for Nigeria's sustained economic growth and development to comprehend how government investment in human capital development, insecurity, and economic growth interact. Thus, this research investigated the moderating effect of insecurity on the relationship between government recurrent spending on human capital and economic growth in Nigeria and specifically ascertained the major contributors to variations in economic growth from the regressors of the research.

Conceptual Issues

Human capital development, according to Asombo, Anjande, Nomor, Shember, and Ijirshar (2023), is the process of acquiring and increasing the number of individuals possessing the skills necessary for a country's economic growth and development. The process of expanding a nation's pool of skilled workers is known as human capital development (Awogbemi, 2023). The intentional and ongoing process of gaining the necessary abilities and experiences that are used to generate economic value for

economic growth and development is what Nwaogu and Ikenyiri (2022) define as human capital development.

Additionally, according to Abbah, Andohol, and Sokpo (2020), human capital development is the expansion of an individual's health, education, and other talents, which raises the productivity of people who have gained these abilities. Human capital development improves the innovative abilities of individuals and places them in better positions to contribute meaningfully to the national income of their economies. Becker (1964) laid the foundation for human capital research and emphasised the need for investments in education, training, and health to enhance an individual's productivity and earning potential. In order to examine the advantages of investing in human capital, Becker created the human capital hypothesis. Becker (1964) defined human capital development as the continuous acquisition of skills, experiences, and knowledge for the benefit of the individual, and for the general welfare of the society in terms of addition to economic growth and development.

For this research, human capital development is seen as total government recurrent expenditure meant for the growth and development of the key components of human capital, the education and health sectors in Nigeria over the period 1988 to 2022. These are funds provided by the federal government for the improvement of the education and health status of the citizens of the country. This is consistent with the new theories of researchers that human capital is a key factor in economic growth and development in the twenty-first century and that an increase in human capital enhances citizens' skills and innovative abilities.

Nwaogu and Ikenyiri (2022) define economic growth as the yearly rise in a country's real per capita income (also known as real GDP per capita or production per person) during a specific time period, often a year. Amauche (2020) defines economic growth as the total market value of the finished goods and services generated in a nation during a specific time period, often a year. Additionally, Awogbemi (2023) described economic growth as the steady yearly increase or progress in a country's actual per capita income.

Samuelson and Nordhaus (2002) define economic growth as the rise in a nation's gross domestic product (GDP), which is typically used to quantify national output. They also opined that economic growth can be seen in the outward shift of the production possibility boundary. Economic growth is defined by Todaro and Smith (2011) as a country's continuous increase in the production of goods and services, which immediately results in a rise in the nominal GDP of that nation.

Furthermore, Abbah, Andohol, and Sokpo (2020) opined that economic growth refers to an increase in the rate of production of goods and services in an economy at a particular period. Economic growth makes goods and services readily available to consumers and enhances their freedom of choice. Investments in physical infrastructure cannot be understated, even while the development of human capital is essential to economic growth and development.

For this research, economic growth is defined as the real gross domestic product of the education and health sectors in Nigeria from 1988 to 2022. This represents the total output in monetary terms obtained from these sectors which is a function of human capital development represented in this study by total government recurrent expenditure on education and health sectors.

Theoretical and Empirical Review

The frustration-aggression theory, propounded by Dollard, Doob, Miller, Mowrer, and Sears in 1939, argues that frustration leads to aggression, which may be redirected toward weaker targets if direct confrontation is not possible. This theory is particularly relevant in the context of insecurity with its attendant consequences on the government's efforts in the provision of education and health facilities aimed at the human capital development of the populace. The frustrations emanating from unemployment, illiteracy, poverty, harsh economic conditions, and climate change are often manifested in illegal activities such as terrorism, banditry, insurgency, communal clashes, and conflicts between herders and farmers. These forms of insecurities place financial burdens on governments, re-directing resources away from human capital development towards security and conflict resolution. Furthermore, this theory is an indication as to why education and health facilities are increasingly been attacked by disgruntled elements across the country.

The Neoclassical Growth Theory, or the Solow-Swan model, was introduced by Solow and Swan in 1957 as a refinement of the Harrod-Domar model. It removes the rigid assumption of fixed production ratios and instead views economic output as dependent on both labor and capital, which can be substituted for one another. A key innovation of this model is the incorporation of technology as a crucial factor driving long-term economic growth. The Solow-Swan theory expresses economic output through a production function: $Y = K^{\alpha}(AL)^{1-\alpha}$ where **Y** represents gross domestic product, **K** denotes the capital stock (including both physical and human capital), **L** stands for labor, and **A** represents technology, which grows at an external rate.

This theory explains the influence of government expenditure on education and health, on economic growth.

The empirical reviews of related studies in the area of government spending on human capital development and economic growth are presented below for a better investigation of the unfolding gaps in the literature.

Between 1990 and 2019, Bognet, Yashim, Momoh, Inuwa, and Babangida (2023) examined how government spending affected Nigeria's human capital development. The Autoregressive Distributed Lag Model (ARDL) was used in the study to analyze the data. The results showed that whereas government spending on health had a positive but negligible impact on the development of human capital during the study period, government spending on education had a positive and large impact on human development. For improved results, the study recommended that the government increase funding for the health and education sectors.

Eniekezimene, Wodu, and Anda-Owei (2023) looked into how Nigeria's economic growth from 1981 to 2021 was impacted by the development of human capital. Using the Autoregressive Distributed Lag approach, the study discovered that government spending on health had a positive but negligible impact on economic growth over the long term, whereas government spending on education had a negative and negligible impact. Additionally, government spending on health had a favorable and large impact on economic growth in the short term, while government spending on education had a negative and significant impact. The research advocated for an increase in government spending on the health sector.

Nwobia, Nnachi, Eze, and Onwe (2023) used the Autoregressive Distributed Lag (ARDL) methodology to examine the impact of government spending on healthcare and education on economic growth in Nigeria between 1986 and 2019. The results showed that government spending on education and health had a favorable and considerable impact on economic growth over the study period. Therefore, in order to improve people's quality of life and boost labor productivity for future economic growth and development, the study suggested that all tiers of government in the nation increase spending for the health and education sectors.

Badamasi (2022) investigated the relationship between human capital development and economic growth in Nigeria from 1981 to 2020 using the Vector Error Correction Model (VECM) approach. The results showed that, over time, economic growth is directly and significantly impacted by the development of human capital. According to the report, the government should improve funding for the education sector and coordinate efforts in the health and education sectors to achieve the best results.

Nwaogu and Ikenyiri (2022) investigated the influence of human capital development on economic growth in Nigeria. Using qualitative research methods, this study discovered that Nigeria's economic growth is directly and significantly impacted by the development of human capital. Additionally, the findings showed that Nigeria's human capital index is low when compared to other nations and that there is a long-term correlation between economic growth and human capital development. According to the research, the government should work to improve the standard of Nigeria's health and education systems.

Ojima, Baker, and Ajudua (2022) used the Ordinary Least Square (OLS) methodology on time series data from 2001 to 2021 to assess the impact of insecurity on Nigeria's economic growth. Findings revealed that insecurity affects economic growth negatively through its effects on businesses, lives, and properties. The study therefore advocated for the restructuring of security institutions in the country to ensure efficiency and end the rising level of insecurity in the country.

Okerekeoti (2022) used time series data from 1990 to 2020 to investigate the relationship between government spending on education and economic growth in Nigeria. Findings using the Ordinary Least Square (OLS) approach showed that government spending on education had a positive and significant impact on economic growth across the research period. Therefore, in order to maintain and maybe boost the benefits of this link, the study recommended higher government spending on education.

From 1981 until 2019, Alade, Mba, Aduku, and Ameh (2021) looked into economic growth, human capital development, and terrorism in Nigeria. Employing the Generalized Method of Moments (GMM) technique, findings revealed that terrorism negatively but insignificantly influenced economic growth and human capital development in Nigeria within the study period. The study advocated for the establishment of a specialized bank to enable direct and speedy funding of the security architecture of the nation in order to ensure the effective curbing of terrorism in the country.

Keji (2021) investigated how Nigeria's economic growth was impacted by human capital between 1981 and 2017. Using the Vector Error Correction Model (VECM) methodology, the study discovered that economic growth throughout the study period was strongly impacted by human capital development. The factors of interest were also found to have a long-term relationship. For best results, the study recommended that the government increase funding for the health and education sectors.

Using the autoregressive distributed lag (ARDL) methodology from 1987 to 2016, Ayeni and Omobude (2018) investigated the connection between economic growth and education spending in Nigeria. Findings revealed that recurrent educational expenditure positively and significantly affects economic growth in Nigeria. However, total education expenditure's impact on sectoral output remained inconsistent. The study advocated for the overhaul of the educational sector in the country beginning from policy formulation, and implementation to monitoring, and funding. Capital government expenditure in this sector also needs to be increased for maximum returns from the sector.

Ajibola (2016) investigated economic growth amidst insecurity in Nigeria using the Ordinary Least Square (OLS) methodology. Time series data from 1981 to 2014 were collected on the variables of interest. Findings revealed that insecurity negatively and significantly influences economic growth in Nigeria. The study recommends that the security apparatus of the government should be adequately funded as a matter of urgency.

Odo, Eze, and Onyeisi (2016) investigated how Nigeria's economic growth was impacted by the development of human capital from 1970 to 2013. Using VECM, the results showed that government spending on health lowers GDP while spending on education raises GDP. In other words, there is a direct correlation between economic growth and government spending on education, whereas, over the study period, there is a negative correlation between government spending on health and economic growth.

Nigerian economic growth and terrorism between 1980 and 2021 were studied by Rotimi, Naphtali, and Irefin (2024). The study discovered that terrorism had a detrimental effect on the nation's economic growth using the Structural Vector Autoregression (SVAR) methodology. As a result, the government should work hard to end terrorism in the country, the research suggested.

Gaps Identified in the Empirical Literature

An investigation of the moderating effect of Nigeria's increasing level of insecurity on the relationship between economic growth and human capital development has been overlooked by earlier studies like the works of Okerekeoti (2022); Alade, Mba, Aduku & Ameh (2021); Keji (2021); Ayeni & Omobude (2018); and Rotimi, Naphtali, &Inrefin (2024). Furthermore, the use of the real gross domestic product of education and health sectors as proxy for economic growth provides for better estimation of the relationship, as it adequately captures the real effect of the main regressor on the regressand rather than the broad approach of using the entire GDP as proxy for

economic growth as has been the case with previous studies like the works of Bognet, Yashim, Momoh, Inuwa, & Babangida (2023); Eniekezimene, Wodu, & Anda-Owei (2023); Nwobia, Nnachi, Eze, & Onwe (2023); and Badamasi (2022).

Methodology

This study examined how insecurity and recurrent government spending interacted to affect the nexus between economic growth and the development of human capital between 1992 and 2022. The research employed the Vector Error Correction Model (VECM) technique to estimate this relationship. The ordering of the variables was done based on theoretical considerations, and consistency principles to ensure accurate estimates. The study employed the ADF test to check for unit roots. Furthermore, the co-integration rank (trace) and the maximum eigenvalue tests were used to check for long-run relationships of the variables of interest employed in the model of the research.

The post-diagnostic tests used to check for the presence of spurious estimates were the VAR residual serial correlation LM test and the VAR residual heteroskedasticity test. The stability of the variables was tested using the Inverse Root of AR Characteristic Polynomial. The World Bank (2022), and the Central Bank of Nigeria (2022) are the sources of the data for this study. The data for the study include: economic growth represented by real gross domestic product on education and health (RGDPEH); total recurrent government spending on education and health (RGEXEH), the moderating variable (INS*RGEXEH), and insecurity (INS) represented by the dummy variable.

Theoretical Framework

The neoclassical growth theory serves as the theoretical foundation for this study. According to the Solow growth theory (1957), labour, capital, and technology all influence economic growth. Technology, sometimes referred to as the Solow residual, is the percentage of long-term economic growth that cannot be accounted for by increases in capital or labor and is thus predominantly attributed to external technical advancement.

The use of the neoclassical growth theory for this research stems from the fact that the theory specifies that capital, labour, and technology affect economic growth. This research investigates the effect of human capital development represented by recurrent government spending on education and health (capital) on economic growth represented by the real gross domestic product of education and health in Nigeria. Thus, this theory is appropriate as the theoretical foundation of this research.

Model Specification

This research draws its model from the neoclassical growth model developed by Robert Solow (1957) but employed the modified version of the theory by Badamasi (2022) and Keji (2021). The Solow model's modified form is described as follows:

$$Y = AK^{\alpha}(hL)^{\beta} \quad \text{.....(1)}$$

Where:
Y = economic growth, K = capital, L = labour, A = rate of productivity of factors, h = rate of human capital, β = elasticity of labour, and α = elasticity of capital.

Model (1) is expanded as:

$$Y = f(K, h, L) \quad \text{.....(2)}$$

However, due to the peculiarity of this research and based on the work of Ojima, Baker & Ajudua (2022), the above variables are replaced in the model (2) thus:

$$RGDPEH = f(RGEXEH, INS, INS * RGEXEH) \quad \text{.....(3)}$$

$RGDPEH$ = Real Gross Domestic Product of education and health (economic growth)

$RGEXEH$ = Recurrent government spending on education and health

INS = insecurity (dummy variable = 0 from 1992 to 2008, and 1 from 2009 to 2022)

$INS * RGEXEH$ = moderating variable (interactive variable)

The econometrics form of model (3) is expressed thus:

$$RGDPEH = \alpha_0 + \alpha_1 RGEXEH + \alpha_2 INS + \alpha_3 INS * RGEXEH + \upsilon \quad \text{.....(4)}$$

The regression equation VECM form for this research is expressed as:

$$\Delta Y_t = \alpha_1 \Delta Y_{t-1} + \alpha_2 \Delta Y_{t-2} + \Pi Y_{t-3} + \upsilon_t \quad \text{.....(5)}$$

$$\Delta Y_t = \begin{bmatrix} \Delta RGDPEH_t \\ \Delta RGEXEH_t \\ \Delta INS_t \\ \Delta INS * RGEXEH_t \end{bmatrix} \quad \text{.....(6)}$$

The a priori expectations: the parameter estimates of the model of this research are stated thus: $\alpha_0 > 0$, $\alpha_1 > 0$, $\alpha_2 < 0$, and $\alpha_3 < 0$. That is, the constant, and government recurrent spending on education and health are expected to positively influence economic growth. While, insecurity and the interactive variable, the moderating effect of insecurity, and government recurrent spending is expected to negatively influence economic growth in Nigeria.

Results and Discussion

Data Presentation

Table 1: *Descriptive statistics of the variables of interest*

	RGDPHE (₦ b)	RGEXEH (₦ b)	INS*RGEXEH (₦ b)	INS (dummy)
Mean	1095.900	494.8131	441.21	0.45
Maximum	1994.623	1628.990	1628.99	1
Minimum	442.7549	1.336146	0	0
Jarque-Bera	3.960870	3.939090	3.10	5.17
Probability	0.138009	0.139520	0.135591	0.075452
Observations	31	31	31	31

Source: *E-views 10 extract by the Authors (2024)*

Economic growth (RGDPEH), total recurrent government spending on health and education (RGEXEH), the interaction variable (INS*RGEXEH), and the insecurity variable (dummy) all averaged ₦1095.90 billion, ₦494.81 billion, ₦441.21 billion, and 0.45 points, respectively between 1988 and 2022, according to Table 1. The highest values of RGDPEH, RGEXEH, INS*RGEXEH, and dummy variable within the period of the study stood at ₦1994.62 billion, ₦1628.99 billion, ₦1628.99 billion, and 1 point respectively. While the lowest values of RGDPEH, RGEXEH, INS*RGEXEH, and the dummy variable stood at ₦442.75 billion, ₦1.34 billion, ₦0 billion, and 0 points accordingly. Because the observations are not normally distributed, as indicated by the high values of the Jarque-Bera test, it is necessary to test for unit root, as shown in Table 2.

Table 2: *Summary of Unit Root Tests*

Variables	ADF t-test @ levels	Mackinnon Critical Value @ 5% or 10%	ADF t-test @ first difference	Mackinnon Critical Value @ 5% or 10%	Order of Integration
RGDPEH	-0.907823	-2.971853	-3.492864	-2.967767	I(1)
RGEXEH	1.851044	-2.963972	-3.989289	-2.967767	I(1)
INS*RGEXEH	1.544678	-2.963972	-3.567302	-2.967767	I(1)
INS	-0.870823	-2.963972	-5.385165	-2.967767	I(1)

Source: *E-views 10 extract by the Authors (2024)*

Table 2 revealed that the variables, economic growth (RGDPEH), aggregate recurrent government spending on the education and health sectors (RGEXEH), the interactive variable (INS*RGEXEH) and insecurity variable (dummy) are all integrated of order zero I(1). The Vector Error Correction Model (VECM) methodology thus becomes appropriate for further analysis. Table 3 presents the optimal lag selection criteria for the model of the study.

Table 3: *Lag Order Selection Criteria*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-595.6323	NA	2.70e+12	39.97549	40.16231	40.03526
1	-452.7292	238.1719*	5.79e+08*	31.51528*	32.44941*	31.81412*

Note: * indicate lag order selection criterion. The Akaike Information Criterion (AIC) was utilized in this study.
Source: *E-views 10 extract by the Authors (2024)*

Table 3 of the lag order selection criteria suggests that lag 1 is optimal for the model of the study. Hence, lag 1 is used to run further tests.

Table 4: *Unrestricted Co-integration Rank Test (Trace) and Unrestricted Co-integration Rank Test (Maximum Eigenvalue)*

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.833973	83.02962	47.85613	0.0000
At most 1 *	0.571588	30.95706	29.79707	0.0366
At most 2	0.187605	6.374667	15.49471	0.6512
At most 3	0.011976	0.349388	3.841466	0.5545
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.833973	52.07255	27.58434	0.0000
At most 1 *	0.571588	24.58240	21.13162	0.0157
At most 2	0.187605	6.025279	14.26460	0.6100
At most 3	0.011976	0.349388	3.841466	0.5545

Source: *E-views 10 extract by the Authors (2024)*

Table 4 reveals the co-integration rank (trace) and the maximum eigenvalue test. Both the co-integration rank (trace) test and the co-integration maximum eigenvalue test indicate the presence of two co-integrating equations. This implies that there exists a long-run relationship between the variables of interest used for this research. Thus, the result of the long-run relationship is presented thus:

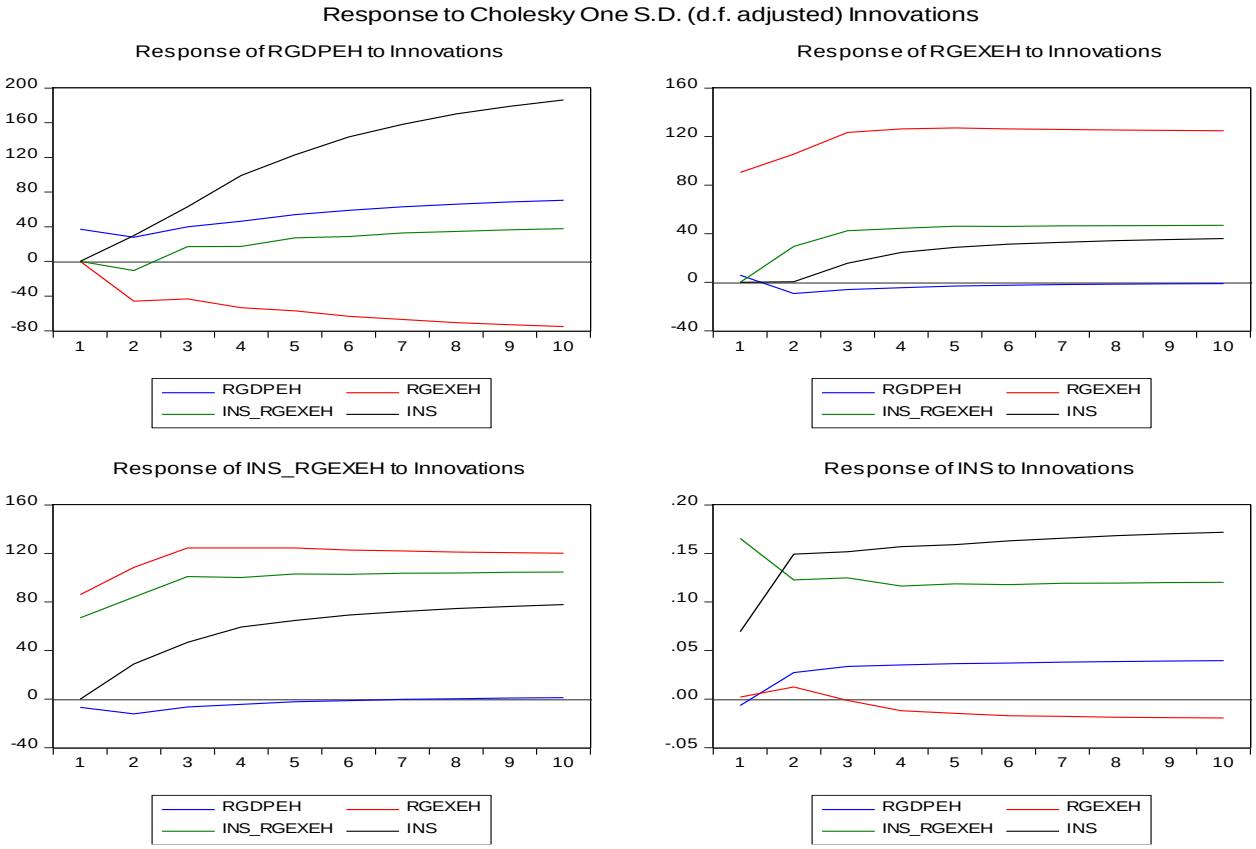
The long-run relationship between the variables of interest

$$RGDPEH = 164 + 2.87RGEXEH + 2116.87INS - 3.31INS * RGEXEH + \upsilon \quad \ldots\ldots(7)$$

(0.38840) (145.501) (0.42995)

The result of the long-run relationship revealed that human capital development represented by recurrent government spending on education and health (RGEXEH) positively and significantly influenced economic growth represented by the real gross domestic product of education and health (RGDPEH) in Nigeria throughout the study. The a priori anticipation and the works of Keji (2021), Badamasi (2022), and Nwaogu and Ikenyiri (2022) are all in agreement with this outcome. This result implies that a unit increase in recurrent government expenditure on education and health (RGEXEH) will cause a 287 percent increase in economic growth (RGDPEH). This goes to show that with adequate funding for the welfare of workers in the education and health sectors in Nigeria, the output of the sectors will be greatly maximized. Furthermore, the interactive variable (INS*RGEXEH) is in conformity with the a priori expectation. A unit increase in the interactive variable reduces economic growth by 331 percent. This result implies that the rising level of insecurity in the country has the ability of affecting negatively the relationship between government recurrent spending on education and health; and economic growth in the country. The rising level of insecurity in Nigeria is bound to compel the government to commit more of its resources to fighting the menace instead of increasing funding to the education and health sectors. This is evidenced in the 331 percentage decrease the interactive variable has on economic growth as compared to the 287-percentage increase recurrent government spending has on economic growth in Nigeria. These results for sure offer explanations to the low level of outputs from these sectors.

Fig 1: *Impulse Response Function*



Source: *E-views 10 extract by the Authors (2024)*

Fig 1 presents the impulse response function of the variables of interest used in the research. It reveals that one standard positive shock to the system will cause positive changes in economic progress (RGDPEH), aggregate recurrent government spending on education and health sectors (RGEXEH), the interactive variable (INS*RGEXEH), and insecurity (INS) throughout the research. This result implies that with the right policies and proper implementation like the National Health Insurance Scheme (NHIS), the Universal Basic Education (UBE) Program, and government compliance with the appropriate percentages of spending on the education and health sectors as recommended by the United Nations (UN), the variables of this research will behave right.

Table 5: *Variance Decomposition*

Variance Decomposition of RGDPEH: Period	S.E.	RGDPEH	RGEXEH	INS_RGEXEH	INS
1	38.64552	100.0000	0.000000	0.000000	0.000000
2	66.53920	44.79874	41.66580	7.212978	6.322489
3	86.08035	36.69584	40.05028	4.337679	18.91621
4	106.5011	28.58247	36.54437	6.109229	28.76392
5	127.3855	24.87097	28.26082	12.96014	33.90807
6	155.7491	20.61262	19.70383	27.98591	31.69764
7	190.3674	17.38617	13.25825	42.90936	26.44622
8	229.7001	14.81289	9.106468	55.05014	21.03050
9	269.5972	13.07363	6.639450	63.44469	16.84224
10	307.6724	11.84896	5.152247	69.18425	13.81455

Source: *E-views 10 extract by the Authors (2024)*

Table 5 presents the result of the variance decomposition of human capital development represented by recurrent government spending on education and health (RGEXEH), insecurity (INS), and the interactive variable (INS*RGEXEH) to economic growth (RGDPEH). This result revealed that in the short run, recurrent government spending on education and health (RGEXEH) caused significant variations in economic growth (RGDPEH), followed by insecurity (INS) and then the interactive variable (INS*RGEXEH). However, in the long run, the interactive variable (INS*RGEXEH) has a more significant influence on economic growth (RGDPEH), followed by the insecurity variable (INS) and lastly, recurrent government spending on education and health (RGEXEH). The significance level of the independent variables agrees with the works of Keji (2021), Badamasi (2022); and Nwaogu and Ikenyiri (2022).

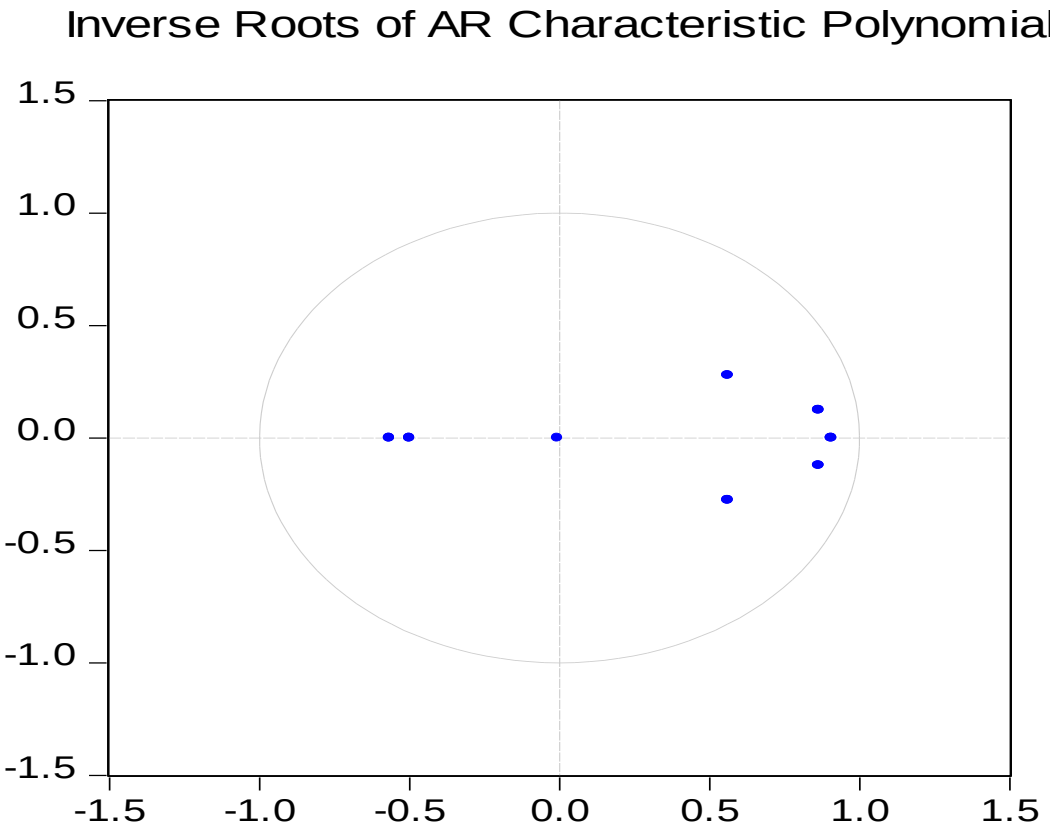
Table 6: *Post-Diagnostic Tests*

VAR Residual Serial Correlation LM Tests						
Lag	LRE* stat	Df	Prob.	Rao F-stat	Df	Prob.
1	16.96917	16	0.3876	1.086941	(16, 40.4)	0.3977
VAR Residual Heteroskedasticity Tests						
Chi-sq		Df				Prob.
165.3098		140				0.0709

Source: *E-views 10 extract by the Authors (2024)*

The VAR residual serial correlation LM test and the VAR residual heteroskedasticity test for the model of this research is presented in Table 7. Results from the Table revealed the presence of constant variance and the absence of autocorrelation in the variables used for the analysis of this research.

Figure 2: *Stability test*



Source: *E-views 10 extract by the Authors (2024)*

Fig 2 presents the stability of the model of the research through the Inverse Roots of AR Characteristic Polynomial. The test revealed that all the data points of the model fall inside the AR Characteristic Polynomial. This depicts the stability and appropriateness of the inclusion of the variables in the model of the research.

Conclusion and Recommendations

This study examined the moderating role of insecurity on the relationship between Nigeria's economic growth, and government spending on the development of human capital between 1992 and 2022. The study sought to ascertain the major determinants of economic growth and investigated the moderating effect of insecurity on the relationship between recurrent government spending on human capital development and economic growth in Nigeria. This study is primarily motivated by the rising level of insecurity that is affecting the output of the health and education sectors in Nigeria. The findings of the Co-integration test and Vector Error Correction Model showed that government expenditure on the development of human capital, as exemplified by

recurring government spending on the health and education sectors, has a positive and significant impact on Nigeria's economic growth.

However, the effect of the moderating variable (the interactive nature of insecurity, and recurrent government expenditure on education and health) on economic growth was found to be negative and significant in the long run. Furthermore, the variance decomposition results revealed that insecurity and the interactive variable contributed more to variations in economic growth in the long run than recurrent government spending on education and health.

Hence, the research recommended that the federal government should increase the budgetary allocation to the education and health sectors. The study also advocated for increased and timely provision of funds to security agents by the federal government to ensure that the high level of insecurity is quickly curtailed.

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