The Impact of Human Capital Development on Economic Growth in Nigeria

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Abstract

This paper assessed the impact of human capital development on economic growth in Nigeria using quarterly data sourced from the National Bureau of Statistics (NBS) and World Development Indicators (WDI) ranging from 2000Q1 to 2021Q4. The study adopted real gross domestic product (RGDP) growth rate as a proxy for economic growth and as a dependent variable, while the National Poverty Index (NPI), Current Health Expenditure Per Capita (CHEP), and Percentage of Budget Allocation on Allocation (EDU) were used as the independent variables. The study, as a secondary method of data collection, adopted an augmented Dickey-Fuller test to determine the stationarity of the series, and the outcome showed that the variables were integrated of order 1(1), thereby leading to the adoption of the Johansen co-integration test and VAR model. The result of the study showed the following: The national poverty index (NPI) has no short-run impact on RGDP at the 5% level; current health expenditure per capita (CHEP) has no significant impact in the short run on RGDP; and education budget allocation (EDU) has no significant impact in the short run on RGDP. The paper therefore recommends, among others, that the government and all the relevant agencies should provide ways of making credit available to the citizenry and also pursue policies of financial inclusion to accommodate the poor and the vulnerable either through deposit money banks or special development banks to reduce inequality in the country. Funds allocated to the health sector should also be used purposefully and judiciously in pursuing health policies and programs in the country. Issues of diversification and misappropriation of funds should be strictly abolished by public health officeholders. This can be achieved through honesty, discipline, integrity, and patriotism.

Keywords*: Human capital development, Sustainable Development Goals, Real Gross Domestic Product and ARDL.*

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Background to the Study

It is impossible to overstate the importance of human capital development for achieving sustainable development goals in any economy, but notably in Nigeria. This is due to the argument that spending on health and education is a strategic driver for raising the caliber of human resources (Johnson, 2022). Depending on who you ask, "growth" can signify different things and have different explanations. For instance, a population that is starving has different developmental demands than one that has access to adequate nutrition (Mahmoud, 1991). Development, according to Seers (1972), "means the conditions for realizing the human individuality. Its evaluation must therefore take into account three linked criteria: where there has been a reduction in (1) poverty, (2) unemployment, (3) inequality". According to Pearson, R. (2000), development involves "An improvement in qualitative, quantitative or both - in the use of available resources". He also asserted that development does not refer to one particular perspective on social, political and economic betterment. Instead, it is a hybrid term for a myriad of strategies adopted for socioeconomic and environment transformation from current states to desired ones.

The term "sustainability" was initially used in relation to forest management in Europe in the seventeenth century, but the concepts of "sustainable development" weren't connected until the late 1980s. While still capable of doing otherwise, the current generation must manage the resource base such that the average standard of living it ensures can potentially be shared by all succeeding generations (Ashein, 2014).

The term "sustainable development" was first used in the Brundtland Report, which was released in 1987 by the United Nations World Commission on Environment and Development. It was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." In light of the aforementioned, Nigeria's 2020 Voluntary National Review (VNR) on the Sustainable Development Goals (SDGs) places a strong emphasis on the vital issues of gender equality (SDG-5), an enabling environment of peace and security (SDG-16), an inclusive economy (SDG-8), health and well-being (SDG-3), education (SDG-4), and partnerships (SDG-17) (World Commission on Environment and Development, 1987). This emphasis is based on President Buhari's administration's key development goals as well as Nigeria's present development priorities. Additionally, it has been noted that adjustments to the integrated approach to social, economic, and environmental challenges haven't done much to advance Nigeria's development objectives. For example, issues like poverty, flooding, racial discrimination, environmental pollution, corruption, attitudes, and unequal economic distribution have become more prevalent. A quick glance at Nigeria's poverty profile revealed that the country's relative poverty measurement was 54 percent in 2004 but rose to 69 percent in 2010. (National Bureau of statistics, 2022). Although Nigeria's poverty profile for 2021 has not yet been released, it is estimated that the number of poor people will increase to 90 million, or 45% of the population. In 2022, if the World Bank's income poverty threshold of $3.20 per day is used, Nigeria's poverty rate is 71%. High inflation has also taken a toll on household's

welfare and high prices in 2020-2022 are likely to have pushed an additional 8 million Nigerians into poverty (National Bureau of statistics, 2022).

In 2018, about 83 million Nigerians (or 40 percent of the population) were below the poverty line, and another 53 million (or 25 percent) were vulnerable. Between 2019 and 2024, there will be 7.7 million more Nigerians living in extreme poverty as population growth continues to exceed efforts to reduce poverty (World Bank Report, 2022). Nigeria has made some socioeconomic progress recently, however the World Bank's 2020 Human Capital Index put Nigeria 150 out of 157 in terms of human capital development. The nation still has a great deal of developmental hurdles to overcome, including the need to diversify the economy and lessen its reliance on oil, as well as the need to repair weak institutions, governance issues, and public financial management systems.

Nigeria has persistently fallen short of her responsibilities to the health, agriculture, potable water supply, and environmental sustainability related to global water security (The African Union Commission, 2013). Although the percentage of people who have access to water has improved from 51% in 1990 to 68% in 2016, only 54% of people in rural areas and 78% of people in urban areas currently do. By the end of the Sustainable Development Goals, service coverage may have decreased as a result of demographic changes between rural and urban areas (World Health Organization, 2020). Nigeria will overtake China and India as the third most populous nation in the world by 2050 due to its large population and high fertility rates (United Nations, 2019). Nigeria's population increase will also mean more challenges related to water resources development. Only 15 percent of the 3.14 million hectares of potentially irrigable land is irrigated (Federal Ministry of Water Resources, 2017). Food imports in the second quarter of 2022 stood at N464. 45 billion showing an increase when compared to the value recorded in the first quarter of 2022 which is N443. 36 billion (National Bureau of Statistics, 2022).

The key to unlocking a nation's potential for sustainable development is education. Therefore, a country cannot advance without making significant investments in its educational system. However, one of the main obstacles to Nigeria's educational progress has been a lack of fund. Government after government has failed to devote enough funds to the advancement of education (United Nations Report, 2022). The annual education budget has never met the requirements set by the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2022) that each country should devote 26% of its annual budget to education in order to make any significant progress in that area. Nigeria allocated a pitiful 6% of its total budget to the education sector in 2017. According to records, the government only provided N448.01 billion for education out of a total N7.30 trillion (see http://www.premiumtimesng.com/news/top-news/218097-2017-budget-Nigeria-failsmeet-Un-Benchmark-Education.html). One wonders how Nigeria will achieve the Sustainable Development Goals given that the education sector cannot be supported by the meager amount provided by the budget (United Nations Report, 2022).

In view of these goals, it is pertinent for the Nigerian economy to understand the prospects and underlying principles for achieving these goals as well as sustaining the process of development desired.

The following questions were answered in this study:
  i.   What is the impact national poverty index on real gross domestic product in Nigeria?
  ii. What is the impact of current health expenditure per capita on real gross domestic product in Nigeria?
  iii. What is the impact of education budget allocation on Nigeria's real gross domestic product?

The specific objectives are to:
  i.   Examine the impact of national poverty index on real gross domestic product in Nigeria.
  ii. Determine the impact of current health expenditure per capita on real gross domestic product in Nigeria.
  iii. Find out the impact of education budget allocation on Nigeria's real gross domestic product.

The following hypotheses were tested:
H_0:   National Poverty Index has no significant impact on RGDP.
H_0:   Current Health Expenditure Per capita has no significant impact on RGDP
H_0:   Education budget allocation has no significant impact on RGDP

Review of Related Literature
Neoclassical Theory of Intergenerational Equity
This theory does not have specific proponents associated with a particular year of propounding, as it is an overarching concept in environmental economics embraced by various economists over time. However, some influential economists who have contributed to discussions related to intergenerational equity within the neoclassical framework include Robert Solow, Partha Dasgupta, and William Nordhaus.
  1. Robert Solow: Robert Solow, an American economist and Nobel laureate, is known for his work in economic growth theory. While he has not specifically developed a neoclassical theory of intergenerational equity, he has been influential in the broader field of economics, including discussions on sustainability and environmental economics. His contributions in these areas have implications for the understanding of intergenerational equity. Robert Solow was awarded the Nobel Prize in Economics in 1987.
  2. Partha Dasgupta: Partha Dasgupta, an eminent economist, has extensively researched environmental economics and sustainable development. While he is not the creator of a neoclassical theory of intergenerational equity, he has made significant contributions to the understanding of sustainable resource management and the importance of considering intergenerational equity. He has

advocated for addressing concerns related to the environment and future generations in economic decision-making. Dasgupta's influential work spans several decades, but he has particularly contributed to discussions on this topic from the 1980s onwards.

3. William Nordhaus: William Nordhaus is an American economist and Nobel laureate known for his research on climate change economics. While he may not have proposed a specific neoclassical theory of intergenerational equity, his work has been highly relevant to the field. Nordhaus has developed models that assess the costs and benefits of climate policies, taking into account the impacts on future generations. He received the Nobel Prize in Economics in 2018 for his contributions to climate economics.

It is important to note that the concept of intergenerational equity has been a subject of interest and debate in environmental and welfare economics for a long time, and various economists have contributed to shaping the discussion over the years. The specific term "Neoclassical theory of intergenerational equity" may not refer to a singular theory with attributed proponents, but rather to the broader consideration of intergenerational issues within the neoclassical economic framework.

Major concerns related to the intergenerational equity and human capital development within the neoclassical framework include:

1. Ensuring Equal Access: One concern is that intergenerational equity in human capital development requires ensuring equal access to education, healthcare, and other essential services for all individuals, regardless of their socio-economic background.

2. Quality of Education: The quality of education and training received by individuals plays a crucial role in their human capital development. Ensuring equitable access to high-quality education is a concern in achieving intergenerational equity.

3. Skills Mismatch: Mismatches between the skills acquired through education and training and the demands of the labor market can hinder intergenerational equity by limiting economic opportunities for future generations.

4. Technological Advancements: Rapid technological advancements can lead to changes in the demand for certain skills, impacting intergenerational equity if individuals are not adequately prepared for emerging job opportunities.

Economic Sustainability Development Theory
This work is based on Gro Harlem Brundtland's philosophy of sustainable development (1980). According to the notion, sustainable development must satisfy current demands while maintaining the capacity of future generations to address those needs.

Table 1: Summary of Empirical Literature

Authors	Year of study	Topics	Variables	Methods	Findings
Joseph and Agum.	2022	Economic Growth, Secularism and Sustainable Development in Nigeria.	Human Development Index, Real Gross Domestic Product, Gross Capital Formation, Gross Domestic Product Per Capita and Insecurity.	ARDL approach and Granger Causality test.	Findings from the study revealed that the real growth rate had a significant and positive effect on the human development index (HDI). However, gross capital formation was found to have an insignificant effect on the human development index, while income per capita had a negative relationship with the HDI, which shows that income per capita has had a negative influence on development. Secularism was found to have an insignificant contribution to HDI, indicating that the level of religious conflicts, crises, and insurgencies has a significant impact on reducing sustainable development in Nigeria. Thus, increased growth in Nigeria has not brought with it improved living conditions for the people.
Busayo, Dominic, Olaronke, Ogundipe, Bowale and Akunna.	2021	Poverty drivers and Nigeria's development: Implications for policy intervention	Poverty rate, inflation, unemployment and public resources devoted to austerity programmes	Autoregressive Distributed Lag (ARDL) model.	The result showed that unemployment increases poverty by approximately 1.4, 1.5 and 3.3 percent in the short run while inflation reduces poverty by approximately 0.08 percent in the short run. This implies that unemployment causes poverty while inflation, public resources devoted to austerity programmes and economic growth reduces poverty in the short run.
Nwosa and Ehinomen	2020	The nexus among income inequality, poverty and economic growth in Nigeria.	Income inequality, poverty and GDP.	Autoregressive Distributed Lag (ARDL) estimation.	The result showed that while inequality has a positive and significant effect on economic growth in Nigeria, poverty has an insignificant impact on economic growth.
Adeleye et al.	2020	Comparative analysis on growth, poverty and inequality in sub-Saharan Africa, Latin America and Caribbean countries.	Growth rate, poverty and income inequality.	Pooled ordinary least square, fixed effects and system generalized method of moment (GMM).	The result of the study showed that inequality growth rate increases poverty and economic growth reduces poverty. Also, there is difference across group and region in the growth-poverty-inequality. However, the study concludes that income inequality is a great determinant of poverty.
Dada and Fanowopo.	2020	The impact of institutions on the relationship between economic growth and poverty reduction in Nigeria.	GDP, corruption control, political stability and poverty.	Autoregressive Distributed Lag (ARDL) estimation.	The result of the study showed that economic growth and institutions (proxied by corruption control and political stability) positively affect poverty reduction both in the short run and the long run. Thus, the study found that both economic growth and strong institutions are significant factors that can be used in reducing poverty in Nigeria.
Xuluo, Xuan and Jiangang.	2019	The Sustainable Development of Financial Inclusion: How Can Monetary Policy and Economic Fundamental Interact with It Effectively?	Real Gross Domestic Product proxied sustainable development which doesn't capture social and environmental aspect of sustainability. Other variables include money supply(M2), Oil price and agric loan.	Vector Autoregressive (VEC) method.	The result and found out that financial inclusion has a short-term positive impact on sustainable development.
Azubuike, Chibuokwu and Ebere (2019).	2019	The effects of effective developmental strategies on the real sector productivity for sustainable development of the Nigerian economy.	EDB, Ease of Doing Biz (Environment), CPS, Credit to private Sector (Finance) NEPC, Nigeria Electric Power Consumption (Infrastructure), GCEXP, Government Capital Expenditure, and GRGEC (ANE), Green Growth Economy, represented by Alternative and Nuclear Energy and the Real Sector annual output, as a contribution to the GDP was used as proxy for the Real Sector productivity.	OLS Multiple Regression Analysis.	The result of the study indicated that there is a significant relationship between developmental strategy variables collectively and the real sector within the periods under review.
Oyegoke and Wasiu.	2018	The effect of economic growth on poverty reduction in Nigeria.	Government expenditure, poverty and GDP.	Johansen Co-integration tests and Vector Autoregressive (VEC) method.	The result showed that Government expenditure is positively related to poverty incidence. This suggests that the poor are not benefitting from the economy at large, especially from total government expenditure.
Daniel, Georgeta and Stefan.	2017	The drivers of sustainable economic development in EU-28 countries.	Real gross domestic product (GDP) as a proxy for sustainable economic development, technology, communication and old-age dependency ratio.	Panel data regression models, in the form of fixed and random effects models, alongside system generalized method of moments (GMM).	They found a negative connection between technology, communication and old-age dependency ratio and sustainable economic development. However, GDP cannot be used to ascertain the total wealth of a nation which means it is not a good proxy for measuring sustainable economic development.
Moses, Timothy and Abiodun.	2017	Human capital and sustainable economic development in Nigeria.	Human capital formation, environmental degradation and GDP.	Autoregressive distributed lag (ARDL).	The study found out that human capital formation leads to sustained economic growth with reducing environmental degradation. However, the study focuses on economic growth proxy by GDP which does not capture sustainable economic development unlike adjusted net savings.
Michael	2016	Strategies for achieving sustainable economic development in Nigeria through financial inclusion in the agricultural sector.		Survey research design.	The study found out that financial inclusion in Nigerian agricultural sector can be used to achieve sustainable economic development.

Source: Author's Compilation, 2023.

Model Specification
In order to examine how to deal with leadership difficulties and accountability for human capital development in Nigeria, this paper applies the transformational leadership theory. Adopting this theory is based on the supposition that transformational leaders, which Nigeria currently lacks, are required to address issues like poor resource management, a lack of accountability, unethical governance practices, and the formulation and implementation of narrow ethnic and religious policies by political leadership at the national and state levels to the detriment of overall development (Akintoye, and Opeyemi, 2014).

This model is based on the work conducted by Nwosa and Ehinomen (2020), on the nexus among income inequality, poverty and economic growth in Nigeria. The model therefore will be expressed in a functional form as:
RGDP= F (NPI, CHEP, EDU) .... (1)

Where;
RGDP = Real Gross Domestic Product growth rate
NPI = National Poverty Index
CHEP = Current Health Expenditure Per Capita
EDU = Percentage of budget allocation on education
The Econometric form is specified as thus:
$$RGDP_t = \beta_0 + \beta_1 NPI_t + \beta_2 CHEP_t + \beta_3 EDU_t + \mu_t \ldots\ldots\ldots\ldots\ldots (2)$$

Where;
All variables are as previously defined
β_0 = the intercept
β_1 to β_3 are the parameter estimates
t = the trend factor
μ = the error term
Sources of Data

The data for this study were from secondary sources. Specifically, annual time series data for the variables from 2000 Q1 to 2021 Q4 were obtained for the purpose of this study. The Annual Statistical Bulletin of the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and the World Development Indicators (WDI) were my sources of data.

Findings and Discussion
Unit Root Test
Table 2: Summary of the Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	ADF Statistics	Test Critical Values (5%)	Order of Integration	Conclusion
RGDP	-8.965781	-2.897223	I(1)	Stationary
NPI	-9.046201	-2.897223	I(1)	Stationary
CHEP	-8.807356	-2.899115	I(1)	Stationary
EDU	-8.948506	-2.897223	I(1)	Stationary

Source: Author's computation (EVIEWS 10)

The unit root test result presented in table 2 above showed that the variables RGDP (real gross domestic product growth rate), NPI (national poverty index), CHEP (current health expenditure per capita), and EDU (education budget allocation) were all integrated of order one, i.e., stationary at first difference, and had no unit roots, hence the use of the Johansen co-integration test. Based on the result of the unit root test, the Johansen co-integration approach was employed. This is the reason for the choice: the variables in this study were stationary at the first difference, thus disproving the use of the autoregressive distributed lag (ARDL) model. Below is the result.

Table 3: Co-integration test result

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.350409	86.20332	95.75366	0.1893
At most 1	0.235888	52.98453	69.81889	0.5059
At most 2	0.158347	32.26834	47.85613	0.5974
At most 3	0.052139	6.335150	15.49471	0.6559

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.350409	33.21879	40.07757	0.2409
At most 1	0.235888	20.71619	33.87687	0.7053
At most 2	0.158347	13.27381	27.58434	0.8693
At most 3	0.052139	4.123128	14.26460	0.8461

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' computation (EVIEWS 10)

The result from Table 3 above shows that both the trace statistic and maximum eigenvalue tests indicate that there is no co-integrating vector in the series. This is because both the values of the trace statistic and max eigenvalues are less than 5% critical and their respective prob. values are greater than 5% critical. Since there is no co-integration, we proceed to estimate the unrestricted VAR model.

Table 4: VAR p-values

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.853089	0.163133	5.229394	0.0000
C(2)	-0.112101	0.162419	-0.690198	0.4905
C(3)	0.013562	0.083107	0.163191	0.8705
C(4)	0.043050	0.084733	0.508068	0.6117
C(5)	0.006203	0.029475	0.210450	0.8334
C(6)	-0.023874	0.029093	-0.820603	0.4124
C(7)	-0.078276	0.290633	-0.269331	0.7878
C(8)	0.246939	0.292574	0.844025	0.3992
C(9)	0.076533	0.339948	0.225130	0.8220
C(10)	-0.265264	0.330445	-0.802748	0.4226
C(11)	0.020847	0.181119	0.115103	0.9084
C(12)	-0.064514	0.179638	-0.359132	0.7197
C(13)	2.571835	5.761280	0.446400	0.6556
C(14)	0.025355	0.283658	0.089387	0.9288
C(15)	-0.089081	0.282416	-0.315423	0.7526
C(16)	0.930477	0.144507	6.438975	0.0000
C(17)	-0.027109	0.147334	-0.183998	0.8541
C(18)	0.012260	0.051251	0.239216	0.8111
C(19)	-0.015555	0.050588	-0.307479	0.7586
C(20)	0.010808	0.505356	0.021387	0.9829
C(21)	0.002790	0.508730	0.005483	0.9956
C(22)	-0.040668	0.591107	-0.068800	0.9452
C(23)	0.077771	0.574582	0.135352	0.8924
C(24)	-0.115380	0.314931	-0.366366	0.7143
C(25)	0.146521	0.312356	0.469083	0.6393
C(26)	4.870514	10.01778	0.486187	0.6271
C(27)	-0.211093	0.988628	-0.213521	0.8310
C(28)	1.287232	0.984549	1.307434	0.1918
C(29)	0.139062	0.504748	0.275507	0.7831
C(30)	-0.281333	0.515365	-0.545891	0.5854
C(31)	0.775002	0.178689	4.337146	0.0000
C(32)	0.087928	0.176322	0.498678	0.6183
C(33)	0.472338	1.761632	0.268125	0.7887
C(34)	-0.629144	1.773305	-0.354786	0.7229
C(35)	-0.015235	2.060124	-0.007395	0.9941
C(36)	-0.153742	2.005593	-0.076656	0.9389
C(37)	0.201768	1.097904	0.183775	0.8543
C(38)	-0.849293	1.092936	-0.777075	0.4376
C(39)	40.38626	34.97021	1.154876	0.2488
C(40)	-0.011678	0.094809	-0.123177	0.9020
C(41)	-0.012310	0.094393	-0.130406	0.8963
C(42)	0.003920	0.048299	0.081166	0.9354
C(43)	-0.012769	0.049244	-0.259302	0.7955
C(44)	-0.002961	0.017130	-0.172853	0.8629
C(45)	-0.001024	0.016908	-0.060573	0.9517

C(46)	0.956199	0.168908	5.661071	0.0000
C(47)	-0.024276	0.170036	-0.142771	0.8865
C(48)	-0.055258	0.197569	-0.279692	0.7799
C(49)	-0.049704	0.192045	-0.258812	0.7959
C(50)	-0.000904	0.105261	-0.008592	0.9931
C(51)	-0.004818	0.104400	-0.046146	0.9632
C(52)	2.385492	3.348295	0.712450	0.4766
C(53)	0.022580	0.088058	0.256420	0.7978
C(54)	-0.086961	0.087672	-0.991889	0.3219
C(55)	0.002169	0.044860	0.048351	0.9615
C(56)	-0.008553	0.045738	-0.186995	0.8518
C(57)	0.004273	0.015910	0.268595	0.7884
C(58)	-0.003954	0.015704	-0.251800	0.8013
C(59)	0.007126	0.156881	0.045423	0.9638
C(60)	-0.008965	0.157929	-0.056768	0.9548
C(61)	0.816463	0.183501	4.449361	0.0000
C(62)	-0.038341	0.178371	-0.214950	0.8299
C(63)	-0.035199	0.097766	-0.360027	0.7190
C(64)	0.018499	0.096967	0.190779	0.8488
C(65)	2.505975	3.109889	0.805808	0.4208
C(66)	0.021030	0.143227	0.146829	0.8833
C(67)	-0.048979	0.142600	-0.343468	0.7314
C(68)	-0.041502	0.072966	-0.568793	0.5698
C(69)	-0.031216	0.074393	-0.419610	0.6750
C(70)	-0.000704	0.025878	-0.027223	0.9783
C(71)	-0.011763	0.025543	-0.460529	0.6454
C(72)	0.063055	0.255169	0.247112	0.8049
C(73)	-0.099905	0.256873	-0.388929	0.6975
C(74)	-0.083227	0.298467	-0.278849	0.7805
C(75)	0.100349	0.290123	0.345886	0.7296
C(76)	0.848778	0.159018	5.337626	0.0000
C(77)	0.071107	0.157718	0.450851	0.6523
C(78)	7.815857	5.058270	1.545164	0.1231

Determinant residual covariance	412.9928

Equation: RGDP = C(1)*RGDP(-1) + C(2)*RGDP(-2) + C(3)*NPI(-1) + C(4)
  *NPI(-2) + C(5)*CHEP(-1) + C(6)*CHEP(-2) + C(7)*INCV(-1) + C(8)
  *INCV(-2) + C(9)*EDU(-1) + C(10)*EDU(-2) + C(11)*GFCF(-1) + C(12)
  *GFCF(-2) + C(13)
Observations: 79

R-squared	0.799760	Mean dependent var	5.584937
Adjusted R-squared	0.763353	S.D. dependent var	3.597728
S.E. of regression	1.750164	Sum squared resid	202.1628
Durbin-Watson stat	1.984676		

Equation: NPI = C(14)*RGDP(-1) + C(15)*RGDP(-2) + C(16)*NPI(-1) +
    C(17)*NPI(-2) + C(18)*CHEP(-1) + C(19)*CHEP(-2) + C(20)*INCV(-1) +
    C(21)*INCV(-2) + C(22)*EDU(-1) + C(23)*EDU(-2) + C(24)*GFCF(-1) +
    C(25)*GFCF(-2) + C(26)
Observations: 79

R-squared	0.822890	Mean dependent var	54.56607
Adjusted R-squared	0.790688	S.D. dependent var	6.651721
S.E. of regression	3.043206	Sum squared resid	611.2328
Durbin-Watson stat	2.019171		

Equation: CHEP = C(27)*RGDP(-1) + C(28)*RGDP(-2) + C(29)*NPI(-1) +
    C(30)*NPI(-2) + C(31)*CHEP(-1) + C(32)*CHEP(-2) + C(33)*INCV(-1) +
    C(34)*INCV(-2) + C(35)*EDU(-1) + C(36)*EDU(-2) + C(37)*GFCF(-1) +
    C(38)*GFCF(-2) + C(39)
Observations: 78

R-squared	0.915374	Mean dependent var	158.5600
Adjusted R-squared	0.899751	S.D. dependent var	33.49586
S.E. of regression	10.60549	Sum squared resid	7310.974
Durbin-Watson stat	2.109595		

Equation: EDU = C(53)*RGDP(-1) + C(54)*RGDP(-2) + C(55)*NPI(-1) +
    C(56)*NPI(-2) + C(57)*CHEP(-1) + C(58)*CHEP(-2) + C(59)*INCV(-1) +
    C(60)*INCV(-2) + C(61)*EDU(-1) + C(62)*EDU(-2) + C(63)*GFCF(-1) +
    C(64)*GFCF(-2) + C(65)
Observations: 79

R-squared	0.748609	Mean dependent var	6.702228
Adjusted R-squared	0.702902	S.D. dependent var	1.733224
S.E. of regression	0.944723	Sum squared resid	58.90514
Durbin-Watson stat	2.071887		

The probability value of VAR shows that the short-run causal effect of equation RGDP shows that the coefficients of NPI are represented by C (3) and C (4). Therefore, looking at their respective p-values at the 5% significance level, which is greater than 0.05, we can easily say that NPI has no short-run relationship with RGDP. CHEP coefficients are represented by C (5) and C (6). So, looking at the extracted p-values at the 5% level of significance, which is greater than 0.05, we conclude that CHEP does not have a causal

impact in the short run on RGDP. The coefficients of the fourth variable, EDU, are represented by C (9) and C (10). So, looking at their respective p-values, which are greater than 0.05, we conclude that EDU has no short-run impact on RGDP.

Table 5: Diagnostic Test Result

Test	Type	Statistic value		Probability value
Goodness of fit	R-Squared	0.799760		
	Adjusted R-Squared	0.763353		
Autocorrelation	VEC Residual Serial Correlation LM Test	F-statistic	0.422615	0.9986
Heteroskedasticity	VEC Residual Heteroskedasticity LM Test	Chi-sq	466.4348	0.8835

Source: Author's Compilation

Test of Hypotheses
Test for Hypothesis 1
H_0: There is no relationship between national poverty index and RGDP.
Decision: Based on the outcome of the estimated VAR model with respect to the extracted probability values, we conclude that national poverty index (NPI) has no short run relationship with RGDP at 5% level.

Test for Hypothesis 2
H_0: Current health expenditure per capita has no significant impact on RGDP.
Decision: Based on the outcome of the estimated VAR model with respect to the extracted probability values, we conclude that the current health expenditure per capita (CHEP) has no significant impact in the short run on RGDP.

Test for Hypothesis 3
H_0: Education budget allocation has no significant impact on RGDP.
Decision: Based on the outcome of the estimated VAR model with respect to the extracted probability values, we conclude that education budget allocation (EDU) has no significant impact in the short run on RGDP.

Conclusion and Recommendation
Nigeria is at the crossroads of sustainable development goals, with an unending search for policy mix, strategies, programs, and appropriate institutional mechanisms to improve the quality of life of Nigerians. Nigeria desires to have human capital development geared towards stimulating economic growth, but this must be pursued under sustainable dynamic equilibrium conditions. Nigeria needs to adopt sustainable development strategies if she is not to be left behind in this era of sustainable revolution. The following policy recommendations are made: (1). Deliberate efforts should be made by government at all levels to create employment opportunities as a major tool to fight against poverty, which is one of the goals of sustainable development. (2). The

government and all the relevant agencies should provide ways of making credit available to the citizenry and also pursue policies of financial inclusion to accommodate the poor and the vulnerable, either through deposit money banks or special development banks, to reduce inequality in the country. (3.) Funds allocated to the health sector should be used purposefully and judiciously in pursuing health policies and programs in the country. Issues of diversification and misappropriation of funds should be strictly abolished by public health officeholders. This can be achieved through honesty, discipline, integrity, and patriotism. (4). The Federal Government of Nigeria should adequately fund the educational sector by allocating at least 26% of her budget to the education sector, as prescribed by UNESCO. This will give room for effective payment of teachers' salaries, the elimination of strike actions, the provision of school plants and facilities, the overall running of the entire educational system, and rapid economic growth in terms of the human development index as the quality of education improves.

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