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Human Development - Economic Growth Nexus: The case of ECOWAS Member States.

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INTRODUCTION

In recent decades, human development and economic growth have become fundamental indicators of a nation's progress, serving as key objectives for governments and policymakers in their pursuit of poverty alleviation and societal advancement. According to the United Nations (UN), development transcends mere economic growth, and there exists a vital connection between human development and economic prosperity. The UN underscores that as people's capabilities are expanded and their well-being elevated, they become more productive contributors to the economy. This imperative correlation between human development captured through the Human Development Index (HDI) and economic growth has ignited discussions on refining the measurements of progress (UNDP, 2021). Therefore, the utilization of the Human Development Index has expanded the scope of discussions on development by encompassing more comprehensive concepts of sustainability, beyond mere economic viewpoints, in the evaluation of development metrics.

Human capital, referring to the productive capacity of people, encompasses attributes like skills, wellness, and the ability to transform resources into goods and services. (Mincer, 1984) emphasized its significance in increasing productivity and sustaining competitive advantage. Therefore, Human capital plays a pivotal role in a country's sustainable economic growth by impacting poverty reduction. On a macro level, it affects labor productivity, innovation, and technology, while at the micro level, it enhances an individual's earning capacity. Developed nations have demonstrated this through substantial investments in human capital formation (Pelinescu, 2015).

According to the UN report (UNECE, 2016), economic growth factors such as human capital, cannot only be used to assess the development of a country and a broader, more comprehensive approach should also be considered, which is human development. Human development goes further than the economic factors associated with human capital but also encompasses the social and cultural aspects that contribute to better quality of life and well-being of individuals. Human development is therefore referred to as the ultimate goal of the development process (Klugman, Rodriguez, & Choi, 2011).

To properly quantify human development, the United Nations came up with a mean set of indices called the human development index. Unlike relying solely on GDP, the Human Development Index (HDI) provides a comprehensive measure of well-being, considering three aspects of human development: living a long and healthy life, education attainment, and a decent standard of living (UNDP, 2023). The HDI has helped to broaden the focus of development economics from purely economic growth to a more individual-centered approach.

The persistently low levels of human capital development, as evidenced by the low Human Development Index (HDI) within the ECOWAS region, pose a significant threat if left unaddressed. This issue is critical due to its multifaceted consequences. A major concern arises from the vulnerability it exposes the population to, including the inability to recognize and seize opportunities, high unemployment rates, and susceptibility to external influences. In extreme cases, this vulnerability can be exploited for malicious purposes, such as terrorist acts, which threaten the country's safety and stability. Therefore, it is imperative to enhance the

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capacity of the population to recognize and capitalize on opportunities, while also ensuring that the youth population does not become a destabilizing factor.

The disparities in socio-economic development levels among ECOWAS member states are not solely attributed to the accumulation of physical capital but may also be rooted in the varying qualities of human resources across the region. Human capital development has emerged as a pivotal determinant of a country's competitiveness and its ability to drive economic growth. Therefore, improving human development indicators, particularly in education and healthcare, is essential. Elevating these indicators could positively influence the Human Development Index (HDI), which, in turn, would enhance overall productivity. This enhancement could contribute to economic growth through improved efficiency and effectiveness of economic activities within the ECOWAS region.

In line with the above, this paper aims to contribute to a better understanding of the complex interplay between the Human Development Index and economic growth within the ECOWAS region. The specific objectives are to:

- Determine whether there are short and long run dynamics between HDI and Economic growth.
- Determine the impact of a country's HDI on its economic growth trajectory

The findings of this paper could be useful to policymakers, economists, development practitioners, scholars, and stakeholders with a vested interest in advancing human capital development and economic growth within the ECOWAS region.

For this study, we hypothesize that an increase in human development index positively affects economic growth.

Stylized Facts: Human Development Index in the ECOWAS region

According to the ECOWAS 2021 report (ECOWAS, 2021) the region's overall human development index (HDI) performance is among the lowest, with an HDI of 0.48, compared to the sub-Saharan Africa average of 0.55 and the average of other developing countries, like South Asia, at 0.64.

There is significant variation in the human development index among member states, with Cabo Verde (0.46), Ghana (0.34), Senegal (0.30), and Togo (0.28) ranking as the best-performing countries in the region. However, some countries, including Niger (0.10), Nigeria (0.13), Mali, and Guinea-Bissau (both at 0.17), are performing poorly relative to others, indicating a need for improvement. The disparities in HDI scores also highlight the unique contexts and opportunities for growth in each member state.

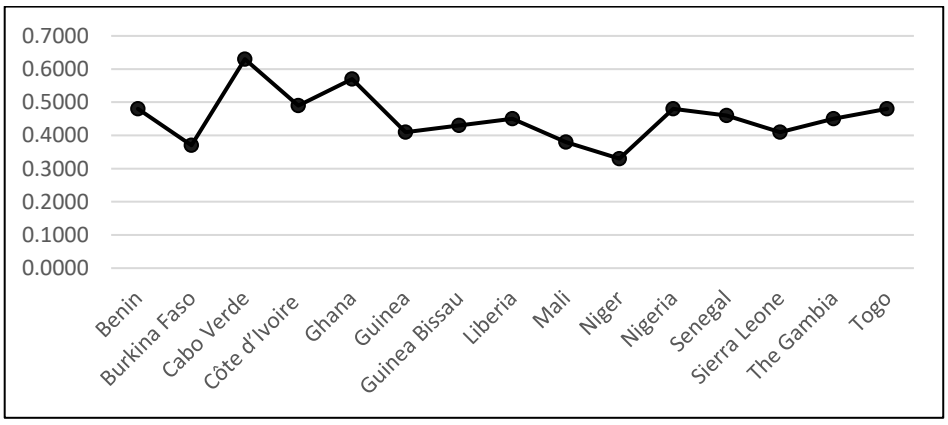

Figure 1: Mean HDI score for ECOWAS member states in 2021
Source: United Nations Development Program, 2023

Within the health and nutrition sector, the ECOWAS region is underperforming, with an aggregate health index of 0.34. High maternal and under-five mortality rates contribute to this issue, with rates of 535 and 82 deaths per 100,000 live births, respectively. Additionally, the life expectancy of 61.6 years is lower than the

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average retirement age of 65 years, indicating significant room for improvement. In the areas of education, skills, and labour participation, the index value is 0.24, which remains low. Harmonized test scores and education expenditure as a proportion of GDP also indicate areas needing improvement. The entrepreneurship, financial inclusion, and digital economy sectors have the poorest performance, with an index value of 0.14. Low new business density and limited financial inclusion are significant contributing factors (ECOWAS, 2021).

Countries with higher HDI scores tend to prioritize human capital investment, leading to a more productive workforce. The HDI themes align closely with the Sustainable Development Goals (SDGs), aiming to eradicate poverty, ensure access to quality education and healthcare, and promote sustainable economic growth. Addressing these challenges and aligning strategies with the SDGs could help boost human capital development in the ECOWAS region.

Some of the core challenges currently faced in achieving human capital development within the ECOWAS region include a lack of regional vision and prioritization. There is a pressing need for a long-term, integrated regional vision that encourages cross-regional cooperation and knowledge-sharing. Additionally, a lack of financial resources has slowed progress. Human Development Index (HDI) initiatives face significant challenges due to competing pressures on public funds and shifting government priorities. This often results in a mismatch between government expenditures and population needs, leading to over- or under-investment in various regions and priorities.

Research that highlights the role of human development in economic growth can inform regional policies that aim to improve education and healthcare standards, thereby facilitating human capital accumulation across member states. Furthermore, investing in human development contributes to the creation of a more stable and sustainable economic environment. Countries with strong human capital are better equipped to weather economic shocks and uncertainties.

LITERATURE REVIEW

There are several theoretical frameworks used to describe the relationship between human capital formation and economic growth, including the human capital theory, modern growth theory, and endogenous growth theory.

The human capital theory, a fundamental framework in development economics, posits that investing in education, healthcare, and other human capital components leads to increased productivity and economic growth. According to this approach, economic growth is primarily driven by the accumulation of human capital, as proposed by Becker's theory of human capital (Becker, 1994). Human capital is seen as an investment that individuals make to increase their earning potential (Becker, 1992). Education and training are investments that increase productivity. This approach therefore attributes the differences in per capita income to the rate of human capital accumulation (Fleischhauer, 2007). Countries with higher Human Development Index (HDI) scores, indicating better human development outcomes, are expected to experience improved labour productivity, technological innovation, and overall economic performance. Education and training are considered investments in human capital, akin to physical capital investments such as machinery and equipment (Gillies, 2015).

Modern growth theory suggests that human capital development itself is an important factor in the economic growth of a country (Solow, 1996). This builds on the neoclassical growth theory, and attributes long-term economic growth to the accumulation of factor inputs such as labour (Nelson & Pack, 2003), showing that there are diminishing returns on the accumulation of capital and that output and capital stock will only grow at the rate of population growth. This theory emphasizes the role of technology and innovation in driving economic growth. The Aghion-Howitt Model attempts to solve this limitation by introducing technological progress, which believes that output grows in proportion to capital because of the effect of innovation, which counters diminishing returns (Pelinescu, 2015). The Aghion-Howitt Model is an economic model that explores the relationship between knowledge accumulation, technological progress, and economic growth. It assumes that knowledge is a capital good, and that productivity increases with capital per worker.

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In contrast, the endogenous growth theory highlights the role of human capital and knowledge as endogenous factors that drive sustained economic growth (Aghion, Howitt, & Brant-Collet, 2020). Countries that prioritize investments in human development are believed to experience positive externalities, such as increased innovation, entrepreneurship, and resource allocation efficiency. In the context of the ECOWAS region, endogenous growth theory suggests that policies aimed at enhancing HDI indicators could foster a virtuous cycle of development, leading to self-sustaining economic growth. According to the endogenous growth model, research and development play central roles in economic growth, with the allocation of resources to research influencing per capita income growth. Policy changes can have a significant impact on an economy's growth rate, as suggested by (Nelson & Pack, 2003).

In recent years, there has been a growing interest in examining the association between the HDI and economic growth within various regional contexts. Several empirical studies have explored this relationship, utilizing panel data analyses and various econometric techniques to provide valuable insights.

There are different methods of analysis that have been explored by researchers (Zhang & Zhuang, 2011) employed the Generalized Methods of Moments (GMM) for a study in China and found that higher levels of education had a significant positive impact on economic growth. (Usman & Adeyinka, 2019) conducted a comprehensive panel data analysis across ECOWAS countries to examine the relationship between Human capital development and economic growth. Using data spanning from 1980 to 2016 in a random effects model setting, the study estimated the impact of three human capital variables i.e. Expenditure on education, Expenditure on health, and School enrolment on Economic growth. Their study revealed that improvements in human development indicators positively and significantly influenced GDP growth rates.

Similarly, (Taqi, Muhammad, Parveen, Babar, & Khan, 2021) conducted an analysis of human development index and economic growth in Pakistan using panel data for the period 1980 to 2018. They used the Panel OLS regression and discovered a strong linkage between HDI and GDP. (Ale & Islam, 2022) focused their study on 10 newly industrialized countries, exploring the role of infrastructure and human capital development on economic growth. They found that human capital development had an unexpectedly substantial negative impact on economic growth. They also mentioned that factors such as political unrest and corruption could be contributing to this relationship.

Several studies have also utilized error correction models (ECMs) and vector error correction models (VECMs) to examine the long-run relationship between HDI and economic growth. For instance, (Abraham & Ahmed, 2011) employed an ECM to investigate this relationship in Nigeria. The findings revealed that, in the short run, economic growth has a negative but insignificant relationship with HDI. In the long run, however, economic growth has a stronger and more significant relationship with HDI.

(Hakooma & Seshamani, 2017) used a Vector Error Correction Model to investigate the relationship between economic growth and human capital in Zambia over a period ranging from 1970 to 2013. They found a significant positive long run between economic growth proxied by GDP per capita and human capital proxied by government expenditure on health and education and school enrolment and found that expenditure on health had the strongest positive relationship with GDP per capita in Zambia.

Method of Analysis

In line with the objective of this study, the Autoregressive Distributed Lag (ARDL) model is employed. The ARDL model is a crucial econometric time series model used for analysing the long-run, and short-run dynamics between variables. The ARDL model was introduced by (Pesaran & Shin, 1999) and later expanded upon by (Pesaran, Shin, & Smith, 2001). This method relies on statistical evaluation, particularly the Wald or F-statistic, within the context of a generalized Dickey-Fuller type regression. This regression is used to assess the statistical significance of the variables considered within a conditional unrestricted equilibrium correction model (UECM).

Following the theoretical literature, the economic performance is analyzed within the framework of a Cobb-Douglas production function expressed as:

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$$Y = f(K, L) \quad (1)$$

Where Y represents the output; L represents labour input; and K represents the capital input.

In alignment with past empirical works (Rahmana , Rajab, & Ryan, 2020) the following model (2) was adopted

$$Y = f(K, L, J) \quad (2)$$

Where Y= Real GDP per capita which is the dependent variable, written as gppc; K = Gross Fixed Capital Formation written as gfcf; L = Labor force was proxied by wage and salaried workers and written as wage; J = Human development index written as hdi. Model (2) is therefore expressed as:

$$gppc = f(gfcf, wage, hdi) \quad (3)$$

Using Equation (3), forms the theoretical model of the study. Thus, our basic ARDL model can therefore be written as:

$$Y_t = \varphi + \sum_{i=0}^{b} \pi Y_{t-i} + \sum_{i=0}^{c} \beta X_{t-i} + \varepsilon_t \quad (4)$$

Where, Y_t is the endogenous variable, X_t is the explanatory variable, φ is constant, b and c are the optimal lags to be used, π, β are the parameters, and ε_t is the error term. The appropriate lag length is selected based on the Akaike Information Criterion (AIC). This can be written using our variables as:

$$\Delta lngppc_t = \varphi + \sum_{i=0}^{c} \beta \Delta lngppc_{t-i} + \sum_{i=0}^{c} \beta \Delta lngfcf_{t-i} + \sum_{i=0}^{c} \beta \Delta lnwage_{t-i} + \sum_{i=0}^{c} \beta \Delta lnhdi_{t-i} + \pi_1 lngppc_{t-1} + \pi_2 lngfcf_{t-1} + \pi_3 lnwage_{t-1} + \pi_4 lnhdi_{t-1} + \varepsilon_t \quad (5)$$

After having identified the lags (p, q) of equation (2), based on the minimum values of the two Akaike and Schwartz criteria, we estimate the ARDL model with error correction formulated as follows:

$$\Delta lngppc_t = \varphi + \sum_{i=0}^{c} \beta \Delta lngppc_{t-i} + \sum_{i=0}^{c} \beta \Delta lngfcf_{t-i} + \sum_{i=0}^{c} \beta \Delta lnwage_{t-i} + \sum_{i=0}^{c} \beta \Delta lnhdi_{t-i} + \gamma(ECT)_{t-1} + e_t \quad (6)$$

With ECT being the error correction term. The parameter associated with the term ECT defines the speed of adjustment of the model towards its long-term equilibrium.

Data

The data for Human Development Indices (hdi) was sourced from the United Nations Development Programme (UNDP, 2023). The Knoema Economy Data (KNEOMA, 2023) provided data on Gross Domestic Product per Capita, Gross Fixed Capital Formation, and Total Waged and Salaried Workers. The data was collected for the 15 Economic Community of West African States (ECOWAS) member states; Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, The Gambia, Togo for the period 1998 to 2021 based on data availability.

Variables

- Real GDP Per capita represents the economic output of a country. It serves as a primary indicator of the overall economic performance and growth of a country. In the Cobb-Douglas framework, real GDP serves as the dependent variable, reflecting the output that results from various inputs.
- Gross fixed capital formation represents investments in physical capital such as machinery, equipment, and infrastructure. This variable captures the role of physical capital in the production function and aligns with the Cobb-Douglas functional form with capital as one of the key inputs.
- Total wage and salaried workers rate are proxies of labor force participation rate due to data unavailability. It reflects the proportion of the working-age population that is either employed or

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actively seeking employment. It provides insights into the efficiency of human resource utilization in the economy.

- **HDI** is a composite index that measures human development by considering factors such as life expectancy, education, and per capita income. It provides a holistic measure of human well-being and development. Including HDI in the analysis allows the investigation of the impact of human development on economic growth.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 provides an overview of the variables of interest. The average value of gppc appears to be 1035.041, with a positive or negative deviation from this value of 681.025. The lowest value of gppc was 356.295 for Sierra Leone in the year 2001. Cape Verde had the highest value of gppc of 3318.933 in the year 2010. The mean value of gfcf is 20.450 percent with a standard deviation of 8.317. The Country with the lowest value of gfcf was 0.293 for Sierra Leone in the year 1999. The maximum value of gfcf was 52.418 for Guinea in the year 2016.

Table 1: Results of descriptive statistics for the variables of interest

Variable	Obs	Mean	Std.Dev.	Min	Max
gppc	360	1035.041	681.025	356.295	3318.933
gfcf	360	20.450	8.317	0.293	52.418
wage	360	18.791	12.903	4.540	68.180
hdi	360	0.455	0.852	0.256	0.676

Source: Author's Calculation

The average value for total wages and salaried workers is 18.791, suggesting that a sizable portion of the labor force in the region is still unemployed. The standard deviation for this variable stood at 12.903. Senegal has the lowest rate, and it was in the year 2020 at 4.540. The maximum, on the other hand, was 68.180 for Niger in the year 2011. The average hdi within the region stood at 0.455 below 50 percent, leaving room for possible improvement. The country with the minimum hdi was Niger and it stood at 0.256 in 1998. The country with the maximum hdi was Cape Verde and stood at 0.676 in 2019.

Pairwise Correlation Matrix

The estimated results of the pairwise correlation between the variables presented in Table 2 reveal interesting relationships between the variables. hdi exhibits a strong and positive relationship with gppc at 0.731, indicating that as gppc increases, hdi increases as well. Labor (wage) and gfcf also shows a high positive correlation with gppc of 0.696 and 0.468 respectively. These results will be investigated further in the ARDL model.

Table 2: Pairwise Correlation Matrix between the Variables of Interest

Variable	gppc	gfcf	wage	hdiv
gppc	1.000			
gfcf	0.468	1.000		
wage	0.696	0.544	1.000	
hdiv	0.731	0.489	0.716	1.000

Source: Author's Calculation

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Cross sectional independence test

The estimated results for the cross-sectional independence in Table 3, shows that all the P-values are less than 0.05. We therefore reject the null hypothesis of no cross-sectional independence, and thus, there is cross sectional independence. This further supports the use of the ARDL model for this estimation

Table 3: Cross-Sectional Dependence Test

Variable	CD-test	P-value	corr	abs(corr)
Lgppc	27.33	0.000	0.545	0.649
Lgfcf	5.32	0.000	0.106	0.368
Lwage	31.45	0.000	0.627	0.836
Lhdiv	47.12	0.000	0.939	0.939

Source: Author's Calculation

Unit Root Test Results

The unit root test will be implemented to investigate the time series characteristics of the data. The occurrence of spurious regression is recognized as a consequential issue when dealing with time series data in empirical analyses. To address this challenge, conducting tests to assess the stationarity properties of data becomes a crucial prerequisite in empirical studies that involve highly trended data. With this in mind, this study employed panel unit root tests, specifically the Levin, Lin & Chu test and the Im, Pesaran, and Shin W-stat test, to examine the stationarity properties of the data used in this research. The findings, as presented in Table 4, reveal that gppc and wage exhibit stationarity at their respective levels, while the remaining variables became stationary after undergoing first differencing. This indicates that the variables of interest encompass a combination of I(0) and I(1) variables. In other words, the null hypothesis of non-stationarity for all variables is rejected when considering the first differences of each series. Most notably, these results provide us with the confidence to apply the ARDL methodology.

Table 4: Results of the unit root tests using the Levin-Lin-Chu and Im-Pesaran-Sin W-stat Tests

Levin-Lin-Chu Test					
Variable	**Level**	**P-value**	**1st Diff.**	**P-value**	
gppc	-1.437	0.075	-4.692	0.000	I(1)
gfcf	-1.739	0.041			I(0)
wage	-1.708	0.044			I(0)
hdi	1.844	0.967	-2.525	0.006	I(1)
Im-Pesaran-Sin W-stat Test					
Variable	**Level**	**P-value**	**1st Diff.**	**P-value**	
gppc	-0.255	0.340	-8.983	0.000	I(1)
gfcf	-2.162	0.015			I(0)
wage	-2.35	0.009			I(0)
hdi	3.883	0.999	-7013	0.000	I(1)

Source: Author's Calculation **Cointegration Tests**

Cointegration is a statistical property that indicates the existence of a long-run relationship between non-stationary time series variables. In other words, it helps determine whether variables move together in the long

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run despite short-term fluctuations. The results of the cointegration tests are presented in Table 5. The null hypothesis of the test is that there is no co-integration. The p-value is greater than the critical values of 5 percent, which means the null hypothesis cannot be accepted. Therefore, the variables are cointegrated and therefore move together in the long run.

Table 5: Results of the co-integration test between the variables of interest

Cointegration Test	**Statistic**	**P-value**
Kao Test	-1.1186	0.1317
Pedroni Test	1.0684	0.1427

Source: Author's Calculation

Lag Selection Order

In estimating a panel ARDL, it is instructive to utilize the appropriate and optimal number of lags to achieve the best results. In view of the above, lag order selection criteria were estimated in which its results show a mixed lag of zero (0), one (1) and three (3).

Panel ARDL Model

Table 6 presents the outcomes of the estimated panel ARDL of both the short run and the long run results of the relationship between economic growth and the human development index within the ECOWAS region. Model 1 has an ARDL (1,0) with two variables: gppc, the dependent variable and hdi, the independent variable. Furthermore, the adjustment term was significant at 1 percent level. The coefficient of the error correction term -ECT- (-0.619) has the expected sign. This confirms that there is a long run relationship between the variables. This implies that 61.91 percent of any disequilibrium is restored in the first year. Consequently, this suggests that the relationship between economic growth and hdi exhibits both a short-term and long-term interaction within the ECOWAS region. In the long run coefficient associated with hdi is positive and significant. These results show that an increase in hdi positively impacted economic growth in the period under review and that an increase in hdi by 1 percent will enhance overall productivity and positively impact economic growth by 5.19 percent. Similarly, in the short run hdi showed a positive relationship of 3.334 percent with statistical significance at 1 percent level.

Table 6: Results of the estimated ARDL models

	Model 1: ARDL (1,0)	**Model 2: ARDL (1,0,0)**	**Model 3: ARDL (1,2,0,3)**
Variable	Coefficients	Coefficients	Coefficients
Short run dynamics			
lgppc	**0.381**^{***a}	**0.369*****	0.192
	(0.000)^{b}	**(0.000)**	(0.117)
hdi	**3.334*****	**3.433*****	**4.083*****
	(0.000)	**(0.000)**	**(0.004)**
gfcf		0.001	0.001
		(0.603)	(0.318)
wage			0.006
			(0.254)
L.hdi			0.432

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			(0.686)
L2.hdi			-0.265
			(0.684)
L.**wage**			-0.006
			(0.166)
L2.**wage**			0.003
			(0.353)
L3.**wage**			0.005
			(0.575)
		Adjustment Term	
ECT	**-0.619*****	**-0.631*****	**-0.519*****
	(0.000)	**(0.000)**	**(0.000)**
		Long run dynamics	
GFCF		0.000	0.000
		(0.868)	(0.974)
hdi	**5.190*****	**5.110*****	**7.107****
	(0.000)	**(0.001)**	**(0.027)**
wage			0.006
			(0.708)
Adj. R-square	0.960	0.960	0.970
F-stat	**6.090*****	**4.680*****	**4.150*****
	(0.000)	**(0.000)**	**(0.000)**

Source: Author's Calculation; [a] Asterisks indicate significance levels: * is 10%, ** is 5%, and *** is 1%; [b] numbers in parenthesis are P-values.

Model 2 has an ARDL (1,0,0) with three variables: gppc, hdi and gfcf. Furthermore, the adjustment parameter was significant at 1 percent level. The coefficient of the convergence parameter (-0.631) has the expected sign. This confirms that there is a long run relationship between the variables. This implies that 63.11 percent of any disequilibrium is restored in the first year. Like Model 1, the long run coefficient associated with hdi is positive and significant, while gfcf is negative and not statistically significant. These results show that an increase in hdi positively impacted economic growth in the period under review and that an increase in hdi by 1 percent will enhance overall productivity and positively impact economic growth by 5.11 percent. Similarly, in the short run hdi showed a positive relationship of 3.4 percent with statistical significance at 1 percent probability level, while gfcf was statistically not significant.

Lastly, Model 3 has an ARDL (1,2,0,3) with four variables: gppc, hdi, gfcf and wage. Furthermore, the adjustment parameter was significant at 1 percent level. The coefficient of the convergence parameter (-0.808) has the expected sign. This confirms that there is a long run relationship between the variables. This implies that 80.78 percent of any disequilibrium is restored in the first year.

Like Model 1 and Model 2, the long run coefficient associated with hdi is positive and significant, while gfcf and wage are negative and not statistically significant. These results show that an increase in hdi positively impacted economic growth in the period under review and that an increase in hdi by 1 percent will enhance overall productivity and positively impact economic growth by 7.10 percent. Similarly, in the short run hdi

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showed a positive relationship of 4.08 percent with statistical significance at 1 percent level, while gfcf and wage was not significant.

This finding is similar to results found by Taqi, and Par (2021) in a similar study in Pakistan, Oloke, et al. (2022) in related studies in the ECOWAS region, and Anyanwu and Yelwa (2015) in a related study in Nigeria despite the variation in the techniques of estimation.

CONCLUSION AND RECOMMENDATION

The main objective of this study was to contribute to a better understanding of the impact of the Human Development Index (hdi) on economic growth within the ECOWAS region. Adopting a theoretical framework with a Cobb-Douglas-type production function, in an Autoregressive Distributed Lag (ARDL) model setting, the paper first ascertained the presence of cointegration between economic growth and hdi alongside gfcf and wage, then further determined the long run and short run dynamics between economic growth and hdi. In each case, it was evident that human development has an influence on economic growth and could therefore be an indicator of the welfare in a country.

Therefore, to address these challenges of low hdi levels within the region, policymakers should focus on investing in human capital development, particularly in health and education indicators, and allocate budgets efficiently to foster growth in these sectors.

In conclusion, the study recommends sustainable spending on inclusive and equitable lifelong learning through human capital development. The findings emphasize the need for more efficient resource allocation by governments to enhance productivity and economic growth per capita, rather than a reduction in hdi.

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