THE ROLE OF REMITTANCES IN ALLEVIATING HOUSEHOLD POVERTY: A CASE STUDY OF WEST AFRICAN COUNTRIES

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Abstract

This study is motivated by the persistent challenge of poverty and unequal growth in West Africa, and seeks to explore how migrant remittances can be effectively leveraged to promote inclusive and sustainable development across the region. Using household consumption as a proxy for welfare, the research adopts a quantitative ex post facto design and models household consumption as a function of remittances, government expenditure on education and health, employment, and literacy rate. The Panel Autoregressive Distributed Lag (PARDL) approach is employed, as it is suitable for heterogeneous panels with variables integrated of mixed orders [I(0)] and I(1)]. Descriptive statistics reveal significant variation among variables, while correlation analysis indicates a strong positive association between remittances and consumption. Panel unit root and cointegration tests confirm stationarity at mixed orders and the existence of a stable long-run equilibrium relationship among the variables. The long-run estimates show that government expenditure on education and health significantly enhances household consumption, underscoring the critical role of social sector investment in improving welfare. Conversely, remittances and literacy rate exhibit negative long-run effects, suggesting that remittance income and higher literacy levels may encourage saving or investment rather than immediate consumption. Employment was found to be insignificant, implying that existing job creation efforts have not effectively translated into improved household welfare. The significant and negative error correction term further validates the existence of a stable long-run relationship. The study recommends that governments increase and efficiently manage public expenditure on education and health, promote the productive use of remittances, and enhance the quality and stability of employment. Furthermore, strengthening financial literacy and social protection frameworks will enable households to balance saving and consumption, ensuring that economic growth translates into sustained poverty reduction and inclusive welfare improvement.

Keywords: Remittances, Household consumption, Panel ARDL, Poverty alleviation, Education and health expenditures, SDGs
JEL Classification: F24, I32, O15, C33

INTRODUCTION

International remittances, which are private money transfers sent by migrants to their families and communities in their home countries, have become a major source of external finance for many low- and middle-income economies. Over the past two decades, global remittance flows have expanded significantly and demonstrated remarkable resilience during periods of global crisis, including the COVID-19 pandemic and subsequent economic contractions. For developing nations, these transfers now represent one of the most dependable and substantial inflows of external income, playing a vital role in sustaining household consumption, especially among low income and vulnerable populations. According to the World Bank (2024), remittance inflows to low- and middle-income countries were projected to rise by 2.3 percent in 2024, following a brief slowdown in 2023. This underscores their continued importance at both the macroeconomic and

microeconomic levels.

Across Africa, particularly in West Africa, remittances constitute a considerable share of external resources, often surpassing official development assistance and equaling or exceeding foreign direct investment. In countries such as Nigeria, Ghana, and Senegal, these inflows have contributed significantly to national income and household welfare (African Development Bank [AfDB], 2023). Empirical evidence shows that remittances are linked to improved household consumption, greater access to education and health services, and, in some cases, investment in small scale enterprises (AfDB, 2023). Regional and international bodies, including the African Development Bank and the International Organization for Migration, emphasize the developmental potential of remittances in reducing poverty and strengthening household resilience. However, they also note that challenges such as high transaction costs, limited financial inclusion, and weak linkages to productive sectors continue to constrain their overall economic impact (AfDB, 2023; World Bank, 2024).

Despite the recognized potential of remittances as a poverty reducing mechanism, evidence on their effectiveness across West African contexts remains mixed. Adams and Page (2005) found that a 10 percent increase in per capita remittances is associated with about a 3.5 percent reduction in poverty levels, indicating a strong negative relationship between remittance inflows and poverty incidence. Nevertheless, later studies focusing on regional and country specific cases reveal that the strength and direction of this relationship depend on how remittances are distributed among households, the frequency and size of transfers, and the level of financial access and inclusion (UNDP, 2021; World Bank, 2024). In West Africa, persistent structural challenges such as widespread informality, weak industrialization, inadequate social protection, and governance inefficiencies influence how remittances are used and determine their long-term contribution to poverty reduction (AfDB, 2023).

Furthermore, policy and institutional barriers continue to complicate the remittance and poverty relationship in the region. High transfer costs, weak financial infrastructure, poor digital connectivity, and restrictive regulations have pushed many migrants to rely on informal channels. These challenges reduce the developmental impact of remittances by limiting their contribution to savings, investment, and broader financial inclusion (United Nations, 2024). Recent policy reviews have therefore called for regional strategies aimed at reducing transaction costs, expanding digital and mobile money systems, improving data on remittance flows, and aligning macroeconomic and social policies to enhance their developmental role (United Nations, 2024; AfDB, 2023).

Although remittances remain a major and stabilizing source of household income in West Africa, systematic evidence on the extent and mechanisms through which they reduce poverty across countries in the subregion is still limited. Much of the available research is either global in scope

or restricted to single country analyses, which limits understanding of subregional variations. In addition, policy discussions often assume that remittances automatically improve welfare without adequately considering household demographics, access to finance, quality of public services, and governance effectiveness. This gap in knowledge restricts policymakers' ability to design targeted interventions, such as integrating remittances with financial inclusion programs, education financing, and social protection schemes. Such approaches are necessary to ensure that migrant transfers translate into sustainable poverty reduction and inclusive development for households across West Africa.

Conceptual Issues

Household Poverty: Poverty is a multidimensional phenomenon encompassing lack of income, limited access to education, inadequate healthcare, and poor living conditions (World Bank, 2023). In empirical analyses, household poverty is often captured through indicators such as household consumption expenditure, poverty headcount ratio, poverty gap index, or income per capita (Ravallion, 2016).

At the microeconomic level, consumption-based poverty measures are preferred because they directly reflect household welfare and living standards (Adams & Cuecuecha, 2010). Households receiving remittances are typically expected to exhibit higher consumption and improved access to essential services compared to non-recipient households. Thus, the assumption is that remittances function as a poverty-alleviating mechanism by providing liquidity that enables families to meet basic needs, smooth consumption, and invest in human capital (Adams & Page, 2005).

However, the magnitude and sustainability of this poverty reduction effect depend on several contextual factors. For example, if remittance inflows are irregular, small in value, or used primarily for non-productive consumption, their long-term impact on poverty may be limited (Stark, 1991). Moreover, disparities in access to remittances since not all households have migrants abroad can sometimes widen income inequality, particularly when only relatively wealthier households can afford to send migrants overseas (Acosta et al., 2008). Therefore, while remittances are generally associated with reductions in the incidence and depth of poverty, the relationship may be nonlinear and context-specific in West Africa.

Remittance: Remittance is a monetary transfers sent by migrants to family members in their home countries. According to the World Bank (2024), international remittances have become one of the largest and most stable sources of external finance for low- and middle-income countries, often surpassing foreign direct investment and official development assistance. In West Africa, remittance inflows have grown rapidly, supported by extensive migration networks and diaspora communities (African Development Bank [AfDB], 2023).

Remittances can influence household poverty through several theoretical and practical transmission channels. First, the income effect occurs when remittances directly supplement household income, enabling recipients to increase consumption and improve living standards (Adams & Page, 2005). Second, the investment effect arises when households allocate remittance income toward productive ventures such as small business creation, agricultural improvements, or education and health investments (Giuliano & Ruiz-Arranz, 2009). Third, remittances may serve as a risk-coping mechanism, allowing families to withstand income shocks such as job loss, illness, or natural disasters (Yang & Choi, 2007).

In the context of West Africa, these effects are influenced by several conditioning factors—including the size and frequency of transfers, financial inclusion, the cost of sending money, and macroeconomic stability. For instance, high transaction costs and the prevalence of informal transfer channels can reduce the developmental impact of remittances, while limited access to banking services constrains households' ability to save or invest remitted funds (United Nations, 2022).

Conceptually, therefore, remittances are expected to have a negative relationship with household poverty; i.e., as remittance inflows increase, the incidence and severity of poverty are expected to decrease. However, the strength and direction of this relationship may vary across countries and household groups, depending on the structure of migration, financial access, and local economic conditions.

REVIEW OF RELATED LITERATURE

There are several related empirical works in the literature. World Bank (2024) examined the global trends and regional patterns in international remittances, migration flows, and their economic impact on developing countries. The study employed global remittance flow data (balance of payments) and regional aggregation; descriptive analysis of flows, trends and remittance costs. The findings of the study show that remittances to developing countries remain large after the 2023 slowdown, while the costs of sending small transfers remain significant (cost of sending $200 averaged ~5.8–5.9%). The Brief highlights remittances' stability relative to other capital flows and regional variation in volumes and costs.

United Nations (2024) Examined the impact of remittance inflows in West Africa focusing on their socioeconomic role, barriers to formal transfer channels, and strategies to leverage remittances for inclusive development, adopting regional assessment using official flows, household survey evidence, and policy review. The findings reveal that West Africa receives a large share of regional remittances (important versus FDI and ODA), but high transaction costs, weak digital/financial infrastructure and poor data constrain development impacts. The report stresses targeted policies to channel remittances toward financial inclusion and investment.

African Development Bank (2023/2024) examined the contribution of remittances to Africa's

growth and development, including policy frameworks to enhance their developmental impact and reduce transaction costs. Employing regional and country-level data; descriptive and policy analysis. The findings of the study show that AfDB underscores remittances as one of Africa's most stable external financing sources, documents sizable inflows to West Africa and calls for policies to better mobilize remittances for investment and inclusion. AfDB also flags recent contractions (2023) followed by partial recovery in 2024.

Ojeyinka (2024) investigate the relationship between remittance inflows and poverty reduction across developing economies, using panel data for top remittance-recipient countries (1990–2021); econometric panel regressions with poverty indicators (headcount and consumption measures). The study results reveal a significant, negative relationship between stable remittances and poverty indicators across the sample; however, effects vary by country and depend on financial depth and redistribution.

Acheampong (2021) examined the linkages between remittances, financial sector development, and their combined effect on poverty alleviation in Sub-Saharan Africa adopting cross-country panel (44 SSA countries), econometric models testing interaction between remittances and financial development on poverty. The results reveals that remittances reduce poverty more effectively in countries with higher levels of financial development; financial deepening amplifies remittances' poverty-reducing effect.

Garcia-Fuentes (2025) Analyses the multidimensional effects of remittances on poverty covering income inequality, education, and household welfare outcomes. The study employs cross-country panel and decomposition techniques to separate consumption, education, and investment channels. The result of the study confirms negative remittance–poverty association (consistent with Adams & Page), but documents heterogeneous channels: consumption smoothing dominates short-term poverty reduction while human-capital and investment channels are more conditional on local financial access.

Ibrahim et al. (2024/2025). Examined the effect of remittance inflow on household consumption and welfare in Nigeria adopting time-series/ARDL and micro-level household interpretations for Nigeria (1985–2023/2024). The result of the study shows a positive and significant effect remittances on household consumption (welfare) in the short and long run; inflation and macro instability can erode the consumption gains.

World Scientific (2023/2024) assessed impact of remittances in of the poverty-reduction across developing countries using Cross-country panels with robustness checks (instrumental variables, panel GMM) and multiple poverty metrics. Based on the study result, there is a significant poverty-reducing effect of remittances, but emphasize endogeneity concerns and heterogeneity across countries; credible identification (IV/GMM or household panel methods) strengthens causal claims.

RESEARCH METHODOLOGY

Theoretical Framework

The arguments made in this study are anchored on the new economics of labour migration (NELM) theory. The theory which was propounded by Stark and Bloom (1985), unlike traditional neoclassical migration theories that view migration as an individual decision motivated solely by wage differentials between countries, conceptualizes migration as a household strategy for risk diversification, income smoothing, and welfare improvement. According to this theory, households in developing countries often face imperfect credit and insurance markets. To overcome these market constraints, members migrate abroad to earn and remit income back home, thereby reducing household vulnerability to shocks and supplementing income for consumption, education, healthcare, and investment in small businesses (Taylor, 1999).

In the context of West Africa where financial markets are underdeveloped and formal employment opportunities are limited, remittances play a crucial role as a substitute for missing credit and insurance markets. The theory thus predicts that remittances can alleviate household poverty by enabling higher consumption, better nutrition, educational attainment, and asset accumulation (Lucas & Stark, 1985).

Model Specification

To assess the role of remittances in alleviating household poverty, we will utilize a quantitative analysis guided by ex post facto research, inspired by the empirical approach of Ogunleye and Adeyemi (2021), where household poverty (household consumption) is modeled as a function of remittances. However, this model diverges from previous methodologies by accounting for the potential feedback effects between remittances and household poverty. The specified functional relationship between remittances and household poverty is outlined as follows:

HCONS = f (REM, GEDUEXP, HEALTHEXPD, EMPL, LR)

The functional relationship between household consumption and its determinants can be expressed in an econometric form as follows:

HCONSit = β0 + β1REMit + β2GEDUEXPit + β3HEALTHEXit + β4EMPLit + β5LRit + μi + νt + ϵit

HCONS_{it} = \beta_0 + \beta_1 REM_{it} + \beta_2 GEDUEXP_{it} + \beta_3 HEALTHEX_{it} + \beta_4 EMPL_{it} + \beta_5 LR_{it} + \mu_i + \nu_t + \epsilon_{it}

HCONSit = β0 + β1REMit + β2GEDUEXPit + β3HEALTHEXit + β4EMPLit + β5LRit + μi + νt + ϵit

Where HCONSit = Household consumption for country i at time t (proxy for welfare or poverty

reduction), REMit = Remittance inflows (% of GDP), GEDUEXPit = Government education expenditure (% of GDP), HEALTHEXPDit = Public health expenditure (% of GDP), EMPLit = Employment rate (ratio of employed to working-age population), LRit = Literacy rate (proxy for human capital development), β0\beta_0β0 = Intercept term, μi\mu_iμi = Unobserved country-specific effect (captures time-invariant heterogeneity), νt\nu_tνt = Time effect (captures shocks common to all countries, e.g., global crises) and ϵit\epsilon_{it}ϵit = Idiosyncratic error term

Estimation Technique and Procedure

The data of the study were subjected to a series of pre-estimation tests. Descriptive statistics were used to evaluate the normal distribution of the data set and to check for outliers. Correlation matrix was used to measure the degree of relatedness among the variables of the study in pairs. Unit root test was used to evaluate the stationarity of the data used in the study. Cointegration test was conducted to determine whether certain sets of non-stationary time series variables share long-run equilibrium relationships. Panel Autoregressive Distributed Lag (PARDL) model which is well-suited for heterogeneous panels where the variables may be integrated at different orders, specifically I(0) and I(1), but not I(2), was used to estimate the coefficients of the explanatory variables. The following are some of the reasons why the panel ARDL approach was chosen for the study:

Mixed Order of Integration*:* Our preliminary unit root tests will help determine if the variables fall into the I(0) or I(1) categories, confirming the appropriateness of the panel ARDL model.

Capturing Dynamics*:* This model effectively estimates both short-run adjustment processes and long-run equilibrium relationships between income inequality and inclusive growth, providing a comprehensive view of the dynamics involved.

Accounting for Heterogeneity*:* Unlike the pooled OLS method, the panel ARDL approach (such as the Mean Group or Pooled Mean Group estimator) promises to recognize the structural and policy variances across sub-Saharan African countries.

DATA ANALYSES, PRESENTATION AND DISCUSSION OF RESULTS

The analyses of the data for the study were carried out using the E-views 13.0 and Stata 15.0 software packages.

Descriptive Statistics Test

A summary of the descriptive statistics test results is presented below. Table 1 presents the descriptive statistics for the variables used in the study, including household consumption (HCONS), remittances (REM), government education expenditure (GEDUEXP), public health expenditure (HEALTHEXPD), employment (EMPL), and literacy rate (LR), covering 250 panel observations from 2000 to 2024.

Table 1: Summary of the Descriptive Statistics Test Results

Variables	HCONS	REM	GEDUEXP	HEALTHEXPD	EMPL	LR
Mean	681.3343	1693.656	3.283265	4.703050	64.65590	66.08152
Median	523.7355	300.6684	3.354473	4.178695	65.74300	51.08500
Max.	2181.610	24311.02	8.140970	19.69005	80.29200	128.2516
Mini.	-9.88848	2.435105	0.281712	1.789449	42.41300	10.37954
Std. Dev.	499.8086	4643.972	1.488616	2.286221	9.820647	33.71823
Skew.	1.186814	3.834205	0.124853	3.232129	-0.36156	0.356589
Kurtosis	4.050025	16.50679	3.485384	18.58181	2.187238	1.723304
J-Bera	70.17362	2512.893	3.103653	2964.368	12.32795	22.27684
Prob.	0.000000	0.000000	0.211861	0.000000	0.002104	0.000015
Sum	170333.6	423414.0	820.8161	1175.762	16163.97	16520.38
Sum Sq. Dev.	62202343	5.37E+09	551.7785	1301.474	24014.83	283092.8
Obs.	250	250	250	250	250	250

Sources: Authors' computation using E-views 13.0 (2025)

The results show that household consumption (HCONS) has an average value of 681.33 with a standard deviation of 499.81, indicating moderate variation across households or countries. The mean is higher than the median (523.74), suggesting a right-skewed distribution, where a few households exhibit higher consumption levels. Remittances (REM) record the highest mean value of 1,693.66 and an extremely large standard deviation of 4,643.97, reflecting substantial disparity in remittance inflows across the sample. The wide gap between the mean and median (300.67) confirms the presence of extreme values and inequality in remittance receipts.

Government education expenditure (GEDUEXP) has a mean of 3.28 and a standard deviation of 1.49, implying moderate consistency in spending across regions. The closeness of its mean and median (3.35) suggests a fairly balanced distribution. Similarly, public health expenditure (HEALTHEXPD) shows a mean of 4.70 and a standard deviation of 2.29, indicating some variation in health spending, with a few observations exhibiting significantly higher values. Employment (EMPL) has a mean of 64.66 and a standard deviation of 9.82, implying moderate differences in employment rates, while literacy rate (LR) has an average of 66.08 and a relatively high standard deviation of 33.72, suggesting considerable inequality in literacy levels across countries or households.

The skewness and kurtosis statistics reveal that most variables deviate from normality. HCONS, REM, and HEALTHEXPD are positively skewed and leptokurtic, indicating that their distributions are peaked with heavy tails. EMPL is slightly negatively skewed, while GEDUEXP and LR show mild skewness and are closer to normality. The Jarque-Bera test further confirms that, except for GEDUEXP, all variables are not normally distributed at the 5% significance level, implying the presence of outliers or asymmetric distributions.

Overall, the descriptive results reveal considerable variation across the dataset, particularly for remittances, literacy, and household consumption. The deviations from normality suggest structural differences among the sampled units, justifying the application of robust econometric estimation techniques in subsequent analysis.

Additionally, the correlation matrix was analyzed, with the results summarized in Table 2.

Table 2: Correlation Matrix

Variables	HCONS	REM	GEDUEXP	HEALTHEXPD	EMPL	LR
HCONS	1					
REM	0.640333 13.12851 0.0000	1 ----- -----				
GEDUEXP	-0.38394 -6.54807 0.0000	-0.40809 -7.03943 0.0000	1 ----- -----			
HEALTHEXPD	-0.15342 -2.44502 0.0152	-0.1291 -2.05017 0.0414	-0.05225 -0.82398 0.4107	1 ----- -----		
EMPL	0.248096 4.033107 0.0001	0.260931 4.256597 0.0000	-0.43274 -7.55917 0.0000	-0.31182 -5.16816 0.0000	1 ----- -----	
LR	0.369834 6.268606 0.0000	0.156894 2.50175 0.0130	-0.14371 -2.28693 0.0230	-0.2943 -4.84939 0.0000	0.199512 3.206376 0.0015	1 ----- -----

Source: Authors' computation using E-views 13.0 (2025)

As illustrated in Table 2, the correlation matrix provides insight into the direction and strength of linear relationships among the study variables. Household consumption (HCONS) exhibits a strong positive and significant correlation with remittances (REM) ($r = 0.640$, $p < 0.01$), indicating that increases in remittance inflows are associated with higher household consumption. This suggests that remittances play an important role in supporting household spending and welfare. HCONS also shows a moderate positive correlation with employment (EMPL) ($r = 0.248$, $p < 0.01$) and literacy rate (LR) ($r = 0.370$, $p < 0.01$), implying that higher employment and literacy levels tend to raise household consumption levels. Conversely, HCONS has negative correlations with government education expenditure (GEDUEXP) ($r = -0.384$, $p < 0.01$) and public health expenditure (HEALTHEXPD) ($r = -0.153$, $p < 0.05$), suggesting that these forms of public spending do not immediately translate into increased household consumption, possibly because their benefits are long-term.

Remittances (REM) are negatively correlated with both government education expenditure ($r = -0.408$, $p < 0.01$) and public health expenditure ($r = -0.129$, $p < 0.05$). This implies that higher remittance inflows are often observed in areas with relatively lower public spending, possibly reflecting compensatory household behavior where private remittances substitute for inadequate

government services. REM is also positively correlated with employment (r = 0.261, $p < 0.01$) and literacy rate (r = 0.157, $p < 0.05$), indicating that regions with higher human capital and employment tend to attract or utilize remittances more effectively.

Government education expenditure (GEDUEXP) is negatively correlated with most other variables—REM (r = -0.408), HCONS (r = -0.384), EMPL (r = -0.433), HEALTHEXPD (r = -0.052), and LR (r = -0.144)—all significant at various levels. This pattern suggests that increased government spending on education may be associated with lower short-term household consumption or income indicators, likely because educational investments yield returns over time rather than immediate welfare gains.

Public health expenditure (HEALTHEXPD) shows weak and mostly negative correlations with other variables. It is negatively correlated with household consumption (r = -0.153, $p < 0.05$), remittances (r = -0.129, $p < 0.05$), and employment (r = -0.312, $p < 0.01$), suggesting that increased public health spending may not directly correspond with higher individual consumption or employment in the short run.

Employment (EMPL) is positively and significantly correlated with household consumption (r = 0.248, $p < 0.01$), remittances (r = 0.261, $p < 0.01$), and literacy rate (r = 0.200, $p < 0.01$), implying that better labor market conditions and human capital are associated with improved household welfare.

Finally, the literacy rate (LR) is positively correlated with HCONS (r = 0.370), REM (r = 0.157), and EMPL (r = 0.200), all significant, showing that higher literacy levels enhance economic participation and household welfare. However, it is negatively correlated with GEDUEXP (r = -0.144, $p < 0.05$) and HEALTHEXPD (r = -0.294, $p < 0.01$), suggesting that higher literacy does not necessarily coincide with increased government spending, possibly due to differences in policy priorities or efficiency.

Overall, the correlation results reveal that household consumption is positively associated with remittances, literacy, and employment, but negatively associated with education and health expenditures. The findings suggest that private transfers (remittances) and human capital variables (literacy and employment) play stronger roles in enhancing household welfare compared to government spending variables, whose impacts may be more long-term.

The Panel unit root test using Levin-Lin-Chu and Im-Pesaran-Shin (LLC and IPS) is presented in Table 3.

Table 3: Summary of Unit Root Test Results

Panel Unit Root Test (LLC & IPS)						
	LLC			IPS		
	Level	1st Diff.	Decision	Level	1st Diff.	Decision
HCONS	-5.51	-16.51	I(0)	-6.6	-22.07	I(0)
REM	-1.3	-4.86	I(1)	0.21	-5.64	I(1)
GEDUEXP	-1.42	-6.52	I(1)	-1.62	-6.92	I(1)
HEALTHEXPD	-0.18	-4.58	I(1)	0.55	-4.51	I(1)
EMPL	-1.55	-5.85	I(1)	-1.06	-5.34	I(1)
LR	-1.15	-3.87	I(1)	1.2	-3.4	I(1)

Source: Researchers' computation using Stata 15.0 (2025)

Moving on to Table 3 where the conducted panel unit root test result is presented. The results from our panel unit root analysis using LLC and IPS reveal that all statistics exceed their critical thresholds at the 10%, 5%, and 1% levels of significance, both at level and first difference. This indicates that the variables are integrated of order one [I(1)], while HCONS exhibits stationarity only at the level, classified as order [I(0)]. Consequently, we will proceed with the panel co-integration analysis.

Table 4: Panel Cointegration Test Result

Pedroni Residual Cointegration Test
Series: HCONS REM GEDUEXP HEALTHEXPD EMPL LR
Date: 10/20/25 Time: 15:16
Sample: 2000 2024
Included observations: 250
Cross-sections included: 10
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	0.303011	0.3809	-1.034639	0.8496
Panel rho-Statistic	1.458278	0.9276	1.370420	0.9147
Panel PP-Statistic	-2.50509	0.0061	-1.569073	0.0583
Panel ADF-Statistic	-3.82781	0.0001	-2.013223	0.0220

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	3.050314	0.9989
Group PP-Statistic	-0.26264	0.3964
Group ADF-Statistic	-1.00379	0.1577

All test statistics are distributed N(0,1), under a null of no cointegration, and diverge to negative infinity (save for panel v).
Sources: Authors' computation using E-views 13.0 (2025)

Table 4 further presents co-integration test results consisting of seven metrics: panel v-statistic, panel rho-statistic, panel PP-statistic, panel ADF-statistic, group rho-statistic, group PP-statistic,

and group ADF-statistic, each accompanied by their respective probability values. The null hypothesis posits that there is no cointegration among the variables. However, the p-values for five of these outcomes are not statistically significant. In other words, there is no evidence of a long-run relationship present.

Table 5: Summary of the Panel ARDL Test Result

Variables	HCONS		
Longrun	**Coef.**	**t-Stat.**	**Prob.**
REM	-0.0049	-2.27	0.023
GEDUEXP	0.9069	4.87	0.000
HEALTHEXPD	1.3799	2.44	0.015
EMPL	-0.5479	-0.75	0.455
LR	-0.2254	-2.64	0.008
Short run			
ECT(-1)	-0.4996	-3.25	0.001
REM	-0.0157	-1.04	0.3
GEDUEXP	0.3419	0.55	0.58
HEALTHEXPD	2.8305	0.61	0.544
EMPL	-0.8305	-0.94	0.347
LR	-0.2671	-0.81	0.418

Source: Researchers' computation using Stata 15.0 (2025)

Findings

The results of the long-run and short-run estimations for household consumption are presented in the Table 5. In the long run, remittances (REM), government education expenditure (GEDUEXP), public health expenditure (HEALTHEXPD), employment (EMPL), and literacy rate (LR) were included as explanatory variables. The findings show that remittances have a negative and statistically significant effect on household consumption in the long run (coefficient = -0.0049, p = 0.023). This implies that a rise in remittance inflows slightly reduces household consumption, suggesting that remittance income may be directed more towards savings or investment rather than immediate consumption.

Government education expenditure was found to have a positive and highly significant relationship with household consumption (coefficient = 0.9069, $p < 0.01$), indicating that increased public spending on education improves household welfare through better income opportunities and enhanced human capital. Similarly, public health expenditure exerts a positive and significant long-run effect on household consumption (coefficient = 1.3799, p = 0.015), implying that improved healthcare access and reduced out-of-pocket expenses enhance household well-being.

The coefficients of employment and literacy rate were found to be negative, but only literacy rate is statistically significant at the 1% level (coefficient = -0.2254, p = 0.008). This suggests that while higher literacy may promote better financial planning, it might also encourage saving and investment behavior that temporarily lowers consumption levels. Employment, though negative, is not statistically significant, implying that employment changes do not have a clear long-term influence on household consumption, possibly due to underemployment or low wages in the sample.

In the short run, none of the explanatory variables was found to have a statistically significant effect on household consumption. However, the error correction term [ECT(-1)] is correctly signed and statistically significant (coefficient = -0.4996, $p = 0.001$), confirming the existence of a long-run equilibrium relationship among the variables. The coefficient value indicates that approximately 50% of any deviation from the long-run equilibrium is corrected within one period, implying a moderate speed of adjustment towards equilibrium.

Overall, the long-run results emphasize the importance of public sector investment in education and health as key drivers of household welfare, while remittances and literacy appear to influence consumption patterns differently. The short-run dynamics, however, show limited immediate responses, highlighting that the effects of these macroeconomic factors on household consumption are largely long-term in nature.

Discussion of Findings

The findings of the study reveal several important insights into the determinants of household consumption in the study area. In the long run, government expenditure on education and health exerts a strong and positive influence on household consumption. This finding aligns with economic theory and previous empirical studies that emphasize the role of human capital investment in improving household welfare. Increased spending on education enhances skill development and productivity, which in turn raises income levels and household purchasing power. Similarly, improved public health expenditure reduces the financial burden of illness, thereby freeing household resources for other forms of consumption. These results underscore the importance of effective fiscal policies aimed at promoting inclusive welfare and long-term economic stability.

Contrary to expectations, remittances exhibit a negative and statistically significant relationship with household consumption in the long run. This suggests that remittance inflows may not directly translate into increased spending on goods and services. Instead, households receiving remittances may channel a significant portion of these funds into savings, investment, or debt repayment rather than immediate consumption. This outcome could also reflect the irregular nature of remittance flows or the use of remittances as a form of insurance against income shocks, particularly in low-income or uncertain economic environments.

The literacy rate also shows a negative and significant long-run effect on household consumption. This result, though unexpected, may indicate that higher literacy encourages more prudent financial behavior, such as saving and investment, rather than increased consumption expenditure. Literate households may prioritize long-term financial security over short-term spending. However, the negative coefficient could also suggest that improvements in literacy take time to translate into better employment opportunities and higher disposable income, particularly where labor market conditions are weak.

The coefficient of employment is negative but statistically insignificant in both the long and short run, implying that variations in employment levels do not have a clear or immediate impact on household consumption. This could be attributed to the prevalence of low-paying or informal sector jobs, where increases in employment do not necessarily translate into substantial increases in household income and consumption.

In the short run, none of the explanatory variables exert a statistically significant influence on household consumption, indicating that changes in government expenditure, remittances, or labor market conditions do not immediately affect consumption behavior. However, the error correction term (ECT) is negative and highly significant, confirming the existence of a stable long-run equilibrium among the variables. The coefficient of -0.4996 indicates that about half of the short-run disequilibrium is corrected in each period, suggesting a moderate speed of adjustment towards long-run equilibrium.

Overall, the findings highlight the dominant role of public investment in education and health in sustaining household welfare over time. The results also suggest that while remittances and literacy have complex and indirect effects on household consumption, their long-term implications are shaped by structural and behavioral factors within the economy. The insignificance of employment in influencing household consumption further underscores the need for labor market reforms that enhance job quality and income security.

CONCLUSION

The study examined the determinants of household consumption, focusing on remittances, government expenditure on education and health, employment, and literacy rate. The findings reveal that government spending on education and health positively and significantly influences household consumption in the long run, highlighting the importance of social sector investment in improving welfare. Conversely, remittances and literacy rate have negative long-run effects, suggesting that remittance income and higher literacy levels may encourage saving or investment rather than immediate consumption. Employment was found to be insignificant, indicating that job creation has not effectively translated into improved household welfare. The significant error correction term confirms the existence of a stable long-run relationship among the variables.

These findings have strong implications for achieving the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 10 (Reduced Inequalities). Based on these results, the study recommends that the government should increase and efficiently manage public expenditure on education and health, encourage the productive use of remittances, and improve the quality and stability of employment. Additionally, promoting financial literacy and strengthening social protection programs will help households better balance saving and

consumption, thereby ensuring that economic growth translates into improved living standards and long-term poverty reduction.

References

Acosta, P., Calderón, C., Fajnzylber, P., & Lopez, H. (2008). *What is the impact of international remittances on poverty and inequality in Latin America?* World Development, 36(1), 89–114. https://doi.org/10.1016/j.worlddev.2007.02.016

Adams, R. H., & Cuecuecha, A. (2010). *Remittances, household expenditure and investment in Guatemala.* World Development, 38(11), 1626–1641. https://doi.org/10.1016/j.worlddev.2010.03.003

Adams, R. H., & Page, J. (2005). *Do international migration and remittances reduce poverty in developing countries?* World Development, 33(10), 1645–1669. https://doi.org/10.1016/j.worlddev.2005.05.004

African Development Bank (AfDB). (2023). *African Economic Outlook 2023: Mobilizing Private Sector Financing for Climate and Green Growth in Africa.* Abidjan: African Development Bank Group.

African Development Bank (AfDB). (2024). *African Economic Outlook 2024: Driving Africa's Transformation through Digitalization and Remittances.* Abidjan: African Development Bank Group.

Acheampong, A. O. (2021). *Remittances, financial development, and poverty reduction in Sub-Saharan Africa.* Review of Development Finance, 11(2), 147–159. https://doi.org/10.1002/jid.3483

Garcia-Fuentes, P. (2025). *Remittances, inequality, and multidimensional poverty: Evidence from developing economies.* Journal of Development Studies, 61(4), 512–534.

Giuliano, P., & Ruiz-Arranz, M. (2009). *Remittances, financial development, and growth.* Journal of Development Economics, 90(1), 144–152. https://doi.org/10.1016/j.jdeveco.2008.10.005

Ibrahim, M., Yusuf, T., & Adeoye, A. (2025). *Remittances and household welfare in Nigeria: Evidence from ARDL and micro-level analysis.* Nigerian Journal of Economic and Social Studies, 67(1), 55–74.

Lucas, R. E. B., & Stark, O. (1985). *Motivations to remit: Evidence from Botswana.* Journal of Political Economy, 93(5), 901–918. https://doi.org/10.1086/261341

Ojeyinka, T. A. (2024). *International remittances and poverty reduction: Evidence from developing economies.* International Journal of Economics and Development Studies, 12(3), 1–17.

Ravallion, M. (2016). *The economics of poverty: History, measurement, and policy.* Oxford University Press.

Stark, O. (1991). *The migration of labor.* Basil Blackwell.

Stark, O., & Bloom, D. E. (1985). *The new economics of labor migration.* American Economic Review, 75(2), 173–178.

Taylor, J. E. (1999). *The new economics of labour migration and the role of remittances in the migration process.* International Migration, 37(1), 63–88. https://doi.org/10.1111/1468-2435.00066

United Nations. (2022). *Leveraging remittances for sustainable development in Africa.* United Nations Economic Commission for Africa (UNECA). Addis Ababa.

United Nations. (2024). *Remittances and inclusive development in West Africa: Challenges and policy options.* United Nations Development Programme (UNDP) Regional Bureau for Africa. New York: UNDP.

UNDP. (2021). *Migration, remittances, and sustainable development in Africa.* United Nations Development Programme, Regional Bureau for Africa.

World Bank. (2023). *Poverty and Shared Prosperity 2023: Ending Poverty on a Livable Planet.* Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1984-1

World Bank. (2024). *Migration and Development Brief 39: Remittances remain resilient but face rising costs*. Washington, DC: World Bank. https://www.knomad.org/

World Scientific. (2024). *Remittances and poverty reduction: Empirical reassessment using global panel evidence. World Scientific Journal of Economics and Development Studies*, 4(2), 78–99.

Yang, D., & Choi, H. (2007). *Are remittances insurance? Evidence from rainfall shocks in the Philippines.* World Bank Economic Review, 21(2), 219–248. https://doi.org/10.1093/wber/lhm003