



REMITTANCES, FINANCIAL DEVELOPMENT AND POVERTY IN NIGERIA. ANY CAUSAL LINK?

¹Mathias Mathew Madu, ²Dahiru Abba, ³Josephine Japhet Wubon.

^{1, & 2} Department of Cooperative Economics and Management- Adamawa State Polytechnic, Yola

³ Department of Economics- Taraba State University, Jalingo.

Corresponding Author: 08168183893

ABSTRACT

Remittances through efficient financial institutions have been identified as a potential source of income and a means of reducing poverty in developing countries like Nigeria. Using annual time-series data from 1981 to 2025, this study examined the causal relationship among remittances, financial development and poverty in Nigeria through adoption of descriptive statistics and Granger Causality tests as techniques of analysis. The findings revealed that a bi-directional causal relationship exist between poverty proxied by household consumption expenditure and financial development proxied by broad money supply to the ratio of the GDP, a uni-directional causal relationship exist from remittances to financial development proxied by broad money supply to the ratio of the GDP and poverty and a uni-directional causal relationship running from financial development (when private sector credit to the ratio of the GDP) is used to poverty. The study recommended that government, through the monetary authorities, should deepen the financial sector by advancing financial inclusion policies. This would expand and improve financial services, offer convenient payment systems and affordable saving options, address access and funding challenges, enhance sector efficiency and competitiveness, and ultimately increase the availability of financial services for the poor.

Keywords: Financial Development; Granger Causality; Nigeria; Remittances

JEL Classification: E31, I32, H53



1. Introduction

Every year, Nigerians in the diaspora send billions of dollars back home, funds that provide a buffer against hard times. According to the World Bank (2024), Nigeria received \$20.5bn in remittances in 2023, the highest in sub-Saharan Africa and among the top inflows internationally. In Nigeria, where over forty per cent of people are impoverished, these funds are not just numbers on a balance sheet; they are lifelines. Yet here lies the paradox: despite the volume of remittances, they have not yet translated into broad-based economic reform. Nigeria's GDP growth, averaging roughly two to three per cent since 2015, lags behind population growth, meaning that poverty reduction and job creation remain inadequate. For too long, remittances have functioned as survival money for households rather than as development capital for the nation (World Economic Report, 2025). This is due to weak or unsound financial systems, high transaction costs, and reliance on informal channels for sending remittances.

Remittances typically involve large sums of money, and it is hypothesized that recipients frequently require financial solutions that would allow them to both save this money for future use and earn some interest. Remittance inflows is one of the important indicators of financial advancement. However, academics have also asserted that financial development may positively impact the influx of remittances (Coulibaly, 2015; Olayungbo & Quadri, 2019). According to theories, a healthy financial system encourages a sizable inflow of remittances from abroad because, the degree of financial sector development increases international financial transactions. Also, a high level of financial development is said to reduce the costs associated with monetary operations. Owing to the fact that, a robust financial industry reduces the costs associated with sending remittances from abroad (Coulibaly, 2015).

Understanding poverty is by no means simple, as it has many dimensions and affects people in different ways and at varied degrees. Thus, poverty is a global phenomenon that needs to be tackled at all levels. However, a number of theoretical perspectives exist in the literature, with major one viewed poverty as a lack of material resources; other perspectives view it as a lack of practical life-management skills or as hazardous and unstable living circumstances that heighten susceptibility. Hence, Azam, Haseeb and Shamsudin (2016) described poverty as a multifaceted phenomenon caused by many factors, such as illiteracy, unemployment, lack of capital, high population growth, trade deficit and dependency burden. According to Onakoya, Johnson, and Ogundajo (2019), poverty is a discernible lack of well-being that encompasses a variety of factors, such as low income and the inability to obtain necessities for a dignified survival. According to Sen (1983) and Knecht (2012), poverty can typically mean a social exclusion from participation in societal life and having, which degenerated to the state of having poor living conditions that affect health, well-being, and life expectancy.

Many studies such as Aboulezz (2015), Nyead and Atiga (2014), Olayungbo and Quadri (2019), Lawal et al. (2022), Olubiyi (2014), Jouini (2015), Hatemi-J and Uddin (2014), and Gaaliche and Zayati (2014) have estimated the causal relationship or link among remittances, financial development and poverty using panel studies and country specific studies using different proxies for poverty and financial development and different periods, yet the direction of causality remain

inconclusive. Therefore, this study focuses on the mentioned variables only for Nigeria spanning from 1981 to 2024 using household consumption expenditure as a proxy for poverty, broad money supply and private sector credit as proxies for financial development.

2.0 Conceptual Issues

2.1 Remittances

There is no single definition of remittance, as it has been defined and conceptualized by different authors and scholars. It refers to a cash or in-kind transfer from one place to another (Siddiqui, 2004, cited in Peter et al., 2016). A remittance is a payment transferred to another party; it is the money sent from abroad by someone working outside their country of origin to their family. To remit means to send back. Broadly speaking, any payment of an invoice or a bill can be called remittance. It provides one of the main sources of revenue for developing and low-income nations, which frequently outpace foreign direct investment and international development assistance (Fowowe & Shuaibu, 2021).

2.2 Financial development

Financial development serves as financial deepening by expanding the size of the monetary structure and increasing the diversification of businesses' and households' portfolios, thereby driving financial market development. Financial development has encouraged people to participate in the formal financial system by using phones and the internet without necessarily holding formal bank accounts, thereby advancing modes of payment, including checks, automated teller machines (ATMs), the internet, and mobile payments, among the general public (Ajefu & Ogebe, 2019).

According to Shahbaz, Nasir, and Roubaud (2018), financial development entails enhancing the generation of information regarding potential investments and capital allocation, monitoring businesses and enforcing corporate governance, facilitating trade, managing risks, diversifying, mobilising and pooling savings, and simplifying the transfer of goods and services. This financial operations affect investment and saving choices as well as technical advances that boost the economy and reduce poverty.

2.3 Poverty

Sen, in his book 'Poverty and Famines' published in 1980, defined poverty as the deprivation of basic capabilities, rather than taking into consideration the income or monetary aspect which forms the basis of whether someone is poor or not, and argued that the deprivation of capabilities has turned out to be the measurement of real poverty rather than measuring poverty line. Though, income and capability poverty may vary, they may also be a point of consensus between them. The income of a person improves his capabilities in general, and his capabilities also improve his income, and therefore basic essentials like education and health not only increase one's capability but also increase his ability to earn more income. In line with Sen's concept of poverty, Sarah and Ive (2016) divided poverty into five categories: economic, social, cultural, political, and personal as well as physical suffering. Nutritional deficiencies, intellectual, health, and literacy deficiencies, as well as a lack of confidence or an inferiority complex, are examples of personal and physical

deprivation. Insufficient access to resources such as land, capital, income access, finance and other factors that may help in the production of goods is one aspect of economic hardship”

Obstacles to full involvement in social, political, and economic activity within a community are a sign of social deprivation. Therefore, the extent of financial growth may be reflected in remittance inflows. The two theories propose bidirectional causality and reverse causation between the growth of the financial sector and remittance inflows

2.4 Theoretical Framework

This study's theoretical foundation is based on the Two-Gap Model of development, which is found in the post-Keynesian growth models for open economies as put forward by Harrod (1939) and Domar (1946). The theorists attempted to pinpoint the prerequisites for open economies' expansion. These two prerequisites are fundamentally ingrained in the Nigerian economy: (1) internally, sufficient savings results in investment. Because, Harrod–Domar growth model is generally built on mobilizing and build savings as prerequisite for growth of an economy through directing the savings to investment! Read the theory again and get the caption of argument postulated in the theory. The term "saving constraints" refers to the difference between savings and investment. Foreign remittances are necessary to close this gap. Additionally, a shortfall in foreign exchange is result from externally deficient foreign exchange due to the incapacity to export compared to excessive imports. Remittances are one type of foreign aid that may be used to bridge the gap between these two, which is known as the foreign exchange limitations (Trade Gap). In order to prevent the economy from completely collapsing, African authorities turned to bilateral and multilateral international organisations, as well as remittances from people of rich nations living abroad.

The basic argument of Harrod-Domar's two-gap theory is that most developing nations struggle with either a lack of foreign currency to finance required imports of intermediate goods and capital, or insufficient domestic savings to match investment opportunities (Todaro & Smith, 2012). According to a two-gap study of foreign aid, external funding sources including grants, loans, and remittances, can be extremely helpful in augmenting local resources to ease savings and foreign exchange constraints. According to the hypothesis, developing nations may employ outside inflows of money, including remittances to close the savings-investment gap. According to the two-gap model, equilibrium saving is always equal to investment as:

$$S_t = I_t \quad (1)$$

Since actual savings are usually smaller than investment in African countries, remittances might be used as foreign funds to supplement the low level of savings and finance investment (saving gap).

$$S_t + remit_t = I_t \quad (2)$$

The capital stock equation, in which saving determines capital stock, is expressed as follows:

$$K_t = S_t + remit_t + (1 + \phi)K_{t-1} \quad (3)$$

The Cobb-Douglas production function, which connects labour, technology, and capital stock, is expressed as follows:

$$Y_t = AL_t^{1-\alpha}K_t^\alpha \quad (4)$$

where L_t stands for labour, K_t for capital stock, and Y_t for gross domestic product (GDP).

Equation 4 can be written in per capita terms as:

$$\frac{Y_t}{L_t} = A \frac{L_t^{1-\alpha} K_t^\alpha}{L_t} \quad (5)$$

$$Y_t/L_t = A(k_t/L_t)^\alpha \quad (6)$$

Equation 6 can also be written as:

$$y = Ak^\alpha \quad (7)$$

If A is the exogenous technology, k is the capital per labour ratio, and y is output per labour, with $y = Y/L$ and $k = K/L$.

In Nigeria, however, only roughly 6% of households receive remittances, and 80% are consumed rather than invested. Such distributional inequality suggests that remittances are likely to have a strong micro effect and a weak macro impact.

By integrating the Two-gap model into the altruistic model, a comprehensive analysis is provided of how individual, family-based transfers affect a developing country like Nigeria in the face of macroeconomic constraints. The remittance received by an individual serve as an invisible fuel that fills both the domestic saving gap and the foreign exchange gap. The integration focuses on two main mechanisms:

- i. Bridging the savings gap (S-I): If the recipient household is liquidity-constrained, altruistic remittances increase the pool of savings available for investment in human and physical capital. Because they are received during an economic crisis, they act as a source of stable foreign exchange (a stabilizer).
- ii. Bridging the Foreign Exchange Gap (M-X): Altruistic transfers provide the much-needed hard currency, such as dollars and euros, to pay for imported capital goods needed for investment, reducing the reliance on volatile foreign aid or debt (IMF, 2024).

Also, the Two-Gap theory and human capital theory can be integrated by moving beyond mere financial and physical capital constraints to include the population's skills, health and education. The saving gap and foreign exchange constraints of the Two-Gap can be bridged through human capital development in education and health, which increases productivity, raises income and increases domestic savings (S), thus reducing the saving gap. Furthermore, investment (I) must now include investment in human capital, such as schooling and training, rather than physical machinery.

It will also enable the country to develop technological capabilities, improving the efficiency of import substitution (reducing imports) and upgrading the quality of exports (increasing exports). This will reduce reliance on foreign expertise and enhance the country's ability to generate foreign exchange.

The Sen theory of poverty is also integrated into the two models, which hold that aid from abroad must be directed towards sectors that enhance capability, such as education, healthcare, and social infrastructure, rather than merely funding large-scale infrastructure projects that might not directly

benefit the well-being of the poor. Inequality is also reduced through structural transformation, thereby expanding human potential and increasing human freedom.

2.5 Empirical Review

A review of the literature reveals that studies focusing on the causality aspect of the remittance-financial development-poverty nexus report four possible outcomes, namely; i) studies that found unidirectional Granger causality running from remittances and financial development to poverty; ii) studies that found evidence of unidirectional causality flowing from poverty to remittances and financial development; iii) studies that found a two-way causal relationship between remittances, financial development and poverty; and iv) studies that found no causality between remittances, financial development and poverty. Such studies are reviewed in this subsection as follows:

Unidirectional Causality from Remittances to Financial Development and Poverty

Khurshid, Kedong, Calin, Zeldea, Qiang, & Wenqi (2020) examined the causal link between remittances and financial development growth in 58 countries, divided into low- and middle-income countries, using the Bootstrap Granger causality technique. Their results revealed Granger causality running from remittances to poverty in low- and lower-middle-income countries, whereas in middle-income countries the evidence was weak. Ali, et al. (2018) assessed the causal relationship between economic growth and remittances for the period 1998 to 2014. Based on the remittance-to-GDP ratio, the countries included are: Haiti, Honduras, the Kyrgyz Republic, Lebanon, Lesotho, Moldova, Nepal, Samoa, Tajikistan, and Tonga. Bootstrap panel Granger causality was employed, and the results showed unidirectional causality from remittances to poverty. Munir, Mureed, Dar, and Gardezi (2016) investigated the causal relationship between financial development and remittances in Pakistan for the period 1980-2014, using time-series data. The results confirmed that personal remittances drive financial development in Pakistan.

Olubiyi (2014) examined the causal relationships among Nigeria's GDP, imports, exports, poverty index, and remittances from 1980 to 2012. Using a vector error-correction model (VECM) Granger causality test, the study found a unidirectional causal relationship between remittances and poverty in Nigeria. This suggests that remittances promote growth and, over time, reduce poverty. Aboulezz (2015) employed Granger causality analysis based on the autoregressive distributed lag (ARDL) approach to evaluate the causal relationships among overseas remittances, financial development, and economic growth in Kenya for the years 1993 to 2014. The findings showed that remittances cause poverty and financial development in Kenya. Therefore, remittance inflows are a significant driver of Kenya's economic growth.

In a study of remittances, financial development, and economic growth in Lesotho, Athenia (2014) used the Granger causality test and an error-correction model to find that poverty and remittances are driven by financial development. The relationship between remittances and financial development in Ghana was also empirically investigated by Nyeadi and Atiga (2014). They discovered unidirectional Granger causation from remittances to financial development using the Granger causality and cointegration tests within a VAR framework. Sharaf (2014) examined the long-term causal relationship between output and remittances in Egypt from 1977 to 2012. To estimate the parameters of the equilibrium dynamics, the autoregressive distributed lag (ARDL)

bounds cointegration test was used in conjunction with a vector error-correction model. The results showed that remittances Granger-cause Egypt's financial development and economic growth, thereby supporting increased remittance inflows.

Using a cointegration test, Olayungbo and Quadri (2019) examined the relationship between remittances, economic growth, and financial development across 20 sub-Saharan African nations from 2000 to 2015. They found a unidirectional causal relationship between financial development and poverty. Osuji and Innocent (2024) examined Granger causality between financial development and poverty reduction in Nigeria from 1981 to 2020 using the Toda-Yamamoto estimation technique. The study used two indicators of financial development, namely broad money supply and credit to the private sector. The results indicated that broad money supply to GDP showed unidirectional causality running from financial development to poverty reduction, but no causal link when credit to the private sector was used, suggesting that private sector credit does not reduce poverty in Nigeria.

Unidirectional Causality from Poverty and Financial Development to Remittances

Unlike the studies reviewed earlier that support unidirectional causality from remittances to economic growth, some studies, though scanty, support unidirectional causality from economic growth and financial development to remittances. For instance, Olayungbo and Quadri (2019) investigated the causal link between remittances and financial development for 20 sub-Saharan African countries using a cointegration test from 2000 to 2015. They found that a unidirectional causal relationship exists from financial development to remittances. Olowookere (2023) used different components of foreign capital inflows to examine their impacts on poverty reduction in Nigeria for the period 1990 to 2019. Data were analysed using Fully Modified Ordinary Least Squares (FMOLS) and the Granger causality test. The results revealed that foreign capital inflows and poverty have a long-term relationship, and a unidirectional relationship exists between poverty reduction and foreign direct investment. Poverty reduction Granger-causes foreign portfolio investment. Dorathy (2023) studied the effect of financial development and financial inclusion on poverty in Nigeria from 1981 to 2020 using the Autoregressive Distributed Lag Model (ARDL) technique. Financial development was proxied by two variables, namely banking sector development and stock market development. The results indicated that banking sector development significantly reduces poverty, while stock market development and financial inclusion have no significant impact on poverty in Nigeria. There is also unidirectional causality from poverty to banking sector development and financial inclusion, and the relationship between poverty and financial development depends on the measurement of financial development.

Ali et al. (2018) assessed the causal relationship between poverty and remittances for the period 1998 to 2014. Based on the ratio of remittances to GDP, the countries included were: Haiti, Honduras, the Kyrgyz Republic, Lebanon, Lesotho, Moldova, Nepal, Samoa, Tajikistan and Tonga. The results, based on the Bootstrap panel Granger causality technique, showed unidirectional Granger causality from poverty to remittances. Athenia (2014), in a study of remittances, financial development and economic growth for Lesotho using the error correction procedure and the Granger causality test, found that financial development Granger causes remittances. Eduboah (2018) examined the relationship between financial development and

poverty reduction in Ghana using time-series data from 1990 to 2015. The results indicated a unidirectional relationship between financial development, economic growth and poverty. The financial indicators used were: bond market and stock market, government expenditure, banking sector, and gross capital formation. Foreign direct investment had a significant positive impact on economic growth in both the short and long term. The study also revealed that financial development and economic growth reduce poverty. Likewise, the study found a unidirectional relationship from economic growth and financial development to poverty, without a feedback effect.

Two-way Causality between Remittances, Financial Development and Poverty

Olowookere (2023) examined the effects of different components of foreign capital inflows on poverty reduction in Nigeria for the period 1990 to 2019. Data were analysed using Fully Modified Ordinary Least Squares (FMOLS) and the Granger causality test. The results revealed a feedback relationship between poverty and remittances. Berisha, Pukaj and Sejdija (2022) analysed the causal relationship between remittances and financial development in the Republic of Kosovo, employing an unrestricted VAR and the Granger causality/Block exogeneity Wald test for the period 2010 to 2021. The results revealed bidirectional causality between remittances and financial development.

Kumar and Vu (2014) examined the causal relationships among information, information technology (ICT), remittances, output per worker, and poverty in Vietnam from 1980 to 2012, employing the ARDL bounds test and the Granger causality test to determine the long- and short-run effects and directions of causality. The results showed that financial development and remittances Granger-cause each other in Vietnam. Similarly, Jouini (2015) investigated the causal link between remittances and poverty in Tunisia from 1970 to 2010 through two transmission channels, the financial development channel and the investment channel. Using the ARDL approach, the results revealed a short-run bidirectional causal link between remittances and poverty. Mwangi and Mwenda (2015) conducted a study in Kenya to establish the direction of causality between remittances and financial development using the Granger causality technique. The results indicated a bidirectional causal link between the two variables.

Additionally, Ahmed and Hakim (2017) examined the causal relationship between Togo's financial development and remittances over 42 years, from 1974 to 2015. For long-term causality, they used the Johansen cointegration test; for short-term causality, they used the Wald test with the paired Granger method; and for long-term causality, they used the three-step vector equilibrium correction methodology. The results supported only a long-term, bidirectional causal relationship between the two variables in Togo. Law, Ali, Yusop, Zeqiraj, Kofarmata, and Abulkarim (2018) evaluated the causal link between remittances and poverty from 1998 to 2014. The study covered Haiti, Honduras, the Kyrgyz Republic, Lebanon, Lesotho, Moldova, Nepal, Samoa, Tajikistan, and Tonga, based on the remittance-to-GDP ratio. The method used was bootstrap panel Granger causality, and the results demonstrated a two-way causal relationship between remittances and poverty in Haiti.

Using panel data analysis and data spanning from 1980 to 2012, Gaaliche and Zayati (2014) investigated the relationship between remittances and poverty in emerging and developing nations. They discovered a bidirectional causal association between remittances and poverty alleviation in developing and emerging nations. The same study found that remittances were strongly positively associated with poverty reduction in both developing and emerging nations, whereas their impact on poverty reduction was weaker.

Hatemi-J and Uddin (2014) investigated the relationship between remittances and poverty reduction in Bangladesh using time-series data analysis. A bi-directional causality relationship was observed in Bangladesh in the long run. The impact of remittances on poverty alleviation was weaker, whilst the influence of poverty reduction on remittances was much stronger in Bangladesh. Paul, Baba Iya, and Idris (2023) analysed the causal relationships among financial development, economic growth, and poverty in middle-income African countries from 1990 to 2021, using the Dumitrescu-Hurlin panel causality test to determine the direction of causality in Kenya, Botswana, Nigeria, South Africa, and Tunisia. The findings of the study revealed that causality exists among the variables

Kheir (2018) investigated the causal relationship between financial development and poverty reduction in Egypt from 1980 to 2015, using the ARDL bounds test and the Vector Error Correction Model. The ARDL results indicated a long-run equilibrium relationship between financial development and poverty reduction. Causality testing within the Vector Error Correction Model revealed a bi-directional, relationship between financial development and poverty reduction. The study recommended that the government remove policies that constrain commercial banks' ability to grant loans and other credit facilities to borrowers.

No causality between Remittances, Financial Development and Poverty

Aside from the empirical evidence in the three categories reviewed, there is a fourth category that treats remittances, financial development and poverty as independent variables that do not Granger-cause each other, though the literature on this category is very scanty.

Mengesha and Berde (2023) examined the causal relationships among financial development, poverty, and economic growth in Ethiopia from 1981 to 2021 using the Toda-Yamamoto causality test and the nonlinear autoregressive distributed lag (NARDL) modelling framework. The Toda-Yamamoto causality test showed that there is no causal link between financial development, poverty, and economic growth in Ethiopia, while the Nonlinear result further revealed that economic growth drives financial development, with the relationship nonlinear and asymmetric in Ethiopia. ARDL. Sheilla and Nicholas (2020) examined the dynamic causal relationship between remittances and poverty in South Africa for the period spanning from 1970 to 2017 using the Granger causality test. The results showed that remittances and poverty are not causally related and are attributable to the country's financial sector.

Ahmed and Hakim (2017) examined the causal relationship between financial development and remittances in Togo over a 42-year period, from 1974 to 2015. They employed the Johansen cointegration test, the three-step vector equilibrium correction technique for long-run causality, and the Wald test for short-run causality, including the pairwise Granger method. The results

confirmed the absence of a causal link between financial development and remittances in Togo in the short run. Olayungbo and Quadri (2019) investigated the causal link among remittances, economic growth and financial development for 20 sub-Saharan African countries using the cointegration test from 2000 to 2015. They found no causal link between remittances and financial development.

3.0 Methodology

3.1 Research Design

This study used time-series data from Nigeria and an empirical methodology. The procedures included: a) gathering information on the variables of interest (poverty, financial development, and remittances).

3.2 Method and Sources of Data

The analysis used data for the years 1981–2024 from the World Bank Development Indicators (WDI, 2025) to capture the post-COVID era.

3.3 Method of Data Analysis

Testing Granger causality requires the series to be stationary, and therefore, it is legitimate to perform standard Granger Causality tests.

The Granger causality test (Granger, 1969) can be applied in three situations. First, it can be applied as a simple Granger causality test with two variables and their lags. Second, when there are more than two variables that potentially affect the outcome, it can be used as a multivariate Granger causality test. Lastly, to show the cause-and-effect relationship between variables, this multivariate can be examined in a VAR framework. The Granger causality test, however, is not always a test for actual cause-and-effect connections. Both linear and non-linear versions of the Granger causality test are available; the linear version is used to determine whether economic variables are causally related, and the estimation is conducted via a reduced VAR (Granger & Newbold, 2014). The illustration of bivariate Granger causality is:

$$POV1_t = \sum \sigma FIDI_t + \sum \varphi POV1_{t-1} + \varepsilon_t \quad (8)$$

$$FIDI_t = \sum \tau POV1_t + \sum \theta FIDI_{t-1} + \varepsilon_t \quad (9)$$

$$REM_t = \sum \vartheta FIDI_t + \sum \delta REM_{t-1} + \varepsilon_t \quad (10)$$

$$FIDI_t = \sum \varrho REM_t + \sum \phi FIDI_{t-1} + \varepsilon_t \quad (11)$$

$$FID2_t = \sum \upsilon POV1_t + \sum \varsigma FID2_{t-1} + \varepsilon_t \quad (12)$$

$$POV1_t = \sum \eta FID2_t + \sum \zeta POV1_{t-1} + \varepsilon_t \quad (13)$$

$$REM_t = \sum \varrho POV1_t + \sum \pi REM_{t-1} + \varepsilon_t \quad (14)$$

$$POV1_t = \sum \Pi REM_t + \sum \Theta POV1_{t-1} + \varepsilon_t \quad (15)$$

$$REM_t = \sum \nabla FID2_t + \sum \varrho REM_{t-1} + \varepsilon_t \quad (16)$$

$$FID2_t = \sum \varkappa REM_t + \sum \mathfrak{h} FID2_{t-1} + \varepsilon_t \quad (17)$$

Where:

$POV1_t$ = Current value of Poverty rate proxied by Household Consumption Expenditure

$POV1_{t-1}$ = Past value of Poverty rate proxied by Household Consumption Expenditure

$FIDI_t$ = Current Value of Financial Development proxied by Private Sector Credit to the ratio of the Gross Domestic Product (PSC/GDP)

$FIDI_{t-1}$ = Past Value of Financial Development proxied by Private Sector Credit to the ratio of the Gross Domestic Product (PSC/GDP)

$FID2_t$ = Current Value of Financial Development proxied by Broad Money Supply to the ratio of the Gross Domestic Product (MS/GDP)

$FID2_{t-1}$ = Past Value of Financial Development proxied by Broad Money Supply to the ratio of the Gross Domestic Product (MS/GDP)

REM_t = Current Value of Inward Remittances

REM_{t-1} = Past Value of Inward Remittances

$\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi$ are the coefficients of the current values of the variables

$\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi$ are the coefficients of the past values of the variables

The descriptive statistics for the variables used in the investigation are summarised in Table 1. The data's mean, maximum, minimum, and standard deviation are presented.

4.0 Results and Discussions

Table 1: Descriptive Statistics {Observations = 42}

Variables	Mean	Std Dev.	Min	Max
FIDI	16.801	6.060	9.063	27.378
POV1	55.496	17.739	9.834	81.535
FID2	11.657	5.591	5.806	22.754
REM	2.562	2.549	0.004	8.333

Source: Author's Computation, 2026, using E-Views 10.

Financial development (FID1) has a mean of 16.8%, a minimum of 9.06% recorded in 1996, and a maximum of 27.7% recorded in 2016. The standard deviation is 6.06%, indicating that the values are moderately clustered around the mean. Poverty (POV1) has a mean of 55.5%, with minimum and maximum values of 9.8% and 81.5%, recorded in 1981 and 2016, respectively. The standard deviation of 17.739 indicates that the variable was highly volatile. Financial development (FID2) has a mean of 11.7%, with a minimum of 5.8% in 1995 and a maximum of 22.8% in 2009. The standard deviation is 5.59%, indicating clustering around the mean. Remittances (REM) have mean, maximum and minimum values of 2.56%, 8.3% and 2009%, respectively. The standard deviation is 2.549, indicating that the observations are not tightly clustered around the mean.

Table 2: Augmented Dickey Fuller Test

Variables	ADF	Crit. Values (5%)	Prob.	Stationarity Level	Remark.
POV1	-7.816089	-3.526609	0.0000	I(1)	Stationary
REM	-6.476905	-3.523623	0.0000	I(1)	Stationary
FD1	-9.153563	-3.523623	0.0000	I(1)	Stationary
FD2	-3.583427	-3.523623	0.0438	I(1)	Stationary

Source: Author's Compilation, 2026 Using E-Views 10.

Optimal Lag length selection result

The lag length selection was based on the Akaike Information criterion because it has the minimum values among all the selected criteria. Based on the results on Table 3, with maximum lag of 1, the selected Model was:(1, 0, 0, 1, 0).

Table 3: Optimal Lag Length Selection Result

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1164.906	NA	2.97e+17	60.09774	60.39632	60.20487
1	-958.8411	327.5901	9.83e+13	52.04313*	54.43184*	52.90018*
2	-920.2432	47.50509	2.15e+14	52.57657	57.05539	54.18354
3	-838.8113	70.99193	8.68e+13*	53.91340	57.48233	53.27028

Source: Author's computation, 2026 Using E-views 10

* indicates lag order selected by the criterion; LR: sequential modified LR test statistic (each test at 5% level); FPE: Final prediction error; AIC: Akaike information criterion; SC: Schwarz information criterion; and HQ: Hannan-Quinn information criterion.

Table 4: Granger Causality Tests

Null Hypothesis	Observation	F-Statistics	Prob.
POV1 does not Granger Cause FID1	40	2.5143	0.0954
FID1 does not Granger Cause POV1		3.3207	0.0478
REM does not Granger Cause FID1	40	8.5796	0.0009
FID1 does not Granger Cause REM		0.0164	0.9837
FID2 does not Granger Cause POV1	40	3.0167	0.0618
POV1 does not Granger Cause FID2		1.0052	0.3763

REM does not Granger Cause POV1	40	5.2263	0.0103
POV1 does not Granger Cause REM		2.2720	0.1181
REM does not Granger Cause FID2	40	9.5689	0.0005
FID2 does not Granger Cause REM		0.5166	0.8556

Source: Author's Computation, 2026 Using E-Views 10.

As shown in Table 3, financial development (FID1) Granger-causes poverty, proxied by household consumption expenditure (POV1), at the 5% significance level with a probability value of 0.0478. Conversely, poverty (POV1) Granger-causes FID1 at the 10% significance level with a probability value of 0.0954. This indicates a bi-directional causality between financial development (FID1) and poverty, operating at different levels of significance: from FID1 to poverty at 5% and from poverty to FID1 at 10%. For financial development (FID2), there is no Granger causality to poverty (POV1) at the 5% level (probability value = 0.0618), though it is significant at the 10% level. Poverty (POV1) does not Granger-cause FID2 (probability value = 0.3763), indicating a unidirectional causality from FID2 to poverty at the 10% significance level.

Remittances Granger-cause poverty (POV1) with a probability value of 0.0103, while poverty does not Granger-cause remittances (probability value = 0.1181). This implies a unidirectional causality from remittances to poverty, suggesting that remittance inflows may influence household behaviour and consumption patterns. Additionally, remittances Granger-cause both financial development (FID1 and FID2), with probability values of 0.0009 and 0.005, respectively. However, neither FID1 nor FID2 Granger-causes remittances, as indicated by probability values of 0.9837 and 0.8556, respectively. Therefore, there exists a unidirectional causal relationship from remittances to financial development.

4.1 Discussion of Findings

The objective was to determine the direction of causality among remittances, financial development and poverty. A bi-directional causality exists from financial development, proxied by broad money supply, to poverty, proxied by household consumption expenditure, and from poverty to financial development. This is in line with the study of Ho and Iyke (2017) and Kheir (2018), who found bidirectional causality, but contradicts the work of Pradhan (2010) and Perez-Moreno (2011). This means that a healthy financial system encourages remittances. A unidirectional causal relationship exists from financial development, proxied by private sector credit, to poverty when proxied by household consumption expenditure. This is in line with the earlier findings of Fowowe and Abidoye (2012) and Dandume (2014), which attest to the fact that the causality between financial development and poverty depends on the proxy used to measure financial development. When the monetisation variable, which is the broad money supply, was used, it indicated a bi-directional relationship, while private sector credit showed a weak unidirectional causality. It showed that the poor benefited from the ability of the financial institution to provide money for daily transactions and also their ability to channel funds to private individuals, but the poor benefited more from their ability to provide money for transactions, as indicated by the probability value and shown in Table 4.

Unidirectional causation runs from remittances to financial development when proxied by private sector credit to the ratio of gross domestic product (PSC/GDP) and broad money supply to the ratio of gross domestic product (BMS/GDP), respectively. This is in line with the submission of Aboulezz (2015) for a study in Kenya using ARDL and Granger causality estimation, and with Nyeadi and Atiga (2014) using VAR, cointegration test and Granger causality test, but contradicts the findings of Olayungbo and Quadri (2019), who found unidirectional causality running from financial development (private sector credit) to remittances and poverty. Unidirectional causality also runs from remittances to poverty, which is in line with the study of Lawal et al. (2022) and Olubiyi (2014), a study for Nigeria using the Granger causality test and the Vector Error Correction Model (VECM), but contrary to the works of Jouini (2015), a study for Tunisia using ARDL, Hatemi-J and Uddin (2014), and Gaaliche and Zayati (2014), who discovered bidirectional causality between remittances and poverty.

Also, Berisha et al. (2022), in a study in the Republic of Kosova, found a bi-directional causality between remittances and financial development (broad money supply and private sector credit) using VAR and Granger causality/Block exogeneity Wald techniques. Kumar and Vu (2014) found a bi-directional causality between remittances and financial development (private sector credit) in Vietnam, employing ARDL and a Granger causality test. In a similar vein, Mwangi and Mwenda (2015) used a Granger causality test for Kenya (both broad money supply and private sector credit). Ahmed and Hakim (2017), in a study in Togo, employed a two-step and cointegration test, including a Granger causality test, and this can also be seen in Table 3.

When remittances and financial development Granger-cause each other, it indicates a bidirectional causal relationship between the two variables. This means that remittances flowing into the receiving region help develop a sound and more efficient financial sector, thereby providing a proper and formal channel for receiving remittances at a relatively lower cost and creating an intermediary service between the sender and the recipient of remittances. The surplus can be saved for future use or investment, thereby reducing poverty (Berisha et al., 2022; Vu, 2014). However, this study only revealed unidirectional causality from remittances to financial development, both broad money supply and private sector credit. This suggests that the need to remit from abroad is one of the drivers of financial development in Nigeria, where such funds can be sent by the sender and received by the recipient (Aboulezz, 2015).

In a similar vein, this study found a unidirectional causal relationship from remittances to poverty in Nigeria. This supports the pessimistic view or theory, which holds that the inflow of remittances causes poverty in the receiving region, as advocated by Atilaw (2021). Recipients of such funds tend to be lazy and may not be ready to be gainfully employed to reduce poverty, but instead consume immediately on consumer goods. This also supports the individual theory of poverty, in which individuals remain poor because they are lazy and lack basic skills and knowledge.

Based on the bidirectional causal relationship from poverty to financial development and from financial development to poverty, as revealed by the study, financial development induces poverty when access to funds is stringent. When people need funds and other financial services, they go to



financial institutions for such services or loans, which are used for investment by entrepreneurs and investors, create jobs, and encourage more savings (Chowdhury, 2016; Dandume, 2014; Imoagwu & Ezeanyej, 2019).

5.0 Conclusion and Recommendations

The relationship between remittances, financial development and poverty in Nigeria shows that a uni-directional link running from remittances to all proxies of financial development and also to poverty, from (FID2) which is private sector credit to poverty. This means that remittances are a driver of financial development and poverty based on empirical evidences. The study recommended that government, through the monetary authorities, should deepen the financial sector by advancing financial inclusion policies. This would expand and improve financial services, offer convenient payment systems and affordable savings options, address access and funding challenges, enhance sector efficiency and competitiveness, that ultimately increase the availability of financial services for the poor.

References

- Aboulez, N. (2015). Remittances and economic growth nexus: Empirical evidence from Kenya. *International Journal of Academic Research in Business and Social Sciences*, 5(1), 285–296.
- Ahmed, F., & Hakim, M. (2018). The relationship between remittances and economic growth in Togo: A vector equilibrium correction mechanism. *Global Economy and Finance Journal*, 10 (1), 1–11.
- Ajefu, J. B., & Ogebe, J. O. (2019). Migrant remittances and financial inclusion among households in Nigeria. *Oxford Development Studies*, 47 (3), 319–335.
- Ali, H. M., Law, S. H., Yusop, Z., Zeqiraj, V., Kofarmata, Y. I., & Abulkarim, F. M. (2018). Remittances and growth nexus: Bootstrap panel Granger-causality evidence from high remittance-receiving countries. *International Journal of Economics and Business Research*, 15 (1), 312–324.
- Atilaw, G. (2021). The effect of international remittances on economic growth in sub-Saharan Africa: Evidence from a panel data approach. *Journal of Finance, Management and Development* 8(4), 245–261
- Azam, M., Haseeb, M., & Shamsudin, S. (2016). The impact of foreign remittances on poverty alleviation: global evidence; *Journal of Economics and Sociology*, 9(1), 264–277.
- Berisha, A., Pukaj, V., & Sejdi, Q. (2022). The impact of remittances on economic growth in the Republic of Kosovo. *International Journal of Health Science* 6 (S9), 3532-3542
- Chowdhury, M. (2016). Financial development, remittances and economic growth: Evidence from dynamic panel estimation. *Journal of Applied Economics Response* 10(1), 35–54.
- Coulibaly, D. (2015). Remittances and financial development in sub-Saharan African countries: a system approach. *Journal of Economic Modelling* 4 (5), 249–258.



- Dandume, Y. M., (2014). Financial sector development, economic growth and poverty reduction: New evidence from Nigeria. *Cankiri Karatekin University Journal of Faculty of Economics and Administrative Sciences*, 4(2), 1–20.
- Dandume, Y. M., (2014). Financial sector development, economic growth and poverty reduction: New evidence from Nigeria. *Cankiri Karatekin University Journal of Faculty of Economics and Administrative Sciences*, 4(2), 1–20.
- Dorathy, I. O. (2023). Effects of financial development and financial inclusion on poverty in Nigeria. *Acta Universitatis Danubius Economica*, 19 (3), 183–199.
- Eduboh, E. J. (2018). Financial development, economic growth and poverty reduction; Evidence from Ghana (Unpublished doctoral thesis). University of Cape Coast, 1–370.
- Fowowe, B., & Shuaibu, M. (2021). Impact of international remittance inflows on poverty in Nigeria. *The Journal of Developing Areas*, 55 (1), 20–41
- Gaaliche, M. & Zayati, M. (2014). The causal relationship between remittances and poverty reduction in developing countries: Using a non-stationary dynamic panel data. *Atlantic Review of Economics*, 1(14), 1–12.
- Hatemi-J, A., & Uddin, G.S. (2014). On the causal nexus of remittances and poverty reduction in Bangladesh. *Applied Economics*, 46 (4), 374–382
- Ho, S.Y., & Iyke, B.N. (2017). Does financial development lead to poverty reduction in China? Time series evidence. *Journal of Economics and Behavioural Studies*, 9 (1), 99–112
- Imoagwa, C. P., & Ezeanyej, M. (2019). Financial development and economic growth nexus in Nigeria. *International Journal of Business and Management Invention*, 8(3), 50–65.
- Jouini, J. (2015). Economic growth and remittances in Tunisia: Bidirectional causal links. *Journal of Policy Modelling*, 3(7), 355–373
- Kheir, V. B. (2018). The nexus between financial development and poverty reduction in Egypt. *Review of Economics and Political Science*, 3(2), 40–55.
- Khurshid, A., Kedong, Y., Calin, A. C., Zeldea, C. G., Qiang, S., & Wenqi, D. (2020). Is the relationship between remittances and economic growth influenced by governance and the development of the financial sector? New evidence from the developing countries. *Journal of Economic Forecasting*, 1 (6), 37–56
- Knecht, A. (2011). The production of inequality. The distribution and conversion of resources in the welfare state. <http://albaknecht.de/publications/production-of-inequalities>
- Kumar, R. R., & Vu, H. T. T. (2014). Exploring the nexus between ICT, remittances and economic growth: A study of Vietnam. *Journal of Southeast Asian Economies*, 3(1), 104–120.
- Mengesha, S. T., & Berde, E. (2023). Financial development and economic growth in Ethiopia: Is there a causal link? *Cogent Economics and Finance*, 11(2), 1–26



FUDMA ECONOMIC AND DEVELOPMENT REVIEW (FEDER)

Vol. 9 Issue 1, June, 2026 | ISSN: 2616-0846



- Munir, R., Mureed, S., Dar, A. A., & Gardezi, M. A. (2016). Impact of personal remittances on the economic growth of Pakistan: A multivariant cointegration analysis. *Developing Country Studies*, 6(4), 45–49
- Mwangi, B. N., & Mwenda, S. N. (2015). The effect of international remittance on economic growth in Kenya. *Microeconomics and Macroeconomics*, 3(6), 15-24.
- Olayungbo, O. O., & Quadri, A. (2019). Remittances, financial development and economic growth in Africa; *Journal of Economics and Business* 64(3), 240–260
- Olowookere, J. K. Olowo, S. O. Mabinuori, O. T., & Aderemi, T. A. (2021). Foreign capital inflows and poverty reduction in Nigeria: Implications for sustainable development. *EuroEconomica*, 40 (1), 124–140.
- Olubiyi, E. A. (2014). Trade, remittances and economic growth in Nigeria: Any causal relationship? *African Development Review*, 26 (3), 274–285.
- Onakoya, A., Johnson, B., & Ogundajo, G. (2019). Poverty and trade liberalisation: Empirical evidence from 21 African countries. *Economic research-Ekonomska istraživanja*, 32 (2), 320-325.
- Sarah, K., & Ive, M. (2016). Estimation of joint income-wealth poverty: A sensitivity analysis. *IZA Discussion Papers*, No.1039.
- Sen, A. (1983). Poverty, relatively speaking. *Oxford Economic Papers*, 35 (2), 153-169
- Shahbaz, M., Nasir, M. A., & Roubaud, D. (2018). Environmental degradation in France: The effects of foreign direct investment, financial development and energy innovations. *Energy Economics*, 74 (3), 843-857.
- Sheilla, N., & Nicholas, M. O. (2020). Does remittance inflow granger cause economic growth in South Africa? A dynamic multivariate causality test. *The Review of Black Political Economy*, 47 (1), 86-103.
- World Bank (2024). Poverty and shared prosperity 2024: Reversals of fortunes. October. Washington DC.