

**Remittances, Exchange Rate Dynamics and Economic Growth in Nigeria: Does Institutional Quality Matter?****IJOKOH, Solomon Uloho**Department of Economics,
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solomonijokoh@gmail.com**Publication Date: 2026/06/22****Abstract**

This study examined how exchange rate dynamics and institutional quality shape the remittances–growth nexus in Nigeria over the period 1996–2024. The study employed the Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) framework on annual time-series data from the World Bank. The ARDL bounds test confirmed a stable long-run relationship among the variables. Findings revealed that remittances exerted a positive and significant effect on GDP in both the short run and long run, with the escalating long-run coefficient suggesting a gradual shift from consumption to investment-oriented remittance. Exchange rate depreciation amplified GDP significantly in both periods, disagreeing with the conventional Dutch Disease outcomes. Interest rate had a consistent negative effect on growth, while financial inclusion demonstrates a positive and significant relationship, confirming that deeper credit access enhances the productive intermediation of remittance inflows. However, institutional quality proxy (political stability) had negative and significant coefficients in both periods, reflecting the inadequacy of political stability alone as a governance measure and the need for multidimensional institutional reform. The study recommended the institutionalization of a remittance-investment facilitation framework, accelerated financial inclusion targeting remittance-recipient households, and comprehensive governance reforms extending beyond political stability to encompass anti-corruption enforcement, regulatory quality and property rights protection.

Keywords: Remittances; Economic Growth; Exchange Rate; Institutional Quality; Nigeria**Introduction**

Remittances have emerged as one of the most distinct sources of external finance for low- and middle-income countries (LMICs), differentiated from foreign direct investment (FDI) and official development assistance (ODA) by their counter-cyclical behaviour and relative sovereign risk immunity, and direct household reach. (World Bank, 2024). Over the past few decades, international remittances have emerged as a major source of external finance for developing economies such as Nigeria, often surpassing foreign direct investment and official development assistance in several countries. These financial inflows, sent by migrants to their home countries, play a critical role in supporting household consumption (Ibrahim et al., 2024; Yin et al., 2022), reducing poverty (Ojeyinka & Ibukun, 2024; Ejedegba, 2024), and enhancing investment in human capital (venseri-Ogbomo & Eburajolo, 2025). Beyond their microeconomic benefits, remittances have increasingly been recognized as an important macroeconomic variable with potential

implications for economic growth in Nigeria (Anosike & Alfadhel, 2023).

However, the growth-enhancing effects of remittances are not automatic and may depend significantly on the broader macroeconomic environment within recipient countries such as Nigeria. One key factor that shapes the transmission of remittance inflows into economic growth is the exchange rate. The exchange rate serves as a crucial price variable that influences the domestic value of foreign remittances, affects external competitiveness, and determines the allocation of resources between tradable and non-tradable sectors in Nigeria (Periola, 2025, Ejedegba; 2014).

According to the World Bank (2024), total remittance flows to LMICs reached \$685 billion in 2024, growing at an annual rate of 3.3% that has outpaced FDI inflows to the same economies in recent years. Within Sub-Saharan Africa (SSA), collective remittance inflows approximated \$56 billion in 2024, reflecting the continent's expansive diaspora networks and deepening transnational economic linkages (World Bank, 2024).

Nigeria occupies a significant position within this regional framework, recording \$19.5 billion and \$20.93 billion in diaspora remittances in 2023 and 2024, respectively, figures that represent about 37% of total SSA remittance receipts (World Bank, 2024). These flows not only exceed official development assistance but have, in recent years, rivalled FDI in both volume and stability (Iniye et al., 2025), thereby constituting a structural pillar of Nigeria's balance-of-payments position, household welfare, and macroeconomic stabilisation. Yet, the critical question of whether such inflows translate into sustained economic growth remains empirically unresolved, making Nigeria an analytically compelling and policy-urgent case.

A closer examination of Nigeria's macroeconomic landscape reveals a pattern of persistent structural fragility that constrains the remittances-growth nexus. GDP growth averaged approximately 5% annually during the 2000s, before contracting sharply to -1.6% during the 2016 foreign exchange crisis and -1.9% during the 2020 COVID-19 shock, recovering modestly to around 3.4% by 2024 (WDI, 2024). Driven by the rapid internationalisation of Nigeria's diaspora, remittance inflows expanded more than tenfold over the same period, rising from below \$2 billion in the early 2000s to \$20.93 billion in 2024.

The Central Bank of Nigeria's liberalisation of the foreign exchange market led the naira to depreciate precipitously from around ₦160/\$ in 2016 to over ₦1,480/\$ by May 2024, (Periola, 2025). This depreciation resulted in the inflation of the naira value of inward remittances, potentially incentivising increased remittance inflows, however, it reduced the real purchasing power of recipient households and raised the cost of imported capital goods, creating opposing effects on consumption, savings, and investment that existing studies have yet to clearly distinguish (Ijokoh, 2025). These dynamics collectively suggest that the growth impact of remittances in Nigeria is conditional on a set of macroeconomic and structural factors that require explicit modelling.

A critical gap in the literature lies in the insufficient integration of exchange rate dynamics into the analysis of the remittance-growth relationship in Nigeria. While

numerous studies have examined the impact of remittances on economic growth in Nigeria, many of them treat remittances as an isolated variable without accounting for the macroeconomic conditions under which they operate. Specifically, existing studies often overlook the role of exchange rate levels and volatility in influencing how remittances translate into growth outcomes in Nigeria, which may produce different outcomes under varying macroeconomic conditions. Moreover, empirical findings remain inconsistent due to differences in methodology, data coverage, and model specification, suggesting the need for more robust and context-specific analyses in Nigeria (Apanisile & Oliseyenum, 2023; Olayungbo & Quadri 2019).

Against this background, this study seeks to examine the role of exchange rate dynamics in shaping the impact of remittances on economic growth in Nigeria, with a view to providing deeper insights into the conditions under which remittances can be harnessed for sustainable development over the period 1996-2024, a timeframe that spans significant structural shifts including the post-SAP consolidation era, the 2016 foreign exchange crisis, and the post-2023 CBN exchange rate liberalisation. Given the rising volume of remittance inflows and the persistent exchange rate fluctuations observed in Nigeria, understanding the interaction between these variables is crucial for designing effective macroeconomic policies. This study also makes key distinct contributions to the literature by simultaneously incorporating institutional quality, into an Autoregressive Distributed Lag (ARDL) remittances-growth model for Nigeria and thus, providing a more robust account of the conditional pathways through which remittances affect output. Weak institutional quality can cause a range of negative effects, including macroeconomic instability and a higher cost of doing business (Ejedegba, 2025). The remainder of this paper is structured as follows: Section 2 reviews the theoretical and empirical literature; Section 3 describes the data and methodology; Section 4 presents and discusses the empirical results; and Section 5 concludes with policy implications and recommendations.

Literature Review

Conceptual Literature

Economic growth is defined as the sustained expansion in the value of goods and services produced within an economy, mostly measured by Real Gross Domestic Product (RGDP), adjusted for inflation and isolates genuine output expansion from price-level distortions (Giuliano & Ruiz-Arranz, 2025). Remittances are cross-border financial transfers from migrants to their home-country households, functioning simultaneously as private income support and a source of national foreign exchange earnings (World Bank, 2024). Remittances stimulate per-capita income through enhanced household consumption, savings mobilisation, and productive investment, while their foreign currency component helps stabilise the domestic exchange rate, mediating macroeconomic purchasing power (Ajide &

Alimi, 2021). The exchange rate is the official Naira-to-Dollar price. It acts as a transmission mechanism linking external inflows to domestic macroeconomic conditions; depreciation amplifies the naira value of remittance receipts while simultaneously eroding the real purchasing power of recipient households (Periola, 2025). Institutional quality refers to the effectiveness of governance structures which shape the environment through which investments are allocated and protected, and fundamentally determines whether capital inflows generate productive returns or dissipate into rent-seeking (Catrinescu et al., 2009).

Theoretical Framework

The academic literature by Corden and Neary (1982) formalised the Dutch Disease theory, which provides the primary macroeconomic lens for understanding

how large external capital inflows can simultaneously benefit and harm an economy. When remittance inflows are large relative to GDP, they generate demand pressures that cause the real exchange rate to appreciate. This appreciation reduces the competitiveness of the manufacturing and agriculture sector, potentially contracting export volumes and undermining the structural transformation necessary for sustained growth. In Nigeria, where the official exchange rate depreciated from N160 per dollar in 2016 to N1,480 in May 2024, the relationship between capital inflows and currency dynamics is particularly complex and policy-relevant (Periola, 2025). The Dutch Disease framework thus establishes the theoretical basis for including exchange rate as a core variable in the empirical model, and for expecting that the sign and magnitude of the remittances-growth effect will depend significantly on prevailing exchange rate conditions.

McKinnon (1973) and Shaw (1973) independently advanced the financial deepening hypothesis, arguing that financial repression suppresses savings mobilisation and investment, thereby constraining economic growth. The liberalisation of interest rates and financial markets, in their view, deepens the financial system and improves the allocation of capital. The McKinnon-Shaw framework predicts that the growth-enabling effect of remittances is conditioned by the depth and accessibility of the financial system. In economies where the financial system is shallow (characterised by high intermediation costs, limited banking access, and credit rationed at high interest rates), remittance inflows are more likely to be consumed rather than invested, limiting their growth contribution. This theoretical prediction provides the rationale for including both the real interest rate and domestic credit to the private sector (as a financial inclusion proxy) in the empirical model.

North (1990) established the foundational argument that institutions, defined as the formal and informal rules that structure human interaction, are the primary determinant of long-run economic performance. Strong institutions reduce uncertainty, enforce contracts, protect property rights, and create the conditions under which markets function efficiently. Therefore, institutional quality influences the degree to which formal financial channels are trusted, the cost of transferring funds through official mechanisms, and the regulatory environment that determines whether remittance-derived savings can be invested productively. Weak institutions, as documented extensively in Nigeria's governance literature, lead to misallocation, capital flight, and the perpetuation of informal intermediation, all of which undermine the growth-enhancing potential of remittance inflows

Empirical Review

The relationship between remittances and economic growth has been investigated across diverse country contexts and employing a wide array of econometric approaches, yet consensus remains elusive. Globally, the prevailing strand of literature tends to affirm a positive remittances-growth nexus, though the

magnitude and significance of the effect are frequently conditioned by intervening macroeconomic variables. Adow (2025) examined this relationship across 15 East African countries from 2000 to 2022, employing fixed effects and System GMM, reported a significant positive association between remittances and GDP per capita growth, while also showing that financial depth enhances the effectiveness of remittances in promoting economic growth. Similarly, Yakubu et al. (2025) explored the remittance-economic growth linkage in Africa using panel data and found that the strength of the nexus is conditioned by the level of financial development and prevailing inflation dynamics. Using ARDL, Mawutor et al. (2023) found that in Ghana, remittances exert a positive and significant effect on economic growth in both the short and long run, while exchange rate depreciation operates as a drag on growth, providing comparative regional context for the Nigerian experience. This finding is significant because it directly implicates financial intermediation quality as a mediating channel. A landmark study by Delessa et al. (2024) used DOLS panel cointegration for 24 Sub-Saharan African countries from 2005 to 2019 and established that the impact of remittance inflows on per capita income is positive and significant when interacted with macroeconomic policy and institutional quality, while standalone remittance effects are modest. Taking a divergent view, Offor et al. (2023) studied 12 African emerging economies from 1990 to 2021 using ARDL cointegration and panel mean group estimators and reported a nonsignificant negative effect of remittances on GDP growth, an outcome attributed partly to the consumptive orientation of remittance receipts and the adverse effect of domestic credit to the private sector on growth in the studied context. Similarly, Bolaji and Anyanwu (2025), employed panel ARDL for the West Africa Monetary Zone and found that institutional quality stimulates long-run growth, while diaspora remittances negatively affect growth over the long run in the absence of institutional conditioning.

Drawing on data from 10 African economies from 1980 to 2018 and applying Granger causality techniques, Lawal et al. (2022) found a bi-directional causality between economic growth and exchange rate, and between economic growth and remittances, lending empirical support to both the J-Curve and Marshall-Lerner conditions. This suggests that exchange rate dynamics are not merely a control variable in remittance-growth models but an active channel of influence. Periola (2025) ARDL study on Nigeria revealed a complex that in the short run, remittances depress tradable sector productivity, while in the long run, the tradable sector recovers and experiences sustained gains, however, remittances did not exert a significant long-run effect on the real exchange rate in Nigeria. Musa et al. (2025) confirmed that a 1% increase in remittances is associated with a 0.25% increase in GDP growth, and that persistent inflows appreciate the naira and create inflationary pressures consistent with a mild Dutch Disease effect. Yunana et al. (2025) further showed that inward remittances positively influence Nigeria's GDP both in the short

and long run, while exchange rate volatility consistently exerts a negative and statistically significant effect on growth across both time horizons. Ihezue et al. (2025) reported that diaspora remittances have a positive and significant impact on growth while international migration and exchange rate exert negative effects.

There is robust cross-country evidence affirming that strong institutions directly promote economic growth by reducing transaction costs, protecting property rights, and facilitating efficient resource allocation. Hussen (2023) found that investment-promoting and democratic institutions significantly enhance growth, while conflict-preventing institutions lose significance once investment-related institutions are controlled for, suggesting distinct channels through which governance operates. Bayar et al. (2024) also confirmed that government institutions positively and significantly affect economic growth and that there is a governance quality threshold below which the growth effect is constrained. Delessa et al. (2024) demonstrated that in the SSA, the positive effect of remittances on per capita income becomes more pronounced when interacted with institutional quality and macroeconomic stability. Bolaji and Anyanwu (2025) found specifically within the West Africa Monetary Zone that institutional quality is the growth-enabling variable, while remittances alone generate no significant long-run growth benefit. Ekeocha et al. (2023), using panel data for SSA countries, similarly show that institutional quality shapes sectoral productivity outcomes, suggesting that governance is not exogenous to the capital formation process. Ayewumi et al. (2025) explicitly attribute the failure of remittances to generate significant growth effects in Nigeria to institutional weaknesses and consumptive remittance behaviour that institutional reform could potentially redirect. Kanwanye et al. (2025) similarly recommend improving formal remittance channels and governance frameworks as prerequisites for sustained growth contributions.

Afridi et al. (2024) demonstrated that financial development amplifies the growth-driving capacity of remittances across developing economies, confirming that deeper financial systems convert remittance inflows into productive capital more efficiently. Adow

(2025) specifically showed that financial depth enhances remittance effectiveness in East Africa. Obayagbona and Osasogie (2024), studying Nigeria's financial market development using domestic credit to the private sector and broad money supply as indicators, find that formal remittance channels strengthen financial sector development when they enhance banking system liquidity and credit provision. These findings collectively justify the inclusion of both interest rate and financial inclusion alongside institutional quality in the empirical model. Despite these acknowledgements, Nigeria-specific study that formally modelled exchange rate and institutional quality as an endogenous conditioning variable within a time-series ARDL remittances-growth framework remains relatively scarce.

Data and Methodology

This study adopted the ex-post facto research design based on the use of secondary data to test the hypotheses formulated and the need to establish a linear relationship between remittances and economic growth. This study employed annual time-series data for Nigeria covering the period 1996 to 2024. The start date of 1996 is dictated by the availability of the World Bank's World Governance Indicators (WGI), which provide the institutional quality data required for the study. All data are sourced from the World Bank World Development Indicators (WDI) database. Economic growth is proxied by Gross Domestic Product (GDP), measured in US dollars, while remittances (REM) capture personal remittance inflows in US dollars. The exchange rate (EXR) is measured using the real effective exchange rate in Naira per US dollar (N/\$), and interest rate (INT) is represented by the real interest rate in percentage terms.

Financial inclusion is proxied by domestic credit to the private sector (CPS), expressed as a percentage of GDP, while institutional quality is measured by political stability (PSTA) from the WGI, using an index score that reflects governance and stability conditions.

This model for this study draws from Igwemma et al. (2025), which examines the relationship between remittance inflows and economic growth. Their model is specified as:

$$PCINC = f(REM, EXR, FDI) \quad (1)$$

To tailor the model to our research, Equation (1) was modified by introducing the relevant variables important to the paper's objective and the model was respecified as:

$$GDP = f(REM, EXR, INT, CPS, PSTA) \quad (2)$$

The linear econometric model to be estimated in this study is expressed as:

$$LNGDP_t = \alpha_0 + \alpha_1 LNREM_t + \alpha_2 LNEXT_t + \alpha_3 LNINT_t + \alpha_4 LNCPS_t + \alpha_5 LNPSTA_t + \varepsilon_t \quad (3)$$

Where GDP is the Gross Domestic Product, REM is remittances received, EXR is the exchange rate, INT is the interest rate, CPS is domestic credit to the private sector as proxy for financial inclusion, PSTA is the institutional quality index represented as political stability, α_0 is the intercept, α_1 to α_5 are long-run elasticities, and ε_t is the stochastic error term.

The study employed the Autoregressive Distributed Lag (ARDL) approach of Pesaran, Shin, and Smith (2001) as the main estimation technique. This method accommodates both I(0) and I(1) series, compatible with small samples, and captures both short-run and long-run relationships within a single framework. The full ARDL representation is specified as:

$$\begin{aligned}
LNGDP_t = & \beta_0 + \sum_{t=1}^n \beta_1 \Delta LNGDP_{t-i} + \sum_{t=1}^n \beta_2 \Delta LNREM_{t-i} + \sum_{t=1}^n \beta_3 \Delta LNEXR_{t-i} + \sum_{t=1}^n \beta_4 \Delta INT_{t-i} + \sum_{t=1}^n \beta_5 \Delta CPS_{t-i} \\
& + \sum_{t=1}^n \beta_6 \Delta LNPSAT_{t-i} + \mu_t + \delta_1 LNREM_{t-i} + \delta_2 LNEXR_{t-i} + \delta_3 INT_{t-i} + \delta_4 CPS_{t-i} + \delta_1 PSTA_{t-i} \\
& + \varepsilon_t
\end{aligned} \quad (4)$$

The associated Error Correction Model (ECM) that captures short-run adjustment dynamics is:

$$\begin{aligned}
LN\Delta GDP_t = & \beta_0 + \sum_{t=1}^n \beta_1 \Delta LNGDP_{t-i} + \sum_{t=1}^n \beta_2 \Delta LNREM_{t-i} + \sum_{t=1}^n \beta_3 \Delta LNEXR_{t-i} + \sum_{t=1}^n \beta_4 \Delta INT_{t-i} \\
& + \sum_{t=1}^n \beta_5 \Delta CPS_{t-i} + \sum_{t=1}^n \beta_6 \Delta LNPSAT_{t-i} + \varphi_1 ECM_{t-1} + v_t
\end{aligned} \quad (5)$$

Where Δ is the first-difference operator, the optimal lag length for the dependent and independent variables was selected by the Schwarz Information Criterion (AIC), β_1 to β_6 are the long-run coefficients, and μ_t is the white noise error term. The ECM_{t-1} is the lagged error correction term derived from the long-run cointegrating relationship, and φ is the speed-of-adjustment coefficient, expected to be negative and statistically significant and it indicates the proportion of any

disequilibrium from the long-run path that is corrected within each year. A series of diagnostic tests were conducted to ensure the validity of the model. These include unit root tests (ADF and PP) for stationarity, the ARDL bounds test for cointegration, and post-estimation tests such as the Breusch-Godfrey LM test for serial correlation, Breusch-Pagan-Godfrey test for heteroskedasticity, Jarque-Bera test for normality, Ramsey RESET test for specification, and CUSUM/CUSUMSQ tests for stability.

Results and Discussions

Table 1: Descriptive Statistics

	GDP	REM	EXR	INT	CPS	PSTA
Mean	3.37E+11	1.41E+10	113.4807	4.372767	10.60926	35.17078
Median	3.39E+11	1.92E+10	101.4484	5.790567	9.760381	34.17995
Maximum	6.68E+11	2.43E+10	273.0000	18.18000	19.62560	46.83835
Minimum	5.91E+10	2.97E+08	63.92678	-25.7765	6.174444	28.56171
Std. Dev.	1.89E+11	9.06E+09	48.09496	8.205960	3.226756	4.286308
Skewness	0.149099	-0.69364	2.020652	-1.61349	1.237138	0.867546
Kurtosis	1.841530	1.658516	6.732319	7.423073	4.159891	3.264010
Jarque-Bera	1.729095	4.499993	36.56700	36.22224	9.023089	3.721963
Probability	0.421242	0.105400	0.000000	0.000000	0.010981	0.155520
Sum	9.77E+12	4.08E+11	3290.941	126.8102	307.6686	1019.953
Sum Sq. Dev.	9.96E+23	2.30E+21	64767.50	1885.458	291.5347	514.4281
Observations	29	29	29	29	29	29

Source: Author's computation (2026)

The descriptive statistics in Table 1 show that GDP and REM move on a comparable scale, with GDP averaging about \$337 billion and remittances averaging \$14.1 billion over the period. The median values of \$339 billion for GDP and \$19.2 billion for REM suggest that remittance inflows form an important share of the economy, although the lower mean of REM reflects some downward pulls from earlier low inflow periods. The wide ranges of GDP from \$59.1 billion to \$668 billion and REM from \$0.297 billion to \$24.3 billion show substantial growth in both aggregate output and remittance inflows over time. This joint

growth aligns with movements in the exchange rate (EXR), which averages 113.48 N/\$ but reaches as high as 273 N/\$, showing significant depreciation over the study period. The strong positive skewness (2.02) and kurtosis (6.73) of EXR indicate pronounced spikes during periods of shifts in the dollar value of both GDP and remittances. During the same period, interest rates (INT) displayed high variability, averaging 4.37%, and ranging between -25.78% to 18.18%. This indicates that inflationary pressure overlapped with fluctuations in both GDP and remittance inflows. On the financial side, CPS (financial inclusion) averages 10.6% of GDP,

implying that credit to the private sector remains relatively modest compared to the size of the economy, even as GDP and remittances expand. Its positive skewness suggests gradual improvement over time, consistent with rising economic scale. Meanwhile, institutional quality (PSTA) averaged 35.17, indicating

a not so strong institutional environment throughout the period in which GDP and remittance inflows increased. The Jarque-Bera results confirm that GDP, REM, and PSTA are normally distributed, whereas EXR, INT, and CPS deviate from normality, reflecting the influence of macroeconomic shocks within the system.

Table 2: Summary of unit root test

ADF						PP			
Variable		t-Statistic	5% Critical Values	Comment	Order	t-Statistic	5% Critical Values	Comment	Order
GDP	LEVEL	-1.3388	-2.9719	Non-Stationary		-1.3388	-2.9719	Non-Stationary	
	1ST DIFF	-3.3205	-2.9763	Stationary	I(1)	-3.3444	-2.9763	Stationary	I(1)
REM	LEVEL	-1.3568	-2.9719	Non-Stationary		-1.3694	-2.9719	Non-Stationary	
	1ST DIFF	-4.5081	-2.9763	Stationary	I(1)	-4.4874	-2.9763	Stationary	I(1)
EXR	LEVEL	-8.7932	-2.981	Stationary	I(0)	-2.7339	-2.9719	Non-Stationary	
	1ST DIFF					-5.7728	-2.9763	Stationary	I(1)
INT	LEVEL	-4.9245	-2.9719	Stationary	I(0)	-4.9291	-2.9719	Stationary	I(0)
CPS	LEVEL	-3.0925	-2.9763	Stationary	I(0)	-1.9592	-2.9719	Non-Stationary	
	1ST DIFF					-3.5797	-2.9763	Stationary	I(1)
PSTA	LEVEL	-2.7472	-2.9719	Non-Stationary		-2.5326	-2.9719	Non-Stationary	
	1ST DIFF	-6.6956	-2.9763	Stationary	I(1)	-6.7676	-2.9763	Stationary	I(1)

Source: Author's computation (2026)

Table 2 presents the unit root results from both ADF and PP tests, showing a consistent pattern across the variables. At levels, GDP and REM are non-stationary, as their test statistics are less than the critical values and their p-values exceed 0.05. However, after first differencing, both variables become stationary at the 5% level, indicating that they are integrated of order one, I(1). For EXR, the ADF test suggested stationarity at level, but the PP test indicates non-stationarity. Given this mixed outcome, the PP result is considered,

and EXR becomes stationary after first differencing, implying I(1). INT is stationary at level under both ADF and PP tests, with test statistics exceeding critical values and p-values below 0.05, indicating it is integrated of order zero, I(0). CPS is non-stationary at level but becomes stationary after first differencing based on the PP test, thus classified as I(1). Similarly, PSTA is non-stationary at level but achieves stationarity at first difference under both tests, confirming it as I(1).

Table 3: Correlation Matrix

Covariance Analysis: Ordinary						
Correlation	GDP	REM	EXR	INT	CPS	PSTA
GDP	1					
REM	0.79817	1				
EXR	0.14176	-0.22345	1			
INT	-0.17065	-0.08517	0.08202	1		
CPS	0.245416	0.524186	-0.26939	0.464075	1	
PSTA	-0.50769	-0.55623	0.537537	0.200585	-0.05348	1

Source: Author's computation (2026)

The correlation results in Table 3 show a clear pattern among the key variables. GDP and remittances (REM), exhibit a strong positive correlation (0.798) that suggests that periods of higher remittance inflows coincide with periods of high economic output. The exchange rate (EXR) shows a weak positive relationship with GDP (0.142) but a negative association with REM (-0.223), indicating that currency depreciation does not strongly align with output growth nor does it coincide with positive remittance inflows. Interest rate (INT) has a weak negative correlation with both GDP (-0.171) and REM (-0.085), suggesting that higher interest rates are associated with slight reductions in both output and remittance inflows. CPS displays a moderate positive correlation with REM (0.524) and a weaker positive

link with GDP (0.245), indicating that access to finance is more closely related with remittance inflows than with aggregate output. However, CPS is negatively related to EXR (-0.269), which may be because periods of exchange rate depreciation coincide with weaker credit access. Finally, institutional quality (PSTA) is negatively correlated with both GDP (-0.508) and REM (-0.556), suggesting that political stability does not lead to increases in output and remittance inflows over the period. At the same time, exchange rate movements align more closely with changes in institutional conditions with PSTA being positively correlated with EXR (0.538). Overall, the correlation summary indicates the absence of multicollinearity among the explanatory variables included in the model.

Table 4: ARDL Bounds Cointegration test

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	17.80305	10%	2.26	3.35
k	5	5%	2.62	3.79
		2.5%	2.96	4.18
		1%	3.41	4.68

Table 4 presents the ARDL bounds test results. The computed F-statistic (17.803) is higher than the upper bound critical values at all conventional significance levels, hence the null hypothesis of no cointegration is

rejected. This confirms the existence of a stable long-run equilibrium relationship between the variables used in this study.

Table 5: Short-Run Regression results

ARDL Short run Form				
Variable	Coefficient	Std. Error	t-statistic	Prob.
D(LNREM)	0.100015	0.030237	3.307686	0.0037
D(LNEXR)	1.079013	0.048228	22.37313	0.0000
D(INT)	-0.01276	0.002024	-6.30428	0.0000
D(CPS)	0.028187	0.007117	3.960458	0.0008
D(PSTA)	-0.01467	0.004774	-3.07249	0.0063
CointEq(-1)	-0.46344	0.079715	-5.81366	0.0000

Source: Author's computation (2026)

Table 5 above indicates that in the short run, all variables are statistically significant at all levels. Changes in remittances (LNREM) have a positive effect on economic growth, with a 1% increase in remittances leading to approximately a 0.10% increase in GDP. Similarly, short term changes in the exchange rate (LNEXR) exerts a strong positive effect on GDP in the short run, with a 1% depreciation resulting in about a 1.08% increase in GDP. Interest rate (INT) has negative impact on GDP as 1% increase in interest rate leads to a 0.0128% decrease in GDP.

Financial inclusion (CPS) shows a positive relationship with GDP. A 1% increase in CPS leads to approximately a 0.0282% increase in GDP in the short run, while institutional quality (PSTA) has a negative coefficient. This implies that political stability results in decreases in the level of output. The error correction term CointEq(-1) is negative and highly, indicating that approximately 46.3% of short-run distortions from equilibrium are corrected within one period.

Table 6: Long-Run Regression results

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNREM	0.215812	0.039619	5.447106	0.0000
LNEXR	1.389967	0.11101	12.5211	0.0000
INT	-0.02753	0.006167	-4.46479	0.0003
CPS	0.060821	0.014783	4.114322	0.0006
PSTA	-0.07729	0.010734	-7.19974	0.0000
C	17.20264	1.114899	15.42978	0.0000
R-Squared	0.99582	D-W Stat	1.671726	
Adjusted R-squared	0.99406	F-stat	565.8427	
		Prob(F-stat)	0.0000	

Source: Author's computation (2026)

In the long run, a 1% increase in remittances leads to about a 0.22% increase in GDP, with (LNREM) maintaining the positive and statistically significant relationship it had with GDP in the short run. Exchange rate (LNEXR) also extends its short run positive effect to the long run, as a 1% depreciation in exchange rate results in approximately a 1.39% increase in GDP in the long run. Interest rate (INT) remained negative in the long run with a one 1% increase in interest rate leading to about 0.0275% decrease in GDP.

CPS continued to exhibit a positive relationship in the long run as in the short run, with a 1% increase in CPS resulting in approximately 0.06% increase in GDP. Institutional quality (PSTA) retains a negative coefficient, as 1% increase in PSTA leads to about a 0.08% decrease in GDP.

The model is highly fitted, having a very high R-squared and adjusted R-squared of (0.9958) and (0.9941) respectively. The F-statistic confirmed that the model is jointly significant.

Table 6: Ramsey RESET test

Ramsey RESET Test			
	Value	df	Probability
t-statistic	1.178481	18	0.2539
F-statistic	1.388818	(1, 18)	0.2539
Likelihood ratio	2.081093	1	0.1491

Table 6 present the Ramsey RESET test results and it indicate that the model is correctly specified. Since all reported probabilities exceeds 0.05, the null hypothesis of correct functional form cannot be rejected. This

suggests that there is no evidence of model misspecification, and the model does not suffer from omitted variable bias or incorrect functional form.

Table 7: Breusch-Godfrey Serial Correlation LM Test

F-statistic	1.188320	Prob. F(2,17)	0.3288
Obs*R-squared	3.434336	Prob. Chi-Square (2)	0.1796

The Breusch-Godfrey LM test results in Table 7 indicate that the probability value of the F-statistic and Chi-Square are both greater than the 5% significance level hence, the null hypothesis of no serial correlation

cannot be rejected. This implies that the residuals are not serially correlated, and the model satisfies the assumption of error independence.

Table 8: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.467876	Prob. F(8,19)	0.8636
Obs*R-squared	4.608194	Prob. Chi-Square(8)	0.7985
Scaled explained SS	1.676054	Prob. Chi-Square(8)	0.9894

Table 8 shows the Breusch–Pagan–Godfrey test results which indicates that all the probabilities are well above the 5% significance level, and the null hypothesis of

homoskedasticity cannot be rejected. This model satisfies the assumption of homoskedasticity.

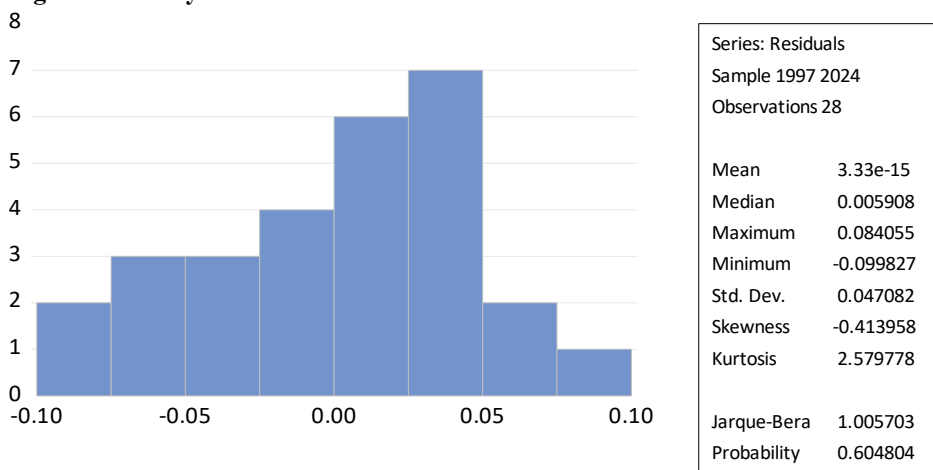
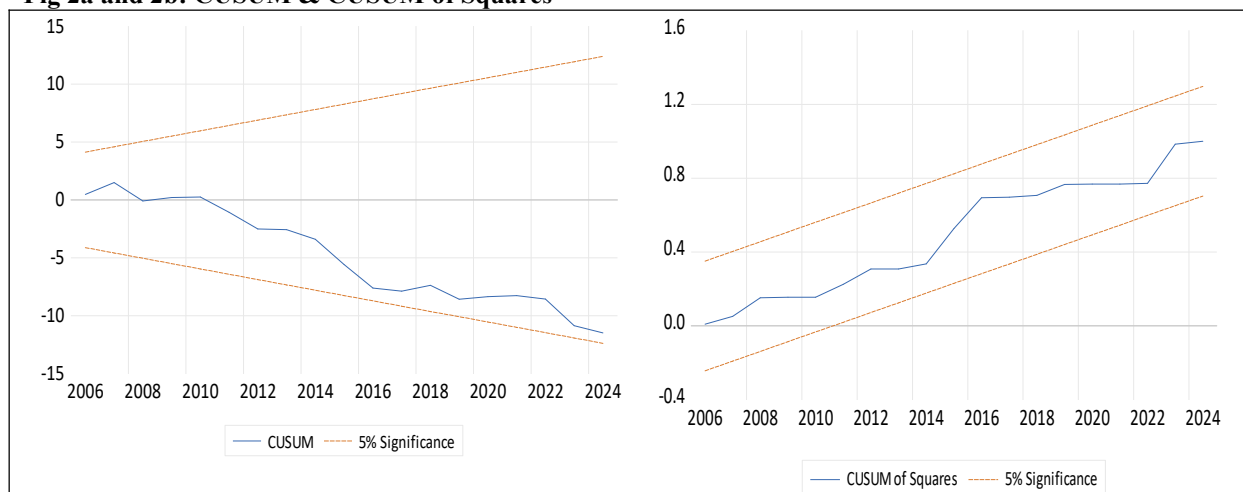
Fig 1: Normality Test

Figure 1 presents the normality test results. The residuals are mildly left-skewness at -0.413958, having a slightly longer left tail, though the deviation is not severe. A kurtosis value slightly below 3 indicates a platykurtic distribution, meaning the data are somewhat flatter than a normal distribution but still close to

normal. More importantly, the Jarque-Bera probability value of 0.604804 is greater than 0.05%, hence, the null hypothesis of normality cannot be rejected. The residuals are normally distributed and suitable for inference in the model.

Fig 2a and 2b: CUSUM & CUSUM of Squares

Source: Eviews output (2026)

Figure 2a and 2b presents the stability diagnostic tests, showing the CUSUM and CUSUM of squares plots respectively. Since both plots lie well within the 5% significance boundaries without crossing the critical

lines, it indicates that the parameters of the model are stable over the sample period. No evidence of structural shifts in the model, which means the coefficients are reliable and consistent over time.

Discussion of Findings

The positive and significant positive effect that remittances exhibited in the short and long run is consistent with the predictions of the Keynesian income-expenditure model that in credit-constrained economies, remittances augment household income and stimulate aggregate demand through consumption multiplier effects. The finding resonates Yunana et al. (2025), who confirmed that inward remittances positively influence Nigeria's GDP in both time horizons. Crucially, the long-run elasticity (0.22) exceeds the short-run elasticity (0.10) suggesting that remittance inflows are used more productively over time with the view that remittance recipients gradually shift from consumption-oriented to investment-oriented behaviour as inflows stabilise and financial access improves. Given that the country received \$20.93 billion in diaspora remittances in 2024, the escalating long-run effect is economically significant for Nigeria. However, against the backdrop an average GDP growth of only 3.4% by 2024, and two major economic recession within a decade, the positive impact of remittance must be viewed cautiously to avoid overestimating its importance as a standalone growth engine. The positive and highly significant impact of exchange rate both in the short run and long run diverge from the conventional Dutch Disease prediction that sustained foreign currency inflows appreciate the domestic exchange rate and crowd out the tradeable sector. It rather indicates that depreciation per se drives growth, reflecting a well-documented structural feature of Nigeria's economy that as the naira depreciates, the naira value of remittance inflows inflates sharply and boosts household income in local currency. This is consistent with Periola (2025), who found that short-run tradeable sector productivity was suppressed, with recovery only emerging over longer horizons. Lawal et al. (2022), who documented bidirectional Granger causality between economic growth and exchange rate dynamics across African economies. The relatively larger long-run exchange rate elasticity suggests that the effects of currency depreciation compound over time, reflecting the cumulative inflationary consequences of the Central Bank of Nigeria's 2023 foreign exchange liberalisation, which allowed the naira to depreciate from roughly ₦460/\$ to over ₦1,480/\$ within a year (Periola, 2025). The descriptive statistics reinforce this interpretation: the exchange rate variable exhibits extreme positive skewness (2.02) and kurtosis (6.73), capturing the sharp, non-linear depreciation episodes that characterise Nigeria's foreign exchange history. The strong positive exchange rate coefficient also predicts that the effectiveness of remittances in promoting growth depends on the currency conditions. The negative findings on interest rate in both the short run and long run suggests that high interest rates raise the cost of credit, suppress private investment, and constrain the productive intermediation of external inflows. This finding is particularly salient because, even with the increased flow of diaspora remittances into Nigeria, of the extreme volatility of interest rate

shown by the descriptive statistics discouraged remittance recipients from channelling inflows into formal investment. The prospect of high borrowing costs and volatile returns reduces the incentive for recipient households to deposit funds with formal institutions or leverage remittances as collateral for productive investments, consistent with Ayewumi et al.'s (2025) conclusion that the predominance of consumptive over investment-oriented remittance use in Nigeria reflects not merely cultural habit but a rational response to financial market conditions. These suggest that Nigeria's monetary policy framework directly mediates the growth-enabling capacity of remittance inflows, a conditioning channel largely overlooked by existing literature. Financial inclusion, proxied by domestic credit to the private sector as a share of GDP was positive and significant in the short run and long run, affirming that financial access amplifies the growth impact of remittances and is consistent with Africidi et al. (2024) conclusion that financial development amplifies the growth-driving capacity of remittances across developing economies, Adow (2025) findings that financial depth specifically enhances remittance effectiveness in East Africa. Yakubu et al. (2025) similarly confirmed that the remittance-growth nexus is conditioned by the level of financial development. The EFINA (2023) Access to Financial Services survey reported that 26% of Nigerian adults remain entirely excluded from the formal financial system, with exclusion concentrated among rural populations, women, and low-income households, precisely the demographic groups most likely to be primary remittance recipients. The positive skewness of CPS suggests gradual improvement in credit access over time, but the pace remains insufficient relative to the volume of remittance inflows, indicating that while remittances do generate positive growth effects, the magnitude of these effects is constrained by the shallow financial system. This result support the identification, and validate the inclusion of financial inclusion as a key a conditioning variable. Institutional quality, proxied by political stability index, is negative and statistically significant in both the short run and long run. A finding that is most unexpected this study, and contradictory to North (1990) argument that strong institutions are the primary determinant of long-run economic performance, as well as the empirical conclusions of Hussen (2023), Bayar et al. (2024), and Delessa et al. (2024), all of whom document a positive institutional quality-growth nexus. However, this result can be linked to multiple plausible interpretations, consistent with the Nigerian political economy plagued with perceived likelihood of political instability and violence.

Conclusion

This study examined the roles of key exchange rate in the nexus between diaspora remittances and economic growth in Nigeria over the period 1996–2024, employing an Autoregressive Distributed Lag (ARDL) framework that found a stable long run relationship with a moderate annual speed of adjustment. The

findings show that remittances constitute a significant driver of economic growth in Nigeria. However, the magnitude of this contribution is conditioned by the macroeconomic such as exchange rate and institutional environment in which remittances are received and deployed. The interest rate and financial inclusion findings collectively affirm that the productive intermediation of remittance inflows is constrained by the shallowness of Nigeria's formal financial system, while the exchange rate results highlight the complex and amplifying role of currency depreciation in transmitting the effects of external inflows to domestic output. Rather than negating the importance of governance, the negative institutional quality coefficient points specifically to the inadequacy of quality institutions in Nigeria, thereby reinforcing the need for institutional reforms.

In the light of the above, the study recommends the following:

- i. the Central Bank of Nigeria and the Federal Ministry of Finance should institutionalise a dedicated remittance-investment facilitation framework that channels a proportion of inflows into productive sectors through diaspora bonds, matched savings schemes, and targeted investment corridors in agriculture, manufacturing, and infrastructure. Such instruments would convert the positive but modest remittance-growth elasticities in this study into transformative capital flows, consistent with Nigeria's ambition to grow beyond oil dependence.
- ii. with respect to the moderating role of institutional quality, this study signals that political stability alone is insufficient to create the institutional conditions under which remittance inflows generate productive returns, hence the Federal Government should prioritise governance reforms that extend beyond the maintenance of political stability to encompass measurable improvements in anti-corruption enforcement, regulatory quality, and property rights protection.
- iii. in direct response to evaluating financial inclusion as a channel of remittance effectiveness, the CBN should accelerate the implementation of its financial inclusion strategy with explicit targeting of remittance-recipient households in rural and semi-urban communities. This should encompass the expansion of agent banking, mobile money operations, and diaspora savings products that convert inflows into formal intermediated capital, thereby amplifying the positive CPS-growth relationship identified in this study.

This study is subject to several limitations that should be acknowledged. The study's 29-observation dataset, constrained by the 1996 start date imposed by the availability of the World Governance Indicators, reduces degrees of freedom and may limit the precision of long-run estimates. The proxy choices for financial

inclusion (domestic credit to the private sector) captures the supply side of formal financial intermediation but does not directly measure individual-level financial access while institutional quality (political stability) captures only one dimension of the multifaceted governance environment. Future studies should consider panel extensions across Nigerian states or comparable SSA economies to exploit cross-sectional variation and expand sample sizes. Also, incorporate broader financial inclusion indices, and multidimensional institutional quality index.

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