

## **AN EMPIRICAL ANALYSIS OF REMITTANCES, FOREIGN DIRECT INVESTMENT AND SOVEREIGN DEBT ON ECONOMIC GROWTH IN NIGERIA**

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### **ABSTRACT**

*This study investigated the effects of remittances (REM), foreign direct investment (FDI), and sovereign debt (DEBT) on economic growth (GDP) in Nigeria from 1990 to 2023. The objectives are to examine the long- and short-run impacts of REM, FDI, and DEBT on GDP, determine the direction of causality among these variables, and provide policy recommendations for sustainable economic growth. The results confirm the existence of a long-run equilibrium relationship among remittances, foreign direct investment, sovereign debt, and economic growth. The findings reveal that remittances and foreign direct investment exert positive effects on economic growth, whereas sovereign debt negatively influences long-term economic performance. The short-run dynamics also support the growth-enhancing role of remittances and foreign direct investment, with evidence of adjustment toward long-run equilibrium. The causality analysis further establishes that remittances and foreign direct investment significantly influence economic growth. The study concludes that external financial inflows can stimulate economic expansion when efficiently managed, while excessive dependence on debt may undermine sustainable development. The study therefore recommends improving the productive utilization of remittances, strengthening policies that attract quality foreign direct investment, and maintaining prudent debt management strategies.*

*Keywords: remittances; foreign direct investment; sovereign debt; economic development; Nigeria*

### **INTRODUCTION**

Nigeria's economic growth has long depended on external financial inflows. Although the country is rich in natural resources, especially crude oil, it continues to face structural challenges that slow down stable and long-term development. Problems such as inconsistent government policies, poor infrastructure, weak industrial capacity, and heavy reliance on oil revenue have limited Nigeria's ability

to convert foreign financial inflows into broad economic progress (Adebayo, 2022; Akinwale, 2022). Similarly, external inflows play an important role in supporting government expenditure and investment activities in developing economies (Adebayo, 2022). However, concerns remain about whether these inflows truly support sustainable development or simply provide short-term financial relief while underlying

structural weaknesses persist (Adebayo, 2022).

A major paradox exists in Nigeria's economic experience. Despite receiving large inflows from remittances and foreign investment, economic transformation has remained unstable and inconsistent. Empirical evidence shows that remittances provide foreign exchange stability but are frequently channelled toward household consumption rather than productive investment (Okafor, 2022; Ikwuagwu et al., 2024). Likewise, foreign direct investment in Nigeria remains largely concentrated in the oil and extractive sectors, which restricts broader industrial development and economic diversification (Egbetunde, 2023; Oyediran, 2025). At the same time, sovereign debt has continued to increase as government relies on borrowing to finance development projects. Excessive public debt contributes to fiscal pressure and reduces government capacity to fund key development sectors (Salami, 2024). This contradiction raises concerns about how effectively Nigeria manages external financial inflows.

Most Nigerian studies examine remittances, foreign direct investment,

or sovereign debt separately, which makes it difficult to understand how they jointly influence economic growth. Empirical studies largely focus on individual external inflow variables (Olayungbo, 2023; Akinwale, 2022). This fragmented approach hides the combined macroeconomic effects of these inflows. Some studies concentrate on remittances and household welfare, while others examine foreign investment and productivity outcomes or analyse public debt sustainability (Okafor, 2022; Olayungbo, 2023; Ikwuagwu et al., 2024). Very few studies evaluate their simultaneous impact on Nigeria's economic performance (Orumwense, Akanegbu, & Azu, 2025). This study fills that gap by jointly modelling these inflows within an ARDL framework over 1990–2023 and testing both long-run and short-run dynamics. By examining these inflows together, the study provides clearer evidence of their interactive effects on growth.

The main objective of this study is to examine how remittances, foreign direct investment, and sovereign debt influence Nigeria's economic growth individually and collectively. Specifically, the study evaluates the

effect of remittances on economic performance, examines the contribution of foreign direct investment to growth, and investigates the long-term implications of sovereign debt accumulation. The study also explores whether these external inflows complement or weaken one another in shaping economic outcomes. To achieve these objectives, the research addresses key questions regarding whether remittances promote productive investment, whether foreign direct investment supports structural transformation beyond the oil sector, and whether sovereign debt strengthens or weakens Nigeria's fiscal and growth stability.

This study contributes to knowledge by providing an integrated framework that analyses multiple external financial inflows together rather than separately. The study also offers empirical evidence that improves understanding of how these inflows interact within Nigeria's economic system. The findings provide practical insights for policymakers on how to channel remittances into productive sectors, attract foreign investment into diversified industries, and maintain sustainable debt

management strategies. The remainder of the paper is organised into literature review, methodology, results and discussion, and conclusion sections.

## **LITERATURE REVIEW**

### **Conceptual Review**

#### **Remittances**

Remittances are cross-border transfers from migrants to their home countries, providing a stable source of foreign exchange for many emerging economies. Unlike FDI or portfolio flows, they are relatively resistant to global shocks because they are motivated by familial obligations and altruism (Flores & Gutiérrez Bernal, 2025; Hamadeh et al., 2025). In Nigeria, the large diaspora population makes remittances particularly important for smoothing consumption, boosting reserves, and reducing poverty (Odionye et al., 2025; Musa et al., 2025). However, their developmental impact is mixed: while some funds are spent on household consumption, others support education, housing, and small businesses, which can promote long-term growth. Recent studies highlight that the effectiveness of remittances depends on domestic financial institutions and regulatory frameworks that channel inflows into

productive investments (Karim et al., 2025; Khan, 2025). Inefficient financial intermediation and infrastructure deficits in Nigeria often limit this potential, indicating that remittances can be a policy instrument whose impact is shaped by governance and absorptive capacity. Despite extensive studies on remittances, limited evidence exists on how remittances interact with sovereign debt and FDI within a unified growth framework in Nigeria.

### **Foreign Direct Investment (FDI)**

FDI refers to long-term foreign investments in domestic firms or industries. In Nigeria, low domestic savings and technological gaps make FDI crucial for economic diversification and structural transformation (Oyamendan et al., 2025; Aregbeshola & Adekunle, 2025). However, FDI in Nigeria is largely concentrated in the oil and gas sector, creating an enclave economy with minimal spillover to non-oil sectors such as manufacturing, agriculture, and ICT. This structural concentration limits employment generation and technological diffusion. Studies suggest that the growth benefits of FDI are conditional on institutional quality,

political stability, and infrastructure, indicating that capital inflows alone do not guarantee broad development (Asiedu, 2023; Oloyede, 2024). While the effects of FDI on sectoral growth are documented, there is limited empirical evidence on how FDI interacts with remittances and sovereign debt to influence overall economic growth in Nigeria.

### **Sovereign Debt**

Sovereign debt represents government borrowing to finance expenditures when revenues are insufficient. In Nigeria, debt has financed key infrastructure and social programs, yet excessive accumulation can create a debt overhang, discouraging investment and increasing fiscal risk (Oyamendan et al., 2025). Rising debt servicing reaching unsustainable levels in recent years limits resources for productive sectors, illustrating debt's dual role as both an enabler and a potential constraint on growth. Evidence from other African countries indicates that unregulated debt accumulation can crowd out private investment and distort fiscal priorities (El Yamani et al., 2025; Atuahen et al., 2024). In Nigeria, these dynamics reinforce the

importance of analyzing sovereign debt alongside remittances and FDI to understand the full implications of external financial inflows for economic development. Despite studies on debt sustainability, little is known about how sovereign debt interacts with remittances and FDI to jointly affect long-term growth in Nigeria.

## **Theoretical Review**

### **Dependency Theory**

Dependency theory argues that underdevelopment is exacerbated by reliance on external inflows, such as sovereign debt and FDI, which can create structural dependence on industrialised economies. Applied to Nigeria, debt obligations divert government revenues to interest payments, FDI concentrated in oil and gas primarily benefits multinational corporations, and even privately sent remittances may reduce local labor incentives, potentially displacing domestic employment (Knill et al., 2025). This theory frames Nigeria as structurally fragile, where external inflows alone fail to produce self-sustaining growth. In the empirical model, dependency theory underpins the expectation that high levels of debt and sectorally concentrated FDI may

constrain GDP growth unless domestic policies redirect these resources productively. **Gap addressed:** While dependency theory explains potential constraints, it does not quantify how remittances, FDI, and debt interact to influence Nigeria's GDP growth, which this study empirically investigates.

### **Endogenous Growth Theory**

Endogenous growth theory posits that long-term growth is driven by knowledge accumulation, innovation, and human capital (Zieseme, 2025; Antonelli & Pialli, 2025). In Nigeria, remittances can promote productivity when invested in education, skills, and small enterprises, while FDI in manufacturing or ICT may generate technology spillovers and innovation. Sovereign debt, when directed toward infrastructure and human capital, can also enhance growth by increasing productivity. The theory provides a framework for the empirical model by guiding expectations that the allocation and efficiency of external inflows determine their contribution to GDP. The ARDL framework allows testing whether these inflows, correctly managed, are positively linked to long-run and short-run economic growth.

**Gap addressed:** Existing studies document remittances or FDI effects individually but rarely assess their combined role in fostering knowledge-driven growth in Nigeria, which this study addresses.

### **Financial Development Theory**

Financial development theory asserts that foreign inflows stimulate growth when intermediated through efficient financial institutions (Khafagy, 2025; Akhtar & Rashid, 2024). In Nigeria, remittances can widen financial access, FDI can improve credit availability and modernize financial services, and debt can strengthen institutional capacity. Weak financial systems, however, may divert these inflows into unproductive uses such as corruption or excessive consumption (Mrutyunjaya Sahoo et al., 2025; Asngar, 2025). The theory is integrated into the empirical model by suggesting that the effectiveness of remittances, FDI, and debt in boosting GDP depends on the efficiency and depth of financial institutions. The ARDL model indirectly tests this mechanism by examining the impact of these inflows on GDP while capturing both long-run equilibrium and short-run adjustments. **Gap addressed:**

Although financial development is recognised as a growth channel, little empirical work quantifies how it mediates or amplifies the combined impact of remittances, FDI, and sovereign debt in Nigeria.

Based on these theoretical perspectives, the expected signs of the coefficients in the empirical model can be inferred. Remittances are expected to have a positive effect on GDP because they provide foreign exchange, smooth consumption, and support household investment that can stimulate long-run growth. FDI is expected to have a conditionally positive effect, as its benefits depend on institutional quality, infrastructure, and sectoral allocation; concentrated FDI in oil may have limited spillovers, while diversified FDI can enhance productivity. Sovereign debt is expected to have a potentially negative effect because excessive borrowing can create fiscal pressure, crowd out public investment, and increase dependence, although debt used efficiently for productive infrastructure could mitigate these risks. These theoretical expectations strengthen the logic behind including remittances, FDI, and debt in the ARDL model and provide a

clear foundation for interpreting the signs and magnitudes of the estimated coefficients.

### **Empirical Review**

Remittances are generally found to stimulate economic growth by supporting consumption, investment, and financial stability. Globally, evidence shows that remittances boost growth, particularly in countries with underdeveloped banking systems (Alhassan et al., 2025; Adow, 2025). Across Africa, remittances have been shown to enhance both household consumption and productive investment (Adow, 2025). In Nigeria, remittances positively influence both short- and long-term growth, acting as a stabilizing source of foreign finance that supports household welfare, investment, and human capital development (Odionye et al., 2025; Ikwuagwu et al., 2024; Orumwense et al., 2025; Elumah & Muritala, 2023). Despite these positive effects, the efficiency of remittance utilization is influenced by financial intermediation, infrastructure, and governance. **Research gap:** While the positive role of remittances is established, few studies examine their interaction with

FDI and sovereign debt within a unified growth framework in Nigeria.

FDI has the potential to promote structural transformation, knowledge transfer, and capital accumulation, but its effect is highly context-dependent. Globally, FDI's contribution to growth is conditional on institutional quality and governance (Idrisu et al., 2025; Duguma, 2025). In Nigeria, FDI is mostly concentrated in oil and extractive industries, limiting spillovers to other sectors and restricting broader developmental impacts (Emeka & Asongu, 2025; Musa et al., 2025; Orumwense et al., 2025). Positive growth effects are observed where infrastructure, political stability, and financial markets are strong (Inije et al., 2025; Eze et al., 2024). **Research gap:** Limited empirical work evaluates how FDI interacts with remittances and debt to affect overall growth, leaving the macroeconomic role of FDI in combination with other inflows unclear.

Sovereign debt exerts mixed effects, depending on its level and management. Excessive debt can crowd out investment, strain fiscal sustainability, and reduce government

capacity to fund essential sectors (Reinhart & Ndoricimpa, 2025; Abille & Adjei, 2025; Mohamed & Bile Mohamud, 2025). In Nigeria, debt has financed infrastructure and public services but high servicing obligations have constrained development outcomes (Salami, 2024; Okekwa & Adejoh, 2024; Nadabo et al., 2024; Adeniji et al., 2025; Eze et al., 2024). Well-managed debt can contribute positively when directed toward productive investment, but misallocation or excessive borrowing creates fiscal vulnerabilities (Inije et al., 2025). **Research gap:** Few studies examine how sovereign debt interacts with remittances and FDI, leaving a knowledge gap in understanding the joint influence of all external inflows on Nigeria's growth.

Integrated studies indicate that remittances and FDI generally promote growth, while excessive debt can inhibit it. ARDL and related models in Nigeria show that remittances enhance household investment and human capital, FDI contributes to productivity where institutional and infrastructure conditions are adequate, and debt can crowd out private investment if mismanaged (Ikwuagwu et al., 2024;

Inije et al., 2025; Orumwense et al., 2025; Elumah & Muritala, 2023; Eze et al., 2024). These findings highlight that growth outcomes are context-dependent, influenced by governance, sectoral allocation, and financial system efficiency. **Research gap:** A robust empirical framework jointly modelling remittances, FDI, and sovereign debt over both short and long run is still lacking in Nigeria, which this study seeks to address.

## RESEARCH METHOD

This study adopts a quantitative time-series design covering 1990–2023 to examine the individual and combined effects of remittances, foreign direct investment (FDI), and sovereign debt on Nigeria's economic growth. A longitudinal approach allows the analysis of both short-run fluctuations and long-run relationships. The study employs an autoregressive distributed lag (ARDL) model, which accommodates variables integrated of mixed orders ( $I(0)$  and  $I(1)$ ) and provides robust estimates of both short-run dynamics and long-run equilibrium. This framework also allows testing for asymmetric effects if extended to a Nonlinear ARDL (NARDL) model, which is useful for

examining differential impacts of positive and negative shocks.

The study uses secondary data from authoritative sources, including World Bank Development Indicators, UNCTAD, IMF databases, and national statistical publications. Remittances are measured as total personal transfers received, FDI as net inflows, and sovereign debt as total government debt stocks. Economic growth is proxied by real GDP, while control variables such as inflation, exchange rate, and gross fixed capital formation are included to account for macroeconomic conditions. All variables are transformed into natural logarithms to stabilize variance and allow interpretation of coefficients as elasticities.

The ARDL model is estimated in three steps. First, unit root tests (ADF and Phillips-Perron) determine the order of integration of the variables. Second, the bounds testing procedure assesses the existence of long-run relationships between GDP, remittances, FDI, and debt. Third, short-run dynamics are captured through an error correction model (ECM), which shows the speed of adjustment toward long-run

equilibrium. Diagnostic checks for serial correlation, heteroscedasticity, model stability, and normality ensure robustness. This approach explicitly links the empirical model to the theoretical expectations: remittances are expected to have a positive impact on growth, FDI's effect is conditional on institutional and sectoral context, and excessive debt is likely to exert a negative influence.

## RESULTS AND DISCUSSION

The descriptive statistics in highlight the trends and economic implications of Nigeria's key variables from 1990 to 2023.

**Table 1: Descriptive Statistics (1990–2023)**

Statistic	GDP (%)	REM (%)	FDI (%)	DEBT (%)
Mean	3.25	5.41	2.76	35.82
Median	3.00	5.10	2.30	33.45
Maximum	15.33	9.81	12.48	74.10
Minimum	-1.92	0.20	0.35	11.27
Std. Dev.	4.08	2.15	3.92	18.36
Skewness	0.89	0.46	1.15	0.58
Kurtosis	3.77	2.92	4.22	2.81
Jarque-Bera	5.82	3.44	7.91	4.16
Probability	0.054	0.178	0.019	0.125
Sum	104.2	173.1	88.32	1,182.0
Sum Sq.	5	2	6	6
Dev.	667.8	78.36	481.7	6,056.5
Observatio	4	3	4	4
ns	32	32	32	32

The descriptive statistics in highlight the trends and economic implications of Nigeria's key variables

from 1990 to 2023. The average GDP growth rate of 3.25% indicates modest economic expansion, but periods of contraction, such as the -1.92% minimum, reflect vulnerabilities to oil price shocks, recessions, and policy instability. Exceptional growth years, reaching 15.33%, show that favorable commodity prices and targeted interventions can temporarily boost output, though overall performance remains uneven.

Remittances, averaging 5.41% of GDP, underscore the growing role of Nigeria's diaspora in supporting household welfare and stabilizing the economy. Their steady increase over time reflects improved digital transfer systems and migration trends, providing a reliable source of foreign exchange and cushioning households against economic shocks. This suggests that remittances have not only sustained consumption but also indirectly supported investment in education, health, and small enterprises.

FDI contributed an average of 2.76% of GDP but is concentrated in the oil and gas sector, highlighting

structural limitations in Nigeria's economic diversification. Fluctuations in inflows suggest that sectoral booms drive periods of high FDI, while other industries receive limited investment. Sovereign debt, averaging 35.82% of GDP and rising over time, indicates increasing reliance on borrowing to finance infrastructure and public services. While well-managed debt can support development, excessive borrowing without productive allocation can strain fiscal resources and constrain growth.

The descriptive analysis demonstrates that external inflows, particularly remittances and FDI, provide important capital support, yet Nigeria's economic performance remains sensitive to debt levels, sectoral imbalances, and policy effectiveness. These trends underscore the need for strategies that optimize remittance and FDI utilization while ensuring sustainable debt management.

**Table 2: Unit Root Test (Augmented Dickey-Fuller Test)**

Variable	Level t-Statistic	Prob.	First Diff.	Prob.	Order
GDP	-2.315	0.176	-5.821	0.000	I(1)
REM	-2.006	0.281	-6.092	0.000	I(1)
FDI	-3.814	0.029			I(0)
DEBT	-2.229	0.214	-5.466	0.001	I(1)

The ADF test results in Table 2 indicate that the variables exhibit mixed levels of stationarity. The GDP growth rate, remittances, and sovereign debt are non-stationary at level but become stationary after first differencing, implying they are integrated of order one, I(1). This means their mean and variance change over time, but their first differences are stable, confirming that shocks to these variables have temporary effects rather than permanent ones. Foreign Direct Investment (FDI), on the other hand, is stationary at level, implying it is integrated of order zero, I(0). This suggests that FDI inflows to Nigeria tend to revert to their long run mean

and are less volatile compared to GDP growth or debt levels. The mixed integration order (I(0) and I(1)) validates the suitability of the Autoregressive Distributed Lag (ARDL) bounds testing approach, which can handle variables integrated at different levels. The stationarity results confirm that the dataset is appropriate for ARDL modelling, as no variable is integrated of order two or higher. This ensures the reliability of the subsequent cointegration analysis to determine the long-run equilibrium relationship among remittances, FDI, sovereign debt, and economic development in Nigeria.

**Table 3: ARDL Bounds Cointegration Test Results**

Test Statistic	Value	Significance Level	I(0) Bound	I(1) Bound	Decision
F-Statistic	6.482	5%	2.86	4.01	Cointegration Exists
K (Number of Regressors) 3					

The ARDL bounds test result in Table 3 reveals that the computed F-statistic value of 6.482 exceeds the

upper critical bound value of 4.01 at the 5% significance level. This indicates the rejection of the null hypothesis of

no long-run relationship among the variables. Consequently, it is concluded that a long-run equilibrium relationship exists between remittances, foreign direct investment, sovereign debt, and economic development in Nigeria during the period under review. This finding implies that the three sources of external capital jointly influence Nigeria's economic growth trajectory over the long term. It suggests that while short-run fluctuations may occur due to market shocks or fiscal imbalances, the variables eventually move together in a stable equilibrium path.

The presence of cointegration also validates proceeding with the

estimation of both long-run coefficients and the Error Correction Model (ECM) to capture the short-run adjustments toward equilibrium. The cointegration result aligns with theoretical expectations drawn from the Endogenous Growth Theory and Financial Development Theory, which posit that sustained inflows of external finance when efficiently managed can enhance productivity, capital formation, and long-term growth. It also underscores the need for effective policy coordination to ensure that remittances and FDI are productively utilized while sovereign debt remains within sustainable limits to foster stable economic development in Nigeria.

**Table 4: ARDL Long-Run Estimation Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Inference
REM	0.312	0.108	2.889	0.007	Significant
FDI	0.224	0.091	2.463	0.019	Significant
DEBT	-0.178	0.073	-2.425	0.021	Significant
C (Constant)	1.642	0.521	3.152	0.004	
R-squared = 0.782					
Adjusted R-squared = 0.736					
Durbin-Watson = 2.04					

The long-run ARDL estimation in Table 4 shows that all explanatory variables are statistically significant at the 5% level, indicating that remittances, foreign direct investment, and sovereign debt exert measurable

long-run effects on Nigeria's economic development. The coefficient of remittances (0.312) is positive and significant, implying that a 1% increase in remittance inflows as a share of GDP leads to approximately a 0.31% rise in

economic growth in the long run. This suggests that remittances serve as a stable source of external finance that supports consumption, small-scale investments, and human capital development. The finding aligns with the financial development theory, which highlights the role of remittances in strengthening household welfare and liquidity in emerging economies.

The foreign direct investment (FDI) coefficient of 0.224 also exhibits a positive and significant relationship with GDP, meaning that a 1% increase in FDI inflows contributes about 0.22% to long-term economic growth. This supports the endogenous growth theory, which argues that FDI facilitates technological transfer, innovation, and productivity improvements. However, the relatively small magnitude of the coefficient indicates that the developmental impact of FDI in Nigeria may be constrained by its concentration in the

extractive sectors rather than in manufacturing or technology-driven industries.

The coefficient of sovereign debt (-0.178) is negative and statistically significant, suggesting that an increase in government borrowing has a long-run dampening effect on economic growth. This indicates that debt accumulation beyond productive thresholds may crowd out private investment and worsen fiscal sustainability. The result is consistent with dependency theory, which emphasizes the structural risk of excessive external borrowing in developing economies. Overall, the R-squared value of 0.782 demonstrates that approximately 78% of variations in Nigeria's economic growth are explained by the combined effects of remittances, FDI, and sovereign debt, confirming the model's strong explanatory power.

**Table 5: ARDL Short-Run (ECM) Estimation Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Inference
$\Delta$ REM	0.118	0.054	2.185	0.032	Significant
$\Delta$ FDI	0.089	0.043	2.070	0.041	Significant
$\Delta$ DEBT	-0.072	0.038	-1.895	0.062	Not Significant
ECM(-1)	-0.641	0.121	-5.298	0.000	Significant
C (Constant)	0.212	0.078	2.718	0.009	
R-squared = 0.671					
Adjusted R-squared = 0.628					
Durbin-Watson = 2.08					

The short-run ARDL (ECM) results indicate that remittances ( $\Delta REM$ ) and FDI ( $\Delta FDI$ ) continue to have positive and statistically significant effects on GDP growth in the short run. A 1% increase in remittance inflows leads to a 0.12% increase in GDP, while a 1% increase in FDI inflows contributes approximately 0.09% to short-run economic growth. Sovereign debt ( $\Delta DEBT$ ), however, is not statistically significant in the short run, suggesting that its negative impact on growth is more pronounced over longer periods rather than immediate effects.

The ECM term (ECM (-1)) has a coefficient of -0.641 and is highly significant, indicating that about 64% of any disequilibrium from the long-

run GDP growth path is corrected within a year. This demonstrates a relatively fast adjustment mechanism in Nigeria's economy, reflecting that shocks in remittances, FDI, and debt are quickly absorbed as the economy reverts to its long-run equilibrium. The R-squared value of 0.671 shows that roughly 67% of the short-run variations in GDP are explained by changes in remittances, FDI, and sovereign debt along with the error correction term, confirming a robust short-run model. Overall, these results highlight that while external inflows like remittances and FDI provide immediate growth support, fiscal management through sovereign debt requires careful monitoring to prevent long-term growth dampening.

**Table 6: Diagnostic Test Results**

Test	Test Statistic	p-Value	Result
<b>Serial Correlation LM</b>	1.12	0.302	No autocorrelation
<b>Heteroskedasticity BP</b>	0.95	0.329	Homoscedastic
<b>Jarque-Bera Normality</b>	2.43	0.296	Residuals normal
<b>Ramsey RESET</b>	1.78	0.182	No misspecification

The diagnostic test results indicate that the ARDL model satisfies the classical assumptions. There is no evidence of autocorrelation or heteroskedasticity, the residuals are

normally distributed, and the model is correctly specified. This confirms that the estimated long-run and short-run coefficients are reliable and suitable for inference.

**Table 7: Granger Causality Test Results**

Causal Direction	F-Statistic	p-Value	Inference
REM → GDP	4.12	0.020	REM Granger-causes GDP
GDP → REM	1.03	0.364	No causality
FDI → GDP	3.45	0.035	FDI Granger-causes GDP
GDP → FDI	0.88	0.421	No causality
DEBT → GDP	2.98	0.054	Weak evidence
GDP → DEBT	1.12	0.332	No causality

The Granger causality results show that remittances and FDI exert a unidirectional causal influence on economic growth in Nigeria, highlighting their role as key drivers of GDP. Sovereign debt exhibits weak short-run causality, suggesting that its negative effects on growth are more relevant over the long run rather than immediate periods.

### Discussion

The descriptive statistics show that Nigeria's economic growth averaged 3.25% between 1990 and 2023, with notable fluctuations reflecting periods of contraction and expansion. The negative minimum value of -1.92% corresponds to economic downturns caused by oil price shocks and macroeconomic instability, while the maximum of 15.33% reflects temporary growth surges linked to commodity booms and targeted policy interventions. Remittances averaged 5.41% of GDP,

highlighting the increasing role of diaspora inflows in supporting household welfare, consumption, and investment, as noted by Ikwuagwu, Onyele & Onyele (2024). FDI, averaging 2.76% of GDP, is concentrated in specific years and sectors, particularly oil and gas, which limits its broad-based developmental impact (Agunbiade, 2025). Sovereign debt rose to an average of 35.82% of GDP, revealing growing reliance on borrowing, a trend critiqued in recent debt sustainability literature for its potential to crowd out private investment and strain fiscal resources (Ugwuoke, 2024). Overall, these patterns suggest that remittances and FDI are meaningful sources of external finance, yet economic performance remains vulnerable due to debt accumulation and sectoral concentration of investment.

The ARDL long-run results indicate that remittances and FDI positively influence growth, whereas

sovereign debt has a negative effect. In the short run, remittances and FDI continue to support GDP, but debt's impact is negligible, underscoring that its adverse effects are structural rather than immediate. Remittances outperform FDI because they are more evenly distributed across households and regions, directly supporting consumption and small-scale productive activities. In contrast, FDI is concentrated in capital-intensive sectors with limited spillovers, making its effects conditional on institutional quality and infrastructure (Ikwuagwu et al., 2024; Agunbiade, 2025). Debt is insignificant in the short run because borrowing often finances long-term projects, but mismanaged debt becomes harmful over time by increasing fiscal pressure and limiting government flexibility (Ugwuoke, 2024). These dynamics explain why Nigeria relies heavily on remittances for immediate growth stabilization while FDI and debt influence outcomes more gradually.

Granger causality tests provide insight into predictive relationships rather than strict structural causality. Results show unidirectional causality from remittances and FDI to GDP,

suggesting that inflows drive growth, but that GDP itself does not appear to stimulate additional inflows within the sample period. Sovereign debt shows weak short-run causality, emphasizing its longer-term relevance for fiscal planning. The predictive content of these findings implies that policy interventions should focus on sustaining and channeling remittances into productive sectors, attracting FDI beyond extractive industries, and managing debt prudently to safeguard long-term growth (Ikwuagwu et al., 2024; Agunbiade, 2025; Ugwuoke, 2024).

The evidence highlights that external inflows contribute differently to Nigeria's growth. Remittances provide immediate stabilization and broad-based economic support, FDI's benefits depend on sectoral allocation and institutional quality, and debt, if mismanaged, poses a long-term constraint. Effective policy must therefore combine strategies that maximize the developmental impact of remittances and FDI while containing the structural risks of rising sovereign debt.

## CONCLUSION

The study concludes that remittances and foreign direct investment are significant positive drivers of Nigeria's economic growth, both in the short and long run, while sovereign debt has a negative long-term impact, highlighting the risks of excessive borrowing. The findings indicate that external financial inflows, particularly from the diaspora and foreign investors, play a critical role in sustaining consumption, investment, and productivity, whereas unproductive debt accumulation can constrain growth. Consequently, it is recommended that policymakers implement strategies to efficiently channel remittances and FDI into productive sectors such as manufacturing, technology, and infrastructure, while maintaining strict fiscal discipline to keep sovereign debt at sustainable levels. Additionally, regulatory frameworks should be strengthened to encourage quality FDI inflows and digital transfer mechanisms for remittances, ensuring that these resources maximize their developmental impact and contribute to Nigeria's long-term economic stability and growth.

However, the study has some limitations. First, the analysis relies on aggregate national-level data, which may mask sectoral variations and regional differences in the impact of remittances, FDI, and debt. Second, institutional and governance variables were not directly incorporated into the model, potentially omitting key channels through which external inflows affect economic performance. These limitations suggest that while the results provide valuable macro-level insights, caution should be taken when generalizing to specific sectors or regions.

Future research could address these gaps by examining sectoral FDI flows and their spillover effects on manufacturing, services, and technology. Additionally, studies could explore nonlinear thresholds for debt, identifying levels at which borrowing transitions from supportive to harmful, and investigate interactions between institutional quality, remittances, and FDI to better understand the conditions under which external inflows optimally promote sustainable growth. Such extensions would provide a more granular and policy-relevant

understanding of Nigeria's external financing dynamics.

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