“Effect of foreign capital inflow on private sector credits: Evidence from Nigeria”

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EFFECT OF FOREIGN CAPITAL INFLOW ON PRIVATE SECTOR CREDITS: EVIDENCE FROM NIGERIA

Abstract

The private sector remains the engine room for inclusive economic development, and its interaction with Foreign Capital Inflows (FCIs) is crucial for growth in emerging markets like Nigeria. This study examined the impact of FCIs (Foreign Direct Investment, Foreign Portfolio Investment, Foreign Debt, Foreign Aid & Foreign Remittances) on Private Sector Credit in Nigeria. To achieve this objective, time series data spanning a 26-year period (1998–2023) were harvested and used. The Augmented Dickey-Fuller test was used to ascertain the unit root, while the hierarchical regression technique provided the model estimates. From the results, foreign remittances emerged as the only significant contributor to private sector credit growth ($\beta = 0.993$, $p < 0.05$). This underscores the critical role of diaspora remittances in supporting financial intermediation and private sector development. The study concluded that foreign remittance is a major driver of private sector credit expansion in Nigeria. It is recommended that policy efforts should prioritize facilitating remittance inflows through a supportive regulatory framework. Emphasis should also be placed on leveraging remittances as a stable and development-oriented source of capital.

Keywords foreign capital inflow, remittances, private sector credit, hierarchical regression

JEL Classification F21, F24, F65

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INTRODUCTION

Foreign Capital Inflows (FCIs) have become a crucial source of development financing in emerging economies, particularly those grappling with inadequate domestic savings and persistent infrastructural deficits. These inflows, which encompass Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Foreign Debt (FD), Foreign Aid (FA), and Foreign Remittances (FR), provide critical financial support that facilitates investment financing, capital formation, technological diffusion, and global economic integration. For countries like Nigeria, FCIs are indispensable for complementing limited domestic resources, supporting financial sector development, and stimulating macroeconomic growth (Harrison & Reed, 2024).

On the other hand, the private sector remains the engine of inclusive and sustained economic development. It plays a central role in employment generation, innovation, and productivity enhancement, thereby influencing both short and long-term development outcomes (Onome et al., 2023). A functional and resilient financial sector that intermediates between savers and investors serves as the conduit through which external and internal resources are al-

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located efficiently to productive economic activities. Thus, the interaction between FCIs, the financial sector, and Private Sector Credit is critical to the development trajectory of emerging markets like Nigeria (Bekele & Degu, 2023).

Over the past two decades, Nigeria has positioned itself as a major destination for foreign capital in Africa. However, structural deficiencies such as weak institutional capacity, insecurity, governance instability, and exchange rate volatility have often constrained the capacity of the financial system to absorb and utilize FCIs effectively. Despite the apparent benefits, the dynamics of FCIs in Nigeria remain complex and volatile. Furthermore, the unpredictability of inflows, particularly the volatile nature of FPI, poses systemic risks to Nigeria's financial system. The persistent decline in FCIs undermines credit intermediation, weakens investor confidence, and constrains the ability of the private sector to access affordable and stable financing. Thus, while FCIs hold theoretical potential for credit enhancement, the Nigerian context presents a paradox of abundant inflows with limited developmental outcomes, particularly in the domain of Private Sector Credit growth for improved inflows.

1. LITERATURE REVIEW AND HYPOTHESES

This study's theoretical framework is grounded in the Macdougall-Kemp theory (MacDougall, 1960; Kemp, 1964) and financial liberalization theory. Macdougall-Kemp theory posits that foreign capital flows between two nations, an investing country (capital-abundant) and a host country (capital-scarce), are driven by the equalization of marginal costs, assuming perfect capital mobility and equalization of returns across countries. The financial liberalization theory argued that removing restrictions on financial markets, such as interest rate caps, credit controls, and limitations on capital flows, can lead to more efficient allocation of resources, economic growth, and financial development. This remover of restrictions enables banks and other financial institutions to allocate credit more efficiently based on market signals as a result of interest rate deregulation, improved savings mobilization, and increased funds available for lending. The framework illuminates the dynamics of international capital movements and analyzes the impact of foreign capital on host country financial systems.

The effect of Foreign Capital Inflows (FCIs) on Private Sector Credit (PSC) has attracted substantial scholarly attention, particularly within emerging and developing economies. While the consensus acknowledges FCIs as potential drivers of financial development, the direction, significance, and magnitude of this relationship remain contested, especially in the Nigerian context. Ang and Mckibbin (2019) examined the complementarity between Foreign Direct Investment (FDI) and Foreign Aid (FA) in fostering financial sector development (FSD) in Malaysia. Their findings suggest a significant positive interaction, indicating that FDI enhances FSD in the presence of a well-developed financial system. Similarly, Bailliu (2020), employing Generalized Method of Moments (GMM) on panel data, confirmed that capital inflows promote FSD, but only in countries with sufficiently developed banking systems. In the Sub-Saharan African context, Ogundipe et al. (2019) found that credit to the private sector adversely affected FDI in Nigeria, indicating a negative synergy between credit allocation and foreign investment. The study underscores the need to adjust credit policies to enhance the absorptive capacity of FDI. Meanwhile, Ganiyu et al. (2019) demonstrated that PSC positively impacts economic growth, provided domestic conditions – such as policy environment and infrastructure – are conducive, reinforcing the view that internal dynamics mediate the FDI-credit nexus.

Oke and Ruth (2021) analyzed the influence of various foreign capital types on Nigeria's financial sector using OLS regression. Their results suggest that Foreign Debt inflows and expenditure on services like education and health undermine sectoral credit allocation, whereas remittance inflows foster financial development. Similarly, Igbinedion (2023) found that while remittances and bank credit positively influence private sector performance in the short term, re-

mittances may exert a negative long-term effect, indicating inefficiencies in remittance transmission channels. In contrast, Cayir (2021) showed that FDI and portfolio investment positively affect household credit in Turkey over the long term, despite short-run volatility. Zeeshan et al. (2023) provided related insights in the Indian context, where both net equity and non-equity capital inflows were found to significantly influence domestic bank credit. These findings underscore the heterogeneous impacts of capital inflow types on credit formation.

International comparative studies offer broader perspectives. Rapih and McMillan (2021), using dynamic panel estimation, showed that capital inflows to the banking sector positively affect domestic credit across 74 developing countries, whereas inflows to non-bank financial institutions have adverse effects. The authors further confirmed that domestic financial institution development is critical in maximizing the benefits of international capital inflows, especially in countries with weak financial structures. Acheampong et al. (2023), focusing on 33 Sub-Saharan African countries, employed system-GMM and FMOLS estimators to show that FDI positively influences domestic credit in both the short and long run, while official credit has a crowding-out effect. Likewise, Poch et al. (2023) revealed that institutional quality significantly mediates the positive effects of capital inflows on domestic credit growth across 130 emerging economies.

Chile et al. (2022) highlighted the regime-dependent impact of capital inflows on PSC in Namibia, noting varying results across different economic phases. Huseyin (2012) offered a nuanced view using fixed-effects 2SLS: while private sector external financing negatively impacts FDI, FDI does not significantly affect external financing, suggesting rising autonomy of private credit markets from foreign capital fluctuations. Institutional and macroeconomic settings are emphasized in other studies. Okezie and Enyeribe (2024), however, found that while PSC significantly influences GDP, FDI, and FPI show insignificant contributions, challenging the assumed importance of foreign investments in driving economic growth.

The summary of the empirical literature presents mixed and often contradictory findings. While some studies emphasize the positive relationship between FCIs and credit availability, highlighting their role in enhancing capital formation and financial inclusion (Aminul et al., 2021), others report that FCIs, especially short-term and speculative inflows like FPI, can exacerbate volatility, crowd out domestic credit, and destabilize the financial system (Bailliu, 2020; Agyapong et al., 2019; Onome et al., 2023; Poch et al., 2023).

In addition, prior research has predominantly treated FCIs as a homogeneous concept, often failing to disaggregate their individual effects on Private Sector Credit. There is a paucity of empirical studies that examine the long-run impact of distinct FCI components, FDI, FPI, FA, FD, and FR, on PSC within Nigeria's unique macro-financial context. This gap leaves policymakers with insufficient evidence to design targeted and effective capital attraction and credit enhancement policies. Given Nigeria's increasing reliance on foreign capital amidst growing development finance needs, it is imperative to understand the long-run implications of FCIs on PSC. Disaggregating the impact of the FCIs' components (FDI, FPI, FA, FD & FR) allows for a more precise diagnosis of which inflows are most beneficial for enhancing credit access and strengthening financial sector stability. Hence, the study investigated the effect of foreign capital inflows on private sector credit in Nigeria, and in achieving this, the following hypotheses were formulated and subjected to empirical test:

H_1: *Foreign Direct Investments have no significant effect on Private Sector Credit in Nigeria.*

H_2: *Foreign Portfolio Investments have no significant effect on Private Sector Credit in Nigeria.*

H_3: *Foreign Debts have no significant effect on Private Sector Credit in Nigeria.*

H_4: *Foreign Aids have no significant effect on Private Sector Credit in Nigeria.*

H_5: *Foreign Remittances have no significant effect on Private Sector Credit in Nigeria.*

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2. METHOD

This study employs the ex-post facto research design, using annual time series data over a period of twenty-six (26) years (1998-2023). Data for Foreign Capital Inflows index in dollar value were obtained from World Bank Development Indicator (WBI) reports, Private Sector Credit (PSC) valued in naira, and percentage of GDP from CBN Statistical Bulletin, while data for the control variables (inflation and population growth rate) valued in percentage of GDP were obtained from CBN Statistical Bulletin.

The model for the study was adapted from Chukwu and Nwachukwu (2021), and it is econometrically expressed as:

$$PSC_t = \beta_0 + \beta_1 FDI_t + \beta_2 FPI_t + \beta_3 FD_t + \beta_4 FA_t + \beta_5 FR_t + \beta_6 INF_t + \beta_7 PGR_t + \varepsilon_t, \quad (1)$$

where *PSC* – Private Sector Credit; *FDI* – Foreign Direct Investment; *FPI* – Foreign Portfolio Investment; *FD* – Foreign Debt; *FA* – Foreign Aid; *FR* – Foreign Remittance; *INF* – Inflation; and *PGR* – Population Growth Rate.

All variables of interest were lagged to treat for and avoid spurious regression results. *A-priori* expectation: β_1, β_2, β_3, β_4, β_5>0. It is expected that all capital inflow proxies considered in this study would lead to an increase in Private Sector Credit. By implication, a positive relationship is expected between capital flows and Private Sector Credit in Nigeria.

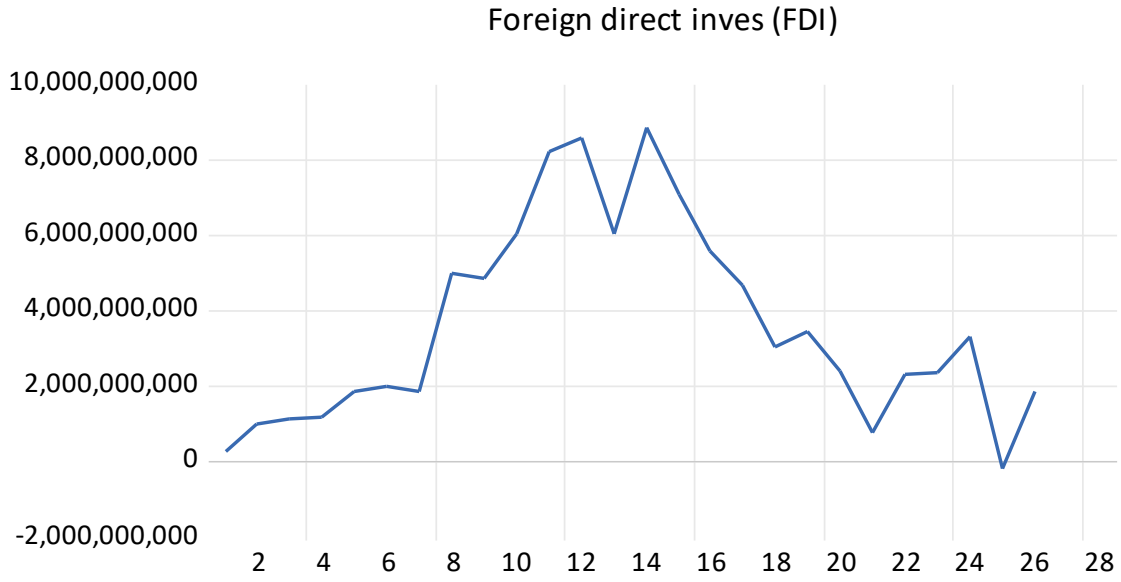
The time series data for the study variables were first subjected to pre-test alongside post-test analysis. The model estimation technique involved the Hierarchical Regression (HR) technique, to allow for an assessment of the incremental impact of each set of independent variables on the dependent variable, in a step-by-step manner. Changes in the R-squared value at each step were observed to determine the significance of each block of variables and identify which ones have the most influence on the dependent variable.

3. RESULTS AND DISCUSSION

3.1. Exploratory data analysis

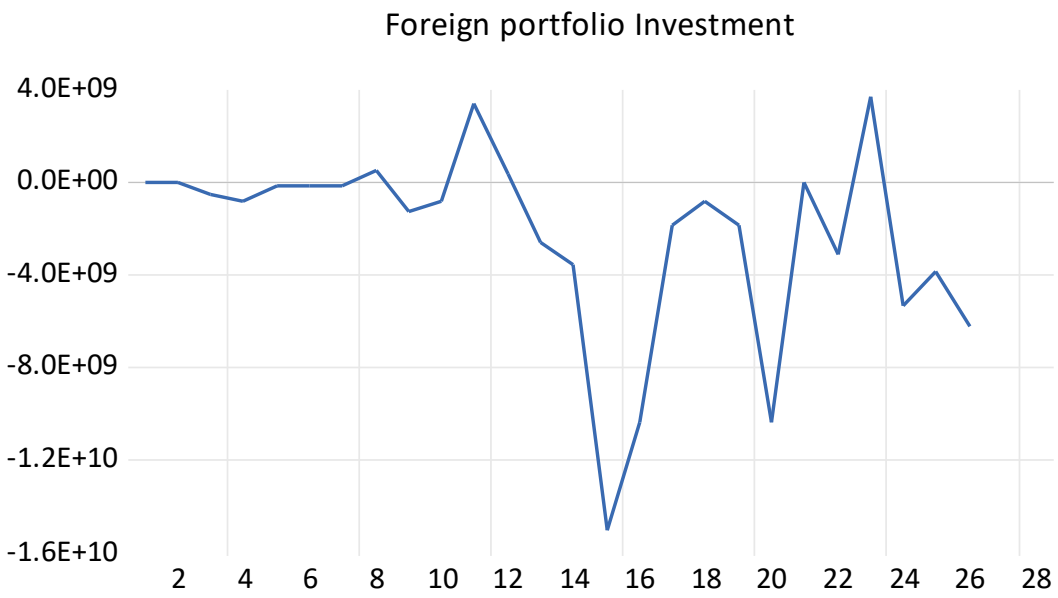
In trying to understand the pattern of the date, Exploratory Data Analysis (EDA) was carried out to create a clear picture of what the data set looks like by visualizing, such as line graphs or plots, to spot patterns, trends, or anything unusual, like missing values or extreme numbers, to reveal the important characteristics of the data.

Figure 1 shows an upward trend until 2015, which likely indicates a period of increasing inves-



Note: Vertical – in naira; horizontal – in years.

Figure 1. Line plot for foreign direct investment



Note: Vertical – in naira; horizontal – in years.

Figure 2. Line plot for foreign portfolio investment

tor confidence and capital inflows into Nigeria. Additionally, Nigeria's emerging market status and its position as one of the largest economies in Africa may have contributed to the increase in foreign investments. However, after 2015, the plot shows a downward trend in FDI, suggesting a decline in investor confidence or a shift in global economic conditions that affected foreign investment inflows into the country. Several factors could have contributed to this decline, including political instability, exchange rate volatility, the global oil price crash, and unfavorable business and regulatory environments. The downturn in oil prices, which is a major source of Nigeria's revenue, may have particularly impacted the decision-making of foreign investors, or possibly the increase in insecurity, especially since the issue of the Chibok Girls kidnapping and Boko Haram Emergence. Since then, the downward trend has persisted, indicating ongoing challenges in attracting FDI to Nigeria.

Figure 2 reveals a clear downward trend, particularly pronounced between 2012 and 2015. This sharp decline likely reflects a period of reduced investor confidence, possibly due to macroeconomic instability, political uncertainty, or unfavorable market conditions within Nigeria. Such factors might have led to capital outflows or a decrease in foreign investment in the country's financial markets. After 2015, the plot shows a gradual recovery, suggesting that foreign investors began to regain some confidence in the market, possibly due to improvements in economic conditions, policy reforms, or stabilization efforts. Since the recovery, the trend appears to exhibit a swing-like movement, characterized by fluctuations in FPI inflows.

Figure 3 shows a significant decline up until 2010, which likely reflects successful debt restructuring or repayment efforts, possibly influenced by policy reforms or international debt relief programs, such as the debt forgiveness Nigeria received in the early 2000s. This drastic decline may also indicate periods of economic stabilization or fiscal austerity measures that allowed the country to reduce its Foreign Debt burden. From 2010 onwards, the plot indicates a steady trend, suggesting that Nigeria's Foreign Debt remained relatively stable for a period, possibly reflecting controlled borrowing or successful management of existing debt obligations. However, the gradual increase in Foreign Debt from this steady phase onwards indicates that Nigeria may have begun borrowing again, possibly to finance infrastructure projects, development programs, or to cover budget deficits. This increase could also point to the country's reliance on foreign loans to meet fiscal needs, particularly in the face of fluctuating oil prices or economic challenges.

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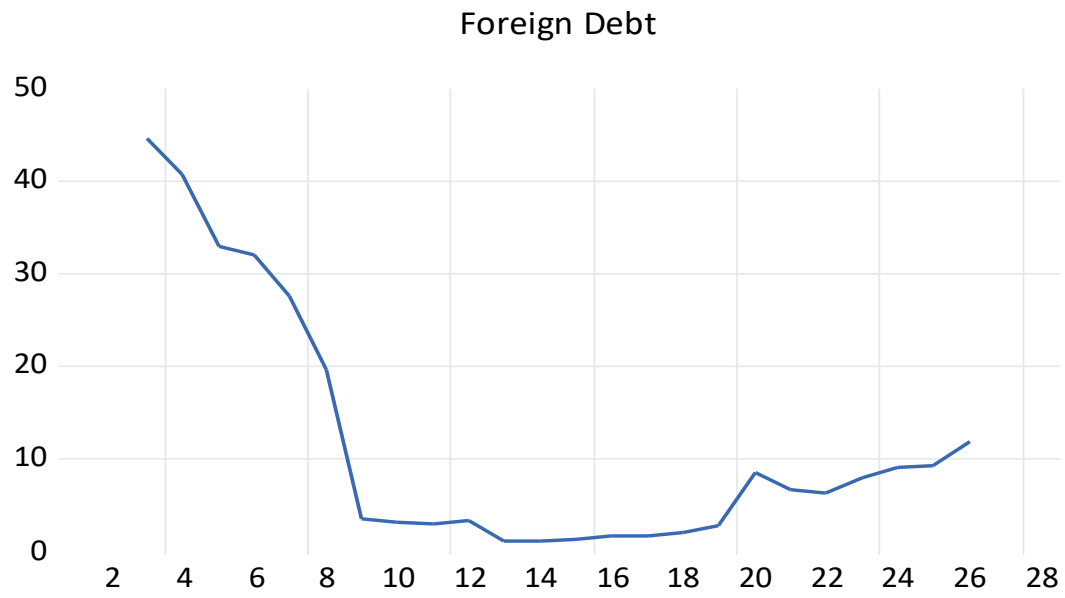
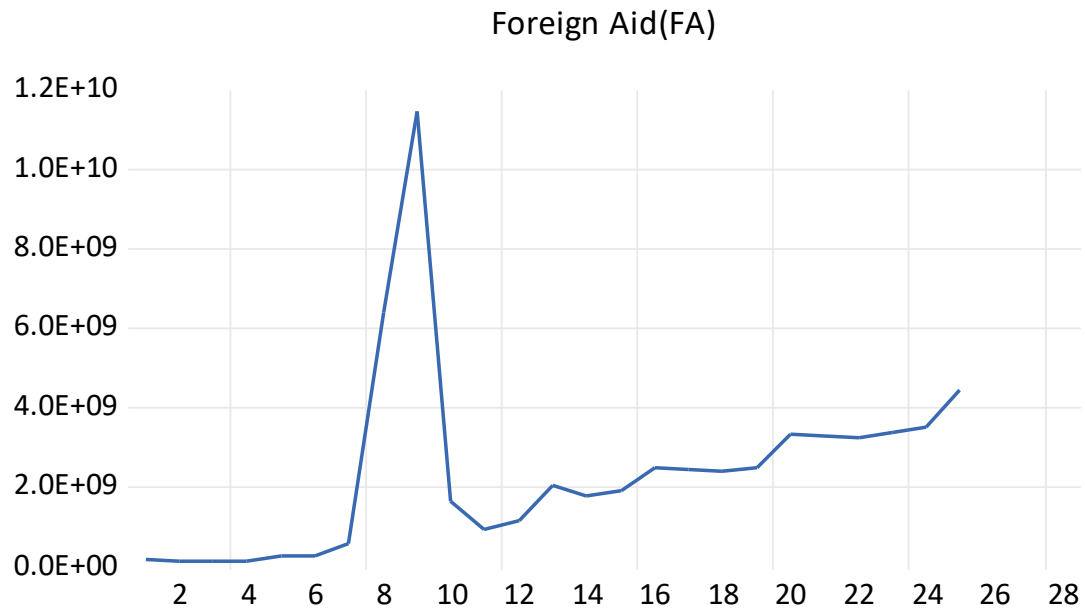


Note: Vertical – in billions of naira; horizontal – in years.

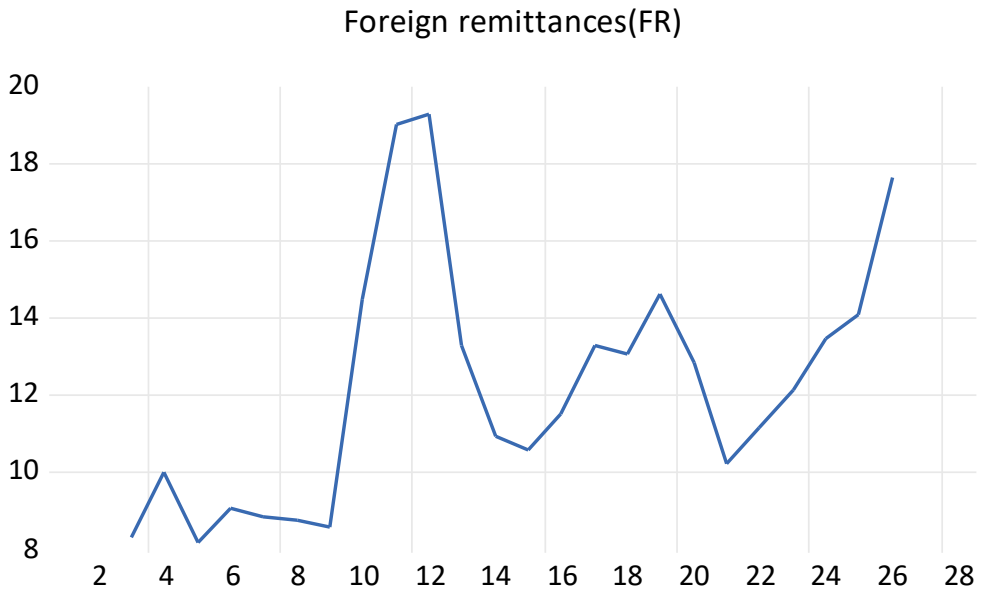
Figure 3. Line plot for foreign debt



Note: Vertical – in naira; horizontal – in years.

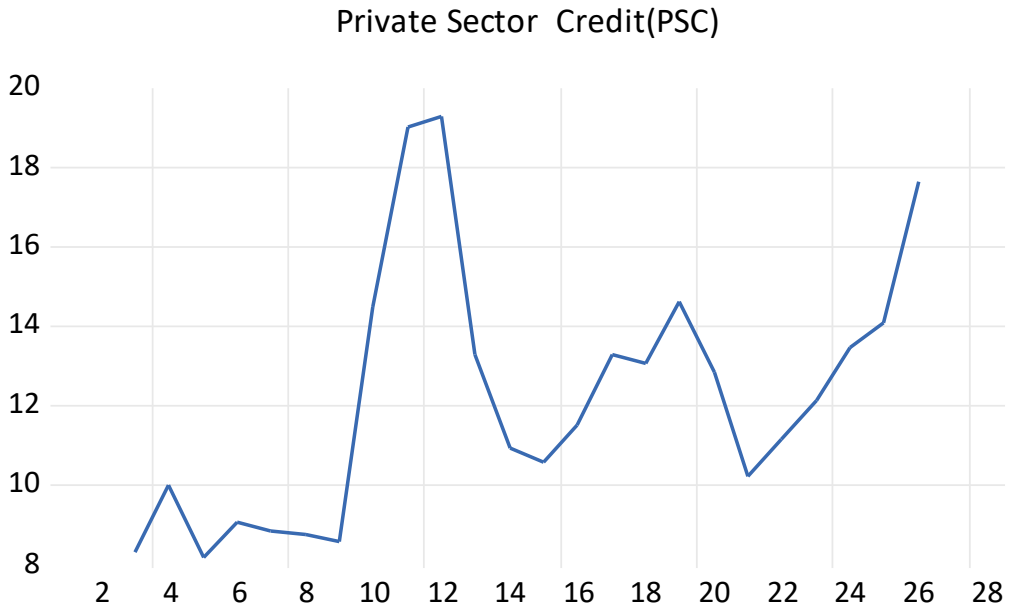
Figure 4. Line plot for foreign aid

Figure 4 reveals a significant upward trend from 2007 to 2010, indicating a sharp increase in the volume of Foreign Aid received during that period. This surge may be attributed to heightened international support, donor commitments, or responses to specific economic or humanitarian needs. However, in 2010, the plot shows a drastic decline, suggesting a sudden reduction in aid inflow, possibly due to shifting donor priorities or global financial constraints. From 2011 onward, the trend transitions into a steady and gradual upward movement, reflecting a more stable and consistent flow of aid. This pattern suggests that while Foreign Aid experienced volatility during the late 2000s, it has since stabilized, possibly due to stronger bilateral or ongoing development programs.



Note: Vertical – in billions of naira; horizontal – in years.

Figure 5. Line plot for foreign remittances



Note: Vertical – ratio of credits to GDP; horizontal – in years.

Figure 6. Line plot for the private sector

Figure 5 shows a noticeable upward movement from 2009 to 2012, suggesting a significant increase in remittance inflows during that period, possibly driven by improved economic conditions in host countries or enhanced remittance channels. However, from 2012 to 2015, there was a visible decline, which could be attributed to global economic downturns, tighter immigration policies, or unfavorable exchange rate fluctuations affecting remittance. After 2015, the trend shows signs of recovery, with remittance inflows gradually increasing again. Since then, the pattern takes on a swing-like form, characterized by fluctuations; however, the overall direction remains upward. This implies a generally positive growth in remittances, albeit with periodic dips, likely influ-

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enced by global labor market conditions and domestic economic factors in recipient regions.

Figure 6 shows a notable upward trend from 2009 to 2012. This increase likely reflects a period of economic recovery and growth, where the private sector benefited from favorable credit conditions, such as lower interest rates, easier access to financing, and improved business confidence following the global financial crisis of 2008. During this period, banks and financial institutions may have been more willing to lend to businesses, leading to an expansion in Private Sector Credit. However, from 2012 to 2013, the plot shows a decline in Private Sector Credit, which could indicate a period of tightening credit conditions or reduced demand for loans. This decline might have been triggered by factors such as economic uncertainties, changes in government policies, or a slowdown in economic activities. Additionally, external factors, like fluctuating oil prices or inflationary pressures, could have contributed to reduced credit availability or borrowing by the Private sector. Starting from 2014, the plot indicates a swing form movement, suggesting volatility in Private Sector Credit over the years. This could be indicative of fluctuating economic conditions, with periods of growth followed by uncertainty.

The swing trend also suggests the Private sector's response to changing macroeconomic factors such as inflation, exchange rate fluctuations, or shifts in government policies. It also points to a cautious lending environment, where banks may have been more selective in extending credit due to concerns about the overall economic stability and the risk of non-performing loans. The swing pattern suggests that while there may be periods of recovery, the Private sector's access to credit remains influenced by a variety of complex and changing economic factors.

3.2. Descriptive analysis

Table 1 shows a broad overview of the distribution, variability, and normality of study variables. Foreign Direct Investment (FDI) and Foreign Aid (FA) exhibit significant monetary values in billions, with FDI averaging approximately $4.12 billion and FA around $2.53 billion. While FDI displays a moderately positive skew (0.51) and kurtosis near normal (2.05), FA stands out with extreme skewness (2.25) and leptokurtic behavior (kurtosis of 8.80), indicating the presence of large outliers. The Jarque-Bera test confirms that FDI is approximately normally distributed ($p = 0.41$), whereas FA is significantly non-normal ($p < 0.0001$), suggesting caution in using parametric models without data transformation. Private Sector Credit (PSC) and Foreign Remittances (FR) (which appear to share identical statistics, suggesting duplication) both exhibit a mean of approximately 11.9, a slightly right-skewed distribution (0.95), and a moderately peaked kurtosis of 3.44. These properties indicate a distribution with more high-end responses but not extreme deviations from normality, supported by the Jarque-Bera p-value of 0.17.

Foreign Portfolio Investment (FPI) and Foreign Debt show the most pronounced distributional issues apart from FA. FPI, with a mean of –$2.31 billion, indicates persistent outflows, and its strong left skew (–1.44) combined with high kurtosis (4.71) reflects severe non-normality, confirmed by a highly significant JB test ($p = 0.0057$). Similarly, Foreign Debt, though positively skewed (1.23), has a high standard deviation (14.06) relative to its mean, pointing to wide dispersion and possible

Table 1. Descriptive statistics of study variables

Source: E-view 9 (2025).

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Stewness	Kurtosis	JarqueBera	Probability
FDI	4.12E+09	3.38e+09	8.84E+09	7.75E+08	2.52E+09	0.505848	2.051262	1.763332	0.414062
FPI	–2.31E+09	–8.45E+08	3.69E+09	–1.50E+09	4.44E+09	–1.444043	4.709992	10.32636	0.005723
FD	11.91001	5.022694	44.57748	1.240649	14.05782	1.226458	2.986306	5.515567	0.063432
FA	2.53E+09	2.24E+09	1.14E+10	1.68E+08	2.48E+09	2.252860	8.796998	49.41447	0.000000
FR	11.90007	11.34540	19.26040	8.205000	3.097715	0.950661	3.437285	3.489055	0.174728
PSC	11.90007	11.34540	19.26040	8.205000	3.097715	0.950661	3.437285	3.489055	0.174728
INF	12.34278	12.38103	18.87365	5.388008	3.643182	–0.061361	2.226007	0.562949	0.754670
PGR	2.610687	2.728933	2.802785	2.096187	0.232841	–1.168084	2.907766	5.010671	0.081648

volatility. While its JB p-value (0.063) is marginally above 0.05, it suggests caution, particularly in inferential analysis.

Inflation rate (INF) and Population Growth Rate (PGR) provide further macro-level insights. Inflation rate appears quite normally distributed with near-zero skew (-0.06), kurtosis close to 2.23, and a JB p-value of 0.75, indicating a well-behaved distribution and suggesting its suitability for linear modeling. In contrast, PGR shows a stronger left skew (–1.17) and is slightly leptokurtic (kurtosis = 2.91), indicating a concentration of higher values and some degree of outlier presence on the lower end. The JB p-value of 0.08 implies mild non-normality, which may need attention depending on model assumptions. Overall, while most variables conform to normality, a few, particularly FA, FPI, and PGR, may benefit from transformation or alternative estimation techniques to satisfy statistical assumptions.

3.3. Unit root test

The Augmented Dickey-Fuller (ADF) test was used to determine whether the time series has a unit root (that is, stationary or non-stationary). The null hypothesis of the ADF test states that the series has a unit root, meaning it is non-stationary. The result is interpreted by comparing the ADF statistic with critical values or using the p-value; if the statistic is less than the critical value or the p-value is below a significance level of 0.05, the null hypothesis is rejected, and the series is considered stationary.

Table 2 shows the ADF unit root results, which were applied to assess the stationarity of the study variable across three model specifications: constant, constant and trend, and no constant and no trend. Most of the variables, including Foreign Direct Investment (FDI), exhibited I(1) specifications, meaning they are non-stationary at levels but become stationary after first differencing, with ADF statistics such of –6.105828 (Constant), -6.539928 (Constant and Trend), and -6.243593 (No Constant, No Trend), all of which are highly significant and confirm the need for first differencing. However, Private Sector Credit (PSC) exhibited mixed results; for example, I(1) was under the constant model (–3.463456) but became I(2) in the constant and trend models (–4.129851). This suggests that PSC has a long-term trend or growth pattern that requires second differencing when trends are accounted for in the model.

In contrast, Foreign Portfolio Investment (FPI) and Foreign Debt displayed stationarity at levels (I(0)) in some model specifications. For example, FPI had Augmented Dickey-Fuller (ADF) test statistics such as –3.391163 (Constant), –3.690285 (Constant and Trend), and –2.722850 (No Constant, No Trend), which were all significant and indicated that FPI is stationary at levels without the need for differencing. Foreign Debt, though stationary at levels in the constant and no-trend models, required first differencing (I(1)) when a trend was included (–4.159364), suggesting that long-term policy shifts may affect its stationarity.

Other variables, such as Foreign Aid (FA) and Foreign Remittances (FR), generally require first differencing (I(1)) to achieve stationarity, with some variation depending on the model specification. FA, for instance, showed ADF statistics of –3.349401 (Constant), indicating stationarity at levels under the constant model, but required first differencing in the other models (–4.785397,

Table 2. ADF test results

Source: E-view 9 (2025).

Variable	Constant	Constant and Trend	No Constant and No Trend
Foreign Direct Investment (FDI)	I (1) [–6.105828] *	I (1) [–6.539928] *	I (1) [–6.243593] *
Foreign Portfolio Investment (FDI)	I [0] [–3.391163] *	I [0] [–3.690285] *	I [0] [–2.722850] *
Foreign Debt (FD)	I [0] [–3.286358] *	I [1] [–4.159364] *	I [0] [–3.740763] *
Foreign Aid (FA)	I [0] [–3.349401] *	I [1] [–4.785397] *	I [1] [–4.984603] *
Foreign Remittances (FR)	I [1] [–3.463456] *	I [2] [–4.214506] *	I [1] [–3.406028] *
Private Sector Credit (PSC)	I (1) [–3.463456] *	I (2) [–4.129851] *	I (2) [–3.406028] *
Inflation (IF)	I [1] [–5.363145] *	I [1] [–4.989217] *	I [1] [–5.337657] *
Population Growth Rate (PGR)	I [2] [–4.009167] *	I [2] [–4.529742] *	I [2] [–4.093889] *

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–4.984603). Similarly, FR exhibited a mix of I(1) and I(2) integration, with the constant model showing I(1) and the constant and trend model requiring I(2). Lastly, Population Growth Rate (PGR) was found to be I(2), meaning it needed second differencing to become stationary across all model specifications. The ADF test statistics for PGR were -4.009167 (Constant), –4.529742 (Constant and Trend), and –4.093889 (No Constant, No Trend), all of which indicated a more complex long-term trend that required second differencing. This suggests that PGR may follow a longer-term growth path that needs to be accounted for through differencing to model the series properly.

In summary, the Augmented Dickey-Fuller (ADF) test results suggest that most of the variables in the data set are I(1), requiring first differencing for stationarity. Some variables, such as FPI and Foreign Debt, were stationary at levels (I(0)), while others, like PSC and PGR, required second differencing (I(2)) depending on the model specification.

3.4. Hypothesis testing

Table 3 is the result of the hierarchical regression for Private Sector Credit. The regression analysis was conducted in two steps to assess the influence of control and independent variables on the dependent variable. In Step 1, Inflation and Population Growth Rate were included as control variables. The model yielded an R^2 of 0.082, indicating that only 8.2% of the variation in the dependent variable was explained by these two factors. The F-statistic was 1.033 with a p-value of 0.372, suggesting that the model was not statistically significant. Individually, inflation had a beta (β) = 0.134 (p = 0.416), and population growth rate had β = –1.892 (p = 0.514). Neither control variable significantly predicted the dependent variable.

In Step 2, the predictors Foreign Direct Investment, Foreign Portfolio Investment, Foreign Debt, Foreign Aid, and Foreign Remittance were added to the model. This significantly improved the explanatory power of the model, with R^2 increasing to 0.909 and $\Delta R^2 = 0.827$, indicating an 82.7% increase in explained variance. The model became statistically significant, with an F-statistic of 1035.286 (p = 0.000), showing a great improvement in prediction when these financial inflows were included.

Among the predictors in Step 2, Foreign Remittance emerged as the only significant variable, with a beta coefficient of 0.993 (p = 0.000). This indicates a strong, positive, and statistically significant relationship with the dependent variable, suggesting that remittance inflows have a robust and substantial impact. The other variables, however, were not significant contributors, such as FDI (β = 5.522E-12, p = 0.876), Foreign Aid (β = –2.258E-12, p = 0.918), Foreign Portfolio Investment (β = 2.353E-12, p = 0.826), and Foreign Debt (β = -0.004, p = 0.474), all failed to show meaningful statistical effects.

The result implies that, while general Foreign Capital Inflows may not directly predict the depen-

Table 3. Result of hierarchical regression

Source: E-view 9 (2025).

Predictors	B	R^2	Δ R^2	F-statistics
Step 1				
Control variable		0.082		1.033 (0.372)
Inflation	0.134 (0.416)			
Population Growth Rate	–1.892 (0.514)			
Step 2				
Independent variable		0.909	0.827*	1035.286 (0.000)
Foreign Direct Investment	5.522E–12 (0.876)			
Foreign Portfolio Investment	2.353E–12 (0.826)			
Foreign Dept	–0.004 (0.474)			
Foreign Aid	–2.258E–12 (0.918)			
Foreign Remittance	0.993 (0.000)			

Note: Control variables: Inflation, Population Growth Rate; Dependent variable: Private Sector Credit. Independent variables: Foreign Direct Investment, Foreign Portfolio Investment, Foreign Debt, Foreign Aid, and Foreign Remittance. * p-value < 0.05 (Significant).

dent variable (Private Sector Credit), remittances stand out as the major driver. This highlights the potential of remittance flows as a stabilizing or growth-enhancing economic factor, potentially due to their direct use in household consumption or investment. The non-significance of other predictors may indicate structural inefficiencies in how Foreign Aid, debt, or investment are utilized within the economy. In conclusion, the hierarchical model demonstrates that adding foreign financial indicators drastically improves predictive capacity, but the impact is driven almost exclusively by Foreign Remittances.

3.5. Diagnostic test

Figure 7 shows two diagnostic plots for the regression analysis with Private Sector Credit as the dependent variable: the Standardized Residuals plot and the Normal Probability (PP) Plot. The Standardized Residuals plot indicates that the residuals are evenly spread around zero with no obvious pattern, suggesting that the assumption of homoscedasticity (constant variance of residuals) is not violated. The Normal PP Plot demonstrates that the residuals closely follow the diagonal line, suggesting that they are normally distributed. These results indicate that the regression model does not violate key assumptions of normality and homoscedasticity, supporting the reliability of the model's findings and its validity for inference.

The summary of the test of hypotheses showed that only Foreign Remittances, as a component of Foreign Capital Inflows, have a statistically significant effect (β = 0.993, p = 0.000) on Private Sector Credit in Nigeria. The null hypothesis here is rejected in favor of the alternative. However, other components such as Foreign Direct Investments (p = 0.876), Foreign Portfolio Investments (p = 0.826), Foreign Aids (p = 0.918), and Foreign Debts (p = 0.474) do not exhibit a significant effect on Private Sector Credits in Nigeria. Based on these results, their null hypotheses could not be rejected

The empirical findings from this study have offered critical insights into the heterogeneous effects of various FCI components on Private Sector Credit (PSC) extension, with significant implications for financial sector development and macroeconomic policy formulation. Specifically, the results have shown that Foreign Remittances (FR) exert a statistically significant and positive influence on PSC (β = 0.993, p = 0.000). This underscores the role of FR as a stable and growth-enhancing source of external finance. Unlike other forms of capital inflow, remittances are often transferred directly to households and small businesses, thereby bypassing administrative bottlenecks and enhancing financial inclusion. This implies that the direct and consistent nature of FR improves credit accessibility and liquidity at the grassroots level, contributing to the broadening and deepening of Nigeria's credit markets. The result is in tandem with the findings of Ganiyu et al. (2019), Oke and Ruth (2021), Rapih and McMillan (2021), and Igbinedion (2023), who all reported the catalytic role of remittances in

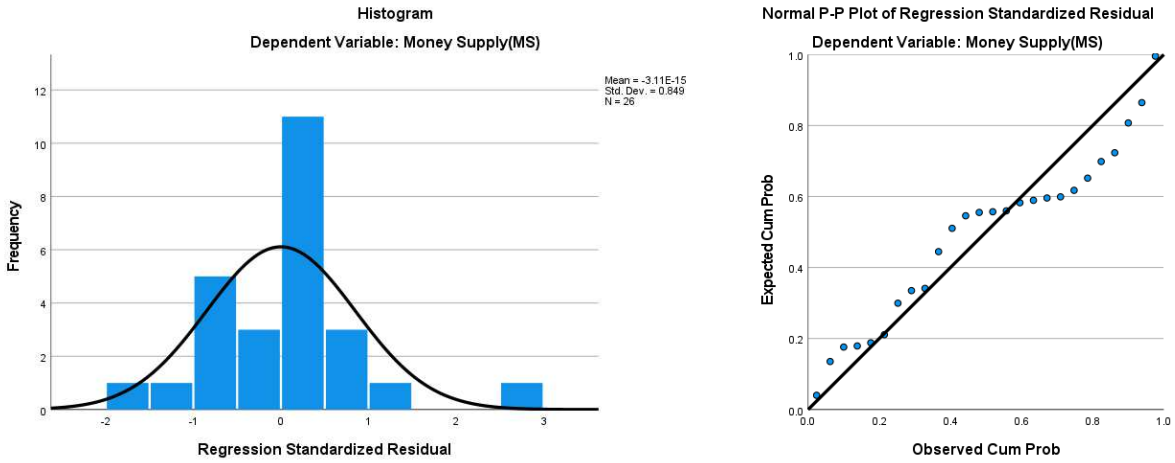

Figure 7. Diagnostic plots for private sector credit

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facilitating access to credit, particularly in low- and middle-income countries. However, it disagrees with Huseyin (2012), Onome et al. (2023), and Poch et al. (2023), who opined otherwise.

Further results from this study have revealed that Foreign Aid (FA), Foreign Debt (FD), Foreign Portfolio (FPI), and Foreign Direct Investment (FDI) do not exert a statistically significant impact on PSC (p-values > 0.05). These suggest the persistent inefficiencies in the mobilization and allocation of these inflows within the domestic financial system. Structural rigidities, institutional weaknesses, and poor absorptive capacity are likely hindrances to the effective transmission of these funds into the private credit ecosystem. These findings align with Huseyin (2012), Onome et al. (2023), and Okezie and Enyeribe (2024), who opined that foreign inflows (FDI, FPI, FA & FD) do not exert a significant influence on PSC. The findings, however, negate those from Ogundipe et al. (2019), Ganiyu et al. (2019), Cayir (2021), Rapih and McMillan (2021), Chile et al. (2022), and Acheampong et al. (2023), all of whom underscore the significance of capital inflows in driving private sector credits.

CONCLUSION

This study aimed to investigate the effect of Foreign Capital Inflows (Direct Investment, Portfolio Investment, Debts, Aids, and Remittances) on Private Sector Credits in Nigeria. Findings have revealed that only foreign remittances exert a direct and significant effect on private sector credits. Thus, remittances emerge as the most developmentally effective component of FCIs in the Nigerian context. The study highlights the pivotal role of foreign remittances in expanding private sector credit in Nigeria and calls attention to the limited efficacy of other FCI components under current institutional arrangements. Based on these findings, it is recommended that policymakers should enhance the contribution of foreign remittance to private sector credit in Nigeria by expanding digital remittance platforms and strengthening the capacity of financial institutions to convert inflows into credit. Additionally, efforts should be made to promote long-term productive investments in sectors linked to domestic credit creation while reinforcing the financial regulatory frameworks to effectively manage risks associated with volatile capital inflows.

AUTHOR CONTRIBUTIONS

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Visualization: Sunday Ikhu-Omoregbe.
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Writing – review & editing: Taofeek Sola Afolabi, Oyinlola Morounfoluwa Akinyede.

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