

IMPACT OF FOREIGN CAPITAL FLOWS ON ECONOMIC GROWTH IN NIGERIA: 1986-2023

Oniore Jonathan Ojarikre, Ogwuche David Dauda and Audu Ephraim A.

**¹Mobile: 234- 080-6898-6291; e-mail: jonathanoniore@gmail.com*

Article Info

Keywords: Capital Flows, FDI, Growth, Remittances, FMOLS, Nigeria

DOI

10.5281/zenodo.14180001

Abstract

Recipient nations, including developed and developing economies, stand to benefit greatly from foreign capital inflows. They transfer managerial and technological know-how that can promote long-term economic growth, and financial resources for investments. However, international capital flows can intensify macroeconomic imbalances and increase the economy's growth susceptibility. As a result, this research uses time series data from 1986 to 2023 to examine how foreign capital flows affect economic growth. Fully modified ordinary least squares (FMOLS) Regression was employed as the main analytical technique. The findings show that, over the long term, two of the four explanatory variables considered in this investigation have a statistically significant impact on Nigeria's economic growth. By implication, FDI inflows and personal remittances explain Nigeria's economic growth throughout the research period. FDI inflows are significant but inversely connected with economic growth, according to the paper's variable-by-variable analysis. Additionally, the long-term estimated impact of official development assistants on economic growth is insignificant but positive. Conversely, the results show that over time, personal remittances seem to have a major and favorable impact on economic growth. However, the findings show that foreign debt stocks have a negative and insignificant impact on economic growth. Consequently, the paper suggested that rather than extractive industries, which might not have as much positive spillover to the overall economy, the Federal government and other tiers of government should target growth-enhancing FDI by focusing on sectors that have higher value-added potential, like technology, manufacturing, and infrastructure. Additionally, the federal government should enact measures—like lowering transaction fees that facilitate and lower the cost of money transfers through official channels for Nigerians living outside.

JEL Codes: E44; E62; F23; F24 F34 and N47

Introduction

Globally, capital inflows have significant potential benefits for recipient countries, including developing and developed economies. Provide financial resources for investments and impart managerial and technological know-how that can support long-term economic growth. To support long-term economic possibilities, developing nations should promote inward foreign direct investment (FDI) and other capital inflows. However, international capital flows can worsen macroeconomic imbalances and increase economic susceptibility to growth.

¹ Department of Economics, Faculty of Social Sciences, Bingham University, Karu, Nigeria

The theoretical foundations of the foreign capital-led growth hypothesis can be traced to neoclassical and endogenous growth theories, which emphasize the importance of capital accumulation and technological progress in economic growth and development. Foreign capital inflows help close the saving-investment gap in developing countries and provide links to external markets.

Nigeria has experienced increased international capital inflows in the last decade because of its strengthened macroeconomic policy framework, rapid economic growth, high commodity prices, and external debt relief in 2005 and 2006. Capital flows have accelerated since 2011, and Nigeria is considered to have joined the ranks of frontier markets. However, capital inflows into Nigeria have slowed since 2014. Total capital inflows averaged over 4% of GDP over 2011–14 but fell to 1.5% of GDP during the first three quarters of 2015 (IMF, 2015). In contrast, an inflow of US\$1.97 billion was recorded in 2022. The development emanated from an improved inflow of portfolio capital for the purchase of debt securities, particularly government bonds (CBN, 2023).

These remarkable statistics highlight an upward trend in capital flows in subsequent years. The major question is whether the drastic improvement in foreign capital inflows has promoted economic growth in Nigeria. Thus, this paper examines the impact of foreign capital inflows on economic growth in Nigeria by focusing on four core channels of international capital flows namely, foreign direct investment (FDI), official development assistance (ODA), personal remittances (REM), and external debt stock (EXTDS), from 1986 to 2023.

Literature Review

Conceptual Review

Economic growth can be defined as an increase in per capita gross domestic product (GDP) or other measures of aggregate income typically reported as the annual rate of change in real GDP (Jhingan, 2005). Economic growth is generally measured in terms of Gross Domestic Product (GDP). Real GDP per capita was used as a proxy for economic growth. The choice of real GDP per capita in this paper is based on its ability to capture the GDP in relation to the population of the country being observed in addition to its popularity in many reviewed studies (Ndikumana, 2003; Amuedo-Dorantes & Pozo, 2004; Chami *et al.*, 2005; Acosta *et al.*, 2008; Macias & Massa, 2010; Aizenman *et al.*, 2013).

Several studies have used various terms to represent foreign capital flows: external capital (Makori *et al.*, 2015) and foreign capital (Ekwe & Inyama, 2014, Ali, 2014 and Nkoro & Uko, 2013). These terms describe capital flows from abroad into local economies for productive purposes. Capital inflow is the influx of external capital resources into the local economy for investment, trade, and business production (Chigbu *et al.*, 2015). The attraction of capital from abroad boosts local capital, which is often insufficient in developing economies like Nigeria.

Thus, a link between capital and growth can be gained by developing countries when they encourage and sourced capital abroad. Sources of these capital can include foreign direct investment, which in this study includes foreign portfolio investments, official development assistance, remittances, and external debt stock. The link between these variables and economic growth can be reinvestigated because external capital inflows are necessary and sufficient for economic growth in less developed countries (Gupta & Islam, 1983). Thus, this paper examined the possible links between various channels of international capital inflows and economic growth in Nigeria.

The major sources of foreign capital inflows into Nigeria are foreign direct investment, official development assistance (foreign aids), remittances, external debt, and external trade revenue. These four variables of international capital inflows are explained hereunder:

Foreign Private Investment is comprised of both Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI). In the Nigerian context, FDI forms the largest part of foreign capital inflow, and in many

quarters, it is foreign private capital. This is primarily due to the role of multinational corporations in the economic and political development of the country. Generally, FDI takes place when an investor establishes foreign business operations or acquires foreign business assets, including establishing ownership or controlling interest in a foreign company (Chitadze, 2022). Foreign Direct Investment (FDI) is defined by the World Bank (2010) as an investment to acquire a lasting management interest (10 per cent or more of voting stock) in an enterprise operating in an economy other than that of the investor. The sum of private equity capital, reinvestments of earnings, other long-term capital, and short-term capital is shown in the balance of payments.

Official Development Assistance (ODA) could also be referred to as foreign aid. ODA consists of grants or loans that one government or multilateral organization gives to a developing country to promote economic development and social welfare (Girma, 2015). However, Inanga and Mandah (2008) conceptualized foreign aid (ODA) as an international transfer of capital, goods or services for the benefit of other nations. Inanga and Mandah (2008) further noted that these aids come in the form of capital transfers in cash or kind, either as grants or loans. Technical assistance and training usually come as grants in the form of human resources and technical equipment, and Military assistance in the form of either equipment or training advisors.

The next channel of International Capital inflow is remittances, which is money sent home by migrants working abroad to their home countries. The term remittances imply household income from a migrant residing in or working in a foreign country for short or long-term periods. Ncube and Brixiova (2013) defined remittances as unrequited, nonmarket financial transfers between individuals living in different countries, mostly associated with migration. International Organization for Migration (2013). The concept of remittances has been linked to the theory of migration. However, its definition can be linked to its motives, effects, uses, type of transfer, and channel for funds transfer.

The last channel of international capital inflows is external debt stock, which the World Bank refers to as all unpaid portions of external financial resources needed for development purposes and balance of payment support that could not be repaid as and when due (Obademi, 2013). Onyele and Nwadike (2021) defined external debt as a portion of a country's debt acquired from foreign sources, such as foreign corporations, governments, or financial institutions. Generally, it is that portion of a country's debt that was borrowed from foreign lenders, including commercial banks, governments, or international financial institutions.

Empirical Review

The impact of foreign capital inflows on the economic growth of Anglophone and Francophone countries in Africa was studied by Evbaziegbere *et al.* (2024). The foreign capital components of Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Foreign Debt Stock (FDS), Personal Remittance (PRT), and Official Development Assistance (ODA) were used as explanatory variables and economic growth proxy for changes in RGDP. Ten (10) African countries were selected from 1981 to 2022. Initial tests were conducted, and panel random effects estimation selected using the Hausman test was used. The findings showed specifically that FDI and FPI have a negative influence on economic growth in both blocks of Africa. However, only the effect of FDI in Francophone countries is significant. Thus, the conclusion is that other foreign capital components of FDS, PRT, and ODA contributed more to economic growth in countries in both blocks of Africa during the period under consideration.

Mba and Chijioke (2024) examined the impact of remittance and foreign direct investment (FDI) on economic development in Nigeria using the Ordinary Least Squares method and the Error Correction Model (ECM). Findings showed that remittances and foreign direct investment positively and significantly influence economic development, and the exchange rate negatively influences economic development. Thus, the government should

remove strict transaction costs of remitting money to expand the overall inflow of remittances, and more personal remittances should be encouraged for investment in human capital development. Additionally, improvements in the investment climate for existing and expected foreign investors, relaxation of strict laws on profit repatriation, and improvements in the macroeconomic environment by curbing security challenges, social unrest, and corruption encourage foreign investors to increase their investments. It also recommends that governments take advantage of these inflows to stabilize volatility in the exchange of domestic currencies.

Macroeconomic and institutional elements influencing capital flows to low-income sub-Saharan African (SSA) nations were studied by Braiton and Odhiambo (2023). It analyzes capital flows in a disaggregated manner: foreign direct investments, portfolio equity, and portfolio debt. Trends and dynamics of capital inflows and their macroeconomic and institutional drivers are analyzed for low-income Sub-Saharan African countries. Findings show that capital inflows to low-income Sub-Saharan Africa (SSA) have increased sevenfold since the 1990s, dominated by foreign direct investment (FDI). In the 2010s, they overtook official development assistance and aid. Mozambique and Ethiopia attract the largest amount of FDI compared to other low-income SSA economies, with natural resources as key factors. The largest share of FDI with low-income SSA countries comes from other SSA countries, mostly South Africa and Mauritius. Among macroeconomic push factors, capital inflows are more closely related to commodity prices, whereas volatility index and global liquidity are also important. Among the macroeconomic pull factors, trade openness and economic growth appear more closely related to capital inflows. The surge in capital inflows in the 2000s also followed the implementation of several regional trade and investment agreements in the region. The improvement in internal conflict in the 1990s and the mid-2000s seems to have helped support the increase in capital inflows during that period. This institutional quality variable appears to track capital inflows more closely than other institutional quality indicators.

Djalab and Said (2023) examined the effect of international capital flows on economic growth in Algeria for the period, 1990 to 2018. This study relied on four core channels of international capital flows—financial direct investment (FDI), official development assistance (ODA), personal remittances (REM), and external debt stock (EXTDS) into Algeria. This study found that all channels of international capital flows were not statistically significant in the short- and long-run, except for foreign direct investment. This study therefore recommends that Algeria needs deep reforms to attract more foreign capital, especially to create an appropriate environment in order for these flows to contribute substantially to economic growth.

Using the Autoregressive Distributed Lag (ARDL) time series regression model, Madani *et al.* (2023) measured and assessed the impact of foreign capital flows, including foreign direct investment, external loans, foreign aid, and remittances from migrants, as independent variables on real GDP as a dependent variable in Algeria during 1990–2021. This study found the existence of a long-term relationship between the selected economic variables and their impact on real GDP in Algeria, both in the short and long term. Additionally, there is a positive effect of both independent variables representing foreign direct investment and migrant remittances on real GDP. However, there is a negative impact of external loans on real GDP, which can be explained by the misallocation of these loans, with a significant portion directed toward nonproductive sectors, negatively affecting long-term economic growth in Algeria. The study recommends instituting effective investment incentives capable of attracting foreign direct investment so that investors differentiate between similar locations to choose a new base for exports. When the motivation for investment is to access a local market or extract natural resources, these incentives are generally ineffective.

Urama *et al.* (2022) investigated the effects of foreign capital inflows and selected macroeconomic variables on economic growth in Nigeria. This study applied the Autoregressive Distributed Lag (ARDL) model to time series

data for the period, 1981-2020. The findings from this paper indicate that foreign capital inflows: FDI, Gross fixed capital formation, and personal remittances—have a significant impact on the real gross domestic product in Nigeria. Consequently, the study recommended that governments continue to fine-tune bilateral trade and investment agreements with other nations around the world.

The relationship between foreign capital inflows and economic growth in emerging economies was evaluated by Ndiweni and Bonga-Bonga (2021). This study employed threshold regression to examine whether capital flows have different effects in developing economies with weak institutions compared to those with good institutional infrastructure. Findings show that a threshold effect exists in capital inflows and growth nexus. More precisely, the results demonstrate that the impact of capital inflows on economic growth is positive and significant once a defined threshold level of institutional quality is exceeded. At any point below that threshold level, the capital inflows-growth relationship appears to be non-existent. These results support the notion that capital inflows and growth are contingent on the level of an economy's institutional development. Therefore, providing vital policy implications for policymakers and governments to ensure the improvement of a country's institutional environment with the purpose of enhancing economic growth through capital flows.

Park and Yang (2021), in a network analysis, analyzed the complex structure of cross-border capital flows across 65 countries from 2002 to 2018 to determine how patterns of capital flows in the global capital network affected economic growth. The results show that countries with large GDPs and offshore financial centers are major nodes with great influence on the global capital network. In addition, considerable growth was observed in the economies of neighboring countries that actively traded capital with major network nodes. However, during the financial crisis, active cross-border trading became a channel for contagious insolvent capital, resulting in a sharp decline in the global economy. This study recommends enhancing financial supervision and regulation as a defense against global financial shocks.

Regressions, dynamic system GMM, and Panel-VAR models were used by Ding and Sui (2021) to investigate how pull and push variables significantly affect capital flows in G20 countries. The results show that international capital flows are significantly associated with domestic financial development, measured by stock market liquidity and domestic credit. Moreover, international capital flows are affected by push factors, such as the growth of the world economy and fluctuations in crude oil prices, real interest rates, foreign currencies, and capital restrictions, because government and macro prudential policies critically influence stabilizing capital flows.

Nguyen *et al.* (2021) examined the impact of foreign capital inflows on Vietnam's economic growth. The empirical method employed a secondary time-series data set from 1995 to 2018 to determine the impact of FDI, foreign aid, foreign loans, and exports on Vietnam's economic growth using a linear approach. The results show that FDI (net inflows), foreign aid, foreign loans, exports, and GDP (current), have a positive effect at a 1% significance level on economic growth. Rather, an increase in FDI (net inflows), foreign aid, foreign loans, and exports has beneficial effects on the Vietnamese economy during the study period.

The impact of foreign capital flows on Nigeria's economic growth from 1999 to 2020 was studied by Oke and Ruth (2021). The independent variable is foreign capital flows measured by foreign debt and remittance inflows), foreign medical services and education, and foreign direct investment outflows, while the dependent variable is economic growth measured by the real gross domestic product per capita growth rate. This study adopted the Ordinary Least Squares regression technique. Specifically, the study reported that foreign debt inflows, medical services, and education exerted a significant negative effect on economic growth. Meanwhile, foreign remittance inflows have exerted a significant positive effect on economic growth in Nigeria. Meanwhile, foreign direct investment outflows exerted a positive effect on economic growth but were not statistically significant.

From 2007 to 2018, Badwan and Atta (2020) examined the impact of international capital flows and other financial flows on economic growth in Palestine during the period. This study also includes the trends and

methods of forming capital flows and financial capital flows. The study used the appropriate descriptive and analytical approach by the authors for the purposes and requirements of the research to investigate the real results. The researchers used the time intervals method and concluded that Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Large Loans (World Bank), Worker Remittances (WR), and Foreign Affairs Borrowing and Financial Grants (GR) have a noticeable positive impact on Economic Growth in Palestine. The study made several important and useful recommendations, the most notably: That Palestinian Government should lay down and establish lighter and more comfortable rules and regulations for investors to attract more investors and foreign investment in Palestine. Besides, the Palestinian Government must work hard side by side with the other developed countries to achieve better economic development and an improved rate. To achieve economic growth, the government must work hard to create job opportunities for citizens to reduce the high Unemployment rate in the country.

Nwosa *et al.* (2020) studied the relationship between volatility in capital inflows and economic growth in Nigeria using data from 1986 to 2018. They applied the autoregressive distributed lag (ARDL) model and found that instability in capital inflows has a negative impact on economic growth. It also observed that instability in short-term capital inflows has a disaggregated negative impact on economic growth through foreign portfolio investments and other investment flows, while eventually, it encourages growth through foreign direct investment.

The effect of foreign capital inflows on Nigeria's economic growth between 1980 and 2017 was studied by Ewubare and Nwabueze (2019). The analytical technique used was regression analysis of the Ordinary Least Squares (OLS) with bias on the ARDL regression. The result revealed that FDI and FPI have a negative and significant impact on GDP. However, EL, EMR, and ODA were observed to be positively related to GDP over the period. Therefore, this paper recommends that governments should encourage policies to attract more positive inflows, such as ODA, EL, and EMR. The government must ensure that the institutions through which these funds are passed through are thoroughly scrutinized. This is done to ensure that the funds are used for the right reasons. Ehigiamusoe and Lean (2019) examined the impact of foreign capital inflows on economic growth in Nigeria from 1980 to 2015. This study employed Autoregressive Distributed Lagged (ARDL)-bounds test and found a co-integration relationship between foreign capital inflows and growth. Specifically, foreign portfolio investments have a positive impact on growth, whereas the impact of foreign loans is negative. Nevertheless, FDI and foreign aid have an insignificant impact on growth, suggesting that Nigeria cannot rely on FDI and foreign aid to stimulate growth. Rather, an increase in portfolio investments or a reduction in loans has beneficial effects on the economy. The study suggested that governments should intensify efforts to mitigate volatility arising from foreign portfolio investments by creating a conducive environment for foreign investors to invest and sustain their investment in Nigeria.

For the EU's Central and Eastern European member states, Staehr (2017) evaluated the significance of capital flows as shown by the current account balance. Panel data econometrics using annual data for 1997–2015 point to the contemporaneous current account balance having a significant negative effect on annual GDP growth. Estimations using many control and instrumental variables suggest that the negative effect is driven mainly by demand. Counterfactual simulations show that growth rates in all CEE countries would have been lower in the absence of capital flows, and this applies particularly to countries with the most disadvantageous starting points. This study concludes that policymakers must resist the temptation to pursue procyclical fiscal policies, even though estimates of the cyclically adjusted balance are particularly uncertain in the CEE countries given their rapid structural and economic changes.

Theoretical Framework

The theoretical underpinning of this paper is Solow's (1957) model. This framework is informed because we can estimate the model by breaking down the factors like labour, technology, foreign capital, and the addition of other variables (foreign debt, personal remittances and official development assistance among others) that contribute to growth. The growth accounting method is derived as follows:

$$Y = \partial \infty(C, L, \omega) \quad (1)$$

Where:

Y , C , L , and $\partial\infty$ are output, capital, labour, and production efficiency, respectively; and ω equals vector other control variables. Taking Cobb-Douglas form, for instance, and the logarithms and time derivatives of equation (1) result in

$$S_Y = S_{\partial} + \delta_{1SC} + \delta_{2SL} + \delta_{3S\omega} \quad (2)$$

Where:

S_Y = rate of growth of $\partial CL\omega$ (the subscripts are defined in per capita terms).

δ_1 to δ_3 = output elasticity for to physical capital, labour and the ancillary variables respectively.

Methodology

This paper adopted a time series expo facto research design. Time series expo factor research design is a research method that can truly test hypotheses concerning cause-and-effect relationships, as well as combine theoretical considerations with empirical observations. The design of this paper is quantitative, as it is meant to collect and analyze data on the relationships between foreign capital flows and economic growth in Nigeria.

Model Specification

The model for this paper is based on the theoretical framework and modified model of Staehr (2017), who assesses the importance of capital flows as measured by the current account balance for the growth dynamics of EU countries in Central and Eastern Europe from 1997 to 2015. The model applied in the study is of the form;

$$Y = f(CA, FD, ULC, BB, I, ISHR, DUM) \quad (3)$$

Where, Y = Real GDP; CA = Current account balance as a share of GDP; FD = Index of real foreign demand; ULC = Real unit labour costs; BB = Government budget balance; I = Real investment or gross fixed capital formation; $ISHR$ = Investment or gross fixed capital formation as a ratio to GDP; and DUM = Dummy variables. However, the above model was modified by including all forms of international capital flows such as; foreign direct investment, official development assistance, personal remittances, and external debt stocks. Thus, the modified model is expressed as a semi-logarithm as follows:

$$GDPPC_t = \beta_0 + \beta_1 FDI_t + \beta_2 ODA_t + \beta_3 PREM_t + \beta_4 EXTDS_t + \varepsilon_t \quad (4)$$

Where, $\ln$: Natural logarithm; $GDPPC$ = Real GDP per capita as a proxy for economic growth; FDI = Foreign direct investment; ODA = Official development assistance; $PREM$ = Personal remittances; $EXTDS$ = External debt stocks; β_0 = The intercept or autonomous parameter estimate, β_1 to β_4 = Parameter estimate representing the coefficient of FDI , ODA , $PREM$, and $EXTDS$, respectively, and ε_t - other variables not explicitly included in the model.

Furthermore, the a priori expectations of the parameters to be estimated are expressed as follows:

$\beta_1 > 0$; The coefficient of foreign direct investment is expected to be positive and to positively impact economic growth.

$\beta_2 > or < 0$; The coefficient of official development assistance has a mixed impact on economic growth.

$\beta_3 > or < 0$; The coefficient of personal remittances has a mixed impact on economic growth. The impacts of remittances on economic growth depend on the use to which the remittances received are put. If invested, the impact would be positive, but when consumed, the impact is most likely negative.

$\beta_4 > or < 0$; The coefficient of external debt stocks is expected to have a mixed impact, positive to an extent where it reaches a threshold and negative thereafter on economic growth.

This paper uses the Fully Modified Ordinary Least Squares model to examine the impact of macroeconomic variables on foreign direct investment inflows to Nigeria. Thus, the mathematical formulation of equation (4) begins with the co-integrating regression as follows:

$$\ln GDPPC_t = \beta_0 + \sum_{t=1}^T \beta_1 FDI_t^* + \sum_{t=1}^T \beta_2 \ln ODA_t^* + \sum_{t=1}^T \beta_3 PREM_t^* + \sum_{t=1}^T \beta_4 \ln EXTDS_t^* + \varepsilon_t \quad (3)$$

Where FDI_t^* , ODA_t^* , $PREM_t^*$ and $EXTDS_t^*$ are the transformed variables adjusted for serial correlation and endogeneity. A key strength of FMOLS is its ability to account for potential endogeneity in the independent variables and serial correlation in error terms. The FMOLS applies adjustments to mitigate potential biases and serial correlation issues that often arise in OLS estimations when dealing with non-stationary data, which is common in time series analyses of economic variables.

Additionally, FMOLS offers flexibility in terms of the integration order of the variables under study. By implication, whether the variables are integrated or order zero, one, mixed, or even fractionally integrated, FMOLS can be effectively applied. This versatility allows us to perform a rigorous analysis without imposing strict assumptions about the integration properties of time series data.

Variable Description and Measurements

Table 1 provides a specific summary of the variables, measurements, and sources of the data.

Table 1: Descriptions and measurements of the variables

Variable	Acronym	Description	Measurement	Source
Real GDP per capita	GDPPC	Real GDP per Capita (constant 2015 US\$), which is the value of all goods and services generated by a nation divided by its total population as follows:	Annual (Billion, US\$)	World Development Indicators (World Bank, 2023)
Foreign investment	direct FDI	Investment in commercial interests in another country by a company or individual from one nation	Annual (% of GDP)	World Development Indicators (World Bank, 2023)
Official development assistance	ODA	Net Official Development Assistant (ODA)	Annual (Billion, US\$)	World Development Indicators (World Bank, 2023)
Personal remittances	PREM	Share of private remittances in GDP	Annual (Percentages)	World Development Indicators (World Bank, 2023)
External debt stocks	EXTDS	This is a portion of a country's debt borrowed from foreign lenders.	Annual (Billion, US\$)	Central Bank of Nigeria (CBN, 2023)

Source: Researchers' Compilation, 2024

Results and Discussions

Descriptive Statistics

Table 2 presents the descriptive statistics.

Table 2: Descriptive Statistics

	GDPPC	FDI	ODA	PREM	EXTDS
Mean	1520.264	1.333587	307947.7	2.978688	4153982.0
Median	1663.030	1.177898	253322.5	2.928488	3352059.0
Maximum	3200.953	4.282088	960679.0	8.333829	9833533.0
Minimum	474.4569	-0.039520	114319.0	0.004883	1857609.0
Std. Dev.	825.6209	0.949791	181620.6	2.530795	2135761.0
Skewness	0.165851	0.806498	1.722658	0.229742	1.599798
Kurtosis	1.774988	3.638659	5.974095	1.707045	4.386776
Jarque-Bera	2.550245	4.765268	32.79946	2.981192	19.25423
Probability	0.279397	0.092307	0.000000	0.225238	0.000066
Observations	38	38	38	38	38

Source: Author's Computation, 2024 (Eviews-12)

From Table 2, GDP per capita (GDPC) has an approximate average of \$1520.264 billion and ranges from 474.4569 (minimum) to 3200.953 (maximum), with a standard deviation of \$825.6209. Similarly, FDI has an approximate average of 1.3% and ranges from 0.039520 (minimum) to 4.282088 (maximum), with a standard deviation of 0.93%. ODA has a mean value of US\$30,794.77 billion, with a standard deviation of \$181620.6 billion, and minimum and maximum values of 114319.0 and 960679.0, respectively. Personal remittances have an approximate average of 2.9% and range from 0.004883 (minimum) to 8.333829 (maximum), with a standard deviation of 2.5%. Further, external debt stocks have an approximate average of \$415,398,2.0 billion and range from 185,7609.0 (minimum) to 983,3533.0 (maximum), with a standard deviation of \$21,35761.0 billion.

Table 2 displays the skewness coefficient, which is a measure of how far a distribution deviates from symmetry. ODA and EXTDS variables have skewness values greater than one, with the exception of GDPPC, FDI, and PREM, which have coefficients of less than one (0.165851), (0.806498), and (0.229742), respectively. The entire data series are not platykurtic (not having negative values), as confirmed by the kurtosis result, which measures a distribution's degree of peakedness in relation to a normal distribution. The exception is petroleum profit tax (PPT), which has a kurtosis coefficient of less than three (2.458731). Additionally, as evidenced by the probability values of each variable's corresponding Jarque-Bera statistics, the null hypothesis is firmly supported for three out of the four variables in their nominal form. Because the accompanying Jarque-Bera probability values of these variables have significance levels greater than 5%, we conclude that they have a normal distribution.

Unit Root Test

Time series data frequently display trends that can be addressed with differencing, primarily to determine the data's stationarity. To determine the stationarity of the series, an essential step in time series analysis is the Augmented Dickey-Fuller (ADF) unit root test. The findings are shown in Table 3.

Table 3: Unit Root Test Results

Variable	Method	Level Stat. (Prob.)	First Diff. Stat. (Prob.)
GDPPC	ADF	-1.625247 (0.7634)	-4.835209*(0.0022)
FDI	ADF	-3.898116* (0.0049)	-9.429910*(0.0000)
ODA	ADF	-5.585239* (0.0000)	-8.653320*(0.0000)
PREM	ADF	-2.584159 (0.2892)	-5.997377*(0.0000)
EXTDS	ADF	-0.042314 (0.9941)	-5.084269*(0.0011)

Note: * indicates significance at 1%

Source: Authors Computation, 2024 (Eviews-12)

Results in Table 3 reveals that FDI and ODA tend to be stationary at a steady level. However, all other variables are likely to be stationary in the first difference. Therefore, I (0) and I (1) are the integration order.

Co-integration Test

Co-integration ensures that even non-stationary individual series can have stationary linear combinations, indicating a constant long-term association between them. To determine whether the relevant variables have a long-term relationship, the Engle-Granger (Residual Based) Co-integration Test was employed. Table 4 summarizes the findings of the Co-integration test using the Engle and Granger (Residual Based) Co-integration Test.

Table 4: Results of Engle-Granger (Residual Based) Co-integration Test

Residual	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic @ (Levels)	-3.606971*	0.0007
1% level	-2.628961	
Test critical values: 5% level	-1.950117	
10% level	-1.611339	

Note: * indicates significance at 1%

Source: Authors Computation, 2024 (Eviews-12)

The results of Engle and Granger Residual Based Co-Integration Test" is -3.606971, exceeding the critical value at the 1% significance level of -2.628961, suggesting co-integration. This indicates that the null hypothesis of no co-integration is rejected at the 1% level, meaning that a significant long-term equilibrium relationship exists among the variables under review. The FMOLS regression was then estimated.

Fully Modified Ordinary Least Squares (FMOLS) Regression Results

The Fully Modified Ordinary Least Squares (FMOLS) Regression findings for the model are presented in Table 5 to provide intriguing insights into the direct influences of macroeconomic variables on FDI inflows to Nigeria from 1986-2023.

Table 5: Fully Modified Ordinary Least Squares (FMOLS) Results

Dependent Variable: LOG(GDPPC)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.268396	0.055284	-4.854894	0.0000
LOG(ODA)	0.167196	0.096059	1.740542	0.0914
PREM	0.207680	0.017495	11.87087	0.0000
LOG(EXTDS)	-0.135201	0.139440	-0.969604	0.3395
C	6.840307	1.898049	3.603862	0.0011
R-squared	0.604787			
Adjusted R-squared	0.555386			
Wald-Fstat	43.74229			
Wald-pvalue	0.0000			
Long-run variance	0.062391			

Source: Authors Computation, 2024 (Eviews-12)

From Table 5, two of the four explanatory variables used in this paper have a statistically significant influence on economic growth in Nigeria eventually. By implication, FDI inflows and personal remittances explain Nigeria's economic growth throughout the research period. Furthermore, official development assistants, personal remittances, and external debt stocks agree with the prior expectations of the paper. However, FDI inflows do not conform to the expectations of the paper priori eventually.

On the basis of a variable-by-variable analysis, this paper found that FDI inflows are significant but negatively correlated with economic growth. In other words, FDI inflows decrease growth. This can be interpreted as a decrease of -0.27% in economic growth in the case of a 1% increase in FDI inflows. This outcome is not consistent with the a priori expectations of the investigation and prior studies such as Evbaziegbere *et al.* (2024), Badwan and Atta (2020), and Nguyen *et al.* (2021), who observed that FDI inflows have a noticeable positive impact on economic growth.

The estimated impact of official development assistants on economic growth is positive and insignificant eventually. This implies that official development assistants stimulate economic growth. By implication, a percentage change or increase in the number of official development assistants leads to a 0.18% increase in long-term economic growth. This outcome is consistent with the a priori expectations of the investigation and of Evbaziegbere *et al.* (2024), who concluded that ODA contributed more to economic growth. Furthermore, this finding agrees with Djalab and Said (2023) that all channels of international capital flows, such as official development assistants, were not statistically significant in the long run.

On the other hand, the findings indicate that personal remittances appear to affect economic growth significantly and positively over the long term. Controlling for other factors, for instance, a 1% increase in personal remittances will increase economic growth by 0.21% eventually. This outcome is consistent with the a priori expectations of this paper and aligns with Evbaziegbere *et al.* (2024), Mba and Chijioke (2024), and Madani *et al.* (2023), who reported the positive impact of migrant remittances on economic growth.

Furthermore, the results indicate that external debt stocks affect economic growth negatively and insignificantly eventually. This indicates that external debt stocks do not encourage economic growth. In the case of a 1% increase in external debt stocks, a decrease of 0.14% is foreseen for economic growth. This outcome is consistent with the a priori expectations of this paper, as the coefficient of external debt stocks is expected to have a mixed impact, positive to an extent where it reaches a threshold and negative thereafter on economic growth. However, this finding is not consistent with Nguyen *et al.* (2021), who concluded that foreign loans have a positive effect at a 1% significance level on economic growth.

The R-squared value of 0.604787 implies that the model is a good fit, as over 60% variation in economic growth is explained by the explanatory variables. Even after removing the impact of the insignificant estimators, the adjusted R-squared value of 0.555386 implies that the model is still excellent. Therefore, the paper's conclusions can be relied upon to formulate policy recommendations.

The Wald F-statistic of 43.74229, along with a Wald p-value of 0.0000, highlights the overall reliability and significance of the model. By implications, the selected foreign capital flow variables have a statistically significant influence on economic growth, reinforcing the validity of the model. The long-run variance of 0.062391 estimated the variability of the residuals over the long term. A relatively low long-run variance indicates that residuals (or errors) in the model stabilize over time, suggesting that the model is reliable for predicting long-term relationships between macroeconomic variables and FDI inflows.

Conclusion and Recommendations

This paper investigated the impact of foreign capital flows on economic growth using time series data from 1986 to 2023. Fully modified ordinary least squares (FMOLS) Regression was employed as the main analytical technique. Results revealed that two of the four explanatory variables used in this paper have a statistically significant influence on economic growth in Nigeria in the long run. By implication, FDI inflows and personal remittances explain Nigeria's economic growth throughout the research period. Furthermore, official development assistants, personal remittances, and external debt stocks agree with the prior expectations of the

paper. However, FDI inflows do not conform to the expectations of the paper a priori expectations in the long run.

On the basis of a variable-by-variable analysis, this paper found that FDI inflows are significant but negatively correlated with economic growth. In other words, FDI inflows decrease growth. The estimated impact of official development assistants on economic growth is positive and insignificant in the long run. This implies that official development assistants stimulate economic growth. On the other hand, the findings indicate that personal remittances appear to affect economic growth significantly and positively over the long term. The results indicate that external debt stocks affect economic growth negatively and insignificantly eventually. This indicates that external debt stocks do not encourage economic growth. Therefore, the following recommendations were raised based on the research findings.

- i. Given that Foreign Direct Investment (FDI) has a negative correlation with economic growth in Nigeria, the Federal government should closely scrutinize the nature of FDI entering the country. Specifically, the Federal government and other tiers of government should target growth-enhancing FDI by targeting sectors with higher value-added potential, such as technology, manufacturing, and infrastructure, rather than extractive industries that may not have as much positive spillover to the broader economy.
- ii. Although Official Development Assistance (ODA) has a positive but insignificant impact on growth, the Nigerian government should focus on improving the efficiency of ODA by channeling it into critical growth sectors like healthcare, education, and infrastructure, where it can have a multiplier effect.
- iii. Personal remittances have a positive and significant impact on economic growth. The government should implement policies to make it easier and inexpensive for Nigerians abroad to remit money through formal channels, such as by reducing transaction fees. Additionally, the government should encourage the use of remittances for productive investments, such as small businesses and housing, through financial literacy programs and by providing investment incentives for diaspora remittances.
- iv. Because external debt stocks have a negative and non-significant relationship with economic growth, the Federal government should focus on reducing its external debt burden by prioritizing domestic revenue generation and minimizing reliance on borrowing. As a matter of urgency, the Federal government should reassess debt sustainability and prioritize loans for projects with high potential. Improve debt management systems to ensure that borrowed funds are used effectively and directed toward investments that promote economic growth.

References

- Acosta, P., Calderón, C., Fajnzylber, P., & Lopez, H. (2008). What is the impact of international remittances on poverty and inequality in Latin America? *World Development*, 36(1), 89-114.
- Aizenman, J., Jinjark, Y; & Park, D. (2013). Capital Flows and Economic growth in the era of financial integration and crisis, 1990–2010. *Open Economies Review*, 24(3), 371-396.
- Ali, S. (2014). Foreign capital flows and economic growth in Pakistan: An empirical analysis. *World Applied Sciences Journal*, 29 (2), 193-201. <https://doi.org/10.5829/idosi.wasj.2014.29.02.1372>
- Amuedo-Dorantes, C; & Pozo, S. (2004). Workers' remittances and the real exchange rate: A paradox of gifts. *World Development*, 32(8), 1407-1417.
- Badwan, N., & Atta, M. (2020). The impact of international capital flows on economic growth in Palestine. *Journal of Economics, Management and Trade*, 26(11), 23-37.

- Braiton, N., & Odhiambo, N. M. (2023). Capital flows to low-income Sub-Saharan African Countries: an exploratory review. *International Trade, Politics and Development*, 7 (1), 36-53.
- Chami, R., Fullenkamp, C; & Jahjah, S. (2005). Are immigrant remittance flows a source of capital for development? International Monetary Fund. *IMF staff papers*, 52(1), 55-81.
- Chigbu, E. E., Ubah, C. P., & Chigbu, U. S. (2015). Impact of capital inflows on economic growth of developing countries. *International Journal of Management Science and Business Administration*, 1 (7), 7-21.
- Chitadze, N. (2022). The economic component of world politics and the main global social and economic problems. International Black Sea University, Georgia. Retrieved from <https://www.igi-global.com/dictionary/foreign-direct-investment-fdi/11338>
- Ding, X., & Sui, L. (2021). The complexity of global capital flows: Evidence from G20 Countries. *Discrete Dynamics in Nature and Society*, 20(21), 1-15.
- Djalab, Z., & Said, A. N. (2023). Impact of international capital flows on the economic growth in Algeria during the period 1990-2018. *Les Cahiers du Cread*, 39 (1), 63-86. <https://dx.doi.org/10.4314/cread.v39i1.3>
- Ehigiamusoe, K. U., & Lean, H. H. (2019). Foreign capital inflows and economic growth in Nigeria: Any nexus? *Journal of African Business*. <https://doi.org/10.1080/15228916.2019.1581010>
- Ekwe, M. C., & Inyama, O. I. (2014). Foreign capital flows and growth of the Nigeria economy: An empirical review. *International Journal of Economics and Finance*, 6 (4), 103-109.
- Evbaziegbere, I., Ogiemudia, O. A., & Uwubanmwun, A. E. (2024). Foreign capital inflow and economic growth: Comparative evidence from Africa Anglophone and Francophone countries. *African Development Finance Journal*, 7 (1), 101-124
- Ewubare, D. B., & Nwabueze, B. C. (2019). Foreign capital inflows and economic growth: Evidence from Nigeria (1980-2017). *International Journal of Scientific Research in Social Sciences and Management Studies*, 4(2), 283-299.
- Girma, H. (2015). The impact of foreign aid on economic growth: Empirical evidence from Ethiopia (1974-2011) using ARDL approach. *Journal of Research in Economics and International Finance*, 4 (1), 1-12.
- Inanga, E. L., & Mandah, E. (2008). Foreign aid finance and economic development: The case of two foreign aid financing agencies in Zambia. *International Research Journal of Financial Economics*, 14, 322-358.
- International Organization for Migration (2013) International Migration and Development

International Monetary Fund (2015). Macroeconomic Developments and Prospects in Low-Income Developing Countries: 2015 Report,” IMF Policy Paper.

Jhingan, M. L. (2005). *The Economics of Development and Planning*. Delhi: Vrinda Publications Limited.

Macias, J. B., & Massa, I. (2010). The global financial crisis and Sub-Saharan Africa: The effects of slowing private capital inflows on growth. *African Development Review*, 22(3), 366-377.

Madani, H., Medjenah, F., & Yessaad, A. (2023). Assessment of the impact of foreign capital flows on economic growth in Algeria. *Journal of Innovations and Sustainability*, 7(3), 08. <https://doi.org/10.51599/is.2023.07.03.08>.

Mba, P. N., & Chijioke, M. I. (2024). Does remittance inflow and foreign direct investment spur economic development in developing countries? Insights from Nigeria. *Theoretical and Practical Research in Economic Field*. [https://doi.org/10.14505/tpref.v15.1\(29\).12](https://doi.org/10.14505/tpref.v15.1(29).12)

Ncube, M; & Brixiova, Z. (2013). Remittances and their macroeconomic impact: Evidence from Africa. *Working Paper Series N° 188 African Development Bank*, Tunis, Tunisia.

Ndikumana, L., & Boyce, J. K. (2003). Public debts and private assets: Explaining capital flight from Sub-Saharan African countries. *World Development*, 31(1), 107-130.

Ndiweni, Z. L., & Bonga-Bonga, L. (2021). Capital inflows and economic growth nexus in Sub-Saharan Africa: evidence on the role of institutions. *MPRA Paper No. 107392*. <https://mpra.ub.uni-muenchen.de/107392/>

Nguyen, C. U., Pham, T. T. Q., Tran, T. H; & Nguyen, T. H. (2021). The relationship between foreign capital inflows and economic growth: Empirical evidence from Vietnam. *Journal of Asian Finance, Economics and Business*, 8(11) 325–332.

Nkoro, E., & Uko, A. K. (2013), Foreign capital inflows and economic growth in Nigeria: An empirical approach. *Asian Journal of Empirical Research*, 2 (5), 149-161.

Nwosa, P. I., Ugwu, E., & Ehinomen, C. (2020). Volatility in foreign capital inflows and economic growth in Nigeria. *Business Administration and Business Economics Issue*, 39(1). <https://dj.univ-danubius.ro/index.php/EE/article/view/252>

Obademi, O. E. (2013). An analysis of the impact of external debt on banks’ performance: Evidence from Nigeria. *British Journal of Arts and Social Sciences*, 12 (1), 37-51.

- Oke, O. A., & Ruth, D. O. (2021). Foreign capital flows and economic growth in Nigeria. *International Journal of Humanities and Social Science*, 8(6), 39-50.
- Onyele, K. O., & Nwadike, E. C. (2021). Impact of national debt burden on economic stability in Nigeria. *Economics and Business*, 35, 91–106.
- Park, S., & Yang, J. S. (2021). Relationships between capital flow and economic growth: A network analysis. *Journal of International Financial Markets, Institutions & Money*.
<https://doi.org/10.1016/j.intfin.2021.101345>
- Staehr, K. (2017). Capital flows and growth dynamics in Central and Eastern Europe. *Post-Communist Economies*. <http://dx.doi.org/10.1080/14631377.2017.1362195>
- Urama, C. E., Ezema, D. C., Obodoechi, D. N., Ukwueze, E. R., Eze, A. A., Mba, I. C., Amuka, J. I., Arazu, W. O., & Ibrahim, H. V. (2022). The effect of foreign capital inflows on economic growth in Nigeria. *Regional Economic Development Research*, 3(2), 253-266.