

AN INVESTIGATION INTO IMPACT OF FOREIGN DIRECT INVESTMENT ON NIGERIA'S ECONOMIC GROWTH

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Abstract: *This study examined the impact of Foreign Direct Investment (FDI) and foreign exchange rate (FXR) on Nigeria's economic growth using 24 years of annual time series data (1999-2022) from the World Development Indicators (WDI). Employing an ex-post facto design, the research analyzed effects of FDI and FXR on GDP growth rate. While stationarity was achieved for the variables, they were not integrated of the same order, indicating absence of a long-run relationship. Autoregressive Distributed Lag (ARDL) estimations were used to analyze modified models. Findings revealed a negative and insignificant impact of FDI on GDP growth, while FXR exhibited a negative but significant impact. These findings imply that FDI and FXR may not have contributed to economic growth due to factors such as corruption, poor infrastructure, insecurity, and currency devaluation. The study suggests that FDI can significantly contribute to economic growth in Nigeria if the government addresses infrastructure bottlenecks, fosters effective technology transfer and knowledge sharing, and improves the business environment for investors. This research, conducted in Nigeria using the ARDL model, aligns with findings from studies in South East Asia, Kenya, and South Africa, while contradicting studies in Tanzania and previous Nigerian studies.*

Keywords: *FDI, Exchange Rate, Inflation rate, GDP growth rate, Autoregressive distributed lag*

1. Introduction

In most developing countries, Foreign Direct Investment (FDI) serves as a means of earning foreign reserves via investments, businesses and foreign aids from advanced countries. FDI is considered a valuable source of finance and capital formation, Technology-Transfer and know-how, as well as a viable medium for trade among countries. Nigeria is among the major recipients of FDI in Africa. Primary investors are coming from China, India, Canada, United Kingdom, and Kenya to mention a few. Mining, Oil and Gas and primary agriculture are among the key sectors which draw most FDI. According to the requirement for accelerated growth in association with the Sustainable Development Goals is not completely clear, however, for economies to experience sustainable and inclusive

development, cross-border trade is paramount (UNCTAD, 2019). FDI is highlighted as type of capital and means through which technology and knowledge can be transferred and diffused from advanced country to another. In other words, FDI is direct investment into production or business in a country by a company in another country, either by buying a company in the target country or by expanding operations of an existing business in that country. Foreign direct investment is done for many reasons including to take advantage of cheaper wages or for special investment privileges such as tax exemptions offered by the country as an incentive to gain tariff-free access to the markets of the country or the region. FDI is in contrast to portfolio investment, which is a passive investment in the securities of another country such as stocks and bonds. In this aspect, FDI inflows could help the nation's economy thrive (Mwitta, 2022).

Theoretically, FDI has the potential to be a major driver of economic growth in Nigeria in numerous ways: i) brings in much-needed capital for businesses and infrastructure development, which can lead to creation of new jobs, expansion of existing ones, and overall economic activity; ii) transfer of technology and skills can benefit Nigerian businesses through knowledge sharing and training, leading to a more skilled workforce and increased productivity; and iii) transfer of technology and skills FDI can help develop export-oriented industries, bringing in foreign currency and improving Nigeria's trade balance.

Nigeria's foreign investment can be traced back to the colonial era, when the colonial masters intended to use her resources to develop their economy, but they made very little investment. After the oil boom ended in 1982, Nigeria entered a maze of economic issues, including unsustainable balance of payments deficits, a rapidly growing debt stock, and a crippling debt service burden. According to Ojo and Alege (2014), the economic issues include unsustainable fiscal deficits, rising unemployment, and galloping inflation, but most significantly, investment collapsed, which led to a decline in real output and per capita real income level.

The federal government has implemented several required measures to attract international investors to the country since the inauguration of democracy in 1999. Among these actions are the enactment of investment regulations, the repeal of rules that hinder the growth of foreign investment, and the president's numerous international tours for image-cleaning. Nigeria currently ranks as the first host economy for FDI in sub-Saharan Africa and the third in the continent (Oyegoke & Aras 2021). In recent years, Nigeria has implemented a number of trade policies aimed at diversifying the economy away from oil revenue, with a particular focus on enhancing the industrial sector, which naturally leads to austerity. In 2018, the total FDI inflow to the country was around USD 1.9 billion, while in 2017, FDI inflow was around USD 3.5 billion, showing a decrease due to the consequence of the austerity measures imposed in 2018. At the third quarter of 2019, the FDI was only 3.37% (USD 200.08 million) of the total capital inflow for the period. Traditionally, FDI is designed to improve the recipient economies thereby enhancing economic growth and development, it is in this view that

many developing countries attract foreign investors with the hope of strengthening their economy by increasing the foreign investment portfolio. However, most empirical analysis of the impact of FDI on economic growth advises otherwise, hence, a controversy. According to the existing literature, some empirical results found a negative relationship between FDI and economic growth, while others opined that as FDI increases, it results in a boost of output productivity, hence a positive relationship between the variables. Therefore, this study contributes to the existing literature by investigating the effects of FDI both on the owner, and the host country, using Nigeria as a case study.

Many studies have examined how FDI affects the growth of different economies, and each one has produced a unique set of conclusions. De Mello (1999), for example, found that an increase in FDI increased economic growth in nations that were part of the Organization for Economic Cooperation and Development (OECD) using Ordinary Least Square (OLS). Similarly, Ofori & Asongu (2022) found that FDI increased economic growth in sub-Saharan African nations using the Generalized Method of Moment (GMM). However, using OLS, Wiredu et al. (2020) discovered that FDI had a negative impact on Ghana, Nigeria, Senegal, and Cote d'Ivoire. Some research has addressed how FDI affects a wide range of economic sectors, such as GDP, employment, trade, education, technology, and so on.

This research is significant as it aims to enhance Nigeria's economic growth by investigating the crucial roles of FDI and foreign exchange rate. The findings will guide policymakers in formulating strategies to attract FDI, optimize foreign exchange utilization, and allocate resources effectively. Recognizing the dynamic and evolving nature of the relationship between FDI, foreign exchange rate and economic growth, this study addresses the research gap by continuously re-evaluating the impact in the Nigerian context, considering changes in economic policies, global conditions, and technological advancements. Methodologically, the research will employ time series analysis to understand long-term trends and patterns, while econometric models will be utilized to isolate the specific impact of FDI on economic growth. FDI was the primary independent variable, along with the foreign exchange rate (FXR), inflation rate (IFR), and trade openness (TOP) as control factors. The dependent variable was the GDP growth rate (GDPGR). The World Bank Indicators for years 1999–2022 was used to create annualized time series data that extended up to 24 years in order to adequately examine the variables and address the time scope. As the largest economy in sub-Saharan Africa, Nigeria's return to civil administration in 1999 marked the beginning of stronger trade ties with the global economy. The lack of necessary secondary data related to our study aims till 2023 limited this investigation inside its bounds. It must be acknowledged that the data, which came primarily from the World Developmental Indicators (WDI) for 24 years (1999–2022) may contain measurement flaws that could jeopardize the accuracy or acceptability of our study's findings. Furthermore, this study only focused on Nigeria; in order to produce more thorough research findings, future researchers may include other nations in their studies for comparison analysis.

2. Review of Related Literature

UNCTAD (2016) defines FDI as an investment by entity which belongs to one country, which aim to undertake business investment in another country for more than a year. FDI is a crucial mechanism to foster economic development of the growing economies as it boosts exports and trade balance (Hailu, 2010). Most empirical literature reports that FDI is an important source of capital that complements domestic private investment, generates new employment opportunities and stimulates technology transfer and spillovers (Naftaly, 2024).

Typology of FDI

FDI is divided in two categories: horizontal and vertical. Horizontal FDI allows multinational companies (MNCs) like Coca-Cola, Toyota, Microsoft, to expand their production abroad such that producing equivalent products to domestically available ones in the FDI receiving country. Lim (2001) highlights that Horizontal FDI seeks to penetrate a new market; however, it may be affected by various factors, including openness to trade and GDP growth rate. Horizontal FDI takes a large part in global FDI (Campos & Kinoshita, 2003). In Vertical FDI, MNCs take advantages of geographical position and low costs to launch production process in receiving state and to produce for both the domestic and international markets. Vertical FDI is sometimes mentioned as the resource seeking FDI as investors tend to seek the low cost and efficient resources in the foreign country compared to the home country (Campos & Kinoshita, 2003). In the realm of FDI, the terms "backward FDI" and "forward FDI" require elucidation.

Backward FDI involves investing in a foreign country to acquire inputs, such as raw materials, components, or intermediate goods, with the aim of reducing costs, increasing efficiency, or gaining access to new resources. This type of investment is upstream-focused and sourcing-oriented. For instance, a US-based automobile manufacturer investing in a Brazilian firm to source cheaper steel for its production would be an example of Backward FDI. On the contrary, Forward FDI entails investing in a foreign country to establish a presence in the local market, often to sell final products or services, with the goal of expanding market share, increasing sales, or establishing a local presence. This type of investment is downstream-focused and market-oriented. For example, a Japanese electronics firm investing in a Chinese subsidiary to manufacture and sell its product in the local market would be an instance of Forward FDI.

FDI-Growth Nexus

According to Carovic and Levine (2005), FDI can contribute to economic growth by transferring technology and knowledge, increasing capital accumulation, improving human capital and enhancing competition and productivity. Borensztein, et al., (1998) argue that FDI has a positive impact on economic growth, but only when the host country has a minimum level of human capital. This suggests that FDI is more effective in promoting growth when the host country has a skilled

workforce. De Mello (1999) maintains that FDI can exert a positive impact on economic growth by increasing productivity and competitiveness. However, the scholar also notes the impact of FDI on growth depends on quality of institutions and policy direction in the host country. Likewise, Alfaro, et al., (2010) affirm that FDI can lead to economic growth depending on the level of FDI.

Furthermore, Khaing (2009) argues that FDI can drive growth of a host nation targeting high growth sectors such as infrastructure, technology or human capital-intensive industries that can create jobs, stimulate innovation and boost productively. The direction of FDI, whether horizontal or vertical, also influences its growth contribution. Additionally, the motive behind FDI, such as market-seeking, efficiency-seeking or resource-seeking, affects its capability to drive growth.

Conceptual Framework

Independent Variables

Dependent variable

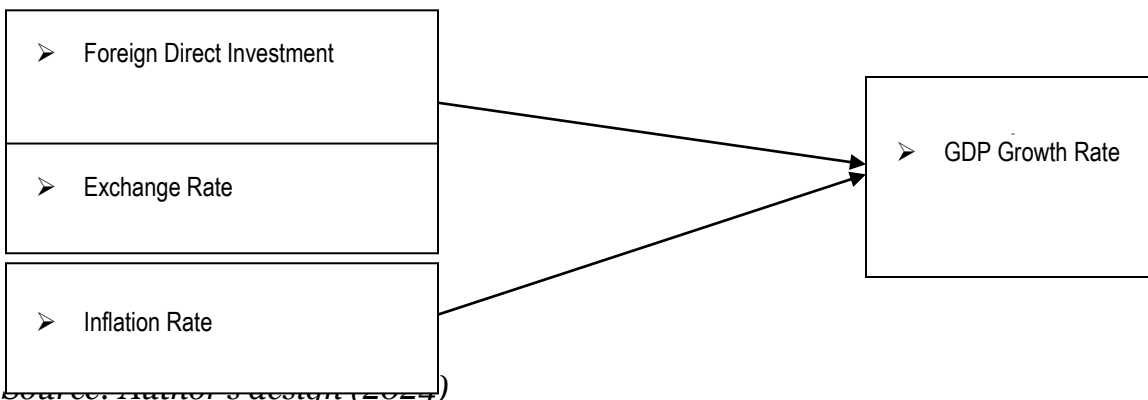


Fig. 1: Interaction of FDI, exchange rate and inflation rate versus Nigeria's GDP growth rate

The following analogy shows how FDI can influence GDP growth rate, while exchange and inflation rates can affect the outcome. Imagine FDI as the fuel that runs a car's engine. Increased FDI can drive economic growth by bringing in capital, technology, and expertise, much like more fuel makes a car run faster. Increased output, job creation, and overall economic growth can result from this. However, the speed of this "car" – GDP growth rate – is not solely determined by the amount of fuel. Exchange rate fluctuations can significantly affect the competitiveness of a country's exports and, consequently, how quickly its economy grows. A favorable exchange rate can be likened to smooth, well-maintained highway conditions, allowing the car to travel at optimal speed. Conversely, an unfavorable exchange rate can be like a bumpy, congested road, hindering the car's progress.

Additionally, inflation might be thought of as the weather. Excessive inflation can slow down the car's pace, much like a strong headwind. It can raise uncertainty, deter investment, and reduce purchasing power, all of which can negatively affect economic growth. Conversely, low and steady inflation can act as favourable tailwinds, possibly increasing the vehicle's speed by creating a more stable and predictable economic climate that encourages investment and growth. This comparison, which may

not fully represent the complexities of these economic interactions, essentially illustrates how FDI is a key driver of economic growth but that other factors, such as inflation and exchange rate variations, can have a big impact on its outcome.

Theoretical Review

Asongu, et al. (2021) present the following overview of the main theories of FDI:

Classical Economic Theory

The Classical economic theory posits that FDI can significantly benefit host countries. These potential benefits include stimulating infrastructure development, improving payment transfers and capital skills, increasing foreign earnings, facilitating technology transfer, and expanding government tax revenue (Benetrix, et al., 2023). This theoretical framework serves as the foundation for our research.

Dependency Theory

Conversely, proponents of dependence theory argue that FDI can hinder economic growth. Rooted in Marxist principles, this theory posits that globalization, facilitated by FDI, can exploit developing countries through the exploitation of cheap labour, the expansion of foreign markets, the imposition of capitalist systems, the introduction of outdated technology, and the overexploitation of natural resources (Asongu et al., 2021).

Besides, dependence theorists contend that FDI can foster collusion between local elites and foreign investors, leading to the exploitation of citizens. They also argue that FDI can distort domestic investment through the introduction of capital-intensive technologies, resulting in job losses, increased income inequality, and altered consumer preferences. Additionally, dependence theorists emphasize that FDI can drain local economies by repatriating profits to the investor's home country, crowding out domestic investment (Taylor & Thrift, 2013).

Empirical Review

This study incorporates the findings of multiple empirical investigations examining the impact of FDI on Nigeria's economic growth arranged chronologically from oldest to newest. Garang and Thiery (2018) analyzed effect of foreign direct investment, unemployment on economic growth in Uganda using Autoregressive Distributed Lag (ARDL) bounds approach and GDP data series obtained from the world bank from 1993 to 2015. Findings showed no sufficient statistical evidence to suggest FDI played significant roles in reducing unemployment and boosting economic growth. The short-run and long-run dynamics of the model did not point to any statistically significant relationships.

Okolie et al. (2019) examined the impact of FDI inflows on Nigeria's economy from 1984 to 2017. The CBN Statistical Bulletin provided the annual time series data, which was analyzed using the vector autoregressive (VAR) method. The results indicated that during the military era of 1984 to 1998, foreign direct investment (FDI) had a positive but non-significant impact on GDP. Additionally, during Nigeria's eighteen years of uninterrupted democracy (1999–2017), FDI had a negative and

non-significant impact on GDP. According to the study's findings, foreign direct investment (FDI) has the potential to significantly impact Nigeria's growth and development.

Trang, et al. (2019) analyzed both the short and long run impact of FDI on economic growth in developing countries (lower-middle) income group for the period 2000-2014 using Vector Error Correction Model (VECM) and Fully Modified Ols (FMOLS). Findings revealed that FDI stimulated growth in the long run, although it exhibited a negative impact on economic growth in the short run in some selected developing countries under review.

Alabi (2019) explored impact of foreign direct investment on economic growth in Nigeria. Secondary source of data was employed in this study from 1986 to 2017 sourced from Central Bank of Nigeria Statistical Bulletin and World Development Indicator. Regression was used as estimation techniques. Findings of the study revealed FDI was positive and significant to economic growth of Nigeria within the period of study.

Abdillahi and Mohd (2021) explored impact of foreign direct investment inflows on Ethiopia's economic growth using 36 years' time series data. Vector Auto regression (VAR) model found FDI to have a positive and significant effect on GDP advancement.

Ofori and Asongu (2022) conducted a panel data estimation in sub-Saharan Africa for the period, 1990-2020 based on a generalized method of moments (GMM) estimator. From the result, FDI was able to generate economic growth in both the long-run and short-run. However, the study noted most of the positive effect results depended on the country's governance dynamics. The study concluded that a country with strong institutional and governance quality would gain more from FDI inflow and thus grow its economy.

Mwitta (2022) examined impact of foreign direct investment on economic growth in Tanzania spanning from 1990 to 2020 using Vector Error Correction Model (VECM). Results of the study showed a statistically significant positive association between real GDP growth rate and FDI inflow to GDP ratio. On the other hand, the study revealed a negative correlation between gross fixed capital formation to GDP ratio and real GDP growth rate which might be caused by current situation of public investment.

Bashir ((2022) analyzed effect of FDI on economic growth in Nigeria for the period, 1986-2020 taking into cognizance effect of exchange rate in relationship between FDI and economic growth using annual time series data sourced from databases of World Development Indicator (WDI) of World Bank and Central Bank of Nigeria (CBN) Statistical Bulletin. Autoregressive Distributed Lag (ARDL) model was employed for analysis. Findings showed FDI had a positive and significant effect on economic growth. Exchange rate also had a positive and significant effect on economic growth. The implied growth effect of FDI was influenced by a stable exchange rate.

Ntamwiza and Masengesho (2022) studied impact of gross capital formation on economic growth in Rwanda using time series data from 1990 to 2017. Error Correction Model technique for estimation

revealed a short-run and long-run positive relationship between capital formation, FDI and economic growth, thus confirming that gross capital formation and FDI were the main determinants of economic growth in Rwanda for the review period.

Keita and Baorong (2022) examined FDI and economic growth nexus in Guinea for the period, 1990 to 2017. The findings showed FDI in the long run positively affected economic growth in Guinea during the research period.

Okello and Badj Okello (2023) using OLS method from 1970 to 2019 studied the relationship between FDI and economic growth in Kenya. Findings showed that association between FDI and economic growth was negative. The negative result was attributed to the fact that Kenya's history as an import-substituting country and the counter effect of implemented trade policies to spur economic growth in Asian countries.

Dang, et al. (2023) examined impact of FDI foreign on economic development, considering the role of institutional quality in 63 provinces/cities in Vietnam from 2005–2022. Applying various regression methods, such as Pooled OLS, the results confirmed FDI and institutional quality had a positive impact on economic development. Findings also proved institutional quality as a important determinant of FDI

Using quarterly data from 2013 to 2022, Chi and Thi (2023) used the vector autoregression (VAR) model to examine the link between foreign exchange and foreign direct investment (FDI) in Vietnam. The findings of the study indicated a significant correlation between FDI in Vietnam and the exchange rate. The results also showed that Vietnam's historical values had an impact on FDI flows into the country. The study also discovered that the primary control variables influencing correlation between FDI and foreign exchange rates were trade openness and economic growth.

Nguyen (2024) using autoregressive distributed lag (ARDL) model assessed the Influence of key economic globalization factors on economic growth and environmental quality in Southeast Asian countries. Results revealed that FDI had a negative effect on economic growth in Southeast Asia.

Naftaly and Kipchirchir (2024) examined relationship between FDI and economic growth in Kenya using an Autoregressive Distributed Lag (ARDL) regression approach and causality tests. Secondary time series data from 1990 to 2021 were used for analysis. Findings indicated that increasing FDI inflow would lead to an increase in economic growth. Also, the result indicated trade openness and climate changed matter from a growth perspective. Notably, the results showed short-run to long-run FDI kindled economic growth in Kenya.

Mazenda (2024) assessed effect of FDI on economic growth in South Africa from 1980 to 2010. Johansen co-integration and Vector Error Correction Modeling (VECM) estimation techniques was used. Variables specified in the methodology include real GDP, foreign FDI, domestic investment (INVE), real exchange rate (REXCH) and foreign marketable debt (DEBT). The long run results

showed FDI, REXCH and DEBT had a negative impact on growth. INVE had a positive impact on growth.

Gap in Empirical Literature

Building upon the literature review, several empirical studies have demonstrated both positive and negative relationships between FDI and economic growth based on foregoing review. This study addresses this mixed evidence by exploring the dynamics underlying the relationship between FDI and growth.

To achieve this, the study addresses several research gaps. Firstly, it specifically focuses on the impact of FDI and exchange and inflation rates dynamics on economic growth (measured by GDP growth rate). Secondly, the study's temporal scope spans from 1999 to 2022, recognizing the significance of the return to civilian rule in 1999 and ensuring the analysis incorporates recent developments. Thirdly, the study employs specific proxies for the dependent and independent variables, utilizing GDP growth rate as the dependent variable and FDI as key independent variable, while incorporating exchange rate and inflation rate as control variables. Finally, the study contributes to the literature by focusing specifically on the Nigerian context, addressing a gap in existing research that primarily focuses on other jurisdictions.

3. METHODOLOGY

For this investigation, an *ex-post facto* design was used. Research conducted after the fact is referred to as *ex-post facto* research. This is appropriate for the assignment because it is based on an event that has already happened and the researcher's job is to evaluate the results and make logical deductions.

Our methodology was based on the Autoregressive Distributed Lag (ARDL) estimate model used by Mathebula, et al. (2024), which investigated the impact of FDI on economic growth in South Africa. The econometric model used by the authors is described as follows:

$$GDP_t = \beta_0 + \beta_1 FDI_t + \beta_2 RIR_t + \beta_3 INF_t + \beta_4 SR_t + \varepsilon_t \quad - \quad - \quad - \quad - \quad - \quad (1)$$

where, GDP = growth domestic product (economic growth) in period t, FDI = Foreign direct investment in period t, RIR = Real interest rate in period t, INF - Inflation rate in period t, SR - Saving rate in period t. $\beta_1 - \beta_4$ - Coefficient parameters, ε_t - Error term., while t - time period.

The prior expectations are: $\beta_1 > 0$; $\beta_2 < 0$; $\beta_3 < 0$, and $\beta_4 > 0$. But in order to account for our theories, the general ARDL model is altered as follows:

$$\Delta \ln GDPGR_t = \alpha_{01} + \sum_{t=1}^p \alpha_{11} \Delta \ln GDPGR_{t-1} + \sum_{t=1}^p \alpha_2 \Delta \ln FDI_{t-1} + \sum_{t=1}^p \alpha_3 \Delta \ln FXR_{t-1} + \sum_{t=1}^p \alpha_2 \Delta \ln C_{t-1} + \beta_{11} \ln Y_{t-1} + \beta_{21} \ln FXR_{t-1} + \beta_{31} \ln C_{t-1} + \mu_{it} \quad - \quad - \quad - \quad - \quad - \quad (2)$$

Where, GDPGR_t - Gross domestic product growth rate, FDI_t – Foreign Direct Investment; C_t – Matrix of control variables; t – Time dimension; μ_{it} – Stochastic term; ln – Natural log; α_0 – Constant term; α_1 and α_2 – Coefficients are associated with the logarithms of FDI and control

variables, respectively. The variables were transformed into logarithms to reduce the serial correlation problem (Gisore, 2021).

Equation 3 was used to examine the long-term relationship, as seen below.

$$\ln\text{GDPGR}_t = \alpha_0 + \sum \alpha_{1i} \ln\text{GDPGR}_{t-i} + \sum \alpha_{2i} \ln\text{FDI}_{t-i} + \sum \alpha_{3i} \ln\text{C}_{t-i} + \mu_{it} \quad - \quad (3)$$

Table 3.1 provides the following description of the variables in our models:

Table 3.1: Summary of model variable description

Variable	Abbreviation	Measurement	Data Source	Expected Sign
Dependent Variable				
Economic Growth	GDPGR	GDP Growth Rate	World Development Indicators	Dependent Variable
Independent Variables				
Foreign Direct Investment	FDI	FDI, net inflow	World Development Indicators	Positive (Ofori & Asongu, 2022)
Foreign Exchange Rate	FXR	Value of Naira to USD	World Development Indicators	Negative (Nyoni, et al., 2021)
Control Variables				
Trade Openness	TOP	Total trade per GDP	World Development Indicators	Positive (Malefane & Odhiambo, 2018)
Inflation Rate	IFR	Consumer Price Index	World Dev. Indicators	Negative

Source: Author's compilations, 2024

4. Data Analysis

To determine if a time series variable is stationary or has a unit root, the Phillips-Perron (PP) unit root test was used. The unit root results for the sample data are shown in Table 4.1.

Table 4.1: Summary of PP unit root test results

Variable	T-Stat.	Critical Values @5%	P-value	Order of Integration	Inference
LnGDPGR	-3.245	-2.951	0.0259	I(0)	Stationary
LnFDI	-5.086	-3.548	0.0012	I(0)	Stationary
dLnFXR	-7.232	-2.954	0.0000	I(1)	Stationary

dLnTOP	-7.153	-3.553	0.000	I(1)	Stationary
dLnIFR	-12.213	-3.552	0.0000	I(1)	Stationary

Source: Author’s extract from E-views

Table 4.1 outcomes are confirmed by the PP test which also found GDP and FDI stationary at level of form as revealed by the -3.245 for GDPGR and -5.086 for FDI, which are both less than their critical values of -2.951 and -3.548. FXR, TOP and IFR are non-stationary at level form. They, however become stationary after first differencing with all three variables (FXR, TOP, IFR) having a common p-value of 0.0000, which is below 0.05, leading to the conclusion that there is no unit root after first differencing. GDP and FDI, therefore, are integrated to order zero I(0), whilst FXR, TOP and IFR are integrated to order one I(1). This makes the ARDL method applicable to estimate the growth model since the variables are integrated of orders zero and one, that is, I(0) and I(1).

ARDL model regression results Long-run estimates

Table 4.2: ARDL model results Long-run estimates

Variable	Coefficient	Standard Error	t-Statistic	Probability
FDI	-0.2193	0.2584	-0.8488	0.4052
FXR	-0.8596	0.1583	-5.4312	0.0000
TOPN	-0.3145	0.1387	-2.2674	0.0335
IFR	0.2503	0.3458	0.7239	0.4768

Source: Author (compiled from E-views)

$$GDPGR = -0.2193FDI - 0.8596FEXR - 0.3145TOPN + 0.2503IFR$$

The effect of major independent variables (based on our specific objectives): foreign direct investment (FDI) and foreign exchange rate (FEXR)) on GDPGR in the long run, as reported in Table 4.2 is stated in the equation above.

Decision

Clearly, Table 4.2 shows that the coefficient for FDI has a negative (approximately, -0.22) and non-significant (p-value, 0.4052 > 0.05) long-run effect on GDP growth rate in Nigeria within the review period. Similarly, the coefficient for FEXR has a negative (approximately, -0.86), but significant (approximately 0000 < 0.05) long-run impact on GDP growth rate in Nigeria over the period of study.

Short-run estimates

Table 4.3: Short-run estimates

	CointEq (-1)	D(FDI)	D(FXR)	D(TOP)	D(IFR)
<i>Coefficient</i>	-0.7782	-	0.0128	0.505531	-0.3174
<i>P-value</i>	0.0000	-	0.8834	0.0095	0.0003

Source: Author (compiled from E-views)

The cointEq (-1) coefficient is an error correction component that displays the rate at which equilibrium in the growth model is regained. In other words, it represents the rate at which a previous period's disequilibrium is resolved. A negative coefficient indicates convergence, whereas a positive coefficient indicates divergence; thus, the cointEq (-1) is said to be significant when its value is negative and less than one, and its probability value is less than the chosen 5% significance level (Nkoro & Uko, 2016). Table 4.3 results show a large cointEq (-1) value of -0.7782, indicating that the speed of adjustment is around 77.8 percent. This means that anytime there is a disturbance in the model, the adjustment from the short run deviation to the long run equilibrium happens quickly.

FXR and TOP were seen to be favourably associated to short-term growth, whereas IFR was discovered to be negatively related to short-term GDPGR and FDI and FXR were discovered to be unimportant in explaining short-term growth. According to the study, only IFR and TOP have a substantial impact on growth in the short run.

Discussion of Findings

Discussions arising from the foregoing empirical results are summarized in line with our study objectives as follows:

Based on ARDL model results presented in Table 4.3 shows that the coefficient for FDI has a negative (approximately, -0.22) and non-significant (p-value, 0.4052 > 0.05) long-run effect on GDP growth rate in Nigeria within the review period. As a result of the findings, a 1% increase in FDI resulted in approximately a 22 percent decrease in GDP. In the long run. The negative relationship between FDI and GDP contradicted the Modernization Theory, which states that an increase in FDI should eventually lead to an increase in GDP, indicating a positive link between the two macroeconomic variables. These findings, however, support the Dependency Theory, which holds that foreign direct investment has a detrimental impact on the host country's economic growth.

Nguyen (2024) support the Dependency Theory and empirically discovered that FDI had a negative impact on South East Asian's economic growth if multinational corporations return large profits to their parent countries. Okello and Badj (2023) discovered in a similar study that FDI had a negative influence on economic growth in Kenya applying OLS to examine the datasets for the period, 1970 to 2019 Furthermore, Mazenda (2024) also affirmed our findings that FDI had a negative effect on economic growth in South Africa using VECM estimation to analyze data from 1980 to 2010.

In Nigeria, factors such as corruption, weak institutions, poor or decaying infrastructures, inconsistencies in government policies, as well as security concerns may have contributed to a negative association between FDI and economic growth. This is contrary to our prior expectation of a positive relationship between FDI and economic growth, indicating that this relationship is bidirectional because other studies support the hypothesis that there is a positive relationship between FDI and economic growth. For instance, the study of Mwitta (2022) who used VECM to analyze datasets from 1990 to 2020 confirmed that there was a positive relationship between FDI and

economic growth in Tanzania. Similarly, Trang, et al., (2029) applying VECM to analyze datasets for the period, 2000 to 2014 affirmed that FDI had a positive and significant effect on economic growth in lower-middle income developing countries.

Given the ARDL model results shown in Table 4.3, the coefficient for foreign exchange rate (FXR), which is our second major independent variable had a negative (approximately, -0.86), but significant ($0000 < 0.05$) long-run impact on GDP growth rate in Nigeria over the period of study. This result implies that a 1% increase in FXR resulted in approximately 86 percent decrease in GDP in Nigeria during the review period. Our finding was affirmed by the study of Mazenda (2024) in South Africa. This confirms theoretical suggestions, which propose that depreciation in the exchange rate discourages investment, which translates into low levels of economic growth.

Conclusion / Recommendations

In light of our findings, this study comes to the conclusion—contrary to theoretical assumptions—that FDI had no discernible impact on Nigeria's economic growth. This came when the long-term effects were taken into account. While crowding out domestic investment, FDI has a short-term positive effect on economic growth. Conversely, theoretical presumptions state that persistent devaluation, floatation, and fluctuation in the value of the Naira deter investment. This study suggests that if the government proactively addresses infrastructure issues, develops a framework of policies that promote efficient technology transfer and knowledge sharing, and improves the business climate in order to draw in investors, foreign direct investment (FDI) can greatly accelerate Nigeria's economic growth and have long-term positive effects. Additionally, in order to encourage more foreign investment and eventually propel Nigeria's intended economic growth and development, it is imperative that the exchange rate remain stable.

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