

THE EFFECT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN NIGERIA, 1999 - 2023

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Abstract: *This study assessed effect of foreign direct investment (FDI) on economic growth in Nigeria using a 24-year annual time series data ranging from 1999-2022, and obtained from World Development Indicators (WDI). The specific objectives examined effect of FDI and foreign exchange rate (FEXR) on economic growth (measured by GDP growth rate). Ex-post facto design was adopted because our data were secondary in nature. Data stationarity was achieved after series were subjected to stationarity (unit root) test. Though the variables became stationary at level and after first differencing, they (variables) could not be integrated of same order (which revealed absence of long-run relationship among the variables); hence Autoregressive Distribute Lag (ARDL) estimations were used to analyze our modified models. Findings revealed: i) FDI had a negative (approximately, -0.22) and non-significant (p -value, $0.4052 > 0.05$) effect on GDP growth rate, and ii) FEXR had a negative (approximately, -0.86), but significant ($0000 < 0.05$) impact on GDP growth rate in Nigeria over the period of study. The economic implication being that FDI and FEXR could not lead to economic growth owing to corruption, poor infrastructures, insecurity and devaluation, fluctuation in value of naira. FDI can be a significant contributor to economic growth in Nigeria and have a positive impact, if government vigorously addresses infrastructural bottlenecks and create a policy direction that fosters effective technology transfer and knowledge sharing, and make Nigeria business environment more appealing to investors. Conducted in Nigeria, this research using ARDL model affirmed works of Nguyen (2024) in South East Asia; Okello and Badj (2023) in Kenya, and Mazenda (2024) in South Africa, whilst it contradicted studies of Mwitta (2022) in Tanzania and Alabi (2019) in Nigeria, thus contributed to knowledge.*

Keywords: *Foreign Direct Investment (FDI), Economic Growth, Foreign Exchange Rate (FEXR), Autoregressive Distributed Lag (ARDL), Nigeria*

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, foreign direct investment (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. Foreign direct investment 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 had intention of exploiting her resources for the development of their economy. There was little investment by these colonial masters. With the end of oil boom in 1982, Nigeria found herself in a quagmire of economic problems. These problems include unsustainable balance of payment deficits, a rapid escalating debt stock and a crushing debt service burden Internally, Ojo and Alege (2014) state that the economic problems include unsustainable fiscal deficit, rising unemployment and galloping inflation. Above all, investment has collapsed and this contributed strongly to a reduction in real output and per capita real income level.

Since the enthronement of democracy in 1999, the government of Nigeria has taken a number of measures necessary to lure foreign investors into Nigeria. These measures include the repeal of laws that are inimical to foreign investment development, promulgation of investment laws, various overseas trips for image laundry by the President among others

Presently, Nigeria is the first host economy of FDI in Sub-Saharan Africa, and the third in the continent (Oyegoke & Aras 2021). Recently, Nigeria has witnessed several trade policies which aim at diversifying the economy away from oil revenue. These policies are focused on improving the industrial sector, and of course, results in 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.

The effect of FDI on growth of various economies has been the subject of numerous studies, all of which have highlighted different findings. For instance, De Mello (1999) using Ordinary Least Square (OLS) discovered an increase in FDI led to an increase in economic growth in Organization for Economic Cooperation and Development (OECD) countries. In the same vein, Ofori & Asongu (2022) via Generalized Method of Moment (GMM) revealed an increase in FDI brought about an increase in economic growth in sub-Saharan African countries. However, Wiredu et al. (2020) applying OLS found that FDI had a negative effect in Cote d'Ivoire, Ghana, Nigeria and Senegal. The implications of FDI on many economic sectors, including gross domestic product, employment, trade, education, technology, and so forth, have been discussed in some literature.

Against all these backgrounds of both theoretical and empirical justifications about the contributions of FDI in promoting economic growth in Sub Saharan countries like Nigeria, it is noteworthy that there is no conclusive study on FDI- growth nexus in host countries since several other empirical evidences show mixed positive, negative results. Therefore, given the inconsistency with which FDI relates to economic growth in various countries. Consequently, this study sought to assess whether FDI had a positive or negative long run effect on Nigeria's economy over the period, 1999-2022 by applying various econometrics techniques. This study tends to examine effect of foreign direct investment on GDP growth rate in Nigeria and also ascertain impact of foreign exchange rate on GDP growth rate in Nigeria.

The following distinct groups would significantly benefit from this study:

Academic World

The outcome of this work will serve as reference materials for further research activity in this or related areas in future, thereby adding to the limited literature on Nigeria's FDI issues. This could be to the extent of providing new empirical evidence to the body of knowledge, or by validating or invalidating the findings extant studies. It is therefore expected that the entire academics: researchers, lecturers and students would benefit from the empirical and methodological postulations of this seminar paper.

Government/Policymakers

Since this seminar seems to be one of the latest efforts dealing on FDI phenomenon in Nigeria, it is expected that findings of this study could help shape the policy direction of the Federal Government of Nigeria, as far as formulating and implementing robust economic policies and programmes are concerned. This study would further provide direction required to tackle persistent naughty FDI challenges in order to witness desired economic improvement in Nigeria. It is worthy of mention that the dwindling revenue profile of the Federal Government may remain a nightmare to our political leaders, thereby making FDI the only saving grace in funding myriads of government projects.

Monetary Authorities

The outcome of this research in form of new empirical outcomes may bring about further research activities such as conferences, workshops, and the likes. Position papers arising from such brainstorming exercises would assist the monetary authorities such as the Central Bank of Nigeria, National Bureau of Statistics and Federal Ministry of Finance, etc while counselling the government on the state of the economy. The empirical evidence from the research may be useful to the International Monetary Fund and the World Bank in making inferences between Nigeria and other jurisdictions.

General Public

The results of this seminar if published may not be useful only for academic purposes, but may provide everyone with specific pieces of information about FDI underlying forces. FDI can be a veritable funding option if the underlying principles are strictly followed.

This study focused on effect of FDI on economic growth in Nigeria. To properly analyze the variables and address the time scope, annualized time series data extending up to 24 years were generated from the World Bank Indicators for the period, 1999 to 2022. The choice of 1999 is Nigeria returned to civil rule, and thus more robust trade relations was commenced with global economy. regarded as the lower limit or base year of study was based on data. On the content scope, this work covered five variables: Foreign Direct Investment (FDI), Foreign Exchange Rate (FEXR) as major independent variable; together with Inflation Rate (IFR) and Trade Openness (TOPN) as control variable. The

Gross Domestic Product Growth Rate (GDPGR) served as dependent variables. On the geography scope, this study was conducted in Nigeria, being the largest economy, and mostly populated in sub-Saharan African (SSA) countries. On the methodology scope, this work adopted Autoregressive Distributed Lag (ARDL) methods for variable estimations because the entire dataset were integrated of mixed order, that is $1(0)$ and $I(1)$. This study was kept within limits by non-availability of desired secondary data linked to our study objectives up to 2023. Admittedly, the data obtained mainly from the World Developmental Indicators as published by the World Bank for 24 years (1999-2022) could contain some measurement errors that would likely compromise the correctness or acceptability of our research outcomes.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Foreign Direct Investment (FDI)

UNCTAD (2016) defines FDI as an investment by entity which belongs to one country which aims 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).

Types of Foreign Direct Investment

FDI is generally alienated in two categories: horizontal FDI and vertical FDI. Further distinctions are made between vertical FDI's backward and forward versions. Horizontal FDI allows MNCs 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 takes 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 Backward FDI, the established enterprises in foreign country provide inputs to the parent enterprise while in Forward FDI, which is less popular, enterprises in the host country sells products from parent enterprises. Moreover, FDI can be classified into target, direction and motive as means for FDI to effect growth of the host nation (Khaing, 2009). Target effect ways include investment, horizontal and vertical FDI, and mergers and acquisitions. The direction effect can be divided into inward and outward FDI, whereas market seeking, resource seeking, strategic asset and efficient seeking are means of motive effect.

It is debatable whether impact of FDI can vary subject to sector; investment in good infrastructure (transportation, power, communication), and a stable and attractive business environment with clear regulations is crucial to attract and retain foreign investors.

2.1.2 Foreign Exchange Rate

In finance, an exchange rate (also known as a foreign exchange rate, forex rate, FX between two currencies is the rate at which once currency will be exchanged for another. It is also regarded as the value of one country's currency in terms of another currency foreign exchange rates. According to the CBN (2024), ₦1,481.17 as at 8th June, 2024 exchanges for USD at official market, whereas the same dollar amount exchanges for ₦1,500 at the black market as at 6th June, 2024.

Stating succinctly, Naira/US Dollar exchange rate fluctuations negatively impact Nigeria's economic growth. A rise in the value of Naira relative to US Dollar will enhance Nigeria's economic growth and vice-versa. The net effect of our study establishes that excessive volatility is detrimental to growth.

Since GDP is based how much money an economy's output is worth, it is subject to inflation. To put it another way, GDP fluctuates when the value of a currency changes. It is normal for the cost of goods and services in a country to go up over time, and those gradual cost increases are reflected in the nation's GDP.

2.1.3 GDP Growth Rate (GDPGR)

The GDP growth rate (GDPGR) refers to the percentage increase in a country's Gross Domestic Product (GDP) over a specified period, usually measured annually or quarterly. It is used as an indicator of economic growth and is commonly expressed as a percentage (Adepoju, et al., 2017).

The GDP growth rate for Nigeria has varied over the years. In 2020, Nigeria experienced a contraction in its economy due the impact of the COVID-19 pandemic and declining oil prices. The GDP growth rate for that year was -1.92%. The growth of the real GDP in Nigeria was forecasted to decrease between 2023 and 2028 by total 0.2% points. Real GDP increased at an annual rate of 1.3% in the first quarter of 2024, according to the second estimate. In the fourth quarter of 2023 real GDP increased 3.4%.

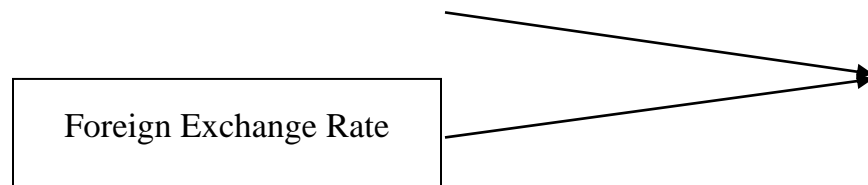
Factors considered affecting economic growth and development in Nigeria include: infrastructure development, human capital development, financial development, political stability, and the impact of terrorism.

2.1.4 Conceptual Framework

Independent Variable

Dependent variable





Source: Author's design (2024)

Fig. 1: Interplay of foreign direct investment, foreign exchange rate versus GDP growth rate in Nigeria

2.2 Theoretical Review

According to Asongu, et al. (2021), the main theories of FDI are classical and dependency theories.

2.2.1 Classical Theory

The classical theory argues that FDI can be beneficial to the host country's economy in many ways: stimulate the development of domestic infrastructure, improve transfer of payment, transfer of capital skills, increase foreign earnings, technology spillover and expansion of tax revenue for the government (Benetrix, et al., 2023). This theory actually underpins our study.

2.2.2 Dependency Theory

In contrast, advocates of dependence theory maintain FDI can slow growth. The dependence theory is built on a Marxist foundation that perceives globalization via exploitation of cheap labour, expansion of foreign markets, the introduction of the capitalist system, the introduction of obsolete technology and exploitation of primary resources from developing countries will slow growth (Asongu et al., 2021). The advocates of dependence theory hold that FDI can negatively influence economic growth through local political and economic elites collaborating with foreign investors to exploit citizens of host countries; Multinationals can distort domestic investment by using capital-intensive technology to cause unemployment increase, income inequality and change taste and preferences; Finally, most foreign investors will send back profits generated to their motherland and thus crowd out local assets and harm domestic investment (Taylor & Thrift, 2013).

2.3 Empirical Review

Many substantial empirical studies have explored the effect of FDI on economic growth. A good number of them were captured by this study as follows:

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.

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 foreign direct investment 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 enhanced in presence of a stable exchange rate.

Ntamwiza and Masengesho (2022) studied impact of gross capital formation and foreign direct investment on economic growth in Rwanda using time series data for the period 1990 to 2017. The Error Correction Model technique for estimation indicated a short-run and long-run positive relationship between capital formation, foreign direct investment and economic growth in Rwanda

during the research period thus confirming that gross capital formation and foreign direct investment were the main determinants of economic growth in Rwanda for the period under study.

Keita and Baorong (2022) examined foreign direct investment 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 the ordinary least squares method for the period from 1970 to 2019 studied the relationship between foreign direct investment and economic growth in Kenya. The findings showed that the 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 the implemented trade policies to spur economic growth in Asian countries.

Dang, et al. (2023). examined impact of foreign direct investment on economic development, considering the role of institutional quality in 63 provinces/cities in Vietnam in the period 2005–2022. Applying various regression methods, such as Pooled OLS, the results confirm FDI foreign direct investment and institutional quality had a positive impact on economic development. Findings also provided evidence institutional quality is an important factor in attracting FDI, determining both the quality and quantity of inflows from other countries into Vietnam.

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 indicated that FDI had a negative effect on economic growth in Southeast Asian countries within the review period.

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 indicates 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, A. (2024) assessed effect of foreign direct investment (FDI) on economic growth in South Africa from 1980 to 2010. Johansen co-integration and Vector Error Correction Modeling (VECM) framework were utilized as estimation techniques. 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.

2.4.1 Gap in Empirical Literature

In light of above review, several empirical studies have established a positive and negative relationship between FDI and economic growth as shown in Table 2.1. The study filled this empirical

gap by assessing the dynamics behind the mixed results and trend between FDI and growth as observed below:

(i) The unit gap of this study related to its specific objective - effect of FDI and foreign exchange rate dynamics on economic growth (measured by GDP growth rate).

(ii) Regarding gap occasioned by timing, this study ranged from 1999 to 2022. The choice of 1999 was premised on historical fact that civil rule was restored in Nigeria in 1999, when the country became, once more, disposed to global trading system. The upper time limit (2023) made this study more current compared to other existing studies.

(iii) The content gap of this study is on the proxies of the dependent and independent variables. The dependent variable is GDP growth rate, while the independent variables are FDI, foreign exchange rate. Trade openness and inflation rate were introduced as control variables.

(iv) The geographical gap of this study stems from the fact this study concentrated primarily and interrogated majorly studies conducted in other jurisdictions other than Nigeria. Hence this study was conducted in Nigeria to fill geographical gap.

3. METHODOLOGY

3.1 Model Specification

We employed the Autoregressive Distributed Lag (ARDL) estimation model used by Mathebula, et al., (2024) to explore the effect of foreign direct investment on economic growth in South Africa. This is consistent with Trinh and Nguyen (2015), who maintained that neoclassical and endogenous growth models provided the foundation for most empirical works on the FDI-growth nexus

The econometrics model is specified thus:

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

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

$\beta_0 - \beta_4$ = Coefficient parameters

ε_t = Error term.

The prior expectations are: $\beta_1 > 0$; $\beta_2 < 0$; $\beta_3 < 0$, and $\beta_4 > 0$.

However, general ARDL model is modified to reflect our hypotheses thus:

$$\Delta \ln GDPGR_t = \alpha_{01} + \sum_{t=1}^p \alpha_{11} \Delta \ln GDPGR_{t-1} + \sum_{t=1}^p \alpha_2 \Delta \ln FDI_{t-1} + \sum_{t=1}^p \alpha_3 \Delta \ln EXR_{t-1} + \sum_{t=1}^p \alpha_4 \Delta \ln C_{t-1} + \beta_{11} \ln Y_{t-1} + \beta_{21} \ln EXR_{t-1} + \beta_{31} \ln C_{t-1} + \mu_{1t} \quad \text{---} \quad \text{---} \quad \text{---} \quad \text{---} \quad (2)$$

Where;

GDPGR_t -Gross domestic product growth rate

FDI_t – Foreign Direct Investment;

C_t – Matrix of control variables;

t – Time dimension;

μ_t – 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).

To investigate the long-run relationship equation 3 was applied as shown below.

$$\ln GDPGR_t = \alpha_0 + \sum \alpha_{1i} \ln GDPGR_{t-i} + \sum \alpha_{2i} \ln FDI_{t-i} + \sum \alpha_{3i} \ln C_{t-i} + \mu_{it} \quad (3)$$

Further, since the variables are cointegrated, the causality test was obtained using an error correction model derived from ARDL equation 4 specification:

$$\Delta \ln GDPGR_t = \alpha_0 + \sum \alpha_{1i} \Delta \ln GDPGR_{t-i} + \sum \alpha_{2i} \Delta \ln FDI_{t-i} + \sum \alpha_{3i} \Delta \ln C_{t-i} + \phi_1 ECT_{t-1} + \varepsilon_{1t} \quad (4)$$

The lagged error correction term ECT_{t-1} , in equation 4 measures the speed of adjustment to the long-run equilibrium and also the long-run causality relationship.

3.2 Description of Variables in the Model

Variables in our models are described Table 3.1 as follows:

Table 3.1: Summary of model variable description

Variable	Abbreviation	Measurement	Data Source	Expected Sign
Dependent Variable				
Economic Growth	GDPGR	Gross Domestic Product 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	FEXR	Value of Naira to USD	World Development Indicators	Negative (Nyoni, et al., 2021)
Control Variables				
Trade Openness	TOPN	Total trade per GDP	World Development Indicators	Positive (Malefane & Odhiambo, 2018)

Inflation Rate	Nominal Inflation Rate	Consumer Price Index	World Development Indicators	Negative
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Source: Author's compilations, 2024

3.3 Methods of Data Analysis

Autoregressive Distributed Lag (ARDL) estimation technique was employed to examine the effect of FDI on economic growth in Nigeria for the period, 1999 to 2023. ARDL estimation model was preferred as it was correct for both potential endogeneity and serial correlation problems (Pesaran, et al., 2001).

Before ARDL estimation, it is necessary to scrutinize the stationarity and cointegration statistics of the sample data, ARDL approach rejects any series integrated of order 2 or higher. Phillips-Perron (PP) was used to test for a unit root in the series based on a 5 per cent level of significance. A bounds co-integration test was deployed to check for the presence of long-run relationships in the series based on a 5 per cent level of significance. The use of bound test allows the co-integration link to be ascertained by OLS after the lag order of the model is identified. Before estimation, the lag length was identified and the best model estimation criterion was chosen.

4. RESULTS AND DISCUSSION

4.1 Data Analysis

4.1.1 Unit Root Test

Phillips-Perron (PP) unit root test was conducted to check whether a time series variable is stationary or contains a unit root. Table 4.2 displays the unit root results of the sample data.

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
dLnFEXR	-7.232	-2.954	0.0000	I (1)	Stationary
dLnTOPN	-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. FEXR, TOPN and IFR are non-stationary at level form; they, however become stationary after first differencing with all three variables (FEXR, TOPN, 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 FEXR, TOPN 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).

4.2 ARDL model regression results

4.2.1 ARDL model regression results Long-run estimates

Table 4.2: ARDL model results

Variable	Coefficient	Standard Error	t-Statistic	Probability
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FDI	-0.2193	0.2584	-0.8488	0.4052
FEXR	-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.

4.2.2 Short–run estimates

Table 4.3: Short–run estimates

	CointEq (-1)	D(FDI)	D(FEXR)	D(TOPN)	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 6 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.

FEXR and TOPN 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 FEXR were discovered to be unimportant in explaining short-term growth. According to the study, only IFR and TOPN have a substantial impact on growth in the short run.

4.3 Discussion of Findings

Based on ARDL model results presented in 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.

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 4.2, the coefficient for foreign exchange rate (FEXR), 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 FEXR 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.

5. CONCLUSION AND RECOMMENDATION

In view of our findings, this study contrary to a priori expectations concludes that foreign direct investment did not bring about reliable effect on economic growth in Nigeria. This was after taking consideration of the long-run results. In the short-run, foreign direct investment caused a positive impact on economic growth, whilst crowding-out domestic investment. On the other hand, consistent devaluation, floatation and fluctuation in the value of the Naira discourage investment according to theoretical assumptions.

FDI can be a significant contributor to economic growth in Nigeria and have a lasting positive impact, if the government vigorously addresses infrastructural bottlenecks and create a policy environment that fosters effective technology transfer and knowledge sharing, as well as make Nigeria business environment more appealing to investors. Government should make exchange rate stable so that more foreign investment can be attracted for desired economic growth and development in Nigeria.

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