

Foreign Direct Investment and Economic Growth in Nigeria

Jack, Obiasi Tubotamuno-Ojas (PhD)

Department of Accounting

Rivers State University

&

Amieye, Anita Ibiere (PhD)

Abstract: *This study evaluated Foreign Direct Investments flow and economic growth proxied by real gross domestic product and employment rate in Nigeria. The hypotheses that guided the study were formulated in line with the stated objectives and relevant theoretical as well as empirical literature were reviewed and evaluated. The relevant data were extracted from the annual statistical bulletin of the central Bank of Nigeria, National Bureau of Statistics and World Bank. Unit root tests were carried out using Augmented Dickey Fuller method which revealed that the variables of the study were integrated at different orders. The Johansen Cointegration test was used to explore the long run relationship existing among the variables in each model and the result of the trace statistics with maximum eigenvalue test showed that the variables in the two models are co-integrated thus the study proceeded in evaluating the short run relationship using the parsimonious error correction mechanism in each model. It was found that coefficient of determination of exchange rate was positive and significant in relations with real gross domestic product, but negative and significant with respect to employment rate. Going further, trade policy had positive but non-significant relationship with both real gross domestic product and employment rate while human capital skills showed a positive and significant relationship with real gross domestic product but non-significant with employment rate in Nigeria. The study recommended among others that Government should develop a code of conduct on multinational corporation to curb their restrictive business practice, limit their repatriation of profits from Nigeria and ensure that significant part of their profits are re-invested into the Nigerian economy in order to create employment for the army of unemployed youth in Nigeria.*

Keyword: *Foreign Direct Investment (FDI), Real Gross Domestic Product (RGDP), Employment Rate, Cointegration Analysis, Nigeria*

1. Introduction

The role of Foreign Direct Investment (FDI) in fostering economic growth has generated substantial debate in academic and policy circles. Many studies have illustrated FDI's positive impact on economic growth, arguing that it facilitates technological transfer, enhances managerial skills, and stimulates a competitive business environment, which in turn catalyzes economic development (Adegbite and Ayadi, 2016; Koojaroenprasit, 2017; Onu, 2019; Adeleke et al., 2014; John, 2016; Ali and Hussain, 2017). In contrast, others argue that FDI's contribution

to economic growth is limited and often insignificant, particularly in developing economies where absorptive capacity and infrastructural support are weak (Akinlo, 2016; Louzi and Abadi, 2018). Despite these differing perspectives, the potential influence of FDI in shaping an economy's growth trajectory remains an area of significant interest and warrants further investigation. FDI is broadly defined as an investment made by a foreign entity, either corporate or individual, into a business in a host country to establish a long-term interest. This investment brings a package of resources, including capital, technology, management expertise, and entrepreneurship, which can enhance the productive capacity of the recipient economy (Farrell, 2018; John, 2016). Nigeria, with its large market and resource-rich environment, has historically attracted considerable FDI, particularly following the discovery of crude oil. Notably, in Africa, Nigeria ranks third in FDI inflow, following Egypt and Ethiopia, with major investors originating from countries like the United States, the United Kingdom, China, the Netherlands, and France (UNCTAD, 2018). However, FDI inflows to Nigeria are often volatile, influenced by factors such as political instability, infrastructural deficiencies, corruption, and economic mismanagement, which have periodically discouraged foreign investors (UNCTAD, 2018).

The Nigerian government has, at various points, implemented policies to attract FDI, recognizing its potential to drive economic growth through capital inflow, technological transfer, and job creation. Policies such as the Industrial Inspectorate Act (1970), National Industrial Property Act (1979), and the establishment of the National Office for Technology Acquisition and Promotion (NOTAP) in 1992, were specifically geared towards improving the investment climate and achieving economic self-reliance (Gakwerere, 2016). These initiatives reflect an acknowledgment of FDI as a potential catalyst for economic independence and industrialization. Nevertheless, despite these policies, Nigeria has consistently struggled to attract FDI inflows commensurate with its size and economic potential. Historically, the dependence of Nigeria's FDI on the oil sector has exposed the economy to fluctuations in global oil prices. Following the oil market collapse in the early 1980s, the Nigerian economy faced a significant contraction in foreign earnings, revealing a fundamental vulnerability in its FDI structure (Akinmulegun & Oluwole, 2019). Subsequent economic reforms, including the Structural Adjustment Program (SAP) of 1986, sought to diversify Nigeria's FDI base by promoting non-oil sectors, particularly manufacturing, to reduce dependency on oil revenue. Despite these efforts, manufacturing remains underdeveloped, partly due to inadequate FDI flows into this sector, which suffers from poor infrastructure, limited technological capabilities, and low productivity (Okoli & Agu, 2015).

In recent years, Nigeria has been positioned as one of Africa's major FDI recipients. However, a number of impediments continue to restrict its FDI performance, particularly in the manufacturing sector. Issues such as inadequate infrastructure, poor human capital development, resource mismanagement, pervasive corruption, and political instability have curtailed the full potential of FDI in supporting Nigeria's broader economic goals (Opaluwa et al., 2017; Okoli & Agu, 2015; Fabayo, 2016; Eboh, 2015; Nnanna et al., 2015). These challenges raise concerns about Nigeria's capacity to create a conducive environment for sustainable FDI that could drive long-term growth in critical sectors beyond oil. In addition, security concerns stemming from activities by groups like Boko Haram and socio-political instability further complicate Nigeria's investment landscape. At the core of this study is the investigation of FDI's impact on economic growth in Nigeria, with a focus on its potential to stimulate the

manufacturing sector. Given the significance of FDI as an external source of capital, the study evaluates its role in bridging Nigeria's capital gap and its potential to complement domestic investment in fostering economic development. While existing literature extensively documents FDI's effects on economic growth, there remains limited consensus on the mechanisms and preconditions necessary for FDI to yield positive outcomes in developing economies such as Nigeria. Specifically, the study seeks to assess whether FDI can be an effective tool for addressing Nigeria's economic challenges, or if its impact is limited by structural and institutional constraints.

A notable point of departure for this study is the emphasis on the absorptive capacity of Nigeria's economy in facilitating the positive spillover effects of FDI. Prior studies suggest that the effectiveness of FDI in promoting growth is contingent upon a country's level of human capital, trade openness, and technological infrastructure (Borensztein et al., 1995, 1998). This study thus aims to explore whether Nigeria possesses the requisite absorptive capacity to leverage FDI inflows effectively. Additionally, this research will examine the role of sectoral diversification in amplifying FDI's impact on economic growth, considering that FDI has historically concentrated on Nigeria's oil sector, with minimal contributions to manufacturing and other non-oil sectors. In conclusion, this study addresses a critical gap in the literature by investigating the structural limitations that affect FDI's contribution to economic growth in Nigeria, with a specific emphasis on the manufacturing sector. By analyzing Nigeria's absorptive capacity and identifying the barriers to productive FDI inflows, this study aims to provide insights into the policy adjustments needed to attract and sustain FDI in a way that enhances economic growth across diverse sectors. This research will not only add to the understanding of FDI's role in Nigeria but also contribute to broader policy discussions on optimizing FDI as a tool for sustainable development in emerging economies.

2. Literature Review

2.1 Theoretical Framework

This study is anchored on two theoretical foundations: the Eclectic Paradigm Theory and the Endogenous Optimum Currency Area Hypothesis. Both theories offer a strong explanatory framework for understanding foreign direct investment (FDI) trends in the manufacturing sector, particularly in response to trade barriers, location advantages, and technology transfer from developed to developing economies. The Endogenous Optimum Currency Area Hypothesis, first popularized by Mundell (1973), posits that trade barriers stimulate the inflow of FDI as a strategic response by firms to bypass these barriers. Often referred to as the capital market theory of FDI, it suggests that firms facing trade restrictions may choose to establish local production facilities within the target market to avoid the costs associated with tariffs and other trade limitations. Louangrath (2015) illustrates this through Toyota's establishment of a production facility in the United States to manufacture Lexus vehicles, effectively bypassing trade barriers and meeting U.S. market demands directly. Similarly, Nissan's Infinity production in the U.S. highlights the applicability of this hypothesis to developed markets, although some scholars argue that it overlooks essential currency risk management principles (Makoni, 2015).

Proponents of the theory, such as Romer (2014) and Lucas (2018), extend its application to developing economies through endogenous growth models, suggesting that FDI facilitates the

transfer of technology, ultimately promoting economic growth. In line with these views, Balasubramanyam et al. (2016) assert that FDI serves as a gateway for developing countries to access advanced technologies from more developed nations, creating permanent technological advancements and contributing to long-term growth through positive spillovers and externalities. In this framework, technology transfer is a crucial driver of economic growth for developing countries, where the ability to absorb and utilize foreign technology is often limited. According to Yao & Wei (2015), while developing nations may not produce technology domestically, they can rapidly adopt and adapt foreign technologies, sometimes even replicating them at lower costs. FDI offers a more efficient mechanism than traditional trade for technology acquisition, allowing domestic industries to benefit directly from knowledge spillovers (Kemeny, 2019). The theory also implies that multinational corporations (MNCs), which control a significant portion of global research and development (R&D) (Javorcik, 2015), are a key conduit for innovation transfer. MNCs often introduce non-rival and, to an extent, non-excludable technological resources to host countries. As a result, domestic firms in developing countries may capture productivity gains by learning from MNCs' production techniques and organizational efficiencies (Seyoum et al., 2015; Hofmann, 2014). Therefore, the Endogenous Optimum Currency Area Hypothesis provides a lens to understand how FDI can reduce the technology gap and increase production efficiency in developing economies, thereby fostering economic growth.

The Eclectic Paradigm Theory, also known as the OLI framework, was proposed by John Dunning (2014) and synthesizes elements from various FDI theories, including structural market imperfections and transaction-cost market imperfections. The theory provides a comprehensive approach to understanding FDI by analyzing three core advantages that motivate firms to invest abroad: Ownership, Location, and Internalization (OLI) advantages. These are firm-specific assets or capabilities that provide a competitive edge in foreign markets, justifying the cost of operating abroad. These advantages can include technological superiority, brand reputation, or management expertise. Dunning (2014) argues that such ownership advantages are crucial when they outweigh the opportunity costs of entering foreign markets. Various theories, such as Bain's (2016) concept of monopolistic advantages and Hymer's (2013) ideas on entry barriers, further emphasize that firms with unique resources or proprietary knowledge are better positioned to undertake FDI. Location advantages refer to the benefits that a firm gains from operating in a particular geographical area. Factors influencing these advantages include resource availability, labor costs, market size, and favorable government policies. Location advantages are particularly relevant in developing countries where regulatory incentives and cost efficiencies make them attractive destinations for foreign investment (Kumar & Kavita, 2017). For example, low labor costs and access to raw materials in emerging markets provide firms with compelling economic reasons to set up production facilities abroad rather than export products from their home countries. Internalization advantages arise when a firm chooses to control production and distribution activities within its corporate structure rather than outsourcing them. This control helps reduce transaction costs associated with contracting, monitoring, and enforcement, especially when intellectual property or proprietary technology is involved. Dunning (2015) suggests that firms opt for FDI over licensing or franchising when the benefits of maintaining control over their operations surpass the costs, making FDI a more efficient mode of internationalization.

Dunning's OLI framework was revolutionary in its integration of ownership, location, and internalization considerations, providing a unified model to explain the conditions under which firms engage in FDI. The framework also incorporates elements from Product Cycle Theory (Vernon, 1966) and Internalization Theory (Buckley & Casson, 2013; Hennart, 2017), thereby aligning diverse perspectives on why firms expand internationally. Dunning (2014) emphasizes that the OLI advantages are dynamic, evolving with global economic changes and technological advancements, further highlighting the flexibility of the Eclectic Paradigm in addressing modern FDI motivations. The Endogenous Optimum Currency Area Hypothesis and Eclectic Paradigm Theory collectively explain the driving forces behind FDI in the manufacturing sector, particularly in emerging economies. While the former emphasizes the role of trade barriers and the need for technology transfer, the latter offers a comprehensive view of firm-specific motivations through ownership, location, and internalization advantages. By combining these theories, this study provides a robust theoretical framework to analyze how FDI impacts the economic landscape in developing countries, particularly through technology diffusion, productivity gains, and competitive positioning within global markets.

2.2 Empirical Review

Wezel (2014) analyzed the factors influencing German banks' FDI locations in emerging markets, finding that non-bank FDI exerts a pull effect on banking sector FDI inflows. This relationship underscores the importance of macroeconomic stability and financial risk mitigation in FDI decision-making. Krogstrup and Mattar (2015) asserted that FDI is more likely to yield positive externalities in Arab countries with strong absorptive capacities, such as technological availability and workforce education. Baltagi et al. (2015) emphasized that FDI's role is moderated by third-world effects and complex multinationals' integration strategies, particularly bilateral trade costs among host countries. Iwedi and Igbaniho, (2015) study is on foreign private investment and the developing economies. The study seeks to test the hypothesis that foreign private investment (FDI and FPI) has no impact on Nigeria economy within the periods under review. The secondary data which were obtained from the Central bank of Nigeria Statistical Bulletin (2010) were used. The data was collected for a period of forty years (1970-2010). The sophisticated econometric tools of the vector auto-regressions (VAR), Johansen Co-integration, and Granger causality tests were employed in the analysis of the data. It was found that both FDI and FPI were positive at short-run though statistical insignificant with economic growth in Nigeria. While on long-run there existed a positive significant relationship between FDI, FPI and economic growth in Nigeria. This implies that a continuous increase in both FDI and FPI will propel economic growth of Nigeria. The study recommended that efforts to attract more foreign private investment should be undertaken by the Nigeria government as one of the way of boosting the Nigeria economy.

Ani et al. (2016) examined the determinants of Nigerian banks' performance over 15 years, identifying that increased bank size did not guarantee higher profits due to diseconomies of scale. Instead, higher capital-asset ratios and loan advances were key performance drivers. Onyekwena (2016) explored FDI's impact on Nigerian manufacturing firms and banks, discovering positive FDI spillovers in manufacturing but limited effects in the banking sector due to technological disparities. Abata (2016) focused on bank asset quality and performance in Nigeria, revealing that higher asset quality positively impacts bank profitability. Using sample data from major banks,

the study utilized Pearson correlation and regression analysis, confirming that improved asset quality fosters profitability. Alfaro et al. (2016) confirmed that robust financial markets attract FDI, with the financial sector's development determining whether multinational corporations integrate effectively or operate in isolation. Oteng-Ababio et al. (2016) analyzed the impact of FDI on banking sector performance in Ghana, focusing on selected banks' capital base, liquidity, and profitability (measured by return on assets). The study, which examined data from 1975 to 2014, found a positive relationship between FDI, capital base, and bank liquidity, though the relationship with profitability was statistically insignificant. Uwatt (2016) studied the impact of FDI on economic growth and domestic investment across 107 developing countries from 1980 to 2015. Using a production function framework, the study highlighted that FDI generally boosts growth, although it may crowd out domestic investments, with favorable impacts influenced by host country policies. Liuhto et al. (2016) showed that foreign entry reduces operational costs for domestic banks in advanced economies, while it has the opposite effect in developing countries. Similarly, Lensink and Hermes (2004), examining 48 countries, found that foreign presence had a negative impact on banks in developing nations and no significant effect in developed economies. Gatawa, Aliyu, and Musa (2016) analyze FDI's impact on Nigeria's manufacturing sector, finding that FDI positively affects financial performance. The study supports the assertion that targeted FDI can enhance the industrial sector's productivity and growth. Kinda (2016) conducts a cross-country study involving Nigeria, Sri Lanka, Tunisia, and Egypt. Employing a bivariate VAR model, the study finds FDI-led growth across these countries, identifying bidirectional causality between FDI and economic growth, pointing to FDI's reciprocal relationship with development in these economies.

Desbordes and Wei (2017) explored the influence of financial development on FDI amidst the 2007–2015 global financial crisis, finding that financial development in source countries greatly promoted FDI, especially in sectors dependent on external finance. In contrast, destination countries' financial development had limited, sometimes negative, impacts on FDI in sectors less reliant on external finance. Mathews and Zander (2017) examine the rapid internationalization of emerging-market companies in the Asia-Pacific region and its significant positive influence on their financial performance. This pattern of internationalization differs from conventional Western multinationals and also contrasts with earlier developing-country multinationals from the 1960s and 1970s. Ayanwale (2017) investigated the impact of FDI on Nigeria's economic growth, revealing a positive relationship between FDI and GDP, thus suggesting that increased FDI inflows could enhance economic performance. Mounde (2017) examines the rapid internationalization of Asia-Pacific companies, distinct from traditional Western multinationals. The study reveals that internationalization positively influences the financial performance of emerging-market companies, showing that FDI significantly supports GDP growth. Mathews and Zander (2017) review FDI-driven "accelerated internationalization" among emerging-market multinationals, identifying organizational innovations as key enablers of their rapid expansion. Despite limited resources, these firms effectively leverage unique competencies from challenging domestic markets, translating into substantial financial returns and enhancing competitiveness abroad. McGrew and Poku (2017) study Japanese SMEs, linking high FDI levels to enhanced firm performance. They find that while FDI has a positive influence, exporting may moderate this

impact negatively, suggesting that FDI's benefits are maximized within specific internationalization configurations.

Al-Saidi and Al-Shammari (2018) studied Kuwaiti banks, revealing that board size and non-executive director proportions negatively impacted bank performance, while role duality had a positive effect, despite limitations in sample size. Maxwell and Kehinde (2018) explored corporate governance and bank performance in Nigeria, noting that governance factors such as board composition and ownership structure had limited impact on market value. Laifi (2018) assessed the role of regional integration agreements (RIAs) in attracting FDI to the banking sector, noting that RIAs' effectiveness varies depending on integration types. Hope, Laurenceson, and Qin (2018) analyzed foreign participation in Chinese banking, observing that strategic foreign investors aid in financial innovation and knowledge transfer, especially during initial public offerings (IPOs). Büthe and Milner (2018) examine FDI's impact on Nigeria's per capita GDP using Vector Error Correction, discovering a negative relationship between FDI and economic growth. Similarly, Kolstad and Wiig (2016) assess FDI's role in Nigeria from 1986 to 2014. Using a multiple regression approach, they find a positive, albeit limited, impact of FDI on GDP, reflecting a low contribution to growth within the period. Head and Ries (2018) explore the long-term sustainability of FDI-led growth in Nigeria through a Johansen co-integration framework and multivariate VAR. The results suggest a long-run equilibrium between economic growth and FDI, with unidirectional causality from FDI to growth, further supporting the significance of sustained FDI inflows.

Owolabi and Ogunlalu (2019) evaluated Nigerian banks' financial performance pre- and post-consolidation, finding that while consolidation improved capital, it did not always enhance profitability. Consequently, the study recommended strengthened oversight by the Central Bank of Nigeria (CBN). Azman-Saini et al. (2019) demonstrated the importance of financial market development in enhancing FDI's positive influence on growth, using data from 91 economies from 1975 to 2005. Lipsey (2019) affirmed a positive link between FDI and growth, while Aitken and Harrison (2019) cautioned that FDI may crowd out domestic firms' productivity, though it increases productivity within FDI-recipient firms. Hassan (2019) examined corporate governance and performance metrics across nine Nigerian deposit money banks from 2013 to 2017, revealing no significant correlations between governance structures (e.g., board size, audit quality) and financial performance metrics. Nenubari and Emeka (2019) investigated capital adequacy and profitability dynamics in internationalized deposit money banks, finding that return on assets and equity respond positively to efficient asset utilization. Mawugnon and Qiang (2019) investigate the impact of Foreign Direct Investment (FDI) on economic growth in Togo, specifically exploring the role of internationalization. The study uses time-series data and finds a unidirectional causal link from FDI to GDP, mediated by internationalization. FDI was seen to boost GDP through international expansion rather than direct input, underscoring the importance of enhancing the investment climate to strengthen internationalization's role in economic growth. Edison et al. (2020) argued that developed financial systems better absorb capital inflows, suggesting that financial development may explain varying outcomes across income-diverse countries. Omran and Bolbol (2020) studied FDI, financial development, and growth across Arab countries, finding that FDI promotes growth when coupled with a developed financial system, and in reform-oriented nations, FDI can stimulate financial development.

3. Methodology

This study adopts an analytical research design due to its advantages in analyzing both large and small populations, particularly when a smaller sample is derived from a larger one (Onwumere, 2015). Utilizing an ex post-facto approach, the study relies on historical data, aiming to determine and measure the relationship between variables or the impact of one variable on another without manipulating the variables. The key variables examined are Foreign Direct Investment (FDI), exchange rate, human capital skills, trade openness, Gross Domestic Product (GDP). The study's target population comprises the Nigerian economy, measured through FDI and economic growth metrics from 1980 to 2022. In line with Van den Broeck et al. (2016), research studies often recruit a sample rather than the entire population when generalizing findings. This study focuses on the Nigerian economy, encompassing a comprehensive period to ensure robust insights on FDI and economic growth.

Although sample size determination is typically crucial in research, it is less relevant here as the study assesses the Nigerian economy as a whole. A non-probability sampling method, combining convenience and systematic sampling techniques, was used to select variables. This approach reflects the researcher's judgment, selecting variables based on convenience rather than randomness. The 43-year period covered by this study spanning from 1980 to 2022 facilitates an in-depth exploration of FDI and economic growth within Nigeria. Annual time series data from 1980 to 2022 mitigate potential seasonal biases, providing consistency and uniformity in the dataset. Data sources include the Central Bank of Nigeria (CBN), the National Bureau of Statistics, the World Bank, and the Federal Ministry of Finance. The macroeconomic data cover independent variables like FDI, exchange rate, trade openness, and human capital skills, while GDP serve as dependent variable. Given that secondary data are used, validity of instruments was not required, aligning with Fidel's (2017) description of validity in research. The reliability of these data sources, including publications from the CBN and the National Bureau of Statistics, ensures that the data's overall consistency remains high (O'Neil, 2019). For this study, economic growth is represented by GDP. Descriptive statistical tools, including tables, mean scores, standard deviations, probabilities, skewness, and kurtosis, were employed to analyze these variables. Multiple regression analysis, conducted using E-Views (version 10), evaluates the impact of the predictor variables FDI, exchange rate, trade policy, and human capital skills on the criterion variables (GDP) in Nigeria. The model is specified in functional form as follows:

$$RGDP = f(RER, TDP, HCS) \quad (1)$$

From the above eqn (1) the following econometric models is derived

$$RGDP = \alpha_0 + \alpha_1 RER + \alpha_2 TDP + \alpha_3 HCS + \varepsilon_1 \quad (2)$$

To make the time series data uniform and easy to regress and analyze due to the robustness and large amount of the data set, the data were converted to natural logarithm (log) form as follows

$$\log(RGDP) = \alpha_0 + \alpha_1 \log(RER) + \alpha_2 \log(TDP) + \alpha_3 \log(HCS) + \varepsilon_1 \quad (3)$$

Where

RGDP = Real Gross Domestic Product

RER = Real Exchange Rate
 TDP = Trade Policy
 HCS = Human Capital Development Skill

4. Results and Discussion

Table 1: Descriptive Statistics of selected variables

	RGDP	RER	TP	HCS	EMP
Mean	317252.9	100.2800	32.53244	44.29000	88.61317
Median	274833.3	101.7000	34.02000	17.07000	88.10000
Maximum	810451.7	383.5000	53.28000	198.3400	98.10000
Minimum	31546.80	0.550000	9.140000	1.830000	66.70000
Std. Dev.	209689.9	105.5011	12.40428	56.97063	7.572477
Skewness	0.789154	1.061570	-0.353408	1.291317	-0.692859
Kurtosis	2.769987	3.470574	2.237736	3.535860	2.981153
Jarque-Bera	4.345936	8.078994	1.846087	11.88512	3.280977
Probability	0.113839	0.017606	0.397308	0.002625	0.193885
Sum	13007370	4111.480	1333.830	1815.890	3633.140
Sum Sq. Dev.	1.76E+12	445219.0	6154.645	129826.1	2293.696
Observations	41	41	41	41	41

Source: E-Views 10.0

Table 1 presented the results of the descriptive analysis. From the table, Real gross domestic product (RGDP) stood at an average of 317252.9 billion naira and varies from a minimum of 31546.8 to a maximum of 810451.7 billion naira. Real Exchange rate (RER) showed a mean of 88.08% and ranges from a minimum of 0.54600 to a maximum of 350.00. Consequently, Trade openness (TP) and Human capital skills (HCS) have a mean of 32.53244 billion and 44.29 and vary from a minimum of 9.14 billion naira and 1.83 to a maximum of 53.28 billion naira and 198.34 respectively. Finally, the rate of employment averages at 88.61% with minimum value of 66.7% and maximum value of 98.1%. The table above equally shows that all variables used in this study all have long right tail and are positively skewed. The kurtosis for Exchange rate (RER=3.47 >3) and for human capital skills (HCS = 3.53 >3) therefore they are leptokurtic, that is heavily tailed. The kurtosis for employment rate (EMP = 2.98~3) this implies that EMP is mesokurtic (medium peak) while the other variables have kurtosis less than are 3 platykurtic which implies that they were light tailed. The Jarque-Bera (JB) test statistic was employed to ascertain whether macro-economic variables follow the normal probability distribution and the result shows that only Exchange rate and human capital skills were not normally distributed at 5% level for the period under review.

Table 2. Summary of ADF Unit Root Test

Variable	ADF Test Statistic	Mackinnon critical value @ 5%	Probability	Order of Integration
LN(RER)	-5.405706	-2.938987	0.0001	I(1)
LN(RGDP)	-4.356245	-2.936942	0.0013	I(0)
LN(TP)	-7.503268	-2.938987	0.0000	I(1)
LN(EMP)	-4.856256	-2.938987	0.0003	I(1)
LN(HCS)	-7.094669	-2.938987	0.0000	I(1)

Source: E-Views 10.0

In Table 2 above, we present the results of the ADF test of stationarity for all the variables both in levels and first difference forms. From our results, the result shows that only RGDP variable was stationary at level I(0). However, when the ADF test was applied at first difference and all the variables were stationary. That is, they were stationary after first difference I (1). This means that this ADF value is significantly less than zero ($p < 0.05$) and therefore we reject the null hypothesis of a unit root in the variables panel in favour of the alternative that the panel is stationary at level.

Table 3 Results of Cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.679860	133.4114	47.85613	0.0000
At most 1 *	0.619239	91.26846	29.79707	0.0000
At most 2 *	0.538627	55.54184	15.49471	0.0000
At most 3 *	0.516925	26.92055	3.841466	0.0000

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.679860	42.14289	27.58434	0.0004
At most 1 *	0.619239	35.72662	21.13162	0.0002
At most 2 *	0.538627	28.62129	14.26460	0.0002
At most 3 *	0.516925	26.92055	3.841466	0.0000

Source: E-Views 10.0

Table 3 above shows the cointegration test conducted to ascertain if a long-run relationship exists among the series. Considering the results of the trace and the max-eigen statistic, we reject the null hypothesis of at most three long-run relationship exists among the series and conclude that all the variables were cointegrated.

Table 4 Correlation Analysis of selected variables

Correlation Probability	RGDP	RER	TDP	HCS
RGDP	1.000000 -----			
RER	0.041642 0.7960	1.000000 -----		
TDP	0.411231 0.0076	0.157234 0.3262	1.000000 -----	
HCS	-0.009366 0.9537	0.932300 0.0000	0.066368 0.6801	1.000000 -----

Source: E-view 10

Table 4 above indicates that the correlation between the predictor variables and the criterion variables are strong, positive or negative relationship. This is supported in literature by emphasis on basic of foreign direct investment and economic growth over the period in review. The above result shows that trade policy has a positive significant relationship with economic growth proxied by real gross domestic product Nigeria while Exchange rate showed a negative but significant relationship with employment rate. Surprisingly, a negative but significant relationship between foreign direct investment and economic growth. For human capital skills, both economic growth and employment rate have negative relationship with human capital skills. However, the negative relationship between human capital skills and economic growth is insignificant.

Table 4.4a Error Correction Model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.190466	0.211131	-0.902124	0.3763
$\Delta(\text{LN}(\text{RGDP}(-1)))$	-0.296116	0.355460	-0.833050	0.4134
$\Delta(\text{LN}(\text{RGDP}(-2)))$	-0.501278	0.334280	-1.499577	0.1473
$\Delta(\text{LN}(\text{RGDP}(-3)))$	-0.356930	0.299456	-1.191930	0.2454
$\Delta(\text{LN}(\text{RGDP}(-4)))$	-0.189318	0.265369	-0.713414	0.4828
$\Delta(\text{LN}(\text{RGDP}(-5)))$	-0.254390	0.209218	-1.215908	0.2364
$\Delta(\text{LN}(\text{RER}))$	0.130125	0.557409	3.233447	0.0175
$\Delta(\text{LN}(\text{RER}(-5)))$	0.365183	0.509943	0.716125	0.4811
$\Delta(\text{LN}(\text{TDP}))$	0.257646	0.569709	0.452242	0.6553
$\Delta(\text{LN}(\text{HCS}))$	0.134867	0.541465	5.249078	0.0055
$\Delta(\text{LN}(\text{HCS}(-1)))$	0.447045	0.454697	0.983172	0.3358
ECM(-1)	-0.229067	0.350210	-5.654084	0.0195
R-squared	0.848684	Mean dependent var		-0.030658
Adjusted R-squared	0.825880	S.D. dependent var		0.817245
S.E. of regression	0.764078	Akaike info criterion		2.565568
Sum squared resid	13.42776	Schwarz criterion		3.098830
Log likelihood	-32.89744	Hannan-Quinn criter.		2.749650
F-statistic	5.445115	Durbin-Watson stat		1.996765
Prob(F-statistic)	0.021984			

Source: *Researcher’s Result from E-view (10)*

The result shows that the Error Correction Model (ECM) is negative at -0.229067, indicating a speed of adjustment to equilibrium in the current period of approximately 23%. This implies that around 23% of the disequilibrium in Real Gross Domestic Product (RGDP) is corrected by short-run adjustments each period. The ECM’s coefficient is correctly signed, as it lies within the expected theoretical range of -1 to 0. This negative sign signals convergence in the long run, suggesting that the model effectively corrects deviations of the dependent variable from its long-term equilibrium. The parsimonious ECM also displays a high coefficient of determination, indicating that the explanatory variables account for roughly 85% of the changes in economic growth, with the residual variation captured by the error term. Additionally, the overall regression is significant at the 5% level, while the Durbin-Watson statistic of 1.99 (approximately 2) confirms the absence of serial autocorrelation.

In terms of the variables of interest, some coefficients align with theoretical expectations, though others do not. The lag of economic growth demonstrates a positive and significant impact on current economic growth, implying that previous values positively influence current growth in the short run. Exchange rate shows a positive and significant effect on RGDP, underscoring its notable role in influencing Nigeria’s economic growth. Trade openness also reveals a positive relationship with economic growth, though the association with RGDP is not statistically significant despite meeting prior expectations. Lastly, human capital skills have a positive and significant impact on economic growth, highlighting their importance as a driver of economic performance.

4.1 Discussion of Findings

This study assessed the impact of foreign direct investment (FDI) on economic growth in Nigeria, analyzing data from 1980 to 2020. Using ordinary least squares regression, the findings highlight key relationships between FDI, exchange rates, trade openness, and economic growth. Exchange rate (RER) demonstrated a positive association with economic growth (RGDP), suggesting that a devaluation of the Naira can boost economic growth. This result was statistically significant at the 5% level, with a t-statistic of 3.233447 and a probability value of 0.0175. However, the analysis also revealed that Nigeria's exchange rate regime has had adverse effects on employment, particularly due to the economy's reliance on crude oil exports. Frequent exchange rate increases have harmed local manufacturers in other sectors, especially those that rely on imported raw materials. This situation leads to rising production costs, decreasing profitability, and consequently higher unemployment as industries struggle to manage price hikes.

Trade openness exhibited a positive but statistically insignificant relationship with real GDP, aligning with expectations but showing limited impact on short-run growth at the 5% significance level. This outcome is attributed to Nigeria's export structure, dominated by crude oil, whose price and volume are determined by international markets, limiting local control. Imports, conversely, are concentrated in semi-finished and finished goods, which stifles local industry development. The findings show that in the short run, labor force growth, FDI, and government spending positively influence economic growth, whereas exchange rate appreciation negatively impacts it. The dependence on raw material exports and consumable imports places pressure on the exchange rate, hampering sustainable economic growth.

The analysis also highlighted the effects of Nigeria's trade dynamics, with the country's total trade volume largely disconnected from its internal economic conditions. The high incidence of exchange rate manipulation (round-tripping) has further constrained the productive sector, limiting access to foreign currency for essential raw material imports and undermining the economy's production capacity. This divergence between official exchange rates and black market rates results in distortions that depress economic output instead of promoting it. The positive coefficient on the interactive human capital variable education and health combined was statistically significant at the 5% level, indicating that a 1% increase in human capital investment could yield approximately 0.18% growth in the economy. This supports theoretical models suggesting that human capital development drives economic growth (Solow, 2013; Barro, 2017) and is backed by empirical research (Hodud, 2014; Gongor et al., 2017; Ekienabor, Aguwamba, & Liman, 2016). The findings imply that Nigeria should simultaneously invest in education and health to maximize the benefits of human capital on economic growth. Lastly, Value Added Tax (VAT) displayed a negative but statistically insignificant relationship with economic growth at the 5% level, as evidenced by a t-statistic of -2.144794. This suggests that VAT may not substantially impact Nigeria's economic growth at present.

5. Conclusion

This study assessed the relationship between Foreign Direct Investment (FDI) and economic growth in Nigeria, with Gross Domestic Product (GDP) as the proxy for growth. The analysis

covered data from 1980 to 2022, obtained from sources including the CBN, World Bank, and the Federal Office of Statistics. The study utilized diagnostic tests to confirm the linearity between the variables, and applied methods such as Ordinary Least Squares, unit root, co-integration, and parsimonious error correction modeling to explore causality. Results show a long-run relationship between FDI and GDP growth, with the direction of causality flowing from FDI to economic growth. However, FDI displayed a negative relationship with GDP growth, suggesting that, in the current context, FDI may not significantly drive economic growth. This outcome may stem from Nigeria's limited human capital development, which affects the potential for FDI to generate broader economic benefits. Based on these findings, the following recommendations are proposed:

- i. The government should prioritize policies that encourage FDI inflows to generate revenue for infrastructure and security improvements. This approach can attract foreign subsidiaries, create jobs for the youth, and reduce crime, thereby supporting sustained economic growth.
- ii. Nigeria should develop regulations for multinational corporations to curb restrictive business practices, limit excessive profit repatriation, and encourage reinvestment into the local economy. Emphasis should be placed on fostering domestic investments to accelerate economic growth, reducing reliance on FDI alone.
- iii. Trade openness will signal Nigeria's commitment to outward-looking, market-driven policies that attract foreign investors. Revisiting local content requirements and adopting a guided trade liberalization approach would help leverage new trading opportunities, making Nigeria a more
- iv. Nigeria must commit to a stable, democratic government and work on improving its global image. Enhanced political stability, macroeconomic stability, property rights protection, and adherence to the rule of law are essential for reversing Nigeria's declining FDI trend, both locally and across Africa.

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