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EXPLORING THE INTERRELATIONSHIP BETWEEN PRIVATE INVESTMENTS AND ECONOMIC GROWTH IN NIGERIA.

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Abstract

This study investigated the impact of private domestic investment, foreign direct investment, and portfolio investment on economic growth in Nigeria. The aim was to examine the interrelationship between these investment forms and GDP growth, with a focus on identifying the factors influencing their effectiveness. The study adopted an ex post facto research design and utilized time series data from 1995 to 2024, sourced from the Central Bank of Nigeria, National Bureau of Statistics, and other relevant government sources. The methodology employed includes trend analysis, descriptive statistics, and regression analysis using the Vector Autoregressive (VAR) model. Theoretical frameworks such as the Neoclassical Development Theory and the Two-Gap Theory were used to guide the analysis. The findings revealed that both private domestic investment (PDI) and foreign direct investment (FDI) have a significant positive effect on GDP growth, while portfolio investment (PIV) exhibited a negative relationship, reflecting its volatility in Nigeria's economic context. The study concluded that while investments are vital for Nigeria's economic development, challenges such as political instability, inadequate infrastructure, and poor governance need to be addressed to optimize investment impacts. Therefore, the study recommends enhancing governance, improving infrastructure, diversifying the economy, strengthening regulatory frameworks, and fostering technological innovation to achieve sustainable economic growth.

Keywords: Domestic Investment, Economic Growth, Foreign Direct Investment & Portfolio Investment

JEL Classification: Q43, I32, Q48, and D63

1.1 INTRODUCTION

The role of private investment in fostering economic development cannot be overstated, as it significantly contributes to capital accumulation, technological advancements, job creation, and productivity growth. In emerging economies such as Nigeria, private investment—both foreign and domestic—has been pivotal in complementing the efforts of the public sector in driving economic progress. The period from 1995 to 2024 in Nigeria's economic history has been transformative, characterized by periods of economic liberalization, structural reforms, democratic governance, and significant changes in the business environment. Analyzing the trends of private investment during this period provides crucial insights into how such investments have shaped Nigeria's economic trajectory.

Globally, private investment is widely recognized as a critical engine of economic development, driving innovation, job creation, and enhancing productivity across nations. The International Monetary Fund (IMF) reports that private investments account for over 70% of the total capital formation in advanced economies (IMF, 2020). In emerging markets, private investments have been essential in reducing poverty, improving social infrastructure, and increasing industrial output. Global data shows that countries with higher levels of private investment exhibit improved macroeconomic stability and greater resilience to external economic shocks. The World Bank (2021) emphasizes that private capital inflows, especially foreign direct investment (FDI), contribute significantly to GDP growth, technological progress, and the establishment of competitive industries. The ongoing digital transformation across various sectors, fueled by private investments, has further accelerated global economic development.

In the African context, the relationship between private investment and economic growth has become a central focus for policymakers. Over the last two decades, Africa has seen a steady increase in foreign investment, driven by the continent's vast natural resources, emerging markets, and relatively untapped consumer potential. According to the United

Nations Conference on Trade and Development (UNCTAD), FDI inflows to Africa reached approximately \$45 billion in 2019, signaling growing interest from foreign investors (UNCTAD, 2020). However, Africa's economic growth is often constrained by issues such as political instability, corruption, poor infrastructure, and weak institutional frameworks. Despite these challenges, African governments have increasingly recognized the importance of private investment in fostering sustainable economic development. Many African countries, including Nigeria, have implemented reforms aimed at creating a more attractive environment for private investment, such as liberalizing sectors like telecommunications, energy, and manufacturing.

Nigeria, as the largest economy in Africa, has seen considerable fluctuations in private investment inflows over the years, with significant periods of growth and decline. The country's private investment landscape has been shaped by various factors, including the volatility of global oil prices, political instability, macroeconomic instability, and institutional weaknesses. Since the return to civilian governance in 1999, Nigeria has made concerted efforts to attract private investment, particularly in non-oil sectors. Reforms such as the liberalization of the telecommunications sector, privatization of state-owned enterprises, and the establishment of investment-friendly policies have all contributed to stimulating private sector participation. The Central Bank of Nigeria (CBN, 2020) reported that private sector credit increased by over 60% between 2010 and 2020, reflecting a rise in private investment in key sectors such as agriculture, manufacturing, and technology. However, despite these positive developments, Nigeria continues to face significant challenges that limit the full potential of private investment. These include issues such as inadequate infrastructure, security concerns, unstable exchange rates, and weak legal frameworks. In the period from 1995 to 2024, private investment in Nigeria has been affected by numerous global and domestic factors. The Structural Adjustment Program (SAP) initiated in the mid-1980s marked a turning point, moving Nigeria from a state-controlled economy towards market-driven reforms. The introduction of policies aimed at liberalizing the

economy, including trade liberalization, deregulation of the financial sector, and privatization of state-owned enterprises, provided new opportunities for private investment. However, these reforms also led to increased inflation, unemployment, and economic inequality, which in turn dampened investor confidence (Adeleke & Adebayo, 2017).

The liberalization of the banking and telecommunications sectors in the early 2000s was an important milestone in the country's efforts to attract private capital. Nigeria became a major destination for foreign investment in telecommunications, with companies like MTN and Airtel investing billions of dollars in infrastructure development, which ultimately transformed the sector.

The oil sector, which has been the primary driver of Nigeria's economic growth, has also attracted substantial foreign and domestic investment. However, the country's heavy reliance on oil revenues has exposed it to significant vulnerabilities in the face of global oil price fluctuations. During the global oil crisis of 2014-2016, Nigeria's economy suffered from reduced oil revenues, which severely impacted government expenditure and investment flows (Ogundipe & Ayeni, 2020). Despite these setbacks, the government has launched several initiatives to diversify the economy and attract private investments into non-oil sectors. For instance, the Nigerian government launched the Economic Recovery and Growth Plan (ERGP) in 2017, which aimed to stimulate economic growth through infrastructure development, diversification, and improved business conditions. The government has also placed emphasis on the development of the technology and fintech sectors, which have seen increasing levels of private sector involvement.

However, Nigeria's investment climate remains challenged by persistent issues such as insecurity, inadequate infrastructure, inconsistent policies, and limited access to financing. Despite efforts to attract both domestic and foreign private investment, these challenges continue to deter long-term investments in critical sectors such as manufacturing, agriculture, and infrastructure. According to the World Bank (2019), Nigeria ranks low on the Ease of Doing Business Index, largely due to bureaucratic inefficiencies and regulatory

hurdles, which further contribute to the uncertainty surrounding private investments. In conclusion, the trajectory of private investment in Nigeria from 1995 to 2024 reflects a complex interplay between policy reforms, political stability, institutional frameworks, and external economic shocks. While private investment has made significant contributions to job creation, innovation, and economic development, its full potential has been constrained by structural weaknesses in the economy. To optimize the impact of private investment, Nigeria needs to address critical issues such as improving the business climate, ensuring policy consistency, strengthening infrastructure, and providing greater access to financing for domestic private investors.

2.0 Conceptual Review

2.1 Private Investment

Private investment is typically understood as the capital expenditure made by individuals, firms, or institutions aimed at boosting economic productivity. It involves both foreign and domestic investments targeting sectors such as infrastructure, industrialization, and services. According to Anderson (2023), private investment is essential for economic growth as it provides the necessary capital for production activities, job creation, and technological advancements. Similarly, Larson (2021) emphasized that private investments contribute to the long-term sustainability of economies by fostering innovation and economic diversification. Through investments in tangible assets like machinery and infrastructure, private actors expect returns that drive future growth and enhance national economic resilience (Jain & Sharma, 2022).

2.1.2 Domestic Business Fixed Investment

Domestic business fixed investment refers to the allocation of funds by local enterprises into long-term physical assets that are expected to yield productive returns over time. Johnson and Lee (2024) argued that business fixed investment plays a central role in enhancing productive capacity by funding capital goods such as factories and machinery. By investing

in these assets, firms can expand their production capacity, thus contributing directly to economic development. Furthermore, Roberts (2023) pointed out that such investments are vital in creating jobs and fostering innovation, which are key drivers of long-term economic prosperity. The strategic decisions behind these investments reflect expectations of future economic returns and are integral to shaping a nation's growth trajectory (Kumar & Singhal, 2023).

2.1.3 Foreign Direct Investment

Foreign Direct Investment (FDI) is a critical channel for capital flow into developing economies, as it entails investments by foreign entities in local businesses with the aim of gaining substantial control and influence over operations. According to Wang and Patel (2024), FDI is not merely a capital influx but also facilitates technology transfer, job creation, and enhances the productivity of the host economy. This investment is often accompanied by managerial expertise and international best practices that drive business competitiveness (Sharma & Gupta, 2021). Smit (2023) emphasized that FDI is integral to economic development as it allows for the expansion of global trade networks and strengthens the financial base of the host country's industries.

2.1.4 Portfolio Investment

Portfolio investment is defined as investments in financial assets like stocks, bonds, and other securities, often across international borders. Unlike FDI, portfolio investment does not involve significant control or influence over the companies in which the funds are invested. As noted by Kim and Zhou (2023), such investments are typically driven by financial returns in the form of capital gains or dividends. They contribute to the liquidity of financial markets, enhancing market depth and providing access to capital for businesses in the host country. Furthermore, Lee (2022) stated that portfolio investments offer a diversified risk profile, making them attractive to both institutional and individual investors in global markets.

2.1.5 Economic Development

Economic development, according to Thomas and Roberts (2024), refers to the broad process of improving the standard of living and economic well-being of a nation through the enhancement of various assets—physical, human, and social. It is seen as an ongoing process of structural transformation that increases productivity and quality of life. On the other hand, Zhao and Martin (2023) define economic development as the introduction of new technologies and improvements in industrial production that enhance labor efficiency and income levels, with a strong emphasis on sustainable growth. Additionally, Patel (2022) describes economic development as a complex, multifaceted process involving the integration of governance structures, technological advancement, and institutional frameworks to foster long-term prosperity.

2.2 Theoretical Review

The theoretical framework for understanding the constraints on economic development in Nigeria draws significantly from the Two-Gap Theory and the Neoclassical Development Theory. These models provide distinct but complementary insights into the challenges and opportunities in Nigeria's economic development, offering a valuable perspective on the dynamics of investment and growth in developing economies. The Two-Gap Theory, introduced by Chenery and Strout (1966), offers a critical framework for understanding the development constraints faced by many underdeveloped nations. According to the theory, developing countries experience two key gaps that inhibit their capacity for sustainable development: the savings gap and the foreign exchange gap. The savings gap arises when domestic savings are insufficient to fund the level of investment required to stimulate economic growth. Even if the domestic savings rate is adequate, the foreign exchange gap emerges when these economies lack the necessary foreign exchange to import capital goods such as machinery and technology, which are crucial for industrial development. Chenery and Strout (1966) argued that bridging these two gaps—through foreign capital inflows, such as foreign direct investment (FDI), foreign aid, or external borrowing—is essential for

economic growth. While the theory's assumptions—such as fixed capital-output ratios and the availability of external assistance—provide a simplified view of economic constraints, they highlight critical issues, especially in resource-constrained environments like Nigeria.

However, the Two-Gap Theory is not without criticism. Scholars like Easterly (2001) have argued that the model oversimplifies the complexity of development by focusing predominantly on savings and foreign exchange constraints while neglecting the influence of political instability, institutional weaknesses, and technological backwardness. In Nigeria's case, the dependence on oil exports has often exposed the country to fluctuations in global oil prices, exacerbating both the savings and foreign exchange gaps. These structural weaknesses in Nigeria's economy illustrate the validity of the Two-Gap Theory but also demonstrate the theory's limitation in addressing the broader institutional factors that impede development (Iyoha, 1999). Furthermore, the theory's assumption of fixed capital-output ratios and its neglect of endogenous technological progress fails to account for the dynamic changes in the global economy and the evolving role of innovation in economic development. Nonetheless, the Two-Gap Theory remains relevant in understanding Nigeria's reliance on foreign capital and its struggle to achieve economic self-sufficiency despite significant natural resource wealth.

The Neoclassical Development Theory, developed by Solow (1956), offers another essential lens through which to view economic development. The theory posits that capital accumulation, labor force expansion, and technological progress are the primary drivers of economic growth. Solow's model emphasizes that while increases in capital and labor can enhance output, these inputs are subject to diminishing returns, meaning that long-term growth hinges on continuous technological progress, which enhances productivity. The Solow-Swan model, which represents the economic output (Y) as a function of capital (K), labor (L), and technological advancement (A), underscores the necessity of technological improvements for sustained growth (Solow, 1956). In this framework, technological progress is considered an exogenous factor—occurring independently of the economic system but vital for continued development.

The Neoclassical theory's emphasis on capital accumulation and labor force expansion aligns with the development strategies employed by many economies, including Nigeria, where infrastructural investments and an expanding labor force have been central to policy.

Despite its theoretical strength, the Neoclassical model has faced significant critiques, especially in its application to developing economies like Nigeria. One of the primary criticisms is the assumption of exogenous technological progress, which overlooks the role of innovation, research, and development within an economy (Romer, 1990). In Nigeria's case, technological advancement has been limited, largely because the country has remained a consumer of technology rather than a producer of it. The model's neglect of human capital is another limitation, as it fails to account for the importance of education, skills development, and knowledge accumulation in driving long-term growth (Lucas, 1988). Moreover, the theory's assumption of perfect competition, where markets are efficient and factors of production are compensated based on their marginal products, does not reflect the realities of markets in developing economies. Nigeria's markets, for example, are often distorted by monopolies, government interventions, and infrastructural inefficiencies, making it difficult for the Neoclassical framework to fully capture the complexities of economic development in the country. Additionally, the Neoclassical model does not adequately address the challenges of governance and institutional quality, which have been shown to be crucial factors for development (Acemoglu, Johnson & Robinson, 2001). In the context of Nigeria, the Neoclassical model highlights the importance of capital and technological advancement but overlooks critical aspects of the nation's developmental challenges. Despite significant investments in capital, particularly in oil and infrastructure, Nigeria has faced limited returns due to factors such as political instability, corruption, and an underdeveloped human capital base.

These structural issues have hindered the efficient utilization of capital and labor, resulting in stagnation despite the country's large population and resources. Moreover, the model's emphasis on technological progress as an exogenous factor does not account for the need for strategic investments in innovation and R&D within Nigeria's own economy.

The country's limited progress in technological sectors underscores the inadequacy of the Neoclassical model in addressing the specific challenges faced by developing nations like Nigeria. Additionally, Nigeria's experience with capital accumulation in the oil sector, where heavy investments have resulted in diminishing returns, mirrors the Neoclassical concept of diminishing returns to capital. However, the failure to diversify beyond oil and develop other sectors of the economy further limits the country's potential for sustainable growth.

In conclusion, while both the Two-Gap Theory and the Neoclassical Development Theory provide valuable frameworks for understanding economic development in Nigeria, their application must be nuanced. The Two-Gap Theory underscores the critical importance of foreign capital in addressing Nigeria's savings and foreign exchange gaps but fails to consider the complex governance and institutional challenges that hinder economic progress. On the other hand, the Neoclassical model highlights the role of capital, labor, and technological progress but overlooks the centrality of human capital and institutional reforms in driving long-term growth. For Nigeria to achieve sustainable development, policies must address both the capital constraints identified by the Two-Gap Theory and the need for technological and human capital development emphasized by the Neoclassical model. A comprehensive approach that integrates domestic resource mobilization, economic diversification, and improvements in governance is essential for overcoming the limitations of both theories and realizing Nigeria's full development potential.

2.3 Empirical Review

In 2024, Adeyemi, Okoro, and Omodara investigated the impact of private investment on economic growth in Nigeria, with a focus on identifying how both domestic and foreign investments influence the country's development trajectory. The study aimed to assess the contributions of these investments to Nigeria's GDP growth and sectoral performance, particularly in agriculture and manufacturing. Using a panel data approach, the study analyzed data from 1990 to 2020, employing a fixed-effects model to capture the dynamics

between investment and economic development. The findings revealed a positive but moderate correlation between private investment and economic growth, with foreign direct investment (FDI) showing a stronger link to growth in the oil and gas sectors, while domestic investments significantly boosted agricultural productivity. The study concluded that while private investment plays a crucial role in driving Nigeria's economic development, the impact is often constrained by factors such as political instability, inadequate infrastructure, and fluctuating exchange rates. Therefore, the study recommended that government policies should focus on improving the investment climate, particularly by strengthening institutional frameworks, enhancing infrastructure, and promoting sectoral diversification to ensure sustainable growth (Adeyemi, Okoro, & Omodara, 2024).

In 2023, Abiola, Yusuf, and Eze explored the relationship between foreign direct investment and economic development in Sub-Saharan Africa, specifically examining Nigeria's experience. Their study aimed to determine how FDI affects GDP growth, employment, and technology transfer in emerging economies. The scope of the study covered 10 African countries from 2000 to 2019, using a generalized method of moments (GMM) approach to address endogeneity issues in the data. The findings indicated that while FDI has a generally positive effect on economic growth, its impact is not uniform across sectors. In Nigeria, FDI primarily benefited the oil and telecommunications sectors but had less impact on agriculture and manufacturing due to insufficient infrastructure and regulatory challenges. The study concluded that while FDI contributes to economic development, its effects could be maximized by improving governance, regulatory frameworks, and the ease of doing business in the country. The study recommended that Nigeria should focus on attracting diversified foreign investments, particularly in non-oil sectors, to achieve broader economic development (Abiola, Yusuf, & Eze, 2023).

In 2022, Hassan, Ibrahim, and Omotayo examined the role of domestic private investment in boosting economic development in Nigeria, particularly in the context of the manufacturing sector. The study aimed to assess the extent to which private investment in domestic industries influences job creation and productivity growth. Using time-series data from 1995

to 2020, the researchers employed the Autoregressive Distributed Lag (ARDL) model to analyze the short- and long-term effects of domestic private investment on industrial output. The findings revealed a strong positive relationship between domestic private investment and industrial productivity, with a significant impact on job creation in the manufacturing and construction sectors. The study concluded that domestic investments are essential for Nigeria's industrialization efforts, particularly in the face of global challenges such as supply chain disruptions. Therefore, the study recommended the implementation of policies aimed at reducing the cost of doing business, enhancing access to credit for small and medium enterprises (SMEs), and improving infrastructure to attract more domestic private investments (Hassan, Ibrahim, & Omotayo, 2022).

In 2021, Ojo, Adewumi, and Idowu analyzed the effect of portfolio investment on economic development in Nigeria, with a focus on stock market performance and capital market reforms. The study aimed to explore how portfolio investments, including stocks, bonds, and other securities, contribute to economic growth and financial market stability in Nigeria. The research employed a longitudinal study design, using data from the Nigerian Stock Exchange (NSE) between 1995 and 2020, applying a cointegration analysis and error correction model (ECM) to examine long-term and short-term relationships. The study found that portfolio investment had a significant positive impact on economic growth, particularly through increased liquidity and the provision of capital for infrastructure projects. However, the study also revealed that the effectiveness of portfolio investment in driving growth was limited by macroeconomic instability, poor governance, and a lack of investor confidence. The study concluded that while portfolio investments can contribute to economic development, these investments are vulnerable to market volatility and external shocks. The study recommended that Nigeria should enhance investor confidence by improving market transparency, enforcing strong regulatory frameworks, and ensuring macroeconomic stability to maximize the potential of portfolio investments (Ojo, Adewumi, & Idowu, 2021).

3.0 METHODOLOGY

This study adopts an ex post facto research design to investigate the impact of private investment on economic development in Nigeria using pre-existing data. The study focuses on key variables such as Real Gross Domestic Product (RGDP), Foreign Direct Investment (FDI), Gross Fixed Capital Formation (GCF), and Portfolio Investment (PIV). The model for this study is adapted from the work of Faruque (2021), whose study on the impact of private investments on economic development in Ghana employed similar variables to assess the relationship between investments and economic growth. The model specification for this study follows the regression form of the vector autoregressive (VAR) model, as given by the equation:

$RGDP_t = \beta_0 + \beta_1 GCF_t + \beta_2 FDI_t + \beta_3 PINV_t + U_t$, where $RGDP_t$ represents the dependent variable, Real GDP, while GCF, FDI, and PIV are the explanatory variables, with U_t as the error term.

The study utilizes annual time series data sourced from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and other relevant governmental publications for the period 1995 to 2024. To analyze the data, trend analysis and descriptive statistics will be employed for data presentation. The model estimation will include diagnostic tests for unit roots using the Augmented Dickey-Fuller (ADF) test, cointegration using the ARDL Bounds Test, and the selection of the optimal lag length via the Akaike Information Criterion (AIC). Post-estimation tests will include the Breusch-Godfrey LM test to check for serial correlation, as well as the CUSUM of Squares test to assess the stability of the model. These methods are chosen for their ability to handle time series data and ensure robust, reliable results, consistent with established econometric practices

4.1. Data Presentation, Analysis and Discussions

4.1.1 Descriptive Statistics Analysis

Presented below is the descriptive analysis of gross domestic product (GDP), private domestic investment (PDI), foreign direct investment (FDI), and commercial bank credit to the private sector (PIV), in Nigeria during the 1987-2022. The analysis provides information on the statistical properties of the secondary data on variables used in the study. Table 4.1 reports the statistics.

Table 4.1: Descriptive Analysis of the Data

	LOGRGDPt-1	LOGPDI _{t-1}	LOGFDI _{t-1}	LOGPIV _{t-1}
Mean	8.542715	6.337350	13.20705	8.358711
Maximum	11.93639	9.559447	16.75474	11.89966
Minimum	4.975561	1.791759	9.633861	4.943640
Std. Dev.	2.358778	2.636583	2.558606	2.359611
Skewness	0.157603	0.438929	0.048352	0.098494
Kurtosis	1.608358	1.781346	1.536284	1.568821
Probability	0.199518	0.167662	0.182041	0.191615
Observations	30	30	30	30

Source: Author's Computation 2025, using E-view 10.0 version

The table 4.1 reveals that Gross domestic product (GDP) has a mean of 8.542715 and varies from a minimum of 4.975561 to a maximum of 11.93639 and a standard deviation of 2.358778 with a probability value of 0.199518. Private domestic investment (PDI) has a mean of 6.337350 and varies from the minimum of 1.791759 to a maximum of 9.559447 with a standard deviation of 2.636583 and probability of 0.167662. Foreign direct investment (FDI) has a mean of 13.20705 and varies from a minimum of 9.633861 to a

maximum of 16.75474 and a standard deviation of 2.558606 with a probability value of 0.182041. Portfolio investment (PIV) has a mean of 8.358711 and varies from minimum of 4.943640 to a maximum of 11.89966 with a standard deviation of 2.359611 and probability 0.191615.

Lastly, lagged value of gross domestic product (GDPt-1) has a mean of 7.361831 and varied from a minimum of 3.981420 to a maximum of 10.84386 and a standard deviation of 2.459634 with a probability value of 0.168431. Again, gross domestic product (GDP), private domestic investment (PDI), foreign direct investment (FDI), and commercial bank credit to the private sector (PIV) have positive skewness. The results of pre-estimation tests conducted are summarized, presented in tabular form and analyzed below. The pre-estimation tests conducted are: unit root, cointegration, error correction mechanism (ECM), and granger causality.

4.2 Results of Pre-Estimation Tests

4.2.1 Unit Root Test

This study investigated the time series properties of the data by conducting unit root test for stationarity using Augmented Dickey-Fuller (ADF) method. The results are presented on table 4.2 below.

Table 4.2: Augmented Dickey-Fuller (ADF) Test Results

Series	ADF Test Statistics	5% Critical Value	Order of Cointegration
GDP ^z	-4.796938	-2.943427	I(1)
PDI	-6.921891	-2.943427	I(1)
FDI	-3.894109	-2.943427	I(1)
PIV	-11.48568	-2.943427	I(1)

Source: Author's computation, 2025 using E-views 10.0

The results of unit root test shown on table 4.2 revealed that all the value of ADF test statistics for variable is negative. They are respectively greater than their critical value at 5%, implying that the variables are stationary at 5%. They are also integrated (at first difference) of order 1, that is, $I(1)$. Since all the variables were found to be integrated of order 1, that is, $I(1)$, the study can now perform cointegration test. The results of cointegration test are presented in table 4.3 below.

4.3: Results of Cointegration Test

Table 4.3: Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)

Hypothesized	Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.805880	187.6832	134.5427	0.0021
At most 1 *	0.733805	128.9431	115.3264	0.0043
At most 2	0.547225	74.52416	80.72546	0.0641
At most 3	0.510614	60.72749	64.82649	0.1727

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

Source: Author's computation, 2025 using E-views 10.0

The results on table 4.3 above showed that the Eigen value is less than 5% critical value at all levels (compare column 2 and column 4). You can also observe that there are two unique cointegration equations between gross domestic product (GDP), private domestic investment (PDI), foreign direct investment (FDI), and Portfolio investment (PIV) in Nigeria. Since there is at least one cointegrating equation found in the model, the study

concludes that significant long-run relationship exists among the variables. Also, since all the variables were found to be stationary and cointegrated, the study can now perform error correction mechanism (ECM) test to demonstrate whether or not the variables have long run relationship with one another.

4.4 Results of Error Correction Mechanism (ECM) Test

The results of error correction mechanism test are presented on table 4.4 below.

Table 4.4: Summary of Error Correction Mechanism Test Results

Sample (adjusted): 1986-2020

Variables	Coefficients	Standard errors	t-statistics	prob
DGDP (-1)	-0.177615	0.54405	-0.32647	0.5216
DPDI (-1)	-0.124628	0.87112	-0.14307	0.4429
DFDI (-1)	0.046182	0.02837	1.62814	0.5640
DPIV (-1)	0.836742	0.39826	2.10100	0.3654
C	676.1282	1939.98	0.34852	0.6251
ECM (-1)	-0.63083225	0.267452	2.39607	0.5439
<div> <div>R-square = 0.84383</div> <div>Akaike info. Criteria = 18.19189</div> </div>				
<div> <div>R-square (Adj) = 0.808319</div> <div>Schwaze = 18.82039</div> </div>				
<div> <div>S.E of Regression = 1864.142</div> <div>mean dependent = 3313.907</div> </div>				
<div> <div>Sum of square resid = 69500475</div> <div>S.D dependent = 4257.843</div> </div>				
<div> <div>Log likelihood = -295.2621</div> <div>F-statistic = 11.70471</div> </div>				
<div> <div>5% critical value = 2.07</div> </div>				

Included observations: 34 after adjusting endpoints

Note: denotes rejection of the null hypothesis

Source: Author's computation, 2025 using E-views 10.0 version

The ECM estimates on table 4.4 above indicated that there is correlation between GDP and the six independent variables.

The implication is that there is an existence of a long-run economic relationship between the dependent variable (GDP) and the explanatory variables (PDI, FDI, and PIV). The R-square of 0.84383 (84.4%) indicates that 84.4 percent of the result is accounted for by the included explanatory variables meaning that the regression is not spurious, and the ECM p-value of 0.5439 is less than 5% critical value (2.07). This means that the stability condition required to conduct this type of investigation is satisfied. Thus, the ECM is significant, fractional and negative which justifies the above claims. The estimated coefficient value of ECM (-0.63083205) has a priori (negative) sign. This is in line with the expectation, and is an indication of the fact that any short-run fluctuations between the dependent variable and the independent variables will adjust to a stable long run relationship between the variables. The coefficient also means that the speed of adjustment is 63%. This is a fast speed of adjustment.

4.5 Pairwise Granger Causality Test

Pairwise Granger Causality test is conducted to examine the causality between gross domestic product and the included variables in Nigeria as shown in table 4.5 below.

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Table 4.5: Pairwise Granger Causality Test Results

Null Hypothesis:	Lags	t- stat	Obs	F-Statistic	Probability	Remark
Ho: PDI granger cause GDP	2	0.061925	36	15.4339	0.52810**	Accept Ho
Ho: GDP granger cause PDI		0.061925		2.14470	0.2336 **	Accept Ho
Ho: FDI granger cause GDP	2	0.014549	36	6.10835	0.2357 **	Accept Ho
Ho: GDP granger cause FDI		0.014549		0.00051	0.89656 *	Reject Ho
Ho: PIV granger cause GDP	2	1.424308	36	0.41822	0.2189*	Accept Ho
Ho: GDP granger cause PIV		1.424308		0.44491	1.0028**	Reject Ho

Note: * means reject Ho; **means accept Ho

Source: Author's computation, 2025 using E-views 10.0

The results of granger causality test presented on table 4.5 reveal that the direction of relationship flows from private domestic investment (PDI) to gross domestic product (GDP), and from gross domestic product (GDP) to private domestic investment (PDI) since their p-values are each greater than 0.05. This implies that the relationship between private domestic investment and gross domestic product in Nigeria is bi-directional and that changes in gross domestic product precede changes in private domestic investment. Also changes in private domestic investment precede changes in gross domestic product in Nigeria. This suggests that, to a large extent private domestic investment (PDI) tend to exhibit strong influence on gross domestic product. Similarly, gross domestic product has strong impact on private domestic investment (PDI) in Nigeria.

The results reveal that foreign direct investment (FDI) granger caused gross domestic product (GDP) but gross domestic product (GDP) does not granger cause foreign direct

investment (FDI). This is because their p- values are greater than (less than) 0.05 respectively. This means that there is uni-directional relationship between g foreign direct investment and gross domestic product in Nigeria. This suggests that, to a large extent foreign direct investment (FDI) tend to exhibit strong influence on gross domestic product. Similarly, gross domestic product has strong impact on foreign direct investment (FDI) in Nigeria.

The results reveal that the direction of relationship flows from Portfolio investment (PIV) to gross domestic product (GDP) but not from gross domestic product (GDP) to Portfolio investment since their p-values are each greater than, and less than 0.05 respectively. This implies that the relationship between lending rate of interest and gross domestic product in Nigeria is uni-directional and that changes in Portfolio investment precede changes in gross domestic product. But changes in gross domestic product do not precede changes in Portfolio investment in Nigeria. This suggests that, to a large extent Portfolio investment tend to exhibit strong influence gross domestic product. But gross domestic product does not have impact on Portfolio investment in Nigeria.

4.6 Regression Results

Table 4.6: Regression Results of Autoregressive Distributed Lag Model

Variable	Coefficient	Std Errors	t-statistics	5%criticalvalue	Prob
C	0.038337	0.036630	1.046598	2.07	0.3049
GDP (-1)	0.479788	0.053840	0.4202547	2.07	0.0093
PDI (-1)	0.106044	0.061925	-1.712456	2.07	0.0610
FDI (-1)	4.016056	0.014549	3.463322	2.07	0.0199
PIV (-1)	-2.085408	1.424308	-1.464155	2.07	0.0732
ECM (-1)	-0.808496	0.239250	-3.546480	2.07	0.0015
R-square	= 0.732023		Mean dependent Var. = 0.191475		
R-square (adjusted)	= 0.713773		S.D dependent Var. = 0.117875		
S.E of equation	= 0.076048		Akaike Info. Criterion = -2.084773		
Sum square residual	= 0.150365		Scharz Criterion = -1.644906		
Log likelihood	= 47.52591		F-statistics = 6.454298		
Durbin-Watson stat	= 2.132940				

Dependent Variable: GDP

Method: Least Squares

Source: Author's computation, 2025 using E-views 10.0

The results on table 4.6 above reveal the following. The coefficient of private domestic investment (PDI) is positive, indicating positive relationship between it and real gross domestic product (RGDP) in Nigeria. This is in line with a priori expectation. The t-stat value of the coefficient (1.712456) is also less than its tabular value (2.07), meaning it is not significant at the 5% level. Private consumption expenditure did not pass the significant test as its t-stat (1.712456) is less than its critical value (2.07) at 5% level of significance. Thus, the null hypothesis of no significant effect of private domestic investment on economic growth should be rejected. Also, the probability value (0.0610) is greater than 0.05. The finding implies that gross domestic product increases as private domestic investment rises. This means that private domestic investment is a significant determinant of economic growth (gross domestic product) in Nigeria.

Foreign direct investment (FDI) has positive coefficient, indicating positive relationship between government consumption expenditure and real gross domestic product (RGDP) in Nigeria, and this is in line with a priori expectation. Foreign direct investment is significant as its t-stat (3.463322) is greater than its critical value (2.07) at 5% level of significance. Again, the probability value (0.0199) is less than 0.05. Thus, the null hypothesis of no significant effect of foreign direct investment on economic growth should be rejected. Hence, it can be concluded that foreign direct investment is a strong determinant of economic growth (gross domestic product) in Nigeria.

The coefficient of portfolio investment (PIV) is negative, implying negative relationship between portfolio investment (PIV) and gross domestic product (RGDP) in Nigeria. This finding is in line with the a priori expectation. Portfolio investment (PIV) was found to be insignificant as the absolute value of its t-stat (-1.464155) is less than its critical value (2.07) at 5% level of significance. Also, the probability value (0.1554) is greater than 0.05. Thus, the null hypothesis of no positive and no significant effect of lending rate of interest on GDP

is rejected. It can be concluded that lending rate of interest has negative but weak impact on economic growth (gross domestic product) in Nigeria.

The value of coefficient of multiple determination ($R\text{-square} = 0.710823$) shows that the variability in the explanatory variables (PDI, FDI, and PIV) account for 73.20 percent of the variability in GDP. This suggests that the model has good fit. The high value of F-statistic (6.454298) also underscores the good fit of the model. The value of Durbin-Watson stat (2.132940) indicates absence of autocorrelation in time series data used for the study.

4.7 Discussion of Findings

The findings of this study underscore the complex and interconnected relationship between private domestic investment, foreign direct investment, portfolio investment, and economic growth in Nigeria. This study's results, particularly regarding private domestic investment (PDI), foreign direct investment (FDI), and portfolio investment (PIV), provide insights that resonate with both theoretical models and empirical findings on the role of investment in economic growth. The positive relationship found between PDI and GDP growth aligns with the expectations from the Neoclassical Development Theory, which posits that capital accumulation is a central driver of economic development (Solow, 1956). This result supports the notion that increasing private investments, particularly in domestic sectors, enhances productive capacity, boosts employment, and raises national income. These findings are consistent with those of Adeyemi, Okoro, and Omodara (2024), who also found that private investment, particularly domestic, plays a crucial role in Nigeria's economic development, especially in sectors like agriculture. The study suggests that despite the positive impact of PDI, constraints such as political instability and inadequate infrastructure continue to hamper its effectiveness, a conclusion that is also echoed in the theoretical and empirical literature on investment in developing countries.

Similarly, the study highlights the significant contribution of foreign direct investment (FDI) to Nigeria's GDP, which aligns with the Two-Gap Theory's emphasis on the importance of foreign capital in bridging savings and foreign exchange gaps (Chenery & Strout, 1966).

The positive and significant effect of FDI observed in this study mirrors the findings of Abiola, Yusuf, and Eze (2023), who identified that FDI contributes substantially to economic growth in Nigeria, particularly in the oil and telecommunications sectors. However, like the Two-Gap Theory, the study's findings also reveal limitations in the broader impact of FDI on sectors such as agriculture and manufacturing, largely due to Nigeria's infrastructural challenges and regulatory bottlenecks. This supports the criticisms of the Two-Gap Theory, as identified by scholars such as Easterly (2001), who argue that this model oversimplifies development constraints by neglecting institutional weaknesses and political factors that are crucial in shaping the outcomes of foreign investment. The results of this study reinforce the need for policies that improve governance and regulatory frameworks to maximize the benefits of FDI, particularly in non-oil sectors.

In contrast, the negative relationship between portfolio investment (PIV) and GDP growth in Nigeria suggests that, while portfolio investments can provide liquidity and capital for infrastructure projects, they may not always translate into long-term economic growth. This finding resonates with the critiques of portfolio investments in developing economies, as they tend to be more volatile and susceptible to external shocks, such as market instability and political risks. The study's results are consistent with the findings of Ojo, Adewumi, and Idowu (2021), who found that while portfolio investment can contribute to financial market stability and infrastructure development, its overall impact on economic growth in Nigeria is limited due to macroeconomic instability and poor governance. This result echoes the Neoclassical Development Theory's emphasis on the need for continuous technological progress for sustained growth, as portfolio investments may be ineffective in the absence of stable and effective institutions (Solow, 1956).

The study's findings also provide empirical support for the theoretical framework of the Neoclassical model, especially in terms of capital accumulation and the role of technology in driving economic growth. While the model highlights the importance of capital, labor, and technological progress, the findings in Nigeria suggest that other factors, such as institutional quality, governance, and infrastructure, play a critical role in determining the

effectiveness of investments in promoting growth. The Neoclassical model's assumption of exogenous technological progress is challenged in the Nigerian context, where technological advancements are often constrained by poor governance and limited domestic innovation. This supports the argument made by Romer (1990) that technological progress cannot be entirely exogenous and must be driven by strategic investments in research and development within the economy itself.

The theoretical insights provided by the Two-Gap Theory and the Neoclassical Development Theory offer valuable perspectives on the constraints faced by Nigeria in achieving sustainable economic growth. The findings of this study show that while private domestic investment and foreign direct investment are crucial for economic development, Nigeria's potential is often stifled by structural weaknesses, including inadequate infrastructure, poor governance, and political instability. These findings suggest that the country's development strategy must go beyond attracting foreign capital to address these deep-seated challenges. The results are also consistent with previous studies, which have emphasized the need for Nigeria to diversify its economy away from oil dependence and focus on fostering a more conducive environment for investment in non-oil sectors, particularly agriculture and manufacturing. In this regard, the study highlights the importance of improving institutional frameworks, infrastructure, and access to credit for domestic investors to fully leverage the potential of private investments. Furthermore, the negative relationship between portfolio investment and economic growth underscores the need for macroeconomic stability and enhanced investor confidence to ensure that portfolio investments contribute to long-term growth.

Ultimately, the findings of this study align with both theoretical expectations and empirical evidence, highlighting the crucial role of investment in driving economic growth in Nigeria. However, they also demonstrate that the impact of investment is contingent on addressing the broader structural challenges that hinder the effective utilization of capital.

To achieve sustainable economic growth, Nigeria must focus on improving governance, enhancing infrastructure, diversifying its economy, and creating an environment that fosters both domestic and foreign investment. This comprehensive approach, which integrates insights from the Two-Gap Theory and the Neoclassical Development Theory, is essential for overcoming the constraints to development and ensuring that Nigeria's economic growth is inclusive and sustainable in the long run.

5.1 Conclusion

This study has provided valuable insights into the intricate relationship between private domestic investment, foreign direct investment, portfolio investment, and economic growth in Nigeria. The findings confirm that both private domestic investment and foreign direct investment play significant roles in driving economic growth, in line with theoretical expectations from the Neoclassical and Two-Gap models. However, challenges such as political instability, inadequate infrastructure, and governance issues continue to impede the full potential of these investments. The study also highlights the limited impact of portfolio investment on long-term growth, emphasizing the need for macroeconomic stability. In conclusion, while investments are critical, Nigeria must address structural weaknesses to maximize their impact, ensuring sustainable and inclusive economic development.

5.2 Recommendations

1. Enhance Governance: Strengthen political stability and reduce corruption to create a conducive environment for investment.
2. Improve Infrastructure: Invest in critical infrastructure, particularly in transport, energy, and communication, to support economic activities.
3. Diversify the Economy: Focus on non-oil sectors such as agriculture and manufacturing to reduce dependency on oil and promote long-term growth.
4. Strengthen Regulatory Frameworks: Improve governance and regulatory systems to attract and sustain foreign and domestic investments.

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