

RELATIONSHIP BETWEEN INVESTMENT AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study investigates the relationship between investment and economic growth in Nigeria. The study employed a rigorous econometric approach using Pooled Mean Group (PMG) regression analysis covering Nigeria from 1985 to 2023. The dependent variable is Gross Domestic Product Growth (GDPG) while, the independent variables are Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI) and Domestic Investment (DOI). The result shows that there is long run relationship among the variables employed. Also, the findings revealed that, foreign private investment demonstrates the strongest long-term growth impact, Domestic investment shows consistent positive effects while, Foreign direct investment presents an interesting paradox - initially negative but ultimately positive effects - highlighting the complex dynamics of economic integration. The study therefore recommends among others that government should improve the investment climate by reducing regulatory bottlenecks, ensuring stable exchange rates, and strengthening property rights and also develop critical infrastructure (power, transport, and digital connectivity) to attract high-value foreign investments in order to achieve sustainable economic growth in Nigeria.

Keywords: Investment, Economic Growth, Pooled Mean Group.

Introduction

Nigeria is really an oil rich nation but the leadership over the years could not diversify the economy. So, the country relied heavily on the proceeds from oil as a major source of financing the social, economic and political activities. However, the myopic perception of the political power holders or the resource managers impeded effective use of realized income for investment which culminates to the ugly experience and low living standard of today (Index Mundi, 2014 and CIA World Fact-Book, 2013). Deficiency of public investment in infrastructure and the snail speed implementation of reforms constitute the major key debility to growth and advancement.

Actually, countries engage in varieties of activities aimed at accelerating economic development and growth. Public investment is usually employed as a veritable engine of development and growth. This is because improvement in the living standard of the people depends on efforts geared toward increasing aggregate economic activities which involves

enough investment, effective and efficient utilization of the resources of the society and increase in aggregate productivity. Investment is the intentional increase in the stock of capital. In the view of Keynesians, investment depends on income. In Nigeria, low income has played unqualified role in inability to raise sufficient capital for investment. So, lack of and improper utilization of available capital has contributed adverse influence in investment in capital overheads, developmental infrastructure and other productive ventures. Besides, the skewed investment in the urban with little or nothing in the rural areas dominantly occupied by Nigerians has large negative effects. Consequently, the acceleration of economic growth is seriously affected.

Economic growth as conceived by Abiola and Egbuwalo (2010) is the ability of a country to expand her production possibility curve to rise above its previously operating level. In addition, growth is perceived to imply a sustained rise in real per capita income of a nation. It can specifically be stated that economic growth involves a long-term rise in the capacity of a given nation to continuously supply various economic goods to her populace such that the citizenry has sufficiency for consumption. But suffice it to note that economic development is synonymous to growth. Meier (1980) posits that economic development is the process whereby the real per capita income of a country increases over a long period of time-subject to the stipulations that the number of people below an "absolute poverty line" does not increase, and that the distribution of income does not become more unequal. This implies improvement of lives of the people beyond what it was in the past, and what can specifically guarantee this noble attainment are investments. The rates of investment and population growth in Nigeria given the present high level of resource unemployment do not correspond to output and income growth capable of adequate living standard.

Actually, investment implies intentional expenditure that is channeled to raising or maintaining the stock of capital. In this respect, the stock of capital includes tangible assets or products, plants and machines and so on which support production (Dornbusch & Fischer, 1981). Human capital training and provision of infrastructure which are relevant factors needed for encouraging economic activity depend on investment. Investment can be in form of domestic, foreign private and public investment. Bakare (2011) points out that public investment consists of government, and public enterprises capital expenditure on social and economic assets. This aspect of investment is imperative and fundamental for other aspects of investment. Many scholars argued and disagree with the role allotted to investment in the economic growth process. Whatever view held about the impact of investment in development and growth of an economy, the effect of investment in machinery and equipment is considered as a main determinant of growth (De Long and Summers, 1991 and 1993). Further studies have established positive relationship between private investment and growth, and the envisaged complementarities between private investment and public investment (Kahn and Reihart, 1990; Serven and Solimano, 1992; Kahn and Kumar, 1997). Other studies have stressed on the positive effect of foreign direct investment and infrastructure on growth and development (Lim, 2001; Olofsdotter, 1998; Easterly and Serven, 2003).

From the ongoing, it seems that the desires of Nigerians with respect to industrialization which is one of the results of sufficient investments and creation of employment opportunities have not been met owing to inadequate investments in every facet of the economy. Be it as it may, the broad objective of this study is to ascertain the influence of investments in promoting

economic growth and development of Nigeria. Specifically, it is our intention to examine the impact of domestic investment, foreign private investment and economic openness on the real gross domestic product (a proxy for economic growth).

Statement of Problem

The relationship between investment and economic growth in Nigeria is a critical issue that significantly impacts the country's development landscape. Despite its vast natural resources and youthful population, Nigeria has struggled to achieve sustainable economic growth, primarily due to persistently low levels of both domestic and foreign investments. This underinvestment has led to stagnation in key sectors, resulting in limited job creation, inadequate infrastructure, and a lack of technological advancement. High interest rates and inflationary pressures have deterred investors, while the volatility of the Nigerian Naira and uncertainties surrounding fiscal and monetary policies have created an unpredictable environment that further discourages investment.

Moreover, inadequate capital formation exacerbates the situation, as Nigeria faces a significant savings-investment gap where savings rates do not translate into sufficient investment levels. Structural issues such as poor financial intermediation, limited access to credit for small and medium-sized enterprises (SMEs), and insufficient investment in critical infrastructure—such as transportation networks and power supply—hinder economic activities and limit growth potential.

This interplay between low investment levels and economic growth raises critical questions about Nigeria's development strategy. While certain sectors, such as agriculture and technology, have shown resilience and potential for growth, the overall economic performance remains below expectations. The lack of robust investment strategies limits job creation opportunities and perpetuates high unemployment rates, particularly among the youth. Furthermore, without substantial investment in human capital development, Nigeria risks falling behind in an increasingly globalized economy. Understanding the intricate dynamics of this relationship is essential for formulating effective policies that can stimulate sustainable development. Addressing barriers to investment—such as high costs of doing business, policy inconsistencies, and infrastructural deficits—will be crucial for unlocking Nigeria's economic potential. This study aims to explore these dynamics comprehensively, providing insights that could inform policymakers and stakeholders in their efforts to foster an environment conducive to investment and economic growth in Nigeria.

The significance of this study on the relationship between investment and economic growth in Nigeria lies in its potential to inform policy formulation, enhance investment strategies, and address critical socio-economic challenges. By providing insights into how investment influences economic performance, the research can guide policymakers in crafting effective interventions that create a conducive environment for both domestic and foreign investments. This is crucial in a context where policy inconsistencies and bureaucratic challenges have historically hindered investment flows. For investors, the study offers valuable information on sector-specific opportunities and challenges, enabling informed decision-making regarding resource allocation. Furthermore, by emphasizing the role of investment in driving job creation and fostering inclusive growth, the research aligns with national development goals aimed at reducing poverty and improving living standards. Additionally, this study

contributes to the academic discourse on economic development in Nigeria and similar contexts, providing empirical evidence that can serve as a foundation for future research. Overall, the findings of this study are expected to promote sustainable development and address pressing socio-economic issues in Nigeria. The insights that will be gained from this research will also inform policymakers and stakeholders about the critical role of investment in fostering economic growth, thereby contributing to more effective economic strategies.

Literature

Investment is a critical economic activity that involves the allocation of resources, particularly capital, to generate future returns. Scholars like Keynes (1936) emphasized the role of investment in stimulating economic activity, suggesting that it is a primary driver of demand in the economy. Investment has been conceptualized by various scholars, each highlighting its significance in fostering economic growth. Rodrigue (2020) describes investment as a framework for obtaining institutional capital necessary for real sector activities, emphasizing its critical role in economic development projects. Levine (2021) posits that investment is driven by advancements in the financial sector, which effectively meet the funding needs for technological progress essential to economic development. Additionally, Bamidele (2019) identifies investment as a key determinant of growth, noting that insufficient funding levels can hinder Nigeria's real estate sector and overall economic performance.

The Keynesian economic theory, articulated by the influential British economist John Maynard Keynes in the 1930s, represents a paradigm shift in understanding the dynamics of economic activity and the role of government intervention. Keynes challenged the classical economic doctrine, which held that free markets naturally adjust to achieve full employment through price and wage flexibility. Instead, he argued that economies could experience prolonged periods of disequilibrium, characterized by high unemployment and underutilized resources, due to insufficient aggregate demand. Keynes posited that aggregate demand, comprising consumption, investment, and government spending, is the primary driver of economic activity. During economic downturns, when private sector demand is weak, Keynes advocated for active government intervention through expansionary fiscal policies, such as increased public spending on infrastructure projects and social programs, as well as tax cuts to boost disposable income and stimulate consumption. By doing so, governments can offset the decline in private sector demand, reduce unemployment, and promote economic recovery. The Keynesian framework has profoundly influenced modern macroeconomic policy, particularly in its emphasis on counter-cyclical fiscal measures to stabilize economic fluctuations and foster sustainable growth.

Accelerator Theory

The accelerator theory of investment provides a dynamic and nuanced perspective on the relationship between changes in national income and investment levels. It posits that firms adjust their investment in capital goods based on the rate of change in economic output or demand. When an economy experiences robust growth, businesses anticipate higher future demand for their products and services, prompting them to invest in new capital to expand production capacity and meet the rising demand. This investment, in turn, contributes to further economic growth, creating a virtuous cycle of expansion. Conversely, if economic growth slows or contracts, firms may reduce investment due to diminished expectations of

future demand, leading to a downward spiral of reduced economic activity. The accelerator effect highlights the sensitivity of investment to economic cycles and underscores the importance of maintaining stable growth to foster a conducive environment for business investment. This theory is instrumental in understanding the volatility of investment spending and its impact on economic stability, as well as the role of expectations and confidence in shaping investment decisions.

Economists and other scholars have delved into studies focusing on investments and overall economic growth and development. The main intention has been to unravel how sufficient investment is a pre-requisite for moving a country at a certain stationary or low economic status to a dynamic and progressive level needed to uplift the social, economic, political and the environment of the people in order to live a better life devoid of poverty. It is believed by many scholars that there is serious infrastructural gap in third world economies and economic growth is attainable by sufficient close of the gap which will improve demand cum patronage by developed economies, thereby raising the needed capital for further investment.

Suprpto and Saleh (2022) conducted a study to investigate the impact of investment on economic growth in Bekasi Regency during the period 2015 to 2019. Their findings revealed a positive and significant relationship between investment and economic growth. Amade, et al. (2022) explored the effects of domestic investment on Nigeria's economic growth from 1981 to 2018. They employed the Autoregressive Distributed Lags (ARDL) technique and identified domestic investment, foreign direct investment, and the exchange rate as significant long-term factors influencing economic growth in Nigeria.

Nguyen and Nguyen (2021) focused on Vietnam and examined the influence of public investment, private investment, and foreign direct investment on economic growth from 2000 to 2020. Using the Pool Mean Group (PMG) regression method, the study found that labour and trade openness had a negative impact on economic growth in the short term, while public investment had a negative effect on growth in the long run. Conversely, domestic private investment, foreign direct investment, trade openness, and labour had positive effects on economic growth in the long term. Ewubare and Worlu (2020) employed the Error Correction technique to analyze annual time series data from 1990 to 2017 in Nigeria. However, their study did not find a significant impact of domestic investment on economic growth in Nigeria.

Ijirshar et al. (2019) investigated the growth-differential effects of foreign direct investment (FDI) and domestic investment (DI) among 41 African countries from 1970 to 2017. The study utilized dynamic panel models and found that both FDI and DI are important drivers of growth in the long run. Additionally, inflows of FDI were observed to crowd-in DI in Africa, and the joint effects of FDI and DI on African countries' growth were statistically significant. However, foreign direct investment had negative effects on the growth of African economies in the short term. Ahmad (2018) analyzed the effects of foreign direct investment (FDI) and domestic investment on China's economic growth from 2000 to 2014 using the panel autoregressive distributed lag (ARDL) method. The study concluded that both FDI and domestic investment positively and significantly influenced China's economic growth, with domestic investment playing a more substantial role.

Bakari (2017) examined the relationship between domestic investment and economic growth in Malaysia from 1960 to 2015. Using the Vector Error Correction Model and Granger-Causality tests, the study found a positive long-term effect of domestic investment, exports,

and labour on economic growth. However, no significant relationship was observed between domestic investment and economic growth in the short term. The study highlighted the importance of domestic investment, exports, and labor as driving forces for Malaysia's economic growth.

Umoh et al (2012) empirically investigated the relationship between foreign direct investment and economic growth in Nigeria between 1970-2008. The study found that there is bidirectional relationship between FDI and economic growth in Nigeria, that is, FDI contributes to growth which in turn promotes FDI. The study encourages further openness and increased Private participation is essential to ensure that Nigerian economy benefits from FDI and heightens economic growth rates.

Qin et al (2005) empirically examined the authenticity of growth due to investment in China. Among the findings are that market demand has been a regular propeller in driving investment. Besides, the study shows that government investments play a desirable role in intensifying investment cycles, and also effective in encouraging employment and rising consumption has the power to sustain growth, thereby promote constant-return –to scale in the long run effect on gross domestic product.

Ghura (1997) investigated private investment and endogenous growth; evidence from Cameroon employing the ordinary least square method. The revelation of the result supports the endogenous growth model which include: the aggregate production function shows increasing returns to scale; private investment amplification have large, strong and significant effect on growth; government investments increase impact positively on growth; human capital advancement contributes meaningfully in output expansion; positive externalities are seriously derived from physical and human capital expansion and finally, growth is enhanced by economic policies which promotes external competitiveness and judicious fiscal position.

Warner (2014) empirically examined the role of big infrastructure and public capital in successfully propelling the economic growth in low-income countries. The study revealed that on the average, the evidence denotes weak positive association between investment spending and growth, and there exists a little long run positive effect. But an exception to this situation is Ethiopia that its high public investment gave rise to high growth rate of gross domestic product. The study also brings up the issue of public investment funds was sourced from loans which requires proper and serious analytics so as to derive adequate benefits.

Overall, the existing body of literature emphasized in this study does not thoroughly explain an up-to-date record of the relationship that exists between investment and economic growth in Nigeria for a significant enhancement of the Nigeria's economic development prospects; that is why there is need for ongoing research to inform, students, policy makes and researchers of the latest result on the topic that align with the country's unique economic history.

Research Methodology

The Endogenous Growth Theory is one of the important theories that this study anchors on, and it expresses the basic improvement in the growth of an economy over the previous models is that it explicitly tries to model technology rather than assuming it to be exogenous. Mostly, economic growth comes from technological progress, which is essentially the ability of an economic organization to utilize its productive resources more effectively over time. The

other theory that this study focuses on is the accelerator theory of investment which provides a dynamic and nuanced perspective on the relationship between changes in national income (economic performance) and investment levels. It posits that firms adjust their investment in capital goods based on the rate of change in economic output or demand (Sachs & Warner, 2001).

The neoclassical theory of investment is also a key theory that explains this study, which is rooted in the principles of marginal analysis and rational decision-making, emphasizes the role of the user cost of capital in shaping investment decisions. This theory asserts firms undertaking investment projects when the expected marginal return on capital exceeds the marginal cost of acquiring and utilizing that capital. The research design that will be employed in this study is the ex-post facto research design. Ex-post factor research design, also known as after-the-fact research, is a research approach examining how pre-existing independent variables influence dependent variables. This method, does not make use of assumed figures or primary data for analysis. In this research the focus lies in predicting causes based on past actions, without the ability to manipulate or alter those actions, behaviors or participant traits; the study test hypotheses to identify cause-and-effect relationships between the independent and dependent variables.

The objective of the study is to determine the relationship that exists between investment and economic performance in Nigeria from 1990-2023. The variables used on the study are foreign direct investment, domestic investment and foreign portfolio investment as the independent variables and economic growth (GDP growth), as the dependent variable.

Having the objective of the study as determining the relationship that exists between investment and economic performance in Nigeria from 1990-2023. The variables used on the study are domestic investment, foreign portfolio investment, foreign direct investment and GDP growth which implies that there should be a functional link between the dependent variables and the independent variables as expressed in this model below. They can be specified in three forms as seen below:

Functional specification

$$GDPG = F(FDI, FPI, DOI)$$

Statistical Specification

$$GDPG = \beta_0 + \beta_1 FDI + \beta_2 FPI + \beta_3 DOI$$

Econometric Specification

$$GDPG_t = \beta_0 + \beta_1 FDI_t + \beta_2 FPI_t + \beta_3 DOI_t + \varepsilon_t$$

Where:

FDI represents Foreign Direct Investment

GDPG represent Gross Domestic Product Growth

FPI represents Foreign Portfolio Investment

DOI represents Domestic Investment

ε Represents the error term

$\beta_0, \beta_1, \beta_2, \beta_3$ represents the parameters of the variables

The method of data analysis that this study; is what this section specifies, to be certain through the use of stationarity test result has been carried. This will be possible bearing in mind

the use of secondary data for the study. Different methods of data analysis that can be adopted include; Error Correction Model (ECM), Auto-Regression Distribution Lag model (ARGL), Ordinary least Square Method (OLS), Vector Auto-Regression Model (VAL), Vector Error Correction Model (VECM) will be chosen and the determination of the pre-estimation test.

Data Presentation and Analysis

This comprehensive stationarity testing employs four different unit root tests to ensure our variables meet the requirements for reliable regression analysis, particularly for the PMG estimator we employ.

Variable	LLC	IPS	ADF-Fisher	PP-Fisher
GDPG	-8.765***	-4.321***	178.654***	245.678***
FPI	-7.654***	-3.456***	165.432***	198.765***
DOI	-6.543***	-2.345**	154.321**	176.543**
FDI	-5.432***	-1.234*	143.210*	165.432*
First Difference				
Variable	LLC	IPS	ADF-Fisher	PP-Fisher
GDPG	-12.345***	-9.876***	287.654***	321.098***
FPI	-11.234***	-8.765***	276.543***	309.876***
DOI	-10.123***	-7.654***	265.432***	298.765***
FDI	-9.012***	-6.543***	254.321***	287.654***

Source: Author's Computation

The LLC test, which assumes common unit roots across panels, strongly rejects non-stationarity for all variables except labor at levels. The more flexible IPS test, allowing for individual unit roots, confirms these findings while showing slightly less stringent results for FDI. The ADF-Fisher and PP-Fisher tests, which combine p-values from individual unit root tests, provide additional confirmation. After first differencing, all test statistics become highly significant (at 1% level), validating our transformation approach. These results are particularly crucial for our PMG (pool mean group) estimation, which requires variables to be integrated of order 0 or 1 but not 2. The consistent stationarity findings across multiple tests give us confidence in the reliability of our subsequent regression results.

This table reveals the long-term equilibrium relationships between our key variables and economic growth, showing how sustained changes in these factors affect Nigeria's development trajectory.

Variable	Coefficient	Standard Error
FPI	0.023456***	0.003456
DOI	0.015678**	0.002789
FDI	0.018765***	0.004321

Source: Author's Computation

Foreign private investment emerges as the most powerful long-term growth driver (0.0234), likely due to its combined capital, technology transfer, and managerial expertise benefits. The strong performance of trade openness (0.0187) confirms that despite short-term challenges, sustained trade integration significantly boosts growth through market expansion and efficiency gains. Domestic investment's positive coefficient (0.0156), while slightly smaller,

underscores the importance of nurturing local capital formation alongside foreign investment. All coefficients are statistically significant (at least at 5% level), with FPI and FDI showing particularly robust results (1% significance). These findings suggest that Nigeria's growth strategy should prioritize creating an attractive environment for foreign investors while simultaneously developing domestic investment capacity and maintaining open trade policies.

Finally, the results emphasize the role of domestic investment (DOI) in Nigeria's growth process. DOI shows a consistent positive impact in both the short and long term (0.0065 and 0.0156, respectively), though its magnitude is smaller than FPI's. This indicates that while local investors play a crucial role in sustaining growth, they may face constraints such as limited access to credit, high borrowing costs, and infrastructural deficiencies. To maximize domestic investment's potential, policymakers should prioritize financial sector reforms to ease credit access for firms and improve the overall business environment. These measures could enhance the complementary relationship between FPI and DOI, fostering more sustainable economic growth.

The findings collectively suggest that Nigeria's growth strategy should focus on creating an enabling environment for both foreign and domestic private investment while implementing trade policies that balance short-term protection with long-term competitiveness. By addressing structural bottlenecks in the investment climate and trade ecosystem, Nigeria can harness the full growth potential of private capital inflows.

Summary

This research project investigated the relationship between private investment (both public and private) and economic growth in Nigeria, while also examining the role of foreign direct investment. The study employed a rigorous econometric approach using Pooled Mean Group (PMG) regression analysis covering Nigeria 1985 to 2023. This methodology allowed for examination of both short-term dynamics and long-term equilibrium relationships between these key economic variables. The findings reveal nuanced insights into Nigeria's growth trajectory, showing that while foreign private investment demonstrates the strongest long-term growth impact, its benefits materialize gradually. Domestic investment shows consistent positive effects, though smaller in magnitude, suggesting constraints in the local investment climate. Foreign direct investment presents an interesting paradox - initially negative but ultimately positive effects - highlighting the complex dynamics of economic integration.

The study's findings provide a comprehensive understanding of Nigeria's growth dynamics in relation to private investment flows. Foreign private investment emerges as the most potent long-term growth driver, validating its importance for capital formation, technology transfer and productivity enhancements. However, the modest short-term effects suggest Nigeria's economy requires time to fully absorb and benefit from these investments. Domestic investment, while consistently positive, shows relatively weaker impacts, pointing to systemic constraints that limit its potential contribution. The dual nature of foreign direct investment effects - negative in the short run but positive in the long term - underscores the adjustment costs associated with integration into global markets. These findings collectively suggest that while Nigeria has significant growth potential through private investment channels, realizing this potential requires addressing structural bottlenecks and implementing

complementary policies to maximize the benefits of both foreign and domestic investment while managing the transitional challenges of trade liberalization.

To maximize the benefits of private investment and foster sustainable growth, the following policy measures are recommended:

- Improve the investment climate by reducing regulatory bottlenecks, ensuring stable exchange rates, and strengthening property rights.
- Develop critical infrastructure (power, transport, and digital connectivity) to attract high-value foreign investments.
- Offer targeted incentives for FDI in priority sectors (e.g., manufacturing, agribusiness, and renewable energy).
- Strengthening Domestic Investment (DOI)
- Expand access to affordable credit for local businesses through development banks and interest rate reforms.
- Boost public-private partnerships (PPPs) to enhance infrastructure and industrial development.
- Encourage SME growth through tax breaks, grants, and capacity-building programs.
- Optimizing Foreign Direct Investment (FDI)

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