

Empirical Analysis of the Impact of Private Investment on Economic Growth in Nigeria

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ABSTRACT: This study investigates the impact of Private investment on economic growth in Nigeria using the Autoregressive Distributed Lag (ARDL) bounds testing approach. Annual time series data were utilized to estimate both the short-run and long-run dynamics of the relationship between real gross domestic product (RGDP) growth and five explanatory variables: Foreign Direct Investment (FDI), Gross Capital Formation (GCF), Credit to the Private Sector (PSC), Inflation Rate (INF), and Interest Rate (INR). The long-run findings reveal that gross capital formation has a positive and statistically significant impact on economic growth, while credit to the private sector and inflation negatively affect growth. Foreign direct investment and interest rates, although positive, were found to be statistically insignificant in the long run. In the short run, fluctuations in FDI exert a significant negative influence on economic growth, suggesting potential volatility or misallocation of FDI in Nigeria's economy. Inflation also demonstrated mixed short-run effects but maintained a negative long-run influence on growth. The error correction term (CointEq(-1)) is negative and significant, confirming a strong tendency for the economy to return to long-run equilibrium after short-run shocks. Based on these findings, the study highlights the importance of promoting productive investment, improving credit delivery to the private sector, and maintaining macroeconomic stability to drive sustainable economic growth in Nigeria.

KEYWORDS: Private Investment, Credit to Private Sector, Gross Capital Formation, Foreign Direct Investment, Auto-Regressive Distributed Lag Model (ARDL)

INTRODUCTION

Private Investment is incontestably a powerful tool for long-term economic growth in both emerging and advanced economies. It has the potential of been the foundation of economic prosperity to emerging economies as well as has been the apparatus for innovation, employment generation and provision of infrastructure and increase in productivity Nigeria needs considerable investment in promoting and boosting economic activities that guarantee better condition living for Nigerians. Private investment refers to the flow of capital from private entities, such as individuals, businesses, or non-governmental organizations, into various assets or projects with the expectation of generating returns or profits over time. It is mainly driven by individuals and organizations seeking to enhance their financial portfolios or contribute to the growth of specific sectors of the economy and overall make profit from the investment.

It is a key driver of economic growth as it contributes to job creation, innovation, and increased productivity. The level of private investment in a country is influenced by factors such as economic stability, political environment, regulatory frameworks, and market conditions. Policymakers often focus on creating an environment conducive to private investment to stimulate economic growth and attract both domestic and foreign investors.

Private investment drives economic growth by stimulating capital formation by financing the construction of infrastructure, expanding productive capacity in key sectors and facilitating the acquisition of new technologies and equipment. Increased capital investment leads to higher level of productivity and output which are essential drivers of economic growth (Obi 2019). Private investment also fostering productivity gains by the improvements in productivity through the adoption of new technologies, management practices and organizational structures; hence by modernizing production processes, enhancing efficiency and increasing output per worker, private investment contributes to overall economic productivity and competitiveness (Odo and Odo 2020).

By creating employment opportunities across the various sectors of the economy such as manufacturing, agriculture, construction and services, private investment reduces unemployment and poverty while increasing household incomes and consumption levels (Akpan and Bassey (2020).

Private investment promotes technological advancement through research and development (R&D) and innovation drives which are crucial for sustained economic growth and competitiveness by investing in new products, processes and services, businesses can

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enhance their efficiency, quality and market reach leading to increased profitability and economic expansion. (Adeleye & Eboagu(2019).

The objective of this paper is to empirically evaluate the effect of Private Investment on Economic Growth in Nigeria using key macroeconomic variables such as Real Gross Domestic Product, FDI, FPI Interest rate and Inflation. Hence, the paper would investigate the impact of Private Investment on real growth in the economy with a view to proffering policy recommendations. The paper is structured into five sections. Following this introduction, section two gives the theoretical and empirical literature underpinning this work, Section three undertakes the methodology and model estimation, whilst Section Four comes with empirical result and its analysis, Section Five is end the study with conclusion and recommendation.

2.0 THEORETICAL AND LITERATURE REVIEW

2.1 THEORETICAL REVIEW

The theoretical construct underpinning this paper is the well-known Neo-Classical Growth Theory. The model was first developed by Robert Solow (1956) hence it is also called the Solow model. In a nutshell the model posits that sustained increase in capital investment (capital accumulation) increases the growth rate. It states that capital accumulation and technological changes affect the growth rate of the economy. The neo-classical approach to investment is an improvement on the Harrod–Domar growth model. The Harrod – Domar Model (1939, 1946) emphasizes on the importance of savings and investment as major determinants of growth in an economy. The model shows the possibility of increasing the rate of growth, by either reducing a factor (capital/income) or increase the rate of investment (savings/income). It posits that with an incremental savings rate, the economy can achieve high growth rates in assets from investments that are needed to attain aggregate output. The Neo-Classical Growth model is interested with the cost-effective allocation of resources and with optimal growth of those resources over time. Theory believes that countries develop economically through the market and that private market develops, not mainly by the intervention of government. The common problems connected with the neoclassical thought are that it seldom explains the bases of technical change as advocated (Romer 1994)

2.2 Empirical Review

Ndanusa et al. 2024 studied the effect of private sector investment on economic growth of the Nigerian economy from 1990 to 2021. Auto-regressive distribution lags model (ARDL) estimation methodology was employed. Real gross domestic product (RGDP) was used as a proxy for economic growth whilst the independent variables are Loan and Advances (LA), Exchange rate (EXR), Interest rate (INTR)) and Inflation rate (INFR). The result indicates that there is a significant and negative effect of Exchange rate, Interest rate and Inflation rate on Nigeria's economic growth. In conclusion the study adduced that strengthening private sector investment would engender economic growth in Nigeria. Consequently, the study recommended that to boost Nigeria economic expansion, private investment through foreign and domestic financing should be encouraged.

Josue, Alyda, & Kantotiana (2023) studied how public investment affects economic growth in Madagascar using the VAR model. Their findings show that public investment boosts short-term growth, peaking in the second quarter before declining due to increased money supply, which can raise prices. The strongest impact occurs in the fifth quarter before stabilizing.

Gediyon (2022) investigated the effect of private investment on economic growth in Ethiopia using annual time-series data from 1986 to 2020 using Autoregressive Distributed Lag (ARDL) model. The empirical results suggest that lag private investment and bank credit exerts a positive and statistically significant effect on private investments, in the long run, real effective exchange rate, import, inflation rate and real lending rate a negative and statistically significant effect on private investment in the long run. Based on the findings of the empirical analysis, the study recommends that private investment have a positive effect on economic growth; as for credit, time should be effort towards ensuring a fair distribution of credit among different sectors so that some sectors do not reap all the benefit or incentives alone. This implies that government should consist to control as distribute credit to sector where it is mostly need. This will enhance the less developed sector and enable them have a chance to avail themselves to credit for investment which will in turn stimulate economic growth.

Mohsen (2022) investigated the determinants of the investment in Cote d'Ivoire over the period 1980-2020. In order to achieve the objective, this study examined the interactive effect of external debt, communication infrastructures, imports and inflation on investments in Cote d'Ivoire. Methodology- Annual time series data over the period 1980-2020 were employed in this study. The data are obtained from the World Bank. The ADF unit root test, Johansen cointegration test, OLS model, Granger causality test, and CUSUM test were applied to analyze the data. Ordinary Least Squares (OLS) model has been used in this study to estimate the coefficient of the variables, and it has been subjected to several statistical diagnostic tests, namely, the normality, serial correlation, and heteroscedasticity tests to ascertain its statistical adequacy.

The ADF unit root test results indicated that all variables in the model are not stationary at the level but became stationary after first differencing. The cointegration test pointed to a significant long-run relationship among the variables. Besides, the results of OLS model showed that investment is positively and significantly related to communication infrastructures, importing and inflation, but it is related negatively and insignificantly with external debt. Imports have the biggest effect on investment. The Granger causality

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test shows that there are no short-run causality relationships between the variables. However, there are bidirectional long-run causality relationships between investment, external debt and importing, and unidirectional long-run causality relationships running from communication infrastructures and inflation to investment. Lastly, the CUSUM test indicated that there are no structural changes in the model.

The study therefore recommended that the government should use external debt more efficiently, reduce corruption, improve the infrastructure and create an attractive investment climate, as well as reducing most tariff and non-tariff barriers, which will support the investment in the country.

Haque (2013) used an error correction model to study investment and growth in Bangladesh. The findings confirmed that both public and private investment positively impact economic growth in the short and long run, with private investment being more effective over time

Masih & Abbas (2017) evaluated which investment (private or public) does contribute to economic growth more in their case study of South Africa. Despite a common view that investment is a key driver of economic growth, there are conflicting views on whether it is public investment which drives private Investment, or whether it is the other way around. Both views as well as empirical studies tend to have divergent views on this matter, they tried to understand which causes which, in order to help the policymakers by using annual time-series data from 1980 to 2014 in their analysis. Their findings are that both Public and private Investment play a significant role in enhancing economic growth. As to which of these two plays a greater role, this study tends to indicate that Private Investment plays relatively a greater role in explaining economic growth than Public Investment.

Clem & Alajekkwu (2016) examined the effect of private sector investment on economic growth in the liberalized Nigerian economy from 1986 to 2014 using OLS method. Gross Domestic Product (GDP) is used as the proxy for economic growth and the dependent variable while private sector investment variables include domestic private investment, foreign direct investment and foreign portfolio investment with exchange rate, interest and inflation rate as control variables. Being a time series data, they test for the stationarity of the data by using Philip – Peron unit root test. Then Johansen (1988) technique was used to establish if the non-stationary variable are cointegrated. Their result of stationarity and normality test reveals that the model is well specified. The co-integration test result indicated that Private sector investment and economic growth have long run significant effect on one another. The adjusted coefficient of determination indicated that Private sector investment explains about 98% of changes in economic growth in Nigeria and hence is a veritable tool to boosting growth of Nigerian economy. However, there is no evidence to support the existence of causal relationship between GDP and foreign direct investment (FDI) in their study. The researchers thus conclude by improving and strengthening private sector investment, economic growth would be enhanced in Nigeria. The study therefore recommends that to boost economic growth in Nigeria more emphasis should be place on encouraging private investment through domestic and foreign financing.

Ajudua (2023) analyzed private investment in Nigeria from 1990 to 2020 using the ARDL model and Error Correction Mechanism. The study found that factors like interest rates, money supply, credit availability, inflation, and regulatory policies significantly influence private investment. It recommended maintaining low interest rates, controlling inflation, and improving credit access to support private sector growth.

Ahmed (2022) examined public and private investment in 39 developing countries (1990-2019) using mixed-effect and Bayesian regression models. The study found that domestic credit positively influences private investment, while foreign direct investment negatively affects economic growth. Public investment had a stronger positive impact than private investment, with labor growth, public capital, and government spending playing key roles in economic growth.

Ajudua (2022) also explored private investment in Nigeria, highlighting interest rates, money supply, and regulatory policies as key influences. Ekpo (2016) emphasized additional factors such as inflation, market size, bank credit, infrastructure, and political stability. Private investment involves acquiring capital assets to boost productivity and earnings. Similarly, Ahangari and Saki (2012) found that private investment in Iran depends on factors like public investment, oil revenues, and bank credits.

Jumbo et al. (2018) studied the impact of investment on Nigeria's economic growth (1981-2016) using ARDL analysis. The study found that both public and private investment contribute to short-term growth, but long-term growth requires strong institutions to prevent crowding-out effects. It recommended improving investment conditions, expanding infrastructure, and reducing public sector deficits to encourage private sector participation.

Jun (2003) analyzed China's investment-growth relationship, showing that despite rapid economic growth, investment as a share of GDP remained stable. Growth was driven by rural industrialization and small business expansion rather than just increasing investment.

3. METHODOLOGY

3.1 MODEL SPECIFICATION AND DEFINITION OF VARIABLES

In the light of the theoretical and empirical literature espoused above, the model employed in this study is built based on the adjustment of the model in Ndanusa et. al. (2024). The model specifies the endogenous variable which is the Growth Rate of Gross

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Domestic Product (RGDP) as a function of the Credit to Private Sector (PSC); Foreign Direct Investment (FDI); Interest rate (INR), Gross Capital Formation (GCF) and Inflation Rate (INF). The model is specified as follows:

$$RGDP = f(PSC, GCF, FDI, INF, INR) \quad (1)$$

The above was transmogrified into an econometric model, we then have:

$$RGDP = \pi_0 + \pi_1 PSC + \pi_2 GCF + \pi_3 FDI + \pi_4 INF + \pi_5 INR + \mu_t \quad (2)$$

π_0 is the intercept or constant term.

$\pi_1, \pi_2, \pi_3, \pi_4$, and π_5 are non-negative, estimating parameters of the model.

Yearly time series data from 1981 to 2023 were used, the data were obtained from Central Bank of Nigeria Statistical bulletin, 2023 and World Bank Indicators Database, 2025

3.2 Estimation Techniques

Autoregressive Distributed Lag (ARDL) model as a distributed lag model is used in this study because it allows the examination of how past behaviors of the target variable and other independent variables impact the contemporaneous value of the dependent variable. For the ARDL model, it is statistically required that the stationarity properties of the variables of interest are a mixture of I(0) and I(1). However, ARDL cannot be applied to a model with an I(2) variable to avoid a misleading regression result. Hence, its use is very conditional on the stationarity of the time series variables involved which was tested using the Augmented Dickey-Fuller (ADF) Unit Root Test. Also, it is essential to choose an efficient and appropriate lag structure for the specified model. In this study, the Akaike Information Criterion (AIC) is selected to determine the optimal lag structure for this study, Pesaran et al (2001)

The ARDL (p, q, r) specification for our model is as follows:

$$\begin{aligned} \Delta RGDP_t = & c_0 + \pi_1 RGDP_{t-1} + \pi_2 FDI_{t-1} + \pi_3 GCF_{t-1} + \pi_4 PSC_{t-1} + \pi_5 INF_{t-1} + \pi_6 INR + \sum_{i=1}^p \gamma_1 \Delta RGDP_{t-i} \\ & + \sum_{j=1}^q \gamma_2 \Delta PSC_{t-j} + \sum_{r=1}^r \gamma_3 \Delta GCF_{t-i} + \sum_{r=1}^r \gamma_4 \Delta FDI_{t-i} + \sum_{r=1}^r \gamma_5 \Delta INF_{t-i} + \sum_{r=1}^r \gamma_6 \Delta INR_{t-i} \\ & + \varepsilon_t \dots \dots \dots (3) \end{aligned}$$

Where; c_0 is the intercept, Δ is the first-difference operator, π 's show the long-run coefficients and γ 's depict short-run coefficients. Hence, the null hypothesis (H_0) of no cointegration states that $H_0: \pi_1 = \pi_2 = \pi_3 = \pi_4 = \pi_5 = \pi_6 = \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = \gamma_5 = \gamma_6 = 0$ and the alternative hypothesis of existence of cointegration states that $\pi_1 \neq \pi_2 \neq \pi_3 \neq \pi_4 \neq \pi_5 \neq \pi_6 \neq \gamma_1 \neq \gamma_2 \neq \gamma_3 \neq \gamma_4 \neq \gamma_5 \neq \gamma_6 \neq 0$. The above hypothesis is tested by comparing the calculated F-statistic with critical values from Narayan (2005) which were produced for small sample sizes between 30 and 80 observations on the assumption that all variables in the model are I(0) on one side and that all the variables are I(1) on the other side. Following the norms of hypothesis testing, if the calculated F-statistic is greater than the upper critical bounds value, the H_0 is rejected and we accept H_1 . If the F-statistic falls within the bounds, then the test is said to be inconclusive and if the F-statistic falls below the lower critical bounds value, it is said that no co-integration exists. Therefore, the Error Correction Model (ECM) represented in equation 4 can be also presented thus;

$$\begin{aligned} \Delta RGDP_t = & c_0 + \sum_{i=1}^p \gamma_1 \Delta RGDP_{t-i} + \sum_{j=1}^q \gamma_2 \Delta PSC_{t-j} + \sum_{r=1}^r \gamma_3 \Delta GCF_{t-i} + \sum_{r=1}^r \gamma_4 \Delta FDI_{t-i} + \sum_{r=1}^r \gamma_5 \Delta INF_{t-i} + \sum_{r=1}^r \gamma_6 \Delta INR_{t-i} \\ & + \partial ECT_{t-1} + \varepsilon_t \dots \dots \dots (4) \end{aligned}$$

where the difference operator is denoted by Δ ; the Error Correction Term (ECT) is derived from the short-run co-integrating relationship specified in the ARDL model in equation 3. In equation 4, ∂ should be negative and significant so as to show the speed of adjustment.

4.0 DATA ANALYSIS AND INTERPRETATION OF RESULT

Table 4.1: Descriptive Analysis Result

	RGDP	FDI	GCF	PSC	INF	INR
Mean	3.49907	1.221217	11032.11	8402.267	19.83419	17.11605
Median	2.89	1.069539	3078.78	930.49	13.7	17.26
Maximum	14.6	4.282088	82889.22	52884.78	76.8	29.8
Minimum	-13.1	-0.03913	87.14	8.57	0.2	7.75
Std. Dev.	4.981147	0.945836	18618.6	12658.15	17.30172	4.617034
Skewness	-0.64515	0.946879	2.452636	1.679518	1.721329	0.346408
Kurtosis	4.636517	3.760779	8.474297	5.367623	5.22741	3.497205

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Jarque-Bera	7.781361	7.462483	96.80307	30.25902	30.12375	1.30291
Probability	0.020431	0.023963	0	0	0	0.521287
Sum	150.46	52.51234	474380.7	361297.5	852.87	735.99
Sum Sq. Dev.	1042.097	37.57341	1.46E+10	6.73E+09	12572.68	895.314
Observations	43	43	43	43	43	43

Source: Authors' Computation from E-Views 11

Table 4.1 The Descriptive statistics shows that the variables contained 43 observations, the mean of Real Gross Domestic Product, Foreign Direct Investment, Gross Capital Formation, Credit to the Private Sector, Inflation and Interest rate were 3.49907, 1.221217, 11032.11, 8402.267, 19.83419 and 17.11605 respectively.

The table further revealed that only RGDP is negatively skewed to the left. The Kurtosis statistics indicates that RGDP is 4.636517; FDI is 3.760779; GCF is 8.474297; PSC is 5.367623; INF is 5.22741 whilst INR 3.497205 showing that all the variables are leptokurtic, which infers that the distributions are peaked relative to normal distribution.

4.1 Unit Root Test

The Augmented Dickey-Fuller test and Philp was used to test for unit root. All the variables were stationary at first difference ie I(1) except for GRGDP which was stationary at level I (0). The result is presented:

Table 4.2: Unit Root Stationarity Result : Augmented Dickey-Fuller test

Variable	Levels (t-statistics)	p-value	1 st diff (t-statistics)	p-value	Order of Int
RGDP	-4.741388	0.0004	-	-	I(0)
FDI	-3.821361	0.0055	-	-	I(0)
GCF	7.709035	1.0000	7.709035	0.0000	I(1)
PSC	2.950448	1.0000	2.950448	0.0054	I(1)
INF	-3.419777	0.0157	-	-	I(0)
INR	-2.478814	0.1279	-2.478814	0.0177	I(1)

The mixture of the level of integration of the variables, as obtained in the Augmented Dickey-Fuller test make us to use the autoregressive distributive lag (ARDL) bounds test approach developed by Pesaran et al. (2001) to test whether the long-run relationship exists between the variables.

4.2 Empirical Analysis and Interpretation

4.2.1 ARDL Bound Test Approach to Cointegration

The bound test approach to cointegration seeks to confirm if there is a long-run relationship among the variables in the model. This is done by testing if their coefficients are equal to zero in our estimated model or not. The F-Statistic value from the bound test and the critical value bounds as revealed by the regression result using E-views 11 is presented in Table 4.3;

Table 4.3: ARDL Bounds Test Result

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	4.940483	5
Critical Value Bounds		
Significance	I(0) Bound	I(1) Bound
10%	2.08	3
5%	2.39	3.38
2.5%	2.7	3.73
1%	3.06	4.15

Author's computation from E-Views 11

ARDL bounds F test results as reported in Table 4.3 shows that the result confirms the presence of a long-run relationship between FDI, GCF, PSC, INF and INR, for the period under consideration in Nigeria.

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4.2.2 Error Correction Representation of ARDL Model

ECM Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	0.198036	0.137951	1.435557	0.1659
D(FDI)	-1.465904	0.591746	-2.477252	0.0218
D(FDI(-1))	-2.112545	0.683692	-3.089909	0.0056
D(FDI(-2))	-2.081753	0.555412	-3.748125	0.0012
D(PSC)	-0.000276	0.000224	-1.231188	0.2319
D(PSC(-1))	0.000606	0.000354	1.715018	0.1011
D(INF)	-0.116646	0.026156	-4.459600	0.0002
D(INF(-1))	0.177459	0.035736	4.965788	0.0001
D(INF(-2))	0.137104	0.031390	4.367718	0.0003
D(INR)	0.250535	0.116659	2.147591	0.0436
D(INR(-1))	0.113749	0.123871	0.918292	0.3689
D(INR(-2))	0.203719	0.118017	1.726186	0.0990
CointEq(-1)*	-0.875197	0.131250	-6.668159	0.0000

Author's computation from E-Views 11

From the table 4.4 above, Error Correction parameter is negative (-0.88) and significant (0.0000) showing that short-run disequilibrium in the previous period is corrected to restore equilibrium in the subsequent period. The speed of adjustment is -0.875197 indicating that the model is stable in the short-run. In other words, the estimated ECT_{-1} of 875 indicates that the departure from the equilibrium is adjusted by 87.51 % per year.

The result suggests that in the short run, a unit increase in Foreign Direct Investment (FDI) will lead to a 1.465904 decrease in Growth Rate of GDP. A unit increase in Private Sector Credit (PSC) will lead to a 0.000276 decrease in GDP Growth Rate in the short run, the result is insignificant at the 5% level of significance as indicated by the probability value of 0.2319. A unit rise in Inflation Rate in the short run will lead to a 0.116646 decrease in Growth Rate of GDP with the result statistically significant at 1% level. Whilst a unit rise in Interest Rate in the short run will lead to a 0.250535 increase in Growth Rate of GDP with the result statistically significant at 5% level of significance.

4.2.3 Estimated ARDL Long-run Model

Table 4.5: ARDL Long-run Result

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	1.312141	1.346323	0.974611	0.3408
GCF	0.000301	0.000131	2.294587	0.0322
PSC	-0.000669	0.000252	-2.647920	0.0150
INF	-0.250438	0.072201	-3.468635	0.0023
INR	0.246592	0.218441	1.128873	0.2717

From Table 4.5, a unit increase in FDI will lead to a 1.312141 increase in Growth Rate of GDP holding other variables constant. A unit increase in GCF on average will significantly impact GRGDP by 0.000301 holding other variables constant, A unit increase in PSC will on average lead to a 0.000669 decrease in Growth Rate of GDP the nexus is significant at the 5% level of significance.

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Also, a unit increase in the Inflation will lead to a 0.250438 decrease in GRGDP, this result is in line with the finding of Ndanusa et al (2024) whilst a unit increase in interest rate will culminate to an increase in RGDP by 0.246592.

4.6 Post Estimation Diagnostic Tests

4.6.1 Serial Correlation

Breusch-Godfrey Serial Correlation LM Test: Result			
F-statistic	1.780561	Prob. F(2,19)	0.1955
Obs*R-squared	2.313731	Prob. Chi-Square(2)	0.1426

Source: Author's Computation using Eviews11

From the result of the Breusch-Godfrey serial correlation LM test above, accepted the null hypothesis of no serial correlation in the residual, since the probability of its F-statistic value is 19.5% which is greater than the 5% level, hence concluding that the model is free from the problem of autocorrelation.

4.6.2 Heteroskedasticity Test:

Breusch-Pagan-Godfrey Test Result			
F-statistic	1.584357	Prob. F(18,21)	0.1554
Obs*R-squared	23.03662	Prob. Chi-Square(18)	0.1892

Source: Author's Computation using Eviews11

From the result of the Breusch-pagan-Godfrey test above, accepted the null hypothesis of no heteroscedasticity in the residual, since the probability of its F-statistic value is 15.5% which is greater than the 5% level, hence concluding that the model is free from the problem of heteroscedasticity.

4.6.3 Residual Specification Error Test:

Ramsey RESET Test Result			
t-Statistic	0.355030	df (21)	Prob (0.7261)
F-Statistic	0.126046	df (1, 21)	Prob (0.7261))

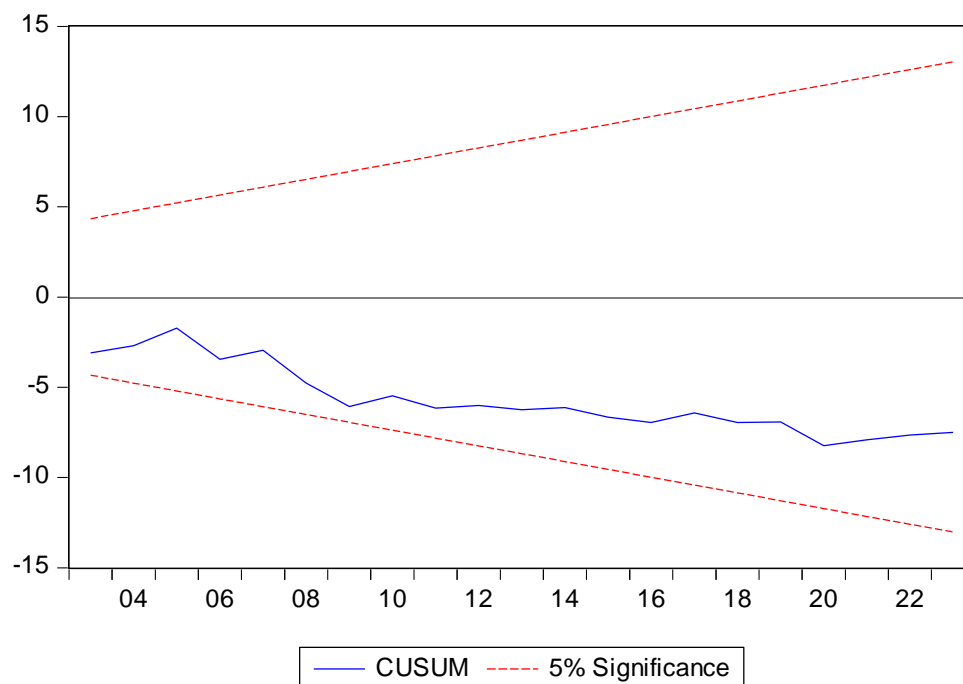
Source: Computation using Eviews11

The Ramsey's RESET Test (Residual Specification Error Test) was conducted to test if the model was misspecified. To test for model misspecification. The decision remains that, if the P-value of the computed F-statistics is more than 0.05 we accept the null hypothesis, which says that the model is correctly specified. From the result above, since the Prob is (0.7261), we note that the model was not misspecified.

Diagnostic Test for Stability

To ascertain the stability of the coefficients, the cumulative sum of recursive residuals CUSUM (CUSUM) was adopted and it fell within the accepted 5 per cent critical limits

4.6.4 Stability Test - CUSUM test and CUSUMQ



5. CONCLUSION

The study concludes that Private investment, Foreign Direct Investment and macroeconomic stability are critical determinants of economic growth in Nigeria. Specifically, gross capital formation positively and significantly contributes to long-run economic growth, emphasizing the importance of domestic investment in fostering economic expansion. Conversely, credit to the private sector and inflation exert negative long-run effects, suggesting structural inefficiencies in Nigeria's financial sector and the destabilizing effects of persistent inflation on growth prospects.

In the short run, foreign direct investment surprisingly exerts a significant negative impact on economic growth, potentially reflecting unstable inflows or investments directed at non-productive sectors. Inflation continues to pose significant short-run challenges to economic stability, while interest rate fluctuations showed a weak but statistically significant positive relationship with growth in the short run.

The statistically significant and negatively signed error correction term indicates a robust speed of adjustment to long-run equilibrium whenever short-run deviations occur, affirming the stability of the model.

The study recommends that policymakers in Nigeria intensify efforts to promote domestic investment through improved infrastructure, enhance credit allocation to productive sectors, implement effective inflation control measures, and ensure that foreign direct investment is strategically directed toward sectors that have strong potential for stimulating long-term economic growth.

REFERENCE

- 1) Adeleye, N., & Eboagu, C. (2019). Foreign direct investment, private investment and economic growth in Africa: Evidence from panel ARDL. *International Journal of Economics and Financial Issues*, 9(3), 47–58.
- 2) Ahangari, A., & Saki, M. (2012). Determinants of private investment in Iran. *Asian Economic and Financial Review*, 2(2), 263–274.
- 3) Ahmed, A. D. (2022). Public and private investment and economic growth in developing economies: A panel mixed-effects and Bayesian analysis. *Journal of Economic Studies*, 49(6), 1214–1236.
- 4) Akpan, U. F., & Bassey, G. E. (2020). Private investment and employment generation in Nigeria. *Journal of Economics and Sustainable Development*, 11(14), 45–57.
- 5) Ajudua, E. I. (2022). Macroeconomic determinants of private investment in Nigeria: Evidence from ARDL and ECM techniques. *Journal of Economics and Public Finance*, 8(3), 30–48.
- 6) Ajudua, E. I. (2023). Private sector investment and macroeconomic policy reforms in Nigeria. *International Journal of Economics, Commerce and Management*, 11(1), 1–19.
- 7) Central Bank of Nigeria. (2023). Statistical bulletin: Financial statistics. Abuja: CBN.
- 8) Clem, N. I., & Alajekwu, U. B. (2016). Private sector investment and economic growth in Nigeria in a liberalized economy. *International Journal of Economics and Finance*, 8(5), 34–47.

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- 9) Gediyaon, B. M. (2022). Private investment and economic growth in Ethiopia: An ARDL approach. *Journal of Developing Areas*, 56(3), 59–74.
- 10) Haque, M. E. (2013). The role of public and private investment in promoting economic growth in Bangladesh: An ECM approach. *South Asian Journal of Macroeconomics and Public Finance*, 2(1), 77–104.
- 11) Johansen, S. (1988). Statistical analysis of cointegration vectors. *Journal of Economic Dynamics and Control*, 12(2), 231–254.
- 12) Josue, R., Alyda, F., & Kantotiana, R. (2023). Public investment and economic growth in Madagascar: A VAR approach. *African Development Review*, 35(2), 214–230.
- 13) Jun, Z. (2003). Investment, technological progress, and economic growth in China. *Journal of Asian Economics*, 14(5), 731–749.
- 14) Masih, M., & Abdul-Rahman, A. (2017). Does private or public investment have a greater impact on economic growth? Evidence from South Africa. *Economic Modelling*, 63, 118–127.
- 15) Mohsen, A. (2022). Determinants of investment in Côte d'Ivoire: An econometric investigation (1980–2020). *Cogent Economics & Finance*, 10(1), Article 2079235.
- 16) Ndanusa, A., Ibrahim, T., & Usman, S. (2024). Private sector investment and economic growth in Nigeria: New evidence from ARDL methodology. *Journal of African Business*, 25(1), 102–121.
- 17) Odo, S. I., & Odo, J. O. (2020). Private investment, technological progress and economic performance in developing countries. *Journal of Economics and Development Studies*, 8(2), 11–25.
- 18) Obi, C. (2019). Capital formation and economic growth in Nigeria. *International Journal of Economics and Financial Management*, 4(2), 89–103.
- 19) Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326.
- 20) Romer, P. M. (1994). The origins of endogenous growth. *Journal of Economic Perspectives*, 8(1), 3–22.
- 21) World Bank. (2025). World development indicators. Washington, DC: World Bank.