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EVALUATING THE EFFECTIVENESS OF POVERTY ALLEVIATION ON ECONOMIC GROWTH IN NIGERIA.

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Abstract

Poverty remains a critical barrier to sustainable economic growth in Nigeria, despite decades of poverty alleviation initiatives. Evaluating the effectiveness of these efforts is essential for guiding policy decisions. This study analysed the impact of poverty alleviation on economic growth in Nigeria from 1999 to 2023, using data sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and the World Bank database. A multiple regression analysis was employed to explore the relationships between Poverty Alleviation Expenditure (PAE), Domestic Investment (DIN), Foreign Direct Investment (FDI), Credit to Small and Medium Enterprises (CSME), Per Capita Income (PCI), and Gross Domestic Product (GDP). The findings revealed that PAE and DIN positively influence GDP, reflecting their importance in driving economic growth. CSME also has a positive impact on GDP, indicating that credit availability to small and medium enterprises enhances economic activities and growth. Similarly, PCI positively affects GDP, underscoring the role of improved individual income levels in fostering economic expansion. Conversely, FDI negatively affects GDP, suggesting inefficiencies in its management. The overall regression model highlights the significant collective impact of these variables on GDP, confirming the importance of targeted economic interventions. Based on these results, the study recommends, the need for sustained and strategic investment in poverty alleviation programs to foster inclusive economic growth in Nigeria.

Keywords: Poverty alleviation, economic growth, multiple regression, Nigeria

JEL Classification Codes: I32, O40, C30

1.0 Introduction

Economic growth is defined as the steady increase in a country's output of goods and services over time, as measured by the rise in Gross Domestic Product (GDP). It is a key goal of every nation, symbolizing the long-term expansion of an economy's productive capability. It represents a country's ability to raise the standard of living of its population, decrease poverty, and create job opportunities. Capital accumulation, labor force expansion, technical innovation, and

institutional stability all contribute to economic growth. In developing countries like Nigeria, attaining long-term economic growth remains a primary concern, particularly given the country's high unemployment, inflation, and poverty rates. Economic growth is crucial for improving the standard of living, reducing unemployment, increasing investments, and enhancing national productivity. However, Nigeria has experienced inconsistent economic growth despite its abundant human and natural resources, partly due to persistent and widespread poverty (IMF, 2024).

Between 2020 and 2024, Nigeria experienced significant fluctuations in economic growth, which were influenced by a variety of internal and external factors. In 2020, the Nigerian economy contracted by 1.8%, owing primarily to the global COVID-19 pandemic, which caused a drop in oil prices and disruptions in economic activity. A recovery was observed in 2020, with GDP growth of 3.6%, driven by the relaxation of pandemic restrictions and a rebound in non-oil industries. In 2022, the economy expanded by 3.3%, owing to growth in the non-oil sector, particularly services and agriculture. It slowed to 2.9% in 2023 due to high inflation, exchange rate volatility, and oil-related challenges. Finally, in 2024, the economy recorded a significant growth of 3.4%, with significant contributions from the services sector (5.37% growth) and a rebound in the oil sector (5.5% growth) (IMF, 2024). Despite these growth figures, Nigeria continues to face challenges such as high inflation, unemployment, and poverty, which have implications for the overall economic well-being of its population.

The extent to which the national poverty alleviation strategy and program have reduced poverty in Nigeria is questionable. Nigeria is one of the most populous countries in Africa, with more than two hundred million people (Wudil.2022). Over the years, poverty has remained a major global challenge, particularly in Nigeria, a large number of people are living in abject poverty. The number keeps increasing yearly thereby outpacing its economic growth. There is a disparity in the consumption of goods and services and distorted income distribution, which is due to a malfunctioning economic system, religion, region, citizenship status, and other economic, social, and political factors, have contributed to the occurrence of poverty in Nigeria, and thus called for a need to embark on poverty alleviation programs. Poverty exists when per capita consumption or income lies beneath some socially acceptable lines or norms, with such thresholds likely to vary from place to place and from time to time. Poverty has manifested in Nigeria as being responsible for the eventual development of urbanization, poor

health conditions, inadequate food, poor nutrition, educational facilities, child exploitation, and youth restiveness (Ikalewumi & Itodo 2023).

The relationship between poverty alleviation and economic growth is multifaceted. Effective poverty reduction strategies can lead to increased consumer spending, improved human capital, and greater social stability, all of which are conducive to economic growth. Conversely, persistent poverty can hinder growth by limiting the productive capacity of a significant portion of the population. Nigeria is a country that has a mix of ethnic and religious cleavages with diverse traditional family backgrounds. In Africa, Nigeria is one of the major countries facing hardship in terms of economic and social change as well as human development (Fagbemi, 2021). Poverty in Nigeria has become a major problem in socio-economic development. This has become a hindrance to cash crop farming and has caused a decline in food production. Poverty in Nigeria is at a high percentage on the global subsistence level, with the world's highest and poorest among the developing countries, which struggle to solve other socio-economic problems around the world, especially in Africa (Madzivhandila & Niyimbanira, 2020). Based on the viewpoint of some growth economists in classical economic theory, the abundance of people driven by wage rates to the less developed regions makes per capita income remain relatively stagnant or decline as the number of working forces increases compared to the capital stock (Nikiforos, 2022). The less developed regions are characterized by high population growth, which leads to a low level of per capita income that, in turn, fuels poverty. The outcomes of poverty include starvation, malnutrition, squalor, homelessness, fear, and sickness. As a result of the relative nature of poverty, there are differences in the number of people described as poor from one country to another (Ravallion, 2020).

The Nigerian government has implemented various policies and programs aimed at stimulating economic growth and reducing poverty, focusing on initiatives like the National Poverty Eradication Programme (NAPEP), National Social Investment Programs (NSIP), and the Agricultural Transformation Agenda (ATA). These policies were designed to address issues such as unemployment, low income, and limited access to education and healthcare, with the ultimate goal of improving the living standards of Nigerians. While some programs have yielded localized successes, such as skill acquisition schemes and cash transfers improving access to basic needs, their overall impact on long-term economic growth remains limited due to issues of mismanagement, corruption, and inadequate infrastructure.

Despite these efforts, the persistent rise in poverty continues to be a significant impediment to Nigeria's economic growth. With over 40% of Nigerians living below the national poverty line and unemployment rates exceeding 30%, poverty has remained a structural challenge. Poor governance, inadequate domestic investments due to harsh economy, lack of access to credit, underemployment, low per capita income and a lack of sustainable infrastructure have exacerbated this issue, as poverty undermines the nation's capacity for productivity, innovation, and human capital development. This disconnect between poverty alleviation policies and their outcomes has contributed to widespread socioeconomic inequality, weakening the effectiveness of government interventions in driving inclusive growth. However, despite these efforts, Nigeria's poverty rate remains high, with the World Poverty Clock (2023) indicating that Nigeria has the highest number of people living in extreme poverty worldwide. Poverty alleviation programs play a crucial role in fostering economic resilience and social stability.

Empirical studies on the impact of poverty alleviation efforts in Nigeria, such as those by Ogundele and Olumide (2016) and Ayoola and Abdullahi (2016), have highlighted significant issues in program design and implementation. Obayelu (2007), Ogundele and Olumide (2016), and Adesopo (2008), highlighted critical challenges in Nigeria's poverty alleviation programs, including poor targeting mechanisms, limited awareness, and inadequate infrastructure, which have hindered their success in addressing the needs of rural and vulnerable populations. Furthermore, gaps in the literature reveal that prior studies have primarily focused on general poverty alleviation policies without exploring specific macroeconomic variables that influence their effectiveness.

This study fills these gaps by incorporating poverty alleviation expenditure, domestic investment, and credit to small and medium enterprises as key variables in its analysis. These factors are essential in explaining the relationship between poverty alleviation efforts and economic growth, offering a more comprehensive perspective on how macroeconomic dynamics interact with targeted poverty reduction measures to influence Nigeria's broader economic trajectory. This study therefore seeks to examine the effect of poverty alleviation expenditure on economic growth in Nigeria, to investigate the effect of domestic investment on the growth of Nigerian economy and to evaluate the effect of foreign direct investment on economic growth in Nigeria.

2.0 Literature Review

2.1 Theoretical Framework

a) Endogenous Growth Theory

Endogenous growth theory (EGT) was introduced in the 1980s by economist Paul Romer in 1986 in his paper 'Increasing Returns and Long-run Growth. While Robert Lucas further advanced the theory in 1988 in his paper 'On the Mechanics of Economic Development. They present an internalized view of economic growth, asserting that long-term economic development stems from factors within a country—such as human capital, technological innovation, and sound policy frameworks—rather than from external forces. This theory diverges from traditional exogenous models by emphasizing the potential of a country to drive its own economic expansion through sustained investment in education, health, and research. EGT has become particularly relevant to discussions on poverty alleviation, especially in developing nations like Nigeria, where reducing poverty is integral to fostering inclusive growth and economic resilience.

In Nigeria's context, EGT suggests that strategic investments in human capital—such as improving access to quality education and healthcare—could significantly uplift productivity and enable a more skilled workforce, thereby contributing to economic growth. Poverty alleviation programs targeting these areas, such as the National Social Investment Programme (NSIP), which includes Conditional Cash Transfers, aim to improve the living conditions of low-income populations while simultaneously enhancing workforce capabilities. EGT would argue that by boosting human capital through these programs, Nigeria can potentially stimulate a cycle of growth from within, moving away from dependence on external economic factors.

Beyond human capital, EGT highlights the importance of technological innovation, knowledge transfer, and institutional support for sustained growth. In Nigeria, where the agricultural sector employs a significant portion of the population, introducing technology-driven innovations in farming and processing can enhance productivity and improve livelihoods. Endogenous growth theory underscores that poverty alleviation programs which provide resources for small businesses, facilitate access to technology, or encourage local entrepreneurship can create jobs and stimulate economic activity, making a substantial contribution to poverty reduction.

However, while EGT provides an optimistic framework for evaluating poverty alleviation strategies, it has limitations in the Nigerian context. Critics argue that the theory's focus on internal drivers may overlook the broader structural issues, including political instability, ineffective policy implementation, and Nigeria's vulnerability to external economic shocks, such as fluctuating oil

prices. Additionally, the immediate impacts of poverty alleviation may not align with EGT's long-term growth approach, as many poverty reduction efforts aim for rapid relief rather than sustained growth. Despite these criticisms, EGT remains a valuable framework for assessing how Nigeria's poverty alleviation efforts can contribute to a resilient and internally driven economic growth model.

b) Vicious Cycle of Poverty

Ragnar Nurkse's Vicious Cycle of Poverty theory provides a framework for understanding the challenges of poverty alleviation and its impact on economic growth in Nigeria. Nurkse argued that poverty in underdeveloped countries is perpetuated by a self-reinforcing cycle where low income leads to low savings, which results in low investment and, consequently, low productivity. This theory highlights the structural barriers that prevent economic growth and suggests that significant capital investment is necessary to break this cycle (Nurkse, 1953). In Nigeria, where poverty alleviation programs aim to stimulate economic growth, the theory is particularly relevant. Nurkse's emphasis on the role of large-scale investments underscores the importance of effective management of resources in poverty alleviation programs. For example, infrastructure, education, and healthcare investments align with the theory's assertion that capital formation is a catalyst for economic transformation. Such investments can improve productivity, create jobs, and foster inclusive economic growth (Nurkse, 1953).

Additionally, the theory provides a rationale for attracting foreign direct investment (FDI) to address capital scarcity in underdeveloped economies like Nigeria. Effective deployment of FDI into critical sectors such as manufacturing, technology, and agriculture could enhance industrialization and reduce unemployment (Nurkse, 1953). Nurkse's model also emphasizes that breaking the poverty cycle requires coordinated efforts to improve savings rates, which poverty alleviation programs can address by providing financial literacy and access to credit for low-income households (Szirmai, 2015).

While the theory has been criticized for oversimplifying the causes of poverty and underdevelopment, its focus on the structural deficiencies of underdeveloped economies resonates with Nigeria's challenges (Meier & Seers, 1984). Poverty alleviation programs in Nigeria must also tackle issues Nurkse overlooked, such as institutional inefficiencies, governance deficits, and socio-political instability, which significantly affect the effectiveness of investments. The alignment of Nurkse's theory with Nigeria's poverty reduction initiatives highlights the importance of strategic, large-scale investment as a driver of economic growth and development in combating poverty.

2.2 Stylized Fact of Nigeria Poverty Alleviation Expenditure

Nigeria, as a welfare state, ensures that the welfare of its citizens is adequately taken care of through various economic programs and policies. Poverty alleviation expenditures which is government spending on programs, initiatives, and policies is aimed at reducing poverty and improving the standard of living for low-income and vulnerable populations. These expenditures include Social Safety Nets, Job creation and skills development, Education and health services expenditure, Rural and Infrastructure development. They are managed through programs like the Conditional Cash Transfer (CCT) Scheme, National Social Investment Program (NSIP), and National Poverty Reduction with Growth Strategy (NPRGS). Figure 2.1 paints a clear picture of the Nigerian poverty alleviation expenditure from 1999 to 2023.

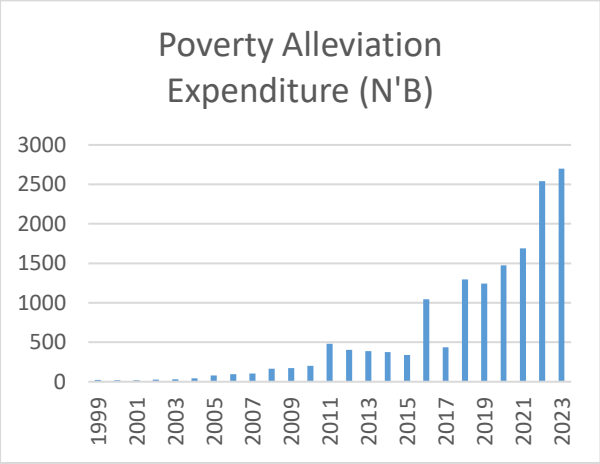


Figure 2.1: Nigeria Poverty Alleviation Expenditure
Source: CBN, 2024

As seen in figure 2.1, poverty reduction has been the bottom-up reform policies of every government in Nigeria. The alleviation expenditures have been on the increase, from 1999 it was N 22.98 billion, in 2009 it was N 1, 294 billion and in 2022 and 2023 it was N2, 542.07 billion and N2, 698.3billion respectively.

2.3 Empirical Literature Review

Recent empirical studies on poverty alleviation and its relationship to economic growth in Nigeria reveal significant insights into program effectiveness and challenges.

Doe and Smith (2024) ascertained the impact of poverty alleviation on economic growth in Nigeria spanning 1981- 2018. Using secondary data, the study employed the Error Correction Mechanism, and the Granger causality test was also used to ascertain the direction of causality. The study found that the independent variable per capita income (PCI) has a unidirectional causality with economic growth. However, other independent variables of poverty alleviation programs do not granger cause economic growth. However, it was suggested that government expenditure on economic and other community services should be made more effective in solving the problem of poverty and the issue of corruption has to be tackled holistically and poverty alleviation institutions should be more accountable.

Adeleye et al. (2023) assessed the impact of poverty reduction on economic growth in Sub-Saharan Africa, using a panel data approach over the period 2000-2020. It focused on variables like government spending on poverty alleviation, income inequality, and GDP growth. The findings showed that effective poverty alleviation programs significantly foster economic growth by improving human capital and social stability. The study concluded that enhancing poverty alleviation efforts is crucial for sustainable growth in the region and recommended an increased focus on education and health interventions. Bolarinwa and Adebayo (2023), in their study on poverty alleviation and economic growth in Nigeria, used time series analysis of multiple regression from 1990 to 2022. The study examined the impact of social welfare programs, microfinance, and agricultural subsidies on poverty reduction and GDP. From the results of analysis, it was found that a positive but moderate relationship between poverty reduction and economic growth exist, especially when targeted programs such as microfinance schemes and rural development initiatives were implemented. The conclusion emphasized the need for more targeted and integrated poverty alleviation strategies to achieve long-term economic growth.

Khan et al. (2023) examined the relationship between government spending on poverty alleviation and economic growth in Sub-Saharan Africa, focusing on the period from 2000 to 2020. The study employed panel data regression techniques to analyse the effects of public welfare programs on GDP growth. The results indicated that targeted poverty alleviation programs, particularly those focused on education and healthcare, significantly contributed to economic growth. The study recommended that governments prioritize these sectors for sustainable development. Ikalewumi and Itodo (2023) studied the effect of poverty alleviation expenditure on economic growth in Nigeria. Using data from 1990 to 2022, the study employed the ARDL method. Findings indicated that while government spending on poverty alleviation had a positive short-term impact, its long-term contributions to growth were constrained by inefficiencies and corruption. The study recommended better fund management and alignment with national development goals.

Abubakar (2023) explored how poverty alleviation policies in Nigeria can be made more inclusive to ensure sustainable development. By assessing existing poverty reduction programs in comparison to the Chinese multi-dimensional poverty model, the study found that Nigeria's approach lacks inclusivity and sustainability. The Chinese model, on the other hand, effectively addresses different dimensions of poverty based on their unique characteristics.

Azu and Okubor (2022) investigated the impact of poverty alleviation programs on Nigeria's economic growth between 1980 and 2015. Using time series data and applying the Ordinary Least Squares (OLS) technique, their findings indicated a significant positive influence of these programs on economic growth. Dauda and Oyeleke (2021) examined poverty and inequality as barriers to sustainable development in Nigeria. By analysing relevant literature and stylized facts, they argued that these issues significantly hinder progress.

Siwu et al. (2021) analysed how GDP growth affects poverty reduction in Nigeria between 1982 and 2019. Using an Autoregressive Distributed Lag (ARDL) model with variables such as GDP growth rate, poverty rate, inequality (Gini coefficient), and domestic investment (gross fixed capital formation), the study found that GDP growth and democracy reduce poverty in the short term. However, income inequality worsens poverty both in the short and long run, while investment significantly reduces poverty over time. Nwosa and Ehinomen (2020) explored the relationship between income inequality, poverty, and economic growth in Nigeria from 1981 to 2018. Their analysis, based on the ARDL technique, revealed that income inequality positively affects economic growth, whereas poverty has an insignificant impact. However, the combined effect of poverty and inequality on economic growth was found to be significant. Finally, Okeme et al. (2020) assessed the effect of poverty alleviation on Nigeria's economy between 1986 and 2011 using an error correction mechanism. The study considered key variables such as real GDP, per capita income, and the Agricultural Credit Guarantee Scheme Fund, discovering a positive relationship among them. It was observed that approximately 18% of economic imbalances are corrected within a year.

3.0 Methodology

3.1 Model Specification

The model adopted in this research was structured according to the work of Bolarinwa and Adebayo (2023), which also utilized econometrics techniques and constructed a multiple regression model to estimate the impact of poverty alleviation on Nigeria's economic growth. In the study of Bolarinwa and Adebayo (2023), social welfare programs, microfinance, agricultural subsidies, GDP were focused on and the model is specified as;

$$GDP = f(SWP, MCF, AGS) \quad 3.1$$

Where,

GDP = Gross domestic product

SWP = Social welfare programs

MCF = Microfinance

AGS = Agricultural subsidies

However, the model for this study is specified in a functional form as in equation 3.2 and it is specified as;

$$RGDP = f(PAE, DIN, FDI, CSME, PCI) \quad (3.2)$$

The mathematical form of the model is specified as:

$$RGDP_t = \beta_0 + \beta_1 PAE_t + \beta_2 DIN_t + \beta_3 FDI_t + \beta_4 CSME_t + \beta_5 PCI_t \quad (3.3)$$

The econometric form of the model is specified as:

$$RGDP_t = \beta_0 + \beta_1 PAE_t + \beta_2 DIN_t + \beta_3 FDI_t + \beta_4 CSME_t + \beta_5 PCI_t + \mu_t \quad (3.4)$$

Where,

RGDP = Real Gross Domestic Product

PAE = Poverty alleviation expenditure

DIN = domestic investment

FDI = Foreign Direct Investment

CSME = Credit to small and medium-scale enterprises

PCI = Per capita income

β_0 = is the intercept

$\beta_1 - \beta_5$ = coefficients of the independent variables

μ_t = Error term which explains other variables that cannot be captured in the model

3.2 Estimation Techniques and Procedures

The parameters of the model in this research were estimated using multiple regression techniques since the variables are integrated of order I (1). This technique enables the researchers to identify the contribution of each explanatory variable holding others constant. This allows for better prediction and understanding of complex economic relationships. The augmented Dickey-Fuller test was also employed to check for unit roots since the data is of a time series nature. It is required since it validates the stationarity of time series data, ensuring that regression estimates are not spurious. A non-stationary time series can result in wrong conclusions; hence, the ADF test assists in the identification of whether differencing is needed before the application of a regression. Johansen's cointegration test technique was used to examine the long-run relationship among the variables.

4.0 Result Presentation and Discussion of Findings

4.1 Result Presentation

4.1.1 Descriptive statistics

Descriptive statistics gives an outright description of the nature of a dataset. The result is presented on Table 4.1.

Table 4.1: Descriptive Statistics of the Variables

	RGDP	PAE	DIN	FDI	CSME	PCI
Mean	4.705840	2.364094	4.038788	1.373622	1.522472	3.701556
Median	4.764776	2.529687	3.995512	1.523782	1.648750	3.744919
Maximum	4.884710	3.431090	4.918498	2.900249	2.093176	3.792532
Minimum	4.384098	1.240549	3.321917	-0.039520	1.031408	3.495406
Std. Dev.	0.163053	0.698956	0.451011	0.815419	0.352891	0.087177
Skewness	-0.666473	-0.149797	0.300675	0.134845	-0.043183	-1.038047
Kurtosis	2.073851	1.831780	2.332492	2.050621	1.476837	2.876686

Jarque-Bera	2.744270	1.515098	0.840822	1.014638	2.424465	4.505601
Probability	0.253565	0.468814	0.656777	0.602108	0.297532	0.105104
Sum	117.6460	59.10236	100.9697	34.34054	38.06181	92.53890
Sum Sq. Dev.	0.638073	11.72495	4.881863	15.95779	2.988771	0.182395
Observations	25	25	25	25	25	25

Source: Computed using E-view 12

The descriptive statistics provide a comprehensive overview of the six variables under study over 25 observations. The mean values indicate that RGDP (real GDP) averaged 4.71, while variables such as public expenditure on poverty alleviation (PAE) and per capita income (PCI) averaged 2.36 and 3.70, respectively. The maximum and minimum values reveal variations in data; for instance, RGDP ranged between 4.38 and 4.88, while FDI (foreign direct investment) fluctuated significantly from -0.04 to 2.90. Standard deviation highlights variability, with FDI showing the highest dispersion (0.82) compared to PCI's lower variability (0.09). Skewness values suggest RGDP and PCI are negatively skewed, indicating a concentration of lower values, while DIN (domestic investment) displays a slight positive skewness. Kurtosis indicates distribution characteristics; RGDP and DIN are closer to a normal distribution with values near 2, while CSME (credit to SMEs) is flatter with a kurtosis of 1.48. Jarque-Bera test probabilities suggest all variables follow a normal distribution at a 5% significance level, as their probabilities exceed 0.05. These descriptive statistics highlight the stability, variability, and distribution of economic growth and poverty-related indicators in Nigeria over the studied period.

4.1.2 Unit root test (stationarity test)

The results of the ADF test is reported on Table 4.2.

Table 4.2: Augmented Dickey Fuller (ADF) Unit Root Test Result

Variables	ADF Statistics	Critical Value @5%	Order of Integration	Remarks
RGDP	-4.5334	-3.6220	I(1)	Stationary
PAE	-8.9177	-3.6220	I(1)	Stationary
DIN	-4.1816	-3.6220	I(1)	Stationary
FDI	-8.1219	-3.6220	I(1)	Stationary
CSME	-5.0279	-3.6220	I(1)	Stationary
PCI	-4.6196	-3.6220	I(1)	Stationary

Source: Author's compilation using Eviews Output 12

The ADF test reveals that all the variables are stationary when in first difference. This is observed in the ADF statistics when compared with the critical values at 5 percent since the ADF values in absolute terms are higher than the 5 percent level critical values. This results in the rejection of the null hypothesis that the variables have unit root. It is finally confirmed that the variables are stationary and our estimates can yield consistent and unbiased outcomes.

4.1.3 Co-integration test

After establishing that the variables are stationary the model was tested for long run relationships and the presented in Table 4.3.

Table 4.3: Johansen Co-Integration Test Results

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.892447	147.0813	95.75366	0.0000
At most 1 *	0.833525	95.79652	69.81889	0.0001
At most 2 *	0.727515	54.55952	47.85613	0.0103
At most 3	0.451261	24.65553	29.79707	0.1741
At most 4	0.329473	10.85249	15.49471	0.2207
At most 5	0.069614	1.659584	3.841465	0.1977
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.892447	51.28476	40.07757	0.0019
At most 1 *	0.833525	41.23699	33.87687	0.0055
At most 2 *	0.727515	29.90399	27.58434	0.0247
At most 3	0.451261	13.80305	21.13162	0.3814
At most 4	0.329473	9.192905	14.26460	0.2705
At most 5	0.069614	1.659584	3.841465	0.1977

Source: Author's compilation using Eviews Output 12

The results indicate the presence of long-term equilibrium relationships among the variables under consideration. The Trace Test identifies three cointegrating equations at a 5% significance level, as the test statistics for "None," "At most 1," and "At most 2" hypotheses exceed the critical values, with probabilities below 0.05. Similarly, the Maximum Eigenvalue Test confirms three cointegrating equations, as the "None," "At most 1," and "At most 2" scenarios yield test statistics that exceed the critical values at a 5% significance level. These findings suggest that the variables are cointegrated, indicating

a stable long-term relationship despite potential short-term deviations.

4.1.4 Multiple Regression Result

The result of the estimation test is shown in Table 4.4 since it has been confirmed that a long-run relationship existed amongst the variables.

Table 4.4: Summary of Multiple Regression

Variable	Coeff	Std. Error	t-Statistic	Prob.
C	0.305143	0.206459	1.477983	0.1558
PAE	0.044548	0.013634	3.267539	0.0041
DIN	0.077366	0.021282	3.635249	0.0018
FDI	-0.016268	0.003176	-5.121679	0.0001
CSME	-0.014195	0.009560	-1.484792	0.1540
PCI	0.087887	0.059902	18.16120	0.0000
R-squared	0.997667	Mean dependent var		4.705840
Adjusted R-squared	0.997053	S.D. dependent var		0.163053
S.E. of regression	0.008851	Akaike info criterion		-6.410940
Sum squared resid	0.001489	Schwarz criterion		-6.118410
Log likelihood	86.13675	Hannan-Quinn criter.		-6.329805
F-statistic	1625.067	Durbin-Watson stat		2.442132
Prob(F-statistic)	0.000000			

Source: Author's compilation using Eviews Output 12

The C value (constant) represents the baseline GDP growth rate when all the explanatory variables are held at zero. In this model, the constant is 0.3051, indicating that if PAE, DIN, FDI, CSME, and PCI have no influence, GDP growth would still be 0.3051 units. However, its p-value of 0.1558 shows the constant is not statistically significant, meaning it does not strongly contribute to explaining the variation in GDP growth in this context. The results show that PAE and DIN have positive and statistically significant effects on RGDP, with coefficients of 0.0445 and 0.0774 and p-values of 0.0041 and 0.0018, respectively. This implies that a percent increase in these variables (PAE and DIN) contributes positively to economic growth. FDI, however, has a negative and statistically significant effect on RGDP with a coefficient of -0.0163 and a p-value of 0.0001, indicating a detrimental impact. The CSME is statistically insignificant with a p-value of 0.1540, suggesting no strong evidence of its impact. PCI has a strong positive and significant effect with a coefficient of 0.0879 and a p-value of 0.0000, highlighting its critical role in economic growth.

From the study's regression output, the R^2 coefficient is 0.9977, indicating that the variables' explanatory power is incredibly strong and high. In other words, 99% of

variation in the RGDP is being accounted for by the variation in PAE, DIN, FDI, CSME and PCI in Nigeria. Other potential factors that could influence RGDP but are not included in the model account for about 1% of the variations.

The F-statistic also exerts that there is joint significant impact among the variables with F-statistic value of 1625.067. The DW statistic is 2.4421 and this suggests that the model is autocorrelation-free. As a result, the models are reliable for making predictions.

4.1.5 Post-Estimation Tests

Test for Heteroscedasticity

This test is conducted to see whether the error variance of each observation is constant or not. The hypothesis testing is thus:

H_0: There is a homoscedasticity in the residuals

H_1: There is a heteroscedasticity in the residuals

Table 4.5: Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

F-statistic	1.888514	Prob. F(5,19)	0.1438
Obs*R-squared	8.299681	Prob. Chi-Square(5)	0.1405
Scaled explained SS	5.260798	Prob. Chi-Square(5)	0.3849

Source: Author's compilation using Eviews Output 12

The probability F-stat (*P*(F) from the result is 0.1438. This means that this value is greater than 0.05 percent level of significance. Therefore, the study accepted the null hypothesis that the model has no heteroscedasticity in the residuals.

Normality Test

The result of the normality test shows that Jarque-Bera has probability value of 0.8442, which is greater than 0.05 (5 percent level).

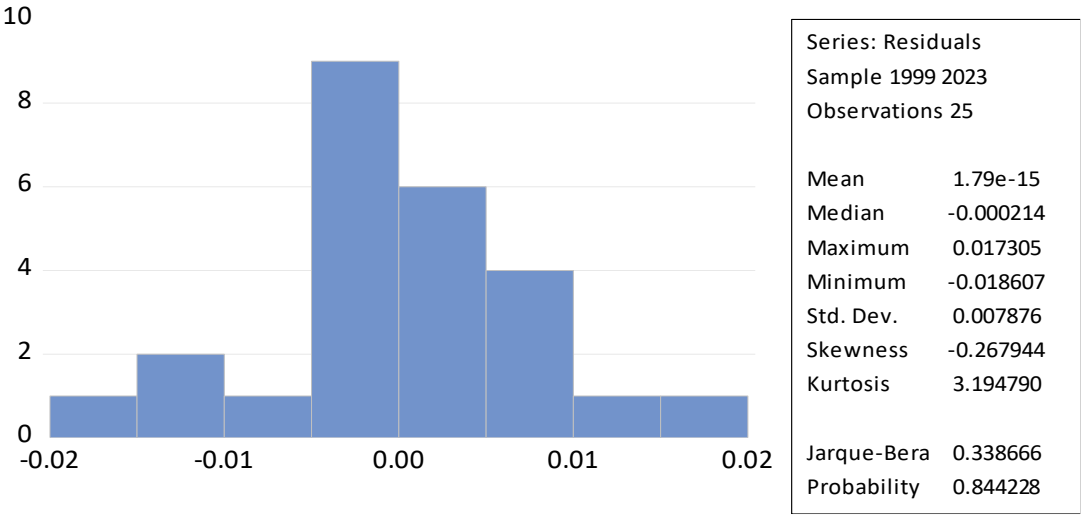


Figure 4.1: Histogram Normality Test
Source: Researcher's computation using E-view 12.0

Based on the decision rule, the study concludes that the model is normally distributed and the null hypothesis which states that the residuals are normally distributed is accepted.

4.2 Discussion of Findings

The study's findings reveal a complex interplay between poverty alleviation expenditure, domestic investment, and economic growth in Nigeria. The positive and significant impact of poverty alleviation expenditure on economic growth highlights the importance of government spending in addressing structural economic challenges. This aligns with theories suggesting that targeted investments in social welfare improve human capital and stimulate economic productivity. However, inefficiencies in program implementation, corruption, and inadequate targeting likely moderate the long-term impact, as previously noted by Ogundele and Olumide (2016). Domestic investment's strong positive correlation with economic growth underscores its role as a critical driver of capital accumulation and employment generation. This is consistent with Siwu et al. (2021), who emphasized domestic capital formation's ability to reduce poverty. The robust relationship suggests that improved infrastructure, entrepreneurship, and access to financial resources are key reasons for its influence.

Conversely, the negative impact of foreign direct investment (FDI) on growth is notable. While FDI typically enhances technology transfer and capital inflow, the findings suggest that in Nigeria, weak institutions, poor governance, and misaligned sectoral investments may hinder its benefits. This mirror concerns raised by Abubakar (2023), who emphasized inclusivity and strategic targeting to harness FDI's potential. Poverty's persistent negative relationship with growth reflects systemic issues like unemployment, inequality, and inadequate resource allocation. This aligns with Nwosa and Ehinomen's (2020) assertion that poverty dampens economic progress. Moreover, the study underscores the need for reforms in public spending efficiency, targeted investment in productive sectors, and institutional strengthening to ensure resources reach vulnerable populations and support long-term growth. These findings collectively suggest that while poverty alleviation expenditure and domestic investment have significant potential, maximizing their impact requires addressing structural inefficiencies, improving governance, and enhancing investment climates. This comprehensive approach could align economic growth more closely with poverty reduction efforts.

5.0 Conclusion and Policy Recommendations

5.1 Conclusion

Based on the findings of this study, it can be concluded that poverty alleviation efforts have a significant and positive impact on economic growth in Nigeria. The results suggest that as poverty alleviation expenditures increase, there is a corresponding positive effect on the country's GDP, underscoring the importance of continued investment in poverty reduction programs. Similarly, domestic investment demonstrates a favourable influence on economic growth, highlighting its role in strengthening the nation's economic foundation.

However, foreign direct investment (FDI) appears to have a negative effect on GDP, suggesting potential inefficiencies in the management and allocation of FDI, which may need to be addressed to optimize its contribution to economic growth. The model's high explanatory power further supports the conclusion that poverty alleviation and domestic investment are critical drivers of Nigeria's economic growth, while FDI may require strategic adjustments. The statistical significance of the model reinforces the reliability of the findings, providing strong evidence for policymakers to prioritize poverty alleviation and domestic investment initiatives to foster sustainable economic development.

5.2 Policy Recommendations

i. Given the positive relationship between PAE and economic growth, the government should prioritize and increase funding for poverty alleviation programs. These programs should focus on improving access to education, healthcare, and social safety nets, which are essential for lifting people out of poverty and stimulating long-term economic growth.

ii. The government should implement policies that promote domestic investments, such as tax incentives, subsidies, and access to low-interest loans for local entrepreneurs. This will encourage the growth of small and medium enterprises (SMEs) and create more jobs, thereby boosting economic activity.

iii. The negative impact of FDI on GDP indicates inefficiencies in its management. Therefore, the government should strengthen regulatory frameworks and improve transparency to ensure that FDI is channelled into productive sectors that contribute to sustainable economic growth, such as manufacturing, infrastructure, and technology.

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