

## GLOBALIZATION, FOREIGN DIRECT INVESTMENT AND POVERTY ALLEVIATION IN NIGERIA

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### ABSTRACT

*The study examined the effect of foreign direct investment on poverty alleviation in Nigeria over the last twenty years. In attempt to establish the influence of foreign direct investment, inflation, trade openness and gross domestic product on poverty alleviation in Nigeria, ordinary least square regression statistical method was employed. The findings showed that all the independent variables had significant impact on poverty alleviation in Nigeria within the period covered by the study. The R-square value indicated that all the variables accounted for 64.1% of the variance in poverty alleviation. Hence, the study recommended that government should enhance inflow of foreign direct investment as well as managing the FDI effectively through diversification.*

**Keywords:** *Foreign direct investment, poverty alleviation, trade openness, inflation, gross domestic product.*

### 1.0 INTRODUCTION

Nations cannot survive or grow economically without interacting with other countries of the world. Hence, the process of internationalizing or integration of economy, business as well as politics such that boundaries of nations are irrelevant is termed globalization. It can also be defined as the interconnected and interdependence of economies, cultures and population of the world. Foreign direct investment becomes easier to access by nations of the world especially the developing countries.

Foreign direct investment (FDI) refers to various investments made in order to acquire interest (share) in business operating beyond the national boundaries of the investors. It is a means of transferring technologies among nations of the world. This aided increase in production factors and effective uses of available resources. The level of poverty is expected to reduce due to effective utilization of resources. Foreign direct investment is expected to increase export of the country as a result of capacity utilization and domestic competition in the area of production (World Bank, 2021). FDI is expected to be a supplement to the nation's locally mobilized savings. Growth

measured in terms of per capita income, being the most pivot factor in poverty alleviation is expected to be improved with foreign direct investment. Economic growth as suggested by previous studies is the prime mover of people from poverty level. FDI is seen as an ingredient of growth in the economy especially in developing economy.

Poverty refers to a situation in which people experience lack of basic necessities such as food, clothing, shelter and medical care. Presently in Nigeria, the level of poverty is alarming. Many citizens are living pitifully due to lack of basic amenities- food, water, electricity and security. Unfortunately, Nigeria is ranked among the poorest nations in the world despite the abundant resources endowment of the country. The trend of poverty level in Nigeria despite various local and international measures adopted by the government is worrisome and also called for investigation.

Hence, this study examines the effect of Foreign direct investment on poverty alleviation in Nigeria for a period of twenty (20) years. Other objectives are to determine the effect of inflation, trade openness and gross domestic product (GDP) on poverty alleviation in Nigeria. The remaining parts of this study is structured as follows: review of literature, methods of analysis, discussion of results and summary and conclusion.

## **2.0 Literature Review**

### **2.1 Conceptual Review**

Conceptually, globalization encourages foreign direct investment across the countries of the world though with it threats and opportunities (Akinmulegun and Oluwole, 2013). Globalization is encouraged by the technological development in the area of information communication technology (ICT). It encourages investors to invest in any part of the world without leaving the shore of their home countries.

This makes it easy for countries especially developing countries to enjoy more foreign direct investment in different sectors of the nations' economies. Whenever a firm or an individual invested in any form of business outside its own country is termed foreign direct investment. It refers to a situation whereby an investor acquires or starts new business in another country (Afolabi, 2021; Israel, 2014). Meyer (2004) described foreign direct investment as a process in which citizens of a country acquire ownership of a firm's assets in order to have management control of the firm in another country. Acquisition of equities of a foreign firm only does not translate to foreign direct investment.

Foreign direct investment can be horizontal or vertical. FDI is classified as horizontal when the firm produces the same goods in the host country. This can be done for purpose of making more profit. Besides, it can be for purpose of enjoying low cost of inputs especially labour in the host country. In addition, it can be for the purpose of forming of oligopoly or monopoly in the host country (Afolabi, 2021). On the other hand, vertical foreign direct investment refers to a situation

whereby a firm has interest in exploiting raw materials or planned to invest in the distribution outlets in order to get closer to the consumers (Moosa, 2002).

Poverty is described as economic situation in which stable and predictable ways of meeting basic life necessities are not guaranteed (Akinmulegun, 2014). On the other hand, Ekong (1991) described poverty as a state of mind rather than expression of life situation. The Nigeria case of poverty had been described as a paradox due to the abundant of natural resources available in the country (World Bank, 1996)

## 2.2. Theoretical Framework

### Extended Solow-Swan Neoclassical Growth Model with Inclusive Growth

The separate works of Solow (1956) and Swan (1956) laid the groundwork for what is now referred to as the Solow-Swan Growth Model. This model has become a cornerstone of modern economic growth theory, expanding the understanding of how capital accumulation, labour or population growth, and technological progress drive economic growth.

The major theory adopted in the research is the extended Solow-Swan Growth Model with inclusive growth. This model is generally more suitable as a theoretical framework for analyzing the impact of FDI on poverty alleviation. It provides a more comprehensive and flexible approach to understanding how FDI influences economic growth and development. The inclusion of technological progress, human capital, and the concept of steady-state growth allows for a deeper analysis of the long-term benefits of FDI, which are crucial for sustainable poverty reduction.

The basic Solow-Swan model is given by:

$$Y=A \cdot K^{\alpha} \cdot L^{1-\alpha} \dots\dots\dots(2.1)$$

where:

Y is the output (GDP).

A is the total factor productivity (TFP).

K is the capital stock.

L is the labor input.

$\alpha$  is the output elasticity of capital ( $0 < \alpha < 1$ ).

To incorporate inclusive growth, we introduce additional variables and parameters:

$$Y=A \cdot K^{\alpha} \cdot H^{\beta} \cdot L^{\gamma} \dots\dots\dots (2.2)$$

where:

H represents human capital (education, health, skills).

$\beta$  (beta) is the elasticity of output with respect to human capital.

$\gamma$  (gamma) is the adjusted elasticity of output with respect to labor, accounting for inclusiveness.

We can further refine A to include factors such as social inclusion (SI) and equitable distribution of resources (EDR):

$$A=A_0 \cdot (1+g) \cdot SI^\delta \cdot EDR^\theta \dots\dots\dots (2.3)$$

where:

$A_0$  is the initial level of total factor productivity.

$g$  is the rate of technological progress.

SI captures the degree of social inclusion.

EDR captures the degree of equitable distribution of resources.

$\delta$  and  $\theta$  are parameters that measure the sensitivity of productivity to social inclusion and equitable distribution, respectively.

Combining these, we get the extended inclusive growth model:

$$Y=A_0 \cdot (1+g) \cdot SI^\delta \cdot EDR^\theta \cdot K^\alpha \cdot H^\beta \cdot L^\gamma \dots\dots\dots (2.4)$$

This equation reflects the multi-dimensional nature of inclusive growth by incorporating not just traditional factors of production, but also the qualitative aspects of growth that ensure its benefits are widely shared across the population.

In empirical applications, the challenge lies in quantifying variables like SI and EDR. Proxy measures such as Gini coefficients, access to education and healthcare might be used to operationalize these concepts in empirical research.

### **2.3. Empirical Review**

Anetor, Esho, Verhoef and Nsiah (2020) used data from 29 sub-Saharan African countries to examine the effect of FDI, trade and foreign aid on poverty reduction. Feasible Generalized Least Square (FGLS) technique was adopted. The results of the study showed that FDI and foreign aid have negative effect on poverty reduction while trade was found to have positive effect on poverty reduction. It was identified that FDI has not reached the level it could reduce poverty while, foreign aid has not been judiciously utilized.

Gangnon (2022) investigated the effect of poverty on foreign direct investment inflows in developing countries. 117 sample countries over the period pf 1980-2017 were used with two-step system generalized method moment (GMM) technique as a method of analysis. The results indicated that poverty had negative influence on foreign direct investment flows.

### **3.0. Methodology**

The research is analytical and empirical in nature and employed annual secondary data between 2004 and 2023

#### **3.1 Model Specification**

The main objective of this study is the examination of the effect of foreign direct investment on poverty alleviation in Nigeria. From our literature review, the model is hereby specified following the work of Adigun and Oke (2021) who examined the poverty reducing impact of foreign direct investment (FDI) in Nigeria between 1992 and 2016. However, the model was modified to suit the purpose of the study.

The model is specified below as:

$$PHCR = f(FDI, TO, GDPGR, INF) \dots\dots\dots (3.1)$$

Where:

PHCR - Poverty Headcount ratio

FDI - Foreign direct investment

TO – Trade Openness

GDPGR – Gross Domestic Product Growth Rate

INF - Inflation rate

The econometric form of the model is therefore specified thus;

$$PHCR_t = \beta_0 + \beta_1 FDI_t + \beta_2 TO_t + \beta_3 GDPGR_t + \beta_4 INF_t + \epsilon_t \dots\dots\dots (3.2)$$

$\epsilon_t$  is the error term that is assumed to be normally distributed with the mean of zero and constant variance;

$\beta_0$  = Constant term/intercept;  $\beta_1$ ;  $\beta_2$ ;  $\beta_3$ ;  $\beta_4$  = Slope coefficient.

### 3.2 Estimation Technique

#### Ordinary Least Squares (OLS) Regression

This statistical method is used in the study to determine best line of fitness through the set of given data, determine regression equations and also explain the relationship between the independent and dependent variables.

The data were sourced from Central Bank of Nigeria (CBN), Nigerian Bureau of Statistics (NBS) statistical database and World Development indicator database

## 4.0. RESULTS AND DISCUSSION

### 4.1. Pre-Estimation Test

#### 4.1.1. Correlation Analysis

**Table 4.1: Correlation Analysis**

	PHCR	LOGFDI	TO	GDPGR	INF
PHCR	1.000000	0.499953	0.447667	0.765257	-0.122996
LOGFDI	0.499953	1.000000	0.625414	0.480163	-0.511253
TO	0.447667	0.625414	1.000000	0.618768	-0.437876
GDPGR	0.765257	0.480163	0.618768	1.000000	-0.260613
INF	-0.122996	-0.511253	-0.437876	-0.260613	1.000000

*Source: Author’s Computation from E-view, 2024*

Table 4.1 presents the correlation analysis PHCR (Poverty Head Count Ratio) has a strong positive correlation with GDPGR (0.765257), moderate positive correlations with LOGFDI (0.499953) and TO (0.447667), and a weak negative correlation with INF (-0.122996). LOGFDI (Log of Foreign Direct

Investment) has a strong negative correlation with INF (-0.511253), a moderate positive correlation with TO (0.625414), and weak positive correlations with PHCR (0.499953) and GDPGR (0.480163). TO (Trade Openness) has a strong positive correlation with LOGFDI (0.625414), moderate positive correlations with PHCR (0.447667) and GDPGR (0.618768), and a weak negative correlation with INF (-0.437876). GDPGR (GDP Growth Rate) has a strong positive correlation with PHCR (0.765257), moderate positive correlations with TO (0.618768) and LOGFDI (0.480163), and a weak negative correlation with INF (-0.260613). INF (Inflation Rate) has weak negative correlations with PHCR (-0.122996), LOGFDI (-0.511253), TO (-0.437876), and GDPGR (-0.260613). These correlation coefficients provide insights into the relationships between the variables, indicating the direction and strength of their associations

## 4.2. Estimation Test

### 4.2.1. Regression Analysis

**Table 4.2 Regression Analysis**

Dependent Variable: PHCR				
Method: Least Squares				
Date: 06/11/24 Time: 21:13				
Sample: 2004 2023				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	34.44801	7.574747	4.547743	0.0004
LOGFDI	3.441088	2.319494	1.483551	0.1586
TO	-0.108293	0.186308	-0.581260	0.5697
GDPGR	1.881185	0.505165	3.723904	0.0020
INF	0.302331	0.317900	0.951025	0.3567
R-squared	0.644123	Mean dependent var		47.50500
Adjusted R-squared	0.549222	S.D. dependent var		7.845647
S.E. of regression	5.267568	Akaike info criterion		6.373333
Sum squared resid	416.2091	Schwarz criterion		6.622266
Log likelihood	-58.73333	Hannan-Quinn criter.		6.421927
F-statistic	6.787337	Durbin-Watson stat		1.272252
Prob(F-statistic)	0.002515			

*Source: Author's Computation from E-view, 2024*

Table 4.2 presents the results of the Ordinary Least Square Regression of series. Each coefficient represents the change in the dependent variable (PHCR) for a one-unit change in the independent variable, holding other variables constant. For example, the LOGFDI coefficient of 3.441088 indicates that a one-unit increase in LOGFDI is associated with an increase of approximately 3.44 units in PHCR.

The R-squared value of 64.41% means that the independent variables (LOGFDI, TO, GDPGR, INF) explain 64.41% of the variance in PHCR. Though LOGFDI, TO and INF are not statistically significant but are theoretically important. The F-statistic of 6.787337 with a p-value of 0.002515 shows that the regression model is statistically significant at the 0.05 level, meaning at least one independent variable significantly explains the variation in PHCR. The Durbin-Watson statistic of 1.272252 suggests the presence of positive autocorrelation in the residuals, indicating potential issues with the model's assumptions or specification. In summary, the regression model significantly explains the variation in PHCR, but positive autocorrelation in the residuals suggests some issues with the model.

### 4.3. Post-Estimation Tests

#### 4.3.1. Breusch-Godfrey Serial Correlation LM Test

**Table 4.3 Breusch-Godfrey Serial Correlation LM Test:**

F-statistic	2.486802	Prob. F(2,13)	0.1218
Obs*R-squared	5.534343	Prob. Chi-Square (2)	0.0628

*Source: Author's Computation from E-view, 2024*

Table 4.3 presents the results of the Breusch-Godfrey Serial Correlation LM Test. The Breusch-Godfrey Serial Correlation LM Test checks for autocorrelation in regression model residuals. The F-statistic is 2.486802 with a probability of 0.1218. The null hypothesis of the test is that there is no serial correlation in the residuals. Since the p-value exceeds 0.05, we fail to reject the null hypothesis, suggesting no significant serial correlation at the 0.05 level. Similarly, the Obs\*R-squared value is 5.534343 with a probability of 0.0628. Again, the p-value is greater than 0.05, indicating no significant serial correlation. In summary, both the F-statistic and Obs\*R-squared statistic show no evidence of serial correlation in the residuals at the 0.05 significance level. However, the p-values are somewhat close to 0.05, indicating a borderline case. Depending on the context and the level of tolerance for Type I errors, further investigation may be needed.

#### 4.3.2. Heteroskedasticity Test: Breusch-Pagan-Godfrey

**Table 4.4 Heteroskedasticity Test: Breusch-Pagan-Godfrey**

F-statistic	2.076213	Prob. F (4,15)	0.1348
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Obs*R-squared	7.127144	Prob. Chi-Square (4)	0.1293
Scaled explained SS	1.775890	Prob. Chi-Square (4)	0.7769

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*Source: Author's Computation from E-view, 2024*

Table 4.4 presents the results of the Breusch-Pagan-Godfrey. The Breusch-Pagan-Godfrey test is used to detect heteroskedasticity, which is the presence of unequal variance in the errors (residuals) of a regression model. The F-statistic tests the overall significance of the test. In this case, the F-statistic is 2.076213 with a probability (Prob. F (4,15)) of 0.1348. The null hypothesis of the test is that there is no heteroskedasticity. Since this p-value exceeds 0.05, we fail to reject the null hypothesis, indicating no evidence of heteroskedasticity. Similarly, the Obs\*R-squared value is 7.127144 with a probability of 0.1293. This p-value also exceeds 0.05, further supporting the absence of heteroskedasticity. In summary, all three statistics from the Breusch-Pagan-Godfrey test suggest that there is no evidence of heteroskedasticity in the residuals of the regression model at the 0.05 significance level. Therefore, we can conclude that the assumption of homoskedasticity is not violated.

## 5.0. Conclusion and Recommendations

This study investigated the interconnectedness among globalization, foreign direct investment (FDI), and poverty alleviation, focusing on FDI's impact on poverty reduction in Nigeria. Annual data from 2004 to 2023 were used to achieve the study's objective, and the Ordinary Least Squares (OLS) regression model was applied for its empirical analysis. The findings revealed that FDI and other variables had significant impact on poverty alleviation in Nigeria. The R-squared value of 64.41% reveals that the independent variables FDI, trade openness, GDP and Inflation (LOGFDI, TO, GDPGR, INF) explain 64.41% of the variance in Poverty Alleviation (PHCR). Also, the three statistics from the

Breusch-Pagan-Godfrey test suggest that there is no evidence of heteroskedasticity in the residuals of the regression model at the 0.05 significance level. It can be concluded that FDI and other variables drive economic growth and aids poverty alleviation.

The study believed there is need for the government to enhance FDI attraction by ensuring political and economic stability, managing FDI inflows effectively, diversifying investments beyond the oil sector, improving infrastructure, and strengthening security. To alleviate poverty, the government should boost GDP by reassessing import and export duties, stabilizing exchange rates, and maintaining price and interest rate stability. The INF coefficient of 0.302331 suggested that a one-unit increase in inflation is associated with a 0.30-unit increase in poverty alleviation, implying that moderate inflation can enhance growth and reduce poverty.

Additionally, the negative coefficient between trade openness and poverty alleviation indicated that increased trade openness reduced poverty levels. This underscores the need for careful trade policy examination to ensure FDI is growth-enhancing. The government should leverage trade openness benefits by implementing tariff and non-tariff measures, as seen in some developed

countries, to enhance trade and attract foreign investors. Improving the ease of doing business will further increase FDI inflows.

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