FOREIGN DIRECT INVESTMENT INFLOWS AND ECONOMIC GROWTH OF NIGERIA AND GHANA

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ABSTRACT

This study examined how foreign direct investment (FDI) affect economic growth in Nigeria and Ghana for the period 1986 to 2023. While FDI can benefit a country, its impact depends on the country's specific conditions and policies. The study had three main objectives: to examine the link between FDI and economic growth in both countries; to find out how trade openness influences economic growth; and to assess how exchange rates affect economic growth in Nigeria and Ghana. The data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (2023), and the Bank of Ghana (BOG) publications. The panel least squares regression was used in analyzing the data. The panel least square was preceded by the Levin Lin and Chu panel unit root test, Pesaran's cross section dependency test, panel cointegration and Hausman specification test. The pre-estimation results showed that the data were all stationary at first difference, and exhibited cross-section dependency. This implies that FDI policies in one of the West African country will affect the neighboring country. Also, the data were cointegrated and the estimation favored the random effect (RE) model. The results from the random effect estimates showed that FDI had a strong positive impact on economic growth in both countries. However, trade openness did not significantly affect growth, and exchange rates had a negative impact on economic growth. The study concluded that FDI has grown in the ECOWAS region, particularly in Nigeria and Ghana, and has contributed to their GDP growth. However, trade openness, especially in Ghana, remains a challenge. The study recommended that ECOWAS countries should promote trade, technology exchange, and innovation to attract more FDI.

Keywords: *Foreign direct investment, economic growth, Nigeria and Ghana*

INTRODUCTION

The Economic Community of West African States (ECOWAS) region has experienced significant changes in foreign investment over the past four decades. Ghana and Nigeria are two prominent countries in West Africa, each with unique economic landscapes shaped by various factors including foreign investment and public expenditures. In recent years, both countries have made efforts to attract foreign capital through various incentives and reforms. According to the World Bank, Ghana has experienced steady growth in Foreign Investment (FI), particularly in sectors such as mining, energy, and telecommunications (World Bank, 2021). Nigeria, on the other hand, has traditionally been the recipient of significant FI inflows, primarily driven by its large population, abundant natural resources, and strategic location in the region (UNCTAD, 2020).

A cursory look at foreign investment (FI) receipt by African countries shows that the regional distribution of FI is critically skewed in favour of countries in North Africa. Throughout the 1980s up till 2010, when the region started witnessing economic and political instability (Egypt, Libya and Tunisia), were the largest destination of FIs in Africa. The general picture of the distribution of FI across the different regions in Africa was dominated by North Africa whose performance was higher than the continent's average for three decades.

According to World Bank Development Indicators [WDI] (2021), Nigeria attracted approximately $89,570.52 million in FDI inflows with an average of 1.41 percent from 1996 to 2023. In 2017, FDI net inflows reached US$3.5billion (0.9% of GDP). In 2018, FDI net inflows declined to US$1.99billion (0.5%). In 2019, FDI net inflows reached 0.74% of GDP and in 2023, it dropped slightly to 0.61% of GDP (WDI, 2023). In nominal terms, FDI inflows to Nigeria have decreased over the years. However, it is expected that these capital inflows will boost socio-economic activities; however, taking the trade as a percentage of GDP as an example, the average is 36.63 percent, which is far below expectations, especially when compared to countries such as South Africa, which has traded as a percentage of GDP at 51.59 percent, Egypt at 46.37 percent, Kenya at 48.89 percent, and Rwanda at 38.73 percent. In 2017, FDI net inflows reached US$3.5billion (0.9% of GDP).

Markedly, structural adjustment programme and trade liberalisation revamped the Ghanaian economy from near collapse, eliciting investor confidence while returning global trust (Owusu, 2019). The outcome was that inward FDI which had nosedived to 1% from 1970 to 1982 ballooned to 6% in 1992. Gross domestic product (GDP) grew on average at 54% from 1984. Although, the initial implementation of the programme saw FDI stagnant, Ghana had become the leading investment destination in Africa in 1991 to 1995 (UNCTAD, 2003). The introduction of the Free Zones Act, 1995 and the Ghana Investment Promotion Act, 1994 provided certain tax incentives and investor protections that made it favourable to entice foreign investors while making the country a congenial destination for FDI (Antwi, Mills, Mills and Zhao, 2013). The 2008 World Investment Report disclosed that the proportion of inward FDI into Ghana quadrupled from 2005 to $636 million, representing 19.4% of gross fixed capital formation.

A United Nations report showed that FDI in Africa increased by 13% in 2019, reaching 32 billion U.S. dollars, reversing the two-year downward trend. Some African countries are better than others. South Africa performed well, with FDI reaching nearly US$4.2 billion. The impact of FDI on Nigeria's and Ghana's economic growth from theoretical perspective may include provision of domestic construction funds, technological progress and development of foreign trade (Ato-Mensah & Long, 2021). There is therefore the need to understudy the real effect of FDI on growth of both countries using quantitative data so as to make policy recommendations that will benefit both countries.

Despite the potential benefits of foreign investment, its impact on economic growth may vary depending on the specific context and policy environment of each country. Moreover, the effectiveness of foreign investment in achieving growth objectives depends on other factors notable amongst them are openness to trade and exchange rate (Amavilah & Asongu, 2016). While previous studies have taken account of other variables that may intervene in FDI and growth relationship, the lack of comparative analysis of Nigeria and Ghana poses serious problems for policy formulation within the ECOWAS sub-region. Ascertaining the trend of FDI for both countries and its effect on GDP of both countries provides an opportunity to examine how foreign direct investment have influenced economic growth in ECOWAS region with intervention of trade openness and exchange rate in order to direct future policies.

Furthermore, the magnitude of the distortions in the economy of Nigeria and Ghana ushered in by the culture of controls made it imperative for their government to take urgent and drastic actions to ameliorate the situation (Ehoda, Onoja, Adefioye & Bisong, 2022). With appropriate pressures from the IMF and the World Bank, Nigeria and Ghana adopted structural Adjustment Program like most developing economies in 1986 as a way of ensuring the long term survival of the country, thereby making the economy more open to trade. Thus, in July, 1986, the Structural Adjustment Programme (SAP) was introduced to tackle the problem of

imbalances in the economy (Ominyi & Ehoda, 2017). Given the outcome of this step, nearly 40 years after, one may again be forced to ask, has these ongoing processes of opening and international integration truly accelerated economic growth in Nigeria and Ghana or not? This study is going to empirically ascertain whether or not FDI inflows, trade openness and exchange rate have jointly played any significant role in the economic progress of Nigeria and Ghana.

Consequently, the major objective of this study is to investigate the effect of foreign direct investment on economic growth of Nigeria and Ghana. Specifically, the study intends to analyze the relationship between foreign direct investment and economic growth of Nigeria and Ghana. The study also determined the intervening effects of trade openness and exchange rate in economic growth of Nigerian and Ghana. The hypotheses assume no significant relationship between FDI inflows and economic growth in Nigeria. In terms of the scope of the study, the paper covers the period 1990 to 2023.

LITERATURE REVIEW

Conceptual Literature Review

Foreign Direct Investment

Foreign Direct Investment (FDI) refers to the investment made by individuals, organizations, or entities from one country (the home country) into businesses, assets, or projects located in another country (the host country). FDI involves acquiring a significant ownership stake, usually 10% or more, in a foreign company or establishing a direct presence, such as subsidiaries, joint ventures, or branches, in the host country (Kerebana & Krama 2021). FDI is characterized by a long-term interest and a certain degree of influence or control over the operations of the foreign entity. It differs from portfolio investment, which involves the purchase of securities like stocks and bonds without active involvement in the management of the invested entity (Kerebana & Krama, 2021).

Many African countries seek foreign direct investment (FDI) because they lack enough local capital to support development. Their limited funds have made it hard for governments to provide quality infrastructure and services. FDI is seen as a key driver of growth in developing countries, as it brings in new knowledge and boosts productivity (Okara, 2023; Busse & Groizard, 2008).

Investors consider several factors when deciding where to invest, such as economic growth, government policies, labor market conditions, inflation, trade openness, foreign reserves, and natural resources (Djokoto & Wongnaa, 2023). On the other hand, factors like low human capital, high government spending, low GDP per capita, and limited private sector credit discourage FDI (Ajide & Ibrahim, 2022). Some researchers also highlight the importance of strong institutions, good governance, and ease of doing business—such as reliable electricity, financial systems, and political stability—as key to attracting FDI (Tan et al., 2023; Julio & Yook, 2016).

Foreign Investment in Nigeria

In the early years, Nigerian governments restricted foreign investment due to fears of foreign control over the economy. The Nigerian Enterprise Promotion Decree (NEPD) of 1972 limited foreign ownership in major sectors like commerce and manufacturing to 60%, which was later reduced to 40% in 1977. These restrictions caused a drop in foreign investment, with foreign capital averaging just 0.79% of GDP from 1973 to 1988 (CBN, 2023). To reverse this, a new industrial policy body was set up in 1988. Then in 1995, the NEPD was replaced by the Nigerian Investment Promotion Commission (NIPC), which aimed to attract more foreign investors.

Since the late 1990s, Nigeria saw a rise in trade and FDI, peaking in 2012. However, both started to decline afterward, with trade falling from 44.53% of GDP in 2012 to 25.39% in 2020, and FDI dropping from 1.55% to 0.55%. At the same time, GDP growth fell into negative territory in 2020, marking a recession. This suggests that each new government has contributed to the declining trend in trade and investment. By the end of 2023, Nigeria's total FDI was estimated to be over ₦500 trillion (CBN, 2023).

Foreign Investment in Ghana

The Ghanaian economy is one of the most vibrant in West Africa (UNCTAD, 2022). Nigeria must do more to remain the most preferred destination of FDI and FPI in West Africa especially with the rate of growth currently witnessed in Ghana. Ghana has enormous natural resources, and a robust per capita output has twice that of the poorer nations in West Africa. The Ghanaian economy continues to spin around subsistence agriculture that accounts for 36% of GDP and employs 60% of the work force while gold; timber and cocoa production are its major sources of foreign exchange. Eyisi (2010) reviewed the Ghanaian economy and reports that it has one of the top growth trends in Africa but has a major drawback due to market size of about 23m as at 2010.

On whether foreign direct investment exerts considerable impact on Ghana's economy, Asafu-Adjaye (2005) reveals that foreign direct investment has a noteworthy positive impact on economic growth in Ghana. This view is supported by Agbola (2013) who believes strongly that foreign direct investment adds largely to the growth of the economy of Ghana through quality investments in sectors beneficial to the country. He further explains using the fully modified ordinary least squares technique and yearly data from 1965 to 2008 that economic growth in Ghana is highly dependent on foreign direct investment.

Economic Growth

Son and Kakwani (2004) defined economic growth as "continuous improvement in the capacity to satisfy the demand for goods and services, resulting from increased production scale, and improved innovations in products and processes. Aizenman, Jinjarak and Park (2020) conceptualized gross domestic product as the sum of all goods and services produced within a particular economy from all economic units and measured over a one year period. It follows that gross domestic product is a measure of economic growth since it touches on every economic unit of the economy.

In relation to this study, Ghana had the lowest GDP growth rate within the period 1998-2010 while Nigeria had the highest GDP growth rate within the period 2004-2017. However, Ghana overtook Senegal and Côte d'Ivoire and kept performing very well until the country overtook Nigeria who has been at the top from in the latter part of 2019. As at end of 2023, Ghana has higher GDP growth rate than Nigeria. Foreign direct investment inflow, trade (export plus import), and currency exchange rate play significant roles in achieving growth of an economy and that is the main focus of this research.

Theoretical Literature Review

Dependency Theory

Dependency theory highlights the asymmetric power dynamics between developed and developing countries, emphasizing the role of foreign investment in perpetuating structural inequalities and dependency relationships (Frank, 1967). From this perspective, foreign investment inflows may lead to distortions in public expenditure priorities, as governments prioritize projects and policies that cater to the interests of foreign investors or multinational corporations. Additionally, excessive reliance on foreign investment may undermine domestic industries and hinder efforts to achieve self-sufficiency and sustainable development.

According to this theory, FDI may exacerbate dependency and underdevelopment in host countries by reinforcing asymmetrical power relations, exploiting natural resources, and perpetuating economic inequalities. In the Nigerian context, the Dependency Theory underscores the importance of critically assessing the potential benefits and risks associated with FDI, particularly in terms of its impact on local industries, employment, and income distribution (Oseni & Nwachukwu, 2021).

Solow Growth Theory

The Solow growth theory is a neoclassical model that breaks down how the growth rates of inputs like capital, labor, and foreign direct investment inflows contribute to output growth. The theory includes a vector

of extra variables in its estimation, including the interest rate, inflation rate, and exchange rate. According to Solow, the growth process of any economy can be derived from the following equation:

$$Y = A\Phi (K, L, \Omega) \quad 2.1$$

Where Y, K, L, and A stand for output, capital, labor, and production efficiency, respectively; and Ω is a vector of ancillary variables. Employing a Cobb-Douglas function with observing the logarithms and time derivatives of the equation it yields:

$$g_y = g_A + ag_k + \beta g_L + \gamma g_\Omega \quad 2.2$$

Where g_y represents the AKL's rate of growth and y represents the output's elasticity with regard to labour, physical capital, and ancillary factors, respectively.

The study made the assumption that the growth rate of the local economy is an increasing function of foreign direct investment in its application of Findlay's (1978) Solow's growth model. This emphasized the handicap and need for rescue which less and developing economies cannot provide themselves, thereby needing inflows from abroad.

Empirical Literature Review

There have been many empirical works on foreign direct investment and economic growth in Nigeria and in Ghana. This sub-section focuses on a review of related studies from both countries with a view to identifying the gap in literature. The study of Yeboah (2024) was on how foreign direct investment (FDI) and foreign trade affect Ghana's economic growth using yearly data from 1985 to 2021 from the World Bank. The study used statistical tools like unit root tests, cointegration tests, and multiple regression. The findings showed that both FDI and trade openness help improve Ghana's economy, with GDP used to measure growth. FDI increased GDP per capita, but trade openness had a negative effect on GDP.

Again, Lumos e*t al.* (2024) examined how FDI affects Ghana's economic growth using regression techniques. Their results showed that FDI flows, FDI stock, and FDI per person all had a significant positive impact on Ghana's per capita growth. Still in Ghana, Ato-Mensah and Long (2024) studied how FDI affects growth, jobs, and poverty. They followed the literature mapping method and concluded that Ghana has introduced several policies to attract FDI because it brings many benefits. To keep the economy growing, they advised the government to maintain investor-friendly policies to bring in more foreign investment. Kwegyir-Aggrey (2024) looked at the effect of trade openness on Ghana's growth from 1986 to 2017 using the ARDL model. The results showed that trade openness hurt growth both in the short and long term. Inflation, money supply, and population growth also had negative effects, while investment in fixed assets helped growth in the short run.

In Nigeria, Ozili (2025) examined how FDI inflows affect Nigeria's economic growth from 2010 to 2019. The study found that FDI did not significantly affect growth, regardless of how it was measured. Instead, factors like population size, interest rates, private credit, and inflation were more important for economic growth. Gross capital formation had little effect. Abinabo and Abubakar (2023) empirically analyzed the relationship between trade openness and economic growth in Nigeria from 1990 to 2021. The results indicated that a long-run relationship exists between trade openness (volume of export, import and international trade) on economic growth in Nigeria. Oyamendan (2022) did a study on the impact of foreign direct investment on Nigeria's actual gross domestic product. The correlation analysis revealed that the rate of RGDP growth was inversely connected with the exchange rate, while it was positively correlated with the ratio of FDI to GDP, the total debt service payment to GDP, the inflation rate, and trade openness. Trade openness had a positive and significant impact on the rate of real GDP growth.

Emeka (2024) explored the link between FDI and economic growth in Nigeria using data from existing sources. The study found that FDI helps Nigeria's growth by boosting capital and introducing new technologies. However, weak institutions, poor infrastructure, and unstable policies reduce its full impact. The study suggested that Nigeria needs better policies and a stable environment to attract more FDI and grow

sustainably. Tyokpsu and Abakpa (2023) explored the relationship between trade openness and economic growth in Nigeria from 2000 to 2020. The study indicated that there was no significant impact between foreign direct investment (FDI) and both GDP and per capita income in Nigeria. However, it was demonstrated that import significantly affected both the gross domestic product (GDP) and per capita income (PCI) in the country.

Previous studies appear to have focused their attention on foreign direct investment and trade openness as it affects either Nigeria or Ghana. Given the peculiarity of the economies of Nigeria and Ghana, there is no single study that has analyze FDI and how it affects the economies of both countries. Since both countries are members of the West African Monetary Zone (WAMZ) and English speaking countries within the ECOWAS sub-region, conducting a study using data from both economies becomes necessary. In addition, this present study will also go a step further by carrying out individual analysis of FDI and economic relationship in both countries with a view to comparing both countries' economic growth trend given the direction of flow FDI.

METHODOLOGY

Since this study focuses more on the use of secondary data, we adopt the *ex-post-facto* design. This research design is best suited for secondary data research. The changes in the independent variables are expected to bring about the value of the dependent variable without interference by the researcher. The data are sourced from secondary means particularly from the Central Bank of Nigeria (CBN) Statistical Bulletin (2023) edition volume 35, and the Bank of Ghana (BOG) 2023 publication and Annual Abstract.

Model Specification

Wiredu, Nketiah & Adjei (2020) modeled the relationship between trade openness, foreign direct investment and economic growth in West Africa. They modeled gross domestic product growth as a function of inward FDI net inflows, inflation measured as GDP deflator and trade openness. In order to modify their model, this study shall adopt a more specific approach by utilizing FDI as the primary variable in addition to trade openness and exchange rate as the moderating variable. Thus, modifying the model specified inWiredu, Nketiah&Adjei (2020), we formulate our model thus:

$$GDP = f(FDI, TOP, EXR) \quad (1)$$

Where:

GDP = Gross domestic product

FDI = Foreign direct investment

TOP = Trade openness

EXR = Exchange rate

In the model, GDP is treated as endogenous variable under an assumption that the variables (FDI, TOP and EXR) are treated as exogenous that drives economic growth.

However, being a cross-sectional data involving two (2) countries in ECOWAS region, we transform the model into an econometric panel model as follows:

$$GDP_{it} = \alpha_0 + \alpha_1 FDI_{it} + \alpha_2 TOP_{it} + \alpha_3 EXR_{it} + \gamma_4 D_{i=\omega} + \gamma_5 D_{i=\omega} + \mu_{it} \quad (2)$$

Where α_0 = Intercept of the panel model, $\alpha_1 - \alpha_4$ = Unknown coefficients of the panel model to be estimated and μ_t = error term. However, $\gamma_5 Di=\omega$ and $\gamma_6 Di=\omega$ represent country-specific terms and unobserved time-variant heterogeneity (which implies factors that are specific to the individual countries but does not change over time).

A-priori Expectation

The expectation from the model is in line with the classical economic growth where the coefficients of FDI, trade openness and exchange rate are expected to be positive i.e. $\alpha_1 > 0$, and $\alpha_2 > 0$, $\alpha_3 > 0$. That is to say that

FDI is expected to exert positive effect on GDP of both countries, TOP and EXR are also expected to exert positive effects.

Methods of Data Analysis

The method adopted in the analysis of data is the panel regression model. This involves data collected from a cross-section of two countries over 38-year period (1986 – 2023). Panel data means combining data from multiple subjects—like countries or companies—over several time periods (Baltagi, 2005). This method helps when there isn't enough data over time by increasing the number of observations, which can improve the accuracy of results and reduce errors in regression analysis. Baltagi (2005) also points out that one key advantage of panel data is its ability to account for differences between individual units (like countries or firms).

The data for this study are cross-sectional in nature because they cut across different countries (Maddala, 2001). Specifically, Nigeria and Ghana, are the two countries selected for the study. These two countries in the ECOWAS sub-region are selected for comparison because they have similar economic outlook in terms of FDI policies driven by their formation of the West African Monetary Zone (WAMZ).

The study adopts econometric approach to the panel data analysis which involves the test for stationarity of the data using the Levin, Lin and Chu panel unit root test, test for long-run relationship, Hausman specification test and the panel pooled effect model estimation (Egbulonu, 2008). The tests are carried out at 5% level of significance. Durbin Watson test is used to ascertain the presence of autocorrelation in the model while the adjusted $\bar{R}^2$indicates how well the data fits the model. The Eviews software v.9 is used to simplify the tests and ensure accuracy. The tests are explained in details below:

RESULTS AND DISCUSSION

Data used for the analysis are presented and attached in Appendix I of this research. The data are computed from the Central Bank of Nigeria and Bank of Ghana. The data were converted to their natural logarithm forms to ensure standardization and non-spurious regression estimates.

Pre-Estimation Test Results

The analyses of data commences with presentation of the pre-estimation tests of stationarity, cointegration, cross section dependence and the Hausman specification test. These are shown below:

Panel Unit Root Test

Table 1: LLC Panel unit root test [*p-value in parenthesis*]

Variables	**LLC test statistic**			
	@Level	**@First Difference**	**Order of Stationarity**	**Decision**
GDP	0.36528 [*0.6425*]	-6.25105 [*0.0000*]*	I(1)	Stationary at 1st difference
FDI	-0.87865 [*0.1898*]	-5.22043 [*0.0000*]*	I(1)	Stationary at 1st difference
TOP	-1.51015 [*0.0660*]	-6.09884 [*0.0000*]*	I(1)	Stationary at 1st difference
EXR	-0.78341 [*0.2167*]	-5.92080 [*0.0000*]*	I(1)	Stationary at 1st difference

Note: *Probabilities are in block parenthesis.* indicates significance at 5% level*
Source: *Extracted from Eviews output*

Furthermore, we proceed to the unit root test in order to ascertain the stationarity or non-stationarity of the data used in the model. The hypothesis for the panel unit root test above is given as:

H_0: The data is not stationary (has unit root).

H_1: The data is stationary (has no unit root).

The panel unit root test presented in Table 1 shows that all the variables are I(1). Specifically, gross domestic product, FDI, trade openness and exchange rate, are all stationary after first differencing which meant that their order of stationary are represented as I(1). The stationarity test above shows that the statistical properties of the data do not vary over time. This means that the data can be used to forecast future economic growth in the selected West African countries. The stationarity of the cross-sectional data permits the study to estimate Random Effect (RE) model based on the outcome of the Hausman specification test (Egbulonu, 2019).

Cross Section Dependence Test

The use of the Pesaran's (2004) CD test to check for cross-sectional dependency (CD) is aimed at ascertaining whether there is a correlation between the data from both countries. The following is the null and alternate hypothesis:

H_0: *There is cross-section independence*

H_1: *There is cross-section dependence.*

Table 2: Cross-Sectional Dependence Test

Test	Pesaran CD Statistic	d.f.	p-value
GDP	19.37756	1	0.0000
FDI	6.253451	1	0.0000
TOP	20.67231	1	0.0000
EXR	14.46816	1	0.0000

Source: Extracted from Eviews Output

There is significant evidence to reject the null hypothesis of cross-section independence for the panel data residuals. What this implies in this study is that the cross-sectional data are dependent on each other meaning that the FDI policies in one of the West African country will affect a neighboring country and so on. In other words, there is cross-section dependence (correlation) in the data (Sadorsky, 2014). This also justifies the choice of the countries from the ECOWAS sub-region.

Panel Cointegration and Hausman Test

Table 3: Cointegration and HausmanSpecification Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random (Hausman)	241.138	1	0.0000
Kao Residual Cointegration Test			
Panel ADF-Stat.	-2.4599		0.0069

Table 3 shows the cointegration and Hausman test results. The null hypotheses for the cross section Hausman test is rejected since the *p-value* 0.0000 is less than 0.05 critical value. The implication is that the model favors the random effect model. In other words, the estimated effect of FDI on growth of the economies of Nigeria and Ghana can take random values based on the peculiarity of the economy of the country.

On the other hand, we find that there is a long-term relationship between FDI and economic growth in the selected West African countries since the *p-value* of the panel ADF stat. test (0.0069) is less than 0.05 critical value. Thus, FDI have long run implications on economic growth of countries in the ECOWAS sub-region.

Estimation of the Panel Regression (Random Pooled Effect)

Table 4: Random Effect model Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.39221	2.177384	7.987662	0.0000
FDI	0.312416	0.121484	2.571663	0.0109
TOP	0.311219	0.558534	0.557207	0.6709
EXR	-0.446143	0.035669	-12.50798	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.928874		F-statistic	28.15047
Adjusted R-squared	0.925574		Prob(F-statistic)	0.000000
Durbin-Watson stat	1.722420			

Source: *E-views output*

The random effect specification shows that foreign direct investment (FDI) exert positive and significant effect on economic growth of the selected West African countries to the tune of 0.3124 units. This increase in gross domestic product (economic growth) occasioned by increased foreign direct investment in the selected countries explains the real impact of foreign direct investment as a driver of economic growth in the ECOWAS sub-region.

Trade openness exerted positive but not too significant effect on growth of the economies of the selected countries in the sub-region. This means that trade openness increase economic growth in the ECOWAS sub-region by 0.3112 units. This result implies that even though there is positive change in trade openness, it did not result in a significant increase ineconomic growth of Nigerian and Ghana.

Exchange rate showed negative and significant effect decreasing the GDP of the countries by 0.4461. The negative effect of exchange rate implies that countries in the ECOWAS sub-region have been engrossed in spiraling exchange rateand this has led to decreased economic growth and in the long run, it exerts negative intervening effect on the FDI – growth nexus which may have dire consequences if not adequately checked. .

The positive coefficient of the intercept (17.392) is an indication that economic growth increases when FDI variables used in the model are held constant at zero. This underlines the fact that there are other variables which may have been impacting on the economies of the selected countries but these variables are not captured in the model. They are therefore taken care of by the stochastic error term.

Individual Analysis of Nigeria and Ghana

The individual country analysis is aimed at providing support to the general findings and also analyzing the individual country characteristics with a view to assisting in policy formulation at country level. Table 4.5 below summarizes the finding:

Table 5: Summary of the Country-specific Analysis

Nigeria				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	29.88104	6.843907	4.366079*	0.0001
FDI	-0.847213	0.744027	-1.138686	0.2642
TOP	0.734531	0.138881	5.288936*	0.0000
EXR	-0.013667	0.077998	-0.175226	0.8621
Ghana				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**

FDI	0.000672	0.011295	0.059496	0.9530
TOP	-0.003505	0.005359	-0.654041	0.5182
EXR	1.002014	0.008172	122.6124*	0.0000
C	3.149477	0.299540	10.51438*	0.0000

Source: *E-views output*

Individual country analysis from Table 5 shows that FDI for Nigeria has negative effect on the country's economic growth (GDP). There is a projected 0.8472 unit decrease in GDP as a result of changes in Nigeria's FDI. However, the decrease in GDP occasioned by FDI was not significant for Nigeria. For Ghana, FDI was positively related to GDP increasing GDP by 0.0007 units but the increase was not statistically significant.

While trade openness increased Nigeria's economic growth significantly by 0.7345 units, trade openness exerted a non-significant negative effect on Ghana's economic growth decreasing it by 0.0035 units. Nigeria's exchange rate showed negative effect on GDP which was not statistically significant, Ghana's exchange rate led to 1.002 units increase in the country's GDP and the increase was found to be statistically significant.

Post-Estimation Test Results

R-squared: FDI and its associated variables jointly accounted for 92.56 per cent of the changes in economic growth in the two West African countries. This is a high explanatory coefficient and it underlines the robustness of the model.

Durbin Watson: The Durbin Watson statistic suggests that there is no autocorrelation in the model since the DW value of 1.722 tends towards 2 than to 0. This implies that the error observed in the data in the previous year did not correlate or affect the observations for the other years.

Individual Test of Hypotheses

The hypotheses formulated in section are hereby re-stated as follows:

Hypothesis One:

H_{01}: There is no significant relationship between foreign direct investment and economic growth of Nigerian and Ghana.

Hypothesis Two:

H_{02}: There is no significant relationship between trade openness and economic growth of both countries.

Hypothesis Three:

H_{03}: Exchange rate has no significant effect on economic growth of Nigeria and Ghana.

Table 6: Summary of the hypotheses Test

Variable	t-statistic	*p-value*	Decision
Foreign Direct Investment (FDI)	2.57166	0.0109*	Positive and significant
Trade Openness (TOP)	0.5572	0.6709	Positive but not significant
Exchange Rate (EXR)	-12.5079	0.0000*	Negative and significant

Source: *Extracted from Eviews Output*

Based on the test in Table 6, the null hypothesis one (H_{01}) and null hypothesis three (H_{03}) are rejected since their respective probability values (*p-values)* are less than 0.05 critical value

(H_{01}: p=0.0109 < 0.05 and H_{02}: p=0.0000 < 0.05). However, the second null hypothesis (H02) is accepted since the *p-value* is greater than 0.05 (H_{02}: p=0.6709 > 0.05). As such, we conclude that:

- There is significant relationship between foreign direct investment and economic growth of Nigerian and Ghana.
- There is no significant relationship between trade openness and economic growth of both countries.
- Exchange rate has significant effect on economic growth of Nigeria and Ghana.

Discussion of Findings

The analysis found that foreign direct investment (FDI) positively and significantly affected economic growth in the selected ECOWAS countries (Nigeria and Ghana). This means that foreign direct investment has been a significant driver ofgrowth in the economy of both countries joined together. This supports the findings of Osinubi and Amaghionyeodiwe (2020), Kulu, Mensah and Sena (2021) and Antwi, Boateng and Salley (2021) who found that the behavior of FDIhas propelled growth in the economy ofNigeria on one hand and for Ghana on the other hand.Thus, in view of the relationship between FDI and growth, there is strong indication that in the long run, FDI will further increase growth in the economy of the two countries but this may be highly dependent on the degree of openness of the individual countries to trade.

Trade openness showed positive effect on GDP of both countries but the positive effect was not significant. This implies that there is increased access to trade in both Nigeria and Ghana but the increased access to trade needs further improvement for it to have the desired effect on growth in the respective economies. When assessed individually, Nigeria recorded positive and significant trade openness while Ghana recorded negative but not significant trade openness. This is in concurrence of the finding from Abinabo and Abubakar (2023) and Kwegyir-Aggrey (2024) but that of Ghana goes contrary to the conclusion from Yeboah (2024). We can therefore deduce that Nigeria's trade openness overshadows that of Ghana leading to pooled positive effect of trade openness on growth of both countries joined together. The positive but non-significance of trade openness aligns with the finding of Ehoda et al (2022) who concluded that trade openness has an insignificant positive relationship on economic growth in Nigeria and Ghana.

Since exchange rate is a driving factor that intervenes in the FDI and growth relationship, the study found that exchange rate for Nigeria exerts negative effect on growth while that of Ghana exerted positive effect on growth. The pooled regression showed that exchange rate significantly diminished growth in the economies of both countries. This is an indication that the exchange rate for both countries has combined fluctuating effect leading to fall in FDI inflows as a result of depreciation of both local currencies against the major trading currency. This is in agreement with what Antwi, Boateng and Salley (2021) asserted that exchange rate volatility had a negatively significant impact on economic growth of countries in the long run. Also, Oyamendan (2022) concluded that RGDP growth was inversely connected with the exchange rate.

CONCLUSION AND RECOMMENDATIONS

Having analyzed the effect of foreign direct investment on the economies of Nigeria and Ghana, the study concludes that foreign direct investment in the ECOWAS sub-region, using both countries as focus has been appreciating and this has led to increase in gross domestic product to the respective countries and to the sub-region. In other words, the ECOWAS sub-region led by Nigeria and Ghana as the most performing countries has seen increased inflow of FDI over the last three decades and there is evidence of positive movement in GDP. However, openness to trade remains an issue as Ghana's trade to GDP ratio is still below expected outcome thus dwindling other countries' efforts. Exchange rate shortcoming is noticed for both countries as exchange rate significantly decreased economic growth prospects of the sub-region. With Nigeria's negative effect of exchange rate being overshadowed by the combined exchange rate of both countries, the monetary union needs to set the right strategies that will help to stabilize local currency units against the major trading currency in the near future so as to encourage FDI inflows. Based on the findings, the following recommendations were made

i. Since FDI exerts positive and significant effect on GDP of both countries, efforts needs to be sustained in encouraging FDI inflows.

ii. Efforts need to be put by the government of Ghana to open up the economy to foreign trade. This can be by way of export promotion policies such as tariff free and low tax trades, low taxes on certain categories of imports and free trade promotion amongst ECOWAS countries.

iii. The monetary authority should ensure stable exchange rate by leveraging on the free trade agreement within the ECOWAS sub-region to export locally produced products.

iv. ECOWAS countries, especially Ghana and Nigeria should create an enabling environment through the provision of a conducive economic environment to attract FDI inflow for a faster rate of economic growth.

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