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FOREIGN DIRECT INVESTMENT, EXCHANGE RATE FLUCTUATIONS AND ECONOMIC GROWTH IN NIGERIA (2012 - 2021)

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ABSTRACT

This study examined the effect of foreign direct investment (FDI) and exchange rate (ER) fluctuations on economic growth in Nigeria. An ex post facto research design was used. Data were sourced from the CBN statistical bulletin and Bureau of Statistics publication covering the time frame of 10 years, from 2012 to 2021. Using regression analysis via E-view 9.0, the study revealed that FDI, export rate, and exchange rate have positive but insignificant effects on economic growth in Nigeria. However, the inflation rate has a negative significant effect on economic growth in Nigeria. This implies that as foreign direct investment, export, and exchange rate increase, gross domestic product also increases and vice versa. Likewise, the increase in the inflation rate led to a decrease in the economic growth of the country and, thus, became significant to the gross domestic product. This study, therefore, concluded that foreign direct investment and exchange rate fluctuation affect the growth of the Nigerian economy.

Key words: *Economic Growth, Exchange Rate Fluctuations, Export Rate, Foreign Direct Investment, Nigeria.*

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1. INTRODUCTION

Nigeria has the capacity to grow into a great country, but its economy does not have the capital to meet the need for investments. Bringing in foreign direct investment (FDI) has been one of Nigeria's policies over the years to accelerate economic growth and development. The government believes that a significant FDI infusion would raise factor productivity. (Aremu 2005). For any country, including Nigeria, to see sustained growth, foreign direct investment is essential. It is impossible to overstate the contribution of FDI to Nigeria's economic growth. The country has benefited greatly from increased managerial abilities, employment growth, technological spillovers, and other advantages. Foreign direct investment offers advantages to both the investor and the foreign host country. According to UNCTAD (2018), Nigeria is the 3rd largest host economy in Africa for FDI, with the United States, the United Kingdom, China, the Netherlands, and France among the nations that invest there.

The fluxes in the net FDI influx in Nigeria indicate transformations in the nations social-political, and economic environment. Foreign Direct Investment flow to Africa slumped to $42billion in 2017, which was a 21% decline of $51billion from 2016, with Nigeria facing a slump of 21.3% making it $35billion in 2017 arising from weak oil prices and the harmful macroeconomic effects from the commodity which resulted in a depressed economy (UNCTAD, 2018). In 2018, the FDI flows to Africa increased to $46billion and Nigeria was not among its major contributors. FDI to West Africa dropped by 15% to $9.6billion, the lowest since 2006 which was largely due to the substantial drop of FDI in Nigeria in 2018. In Nigeria, it dropped to about $2billion by 43%. At this, Nigeria no longer became the largest recipient of FDI in West Africa. It dropped as a result of the risk of instability associated in Nigeria election and dispute between the government and some large Multinational Enterprise (MNEs) (UNCTAD, 2019). In 2019, FDI to West Africa fell by 21% to $11 billion, primarily as a result of a sharp reduction in investment in Nigeria. One of the factors that affect FDI activities is the behavior of exchange rates (ER). ER measures the worth of native money to international currencies. It shows the proportion at which one currency can be swapped for another. (Isola 2016). The number of naira required to obtain a specific amount of dollar, for example, is known as the ER between naira and US dollars. A nation with significant ER volatility will have a riskier profit stream from FDI. Nations that have more gradation of currency risk lose more FDI to nations with lesser risk since there are only a limited number of possible direct investments. (Foad 2005). The exchange rate is important in attracting FDI, thus, when it is valued too much, it discourages exports and affects FDI adversely. (Monogbe 2016).

Nigeria is one of the many developing nations in the globe whose primary goal is economic expansion. However, this plan has been hampered by the government's repeated attempts to promote growth, as well as by its lax ER policy, poor investment policy, and over-reliance on the proceeds from the export of crude oil, all of which ignore other areas of the economy where significant revenue could be generated. FDI and exchange rates are two essential factors that promote economic growth. FDI mostly contributes to economic growth through raising productivity as a result of better technology (Onabote, Adama, Obasaju & Bright, 2022). The Nigerian public nowadays places a high value on exchange rates and their ongoing fluctuations since they have an impact on the economy's ability to reach its maximum production potential. While frequent changes or an unsuitable exchange rate have been a significant barrier to the economic progress of many African nations, including Nigeria, an

acceptable exchange rate has shown to be one of the most crucial determinants for economic growth in the economies of the majority of industrialized nations. (Isola 2016). The unsteadiness in the foreign exchange rate market has befuddled the economy of Nigeria (Kelikume & Nwani 2019). The fact that Nigeria is still unable to draw in the appropriate amount of FDI raises serious concerns. Every nation in the world is constantly looking for methods to boost its economy, whether it be through external initiatives or internal business plans and restrategizing. Therefore, foreign investment occurs in situations where a nation gazes outside its boundaries for commercial expansion, economic emancipation, and overall financial and economic improvement. (Ugwuanyi 2019). A primary economic issue facing less developed nations (LDCs) is insufficient capital formation to support the investments required for economic expansion. FDI have been identified by many scholars as a crucial instrument for the expansion of any economy since it is more reliable than various types of capital flows. There should be an unrestricted capital movement among nations, especially to allow for money to look for the best possible rate of return. Nigeria considering its population and economic worth in the African continent, possesses enormous growth potential. As a result, it has a great deal of potential for both foreign investors and foreign direct investment. However, FDI into Nigeria has significantly decreased over the past few years due to a number of factors, including a bad macroeconomic climate, inconsistent policy, and the lack of a clear FDI strategy as part of an economic growth strategy. (Moghalu 2021). Nigeria experienced high currency rate volatility, among other factors, which created a risky business climate and explained why the country had little domestic investment in addition to not being able to draw in as much foreign capital as it could have, despite the enormous investment prospects in infrastructure, oil and gas, commerce, manufacturing, and agriculture. (Osinubi 2009).

The motivation for many of Nigeria's economic reforms has been the country's desire to draw in investment, especially foreign direct investment, but this seems very difficult to achieve (Okwuchukwu 2015). The obvious shortcoming of past Nigerian studies like Onabote (2022), Ominiyi (2019), Etale (2020), Okonkwo (2021), Uwazie (2015), Alphonsus (2019), Murtala (2017), Ugwuegbe (2013), Iyke (2017), Uzoka (2012), Uremadu (2016), Awe (PhD) (2013), Benson (2019), Ignatius (2019), Barguellil (2018), Obiakor (2021), Njogu (2013), resides in their incapacity to assess the degree to which the Nigerian economy has succeeded in luring FDI. However, from the studies listed above, most of them looked at only one independent variable while conducting their research. Some of them concentrated on FDI and economic growth others looked at Exchange rate fluctuation and economic growth. This study seeks to validate past findings by making use of two independent variables which are FDI and ER

fluctuation in conducting this analysis. To the best of the researchers' knowledge, the variables used in this research such as FDI, inflation rate, exchange rate, export rate, GDP, have not been combined and used in carrying out a similar study, this makes it different from other research work. Therefore, a research gap that concerns the effects which FDI and ER fluctuations have on economic growth in Nigeria still exists given the above unsatisfactory attempts of previous studies. Therefore, the goal of this study is to close this huge gap.

1.1 Objectives

The study's main aim was to examine the effect of FDI and ER fluctuations on economic growth (EG) in Nigeria. Specifically, the study

1. Determined the effect of FDI on GDP;
2. Ascertained the effect of export rate on GDP;
3. Found out the effect of exchange rate on GDP; and
4. Examined the effect of inflation rate on GDP.

1.2 Hypotheses

This paper is Based on the following null hypothesis:

H_{01}: The effect of FDI on EG in Nigeria is not statistically significant.

H_{02}: The effect of export rate on EG in Nigeria is not statistically significant.

H_{03}: The effect of ER on EG in Nigeria is not statistically significant.

H_{04}: The effect of inflation rate on EG in Nigeria is not statistically significant.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Foreign Direct Investment

John (2016) defines FDI as a procedure wherein money and technology are transferred from developed to poor nations Farrell (2008) states that FDI is the combination of entrepreneurship, capital, management, and technology that a business employs to function and offer goods and services in a foreign market. According to UNCTAD (2007), FDI is a long-term partnership demonstrating the long-term interest and control of a resident entity in one economy (foreign direct investor or parent enterprise) over an enterprise located in a different economy.

2.1.1.2 Export Rate

This is the rate at which the value of an economy's exports grows or declines over a period of time. Exports include all the goods and other services a country sends other countries, including merchandise, freight, transportation, tourism, communication, and financial services. A country's net export figure can be calculated using the following formula: The sum of the values of all exports and imports is known as net exports.

2.1.2 Exchange Rate (ER) Fluctuations

ER fluctuation is a shift in a currency's worth relative to another. It is the tendency for foreign currencies to appreciate or depreciate (Okechukwu, Mbadike, Geoffrey & Ozurumba, 2019). The research uses two variables to measure Exchange rate fluctuations, which are Exchange rate and Inflation rate

2.1.2.1 Exchange Rate (ER)

ER is the rate of convertibility of currencies to one another, and it establishes a nation's level of international competitiveness (Ehikioya 2019). It is also defined as the value at which a currency buys another currency (Steinberg 2013). They might be stated as the rate after the period or as the average rate over a given length of time. (Vogler 2019)

2.1.2.2 Inflation Rate

A decrease in the purchasing power of currency is the outcome of inflation, which is defined by Wikipedia as the rate at which the average level of prices for commodities and services rises. Similar to the general price increase, it is a wide measure. Use the calculation (Current CPI - Initial CPI) / initial CPI × 100 to find the inflation rate. Consumer price index is represented by CPI.

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2.1.3 Economic Growth (EG)

In terms of GDP, EG is the rise in a nation's production capacity (Ehikioya 2019). It is gauged by the rise in the quantity of products and services in a period. Growth happens when the production ability of a nation rises and is subsequently applied to the production of extra commodities and services. This research uses GDP as a variable for economic growth.

2.1.3.1 Gross Domestic Product (GDP)

GDP which is an acronym for "Gross Domestic Product," is the total monetary value of all final goods produced (and sold on the market) in a country over a given time period (Worldometer). The formula for calculating GDP using the expenditure approach is as

follows: GDP = consumption + investment + government spending + (exports - imports) or, put another way, GDP = C + I + G + (X – M)

2.2 Theoretical Review

2.2.1 Neoclassical Theory

This theory was propounded by Robert Solow and Trevor Swan (1956). According to the hypothesis, labor, capital, and technology are the three components that lead to economic growth. Even though labour and capital are finite resources in an economy, technology can contribute infinitely to growth. The theory states that the highest projected rate of return on investment affects capital flows abroad. This is because private investors are left in the dark about the cost and profitability of their investments due to the volatility of macroeconomic variables. Therefore, improving the issues that pose risks to inflows of foreign capital will help to improve the economy for international investments. (Cockcroft & Riddell, 1991). The anticipation of increased yields by businesses is the primary issue that influences the inflow of foreign capital into emerging nations. (Meier, 1995). This study is anchored on this theory because investments from industrialized nations find their way into emerging nations that have a strong macroeconomics base, greater rates of return, and growth potential.

2.3 Empirical Review

The following studies were reviewed.

Onabote (2022) studied the long-run cointegrating relationship for the years 1981–2018 between the currency rate, FDI, and EG using the Autoregressive Distributive Lag (ARDL) method. The correlation between the ER, FDI, and EG over the long-term has been verified. Findings indicated that economic growth is positively impacted by foreign direct investment, and the rate of adjustment is noteworthy at 78.46%.

Afolabi (2022) investigated the type of relationship that exists between Nigeria's GDP growth and foreign direct investment. The CBN's Statistical Bulletin, Statement of Accounts, and Reports, together with publications from the Bureau of Statistics, were some of the sources utilized in data gathering. The age range of thirty-one (31) years was included in this particular study (1990– 2021). It was discovered that interest rates and EG significantly affect the productivity of manufacturing firms in Nigeria.

Okonkwo (2021) examined the impact of FDI and currency rates in Nigeria (1981- 2018). The results showed that FDI has positive and significant effects on real and nominal exchange rates.

Aminu (2020) assessed the association between FDI and Nigeria economic improvement and also the determinants of FDI into the Nigerian economy. It was recommended that Nigeria should use infrastructure development to enhance the investment environment for current domestic and foreign investors.

Etale (2020) studied foreign investment inflows and economic growth in Nigeria (2001-2018) using secondary data. The study employed the exchange rate, foreign direct investment, and foreign portfolio investment as explanatory factors, and the GDP to measure EG. The CBN Statistical Bulletin provided information on the research variables for the years 2001 through 2018. The data analysis methods used in the study included multiple regression analysis and descriptive statistics. The analysis's findings showed that the exchange rate, and FDI, significantly boosted GDP. Sunday (2019) studied FDI and Economic growth in Nigeria (1981-2017). Findings showed that FDI significantly boosted EG and concluded that FDI has an effect on EG in the long run.

In a related study, Benson (2019) researched on how interest rates and currency affect FDI in Nigeria (2006 to 2018). Secondary data covering the years 2000–2018 was used. The conclusion shows that foreign direct investment (FDI) and exchange rates have a beneficial link. Ignatius (2019) examines the impact of exchange rate instability on foreign direct investment in Nigeria (1986-2016). The outcome showed that FDI has a significant and negative impact on ER fluctuation. To make conducting business in the economy easier, the research suggests streamlining Nigeria's foreign exchange system and administering loans with a single interest rate.

Ominiyi (2019) examined FDI and Nigeria's economic expansion (1986-2017). The outcome indicated that FDI had a positive and significant impact on Nigeria's economic growth. Akinyemi (2018), investigated the sectoral effects of FDI on Nigeria's EG in the manufacturing, mining, oil, and telecommunications sectors (1981-2017). It was discovered that FDI significantly affects EG only in the communication industry.

Efiong (2018) examined ER fluctuations and FDI in Nigeria (2001-2015). It was found that there is a one-directional casuality run between ER fluctuation and FDI, and non- casuality run between Inflation Rate and FDI. Barguellil (2018) investigated the effect of fluctuating exchange rates on economic expansion (1985-2015). Results point to a negative relationship between economic growth and the real exchange rate instability. Furthermore, exchange rate

regimes and financial openness have an impact on exchange rate volatility. Murtala (2017) studied the effects of instable currency rates on foreign direct investment in Nigeria between 1990 and 2015. Regression and correlation analysis were used to examine the collected data. Outcome shows that a rise in the exchange rate during the same period of time resulted in a notable FDI inflow from 2005 to 2014. The analysis finds a favorable correlation between GDP, FDI, and exchange rates.

Iyke (2017) investigated domestic investment and exchange rate uncertainty in Ghana from 1980 to 2015 using the ARDL bounds testing approach. According to the study, there are distinct short-term effects of exchange rate uncertainty on domestic investment. In other words, prior levels of uncertainty discourage investment, whereas the current degree of uncertainty encourages it. Uncertainty surrounding currency rates eventually benefits domestic investment.

In their investigation on foreign private investments and currency rate swings in Nigeria, Mbanasor & Obioma (2017) found that Nigeria's foreign private investment is negatively and insignificantly impacted by fluctuations not exchange rates. This suggests that a 0.015 percent decrease in exchange rate swings may be the cause of a 1% rise in foreign private investment into Nigeria. Isola (2016) examined exchange rate fluctuations and Nigeria's economic growth in the framework of four important theories: optimal currency area theory, purchasing power parity, the portfolio balance approach, and the monetary model of exchange rates. (2003 to 2013) The empirical findings demonstrate that, despite a short-term correlation, exchange rate fluctuations have no long-term impact on economic growth.

Nwauba (2016) carried out a study that opined on FDI: an all-encompassing solution for the country's economic growth from 1983 to 2003. The goals of the research are to identify the factors that led to Nigeria's economic collapse, evaluate the impact of foreign direct investment, and recommend actions that could be taken to boost the country's economy between 1983 and 2003. The result indicated that Nigeria's economic slump has resulted in a drop in market indices, a rise in government spending, and a reduction in oil prices and revenue.

Uremadu (2016) examined FDI and Nigeria's economic expansion (1981 to 2013). The findings revealed that FDI significantly and favorably affects Nigeria's gross domestic product over the long and short terms. Uwazie (2015) investigated Nigeria's EG and FDI between 1970 and 2013. The causality test shows that there is a strong correlation between

FDI and EG in Nigeria. Idoko (2015) empirically determined the effects of FDI on Nigeria's economic growth and sustainable development. The outcome reveals that RGDP is not significantly affected by exchange rate.

3. MATERIAL AND METHODS

The research design employed was the *ex-post facto*. The study's population comprised the entire Nigerian economy The data were from secondary source, gathered from the CBN statistical bulletin and bureau of statistics publication covering the time frame of 10 years, from 2012 - 2021. The data in this study was analyzed using the Ordinary Least Square regression method via E-views 9.0. The Gross domestic product was used as the dependent variable. This study made use of four independent variables. These variables are Foreign direct investment, export rate, exchange rate and inflation rate while Growth rate of money supply and trade openness were used as control variables

Table 1 Measurement of variables

Variable	**Type of Variable**	**Acronym**	**Measurement**
Foreign Direct Investment	Independent	FDI	Total of the long-term, short-term, and equity capitals as shown in the balance of payments
Inflation Rate	Independent	IFR	(Current CPI - Initial CPI) /Initial CPI ×100 where CPI is Consumer Price Index
Exchange Rate	Independent	EXR	The value at which a currency buys another currency.
Export Rate	Independent	EPR	The value of all exports less the value of all imports equals net exports.
Gross Domestic Product	Dependent	GDP	GDP = consumption + investment + government spending + (exports - imports)

Growth Rate of Money Supply	Control Variable	MS	MS = MB × MM Where MS is money in circulation, MM is money multiplier
Trade Openness	Control Variable	TDO	(X +M)/GDP

Source: Authors compilation (2023)

The researcher created the following version of this model: Y corresponds to βo + β1X1 + β2X2 + β3X3 + β4X4 + µ…….Eqn 1.

Whereas

Y = Economic Growth is the dependent variable.

Changes in exchange rates (explanatory/independent variable) equal X. = constant term (intercept) β0}

The coefficients of exchange rate variation are β1–β4.= Error word (stochastic term).

The equation can be expressed clearly as follows:

Variations in the exchange rate equal ʒ(economic growth) + µ.

The equations below are created by representing the equations using the construct's variables: GDP\t=²0 + β1FDIít + β2MSít + µítGDP\t = β0 + β1EPR\t + β2TDOít + µít/…….Eqn 2. GDP\t~= β0 + β1EXRít + β2TDOít + µít - - - - iii GDPít~= β0 + β1IFRít + β2TDOít + µít …….Eqn 3.

In which case:

β0 = Constant term (intercept)

GDP\t = Economic growth í in period t (Dependent variable measures by gross domestic product)

βít = Coefficients to be estimated for firm í in period t µít = Error term/Stochastic term for firm í in period t

$FDI_{ít}$ = Foreign direct investment í in period t (Independent variable)

$EPR_{ít}$ = Export rate í in period t (Independent variable)

$EXR_{ít}$ = Exchange rate í in period t (Independent variable)

IFRít, or the independent variable, is the inflation rate í during period t. MSít, or the control variable, is equal to the money supply η in period t. TDOít = Trade openness í in time t (control variable)

Rule of Decision

If less than 0.05 is the probability value, reject the null hypothesis, and vice versa.

4. RESULT AND DISCUSSIONS

4.1 Data Analysis

Descriptive statistics and Pearson correlation matrix were used in data analysis.

Table 2 Descriptive Analysis

	GDP	FDI	EPR	EXR	IFR	MS	TDO
Mean	433.9400	3.503000	69.70000	168.3572	0.128160	25306705	28.08296
Median	427.5600	3.185000	58.16000	113.9625	0.121550	25106075	28.61640
Maximum	546.6800	7.070000	146.3700	403.5808	0.177500	37771860	44.53237
Minimum	309.0200	0.780000	35.09000	100.8089	0.080600	13895390	16.35219
Std. Dev.	69.66848	1.821825	35.39152	118.1370	0.036840	9037722.	8.282961
Skewness	-0.079497	0.602268	1.088149	1.496608	0.040779	0.101216	0.481314
Kurtosis	2.404876	2.709638	3.119645	3.272302	1.487608	1.439064	2.624543
Jarque-Bera	0.158105	0.639675	1.979410	3.763957	0.955825	1.032291	0.444842
Probability	0.923991	0.726267	0.371686	0.152289	0.620076	0.596817	0.800578
Sum	4339.400	35.03000	697.0000	1683.572	1.281600	2.53E+08	280.8296
Sum Sq. Dev.	43683.27	29.87141	11273.04	125607.3	0.012215	7.35E+14	617.4669
Observations	10	10	10	10	10	10	10

Source: Computed by the researchers (2023)

The dependent variable (GDP) and the independent variables (FDI, EPR, EXR, and IFR) are shown in Table 2, together with the control variables (MS and TDO). One tool for creating benchmarks is the mean. Reranking, the median adopts the central tendency. The standard deviation in the economic growth for the period 2012-2021 is 1.822, 35.392, 118.137, 0.037,9037722.0 and 8.283 for GDP, FDI, EPR, EXR, IFR, MS and TDO respectively.

Table 3 Pearson Correlation Matrix

	GDP	FDI	EPR	EXR	IFR	MS	TDO
GDP	1						
FDI	0.55468	1					
EPR	0.61995	0.79148	1				
EXR	-0.51916	-0.16137	-0.40222	1			
IFR	-0.90689	-0.36136	-0.57659	0.60786	1		
MS	-0.71098	-0.72952	-0.67567	0.65018	0.68012	1	-
TDO	0.45615	0.49334	0.87007	-0.54244	-0.47496	-0.42963	1

Source: Researchers computation (2023)

The Pearson correlation analysis indicates that FDI (0.555), EPR (0.620), and TDO (0.456) correlate positively with GDP. However, EXR, IFR and MS show -0.519, -0.907 and -0.711 respectively, implies negative correlation with GDP.

4.2 Test of Hypotheses

4.2.1 Hypothesis One

H_{01}: The effect of FDI on EG in Nigeria is not statistically significant.

Table 3: GDP, FDI, and MS Regression Analysis

DV: GDP

Technique: Least Squares

Period: 2012 2021

Observations: 10

Variables	Coeff	Std. Error	t-Statistics	Prob.
C	551.3740	120.1745	4.588110	0.0025
FDI	2.943261	14.81889	0.198615	0.8482
MS	-5.05E-06	2.99E-06	-1.689828	0.1349
R-squared	0.508261	Mean dependt var		433.9400
Adj R-squared	0.367764	S.D. dependt var		69.66848
		Akaike info criter		
S.E. of regression	55.39568			11.11021
Sum squared resd	21480.77	Schwarz criter		11.20098
Log-likelihood	-52.55103	Hannan-Quinn criter.		11.01062
F-statistics	3.617595	Durbin-Wats stat		2.226669
Prob(F-statistics)	0.083382			

Source: Researchers computation (2023)

A 37% fluctuation in GDP due to FDI and money supply (MS) was indicated by table 4.3's adjusted R squared of 0.368. This implies that while FDI and MS report 37% of the GDP variances in the economy, unidentified variables that the model failed to account for account for 63% of the deviation. P1 (0.848>0.05) and P2 (0.135>0.05) have higher likelihood of slope coefficients. While MS is adversely connected to GDP, it is not statistically significant at 5%. These co-efficient values for FDI and MS, respectively, are $\beta 1 = 2.943$ and $\beta 2 = -5.050$. Serial correlation is absent from the model, as indicated by the Durbin-Watson Statistic of 2.227. The null hypothesis was accepted and the alternative hypothesis was rejected based on the GDP regression's F-statistic of 3.618 and the corresponding F-statistic probability of 0.083382. It was determined that there is no statistically significant relationship between FDI and EG because the Prob (F-statistic) of 0.083382 is greater than the threshold value of 5%.

4.2.2 Hypothesis Two

H_{02}: The effect of export rate on economic growth in Nigeria is not statistically significant.

Table 4: GDP, EPR and TDO Regression Analysis

DV: GDP

Technique: Least Squares

Period: 2012 2021

Observations: 10

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	388.9092	81.59155	4.766538	0.0020
EPR	1.807205	1.156583	1.562538	0.1621
TDO	-2.881868	4.941860	-0.583155	0.5781

R-squared	0.412859	Mean dependt var	433.9400
Adj R-squared	0.245104	S.D. dependt var	69.66848
S.E. of regression	60.53126	Akaike info criter	11.28752
Sum squared resid	25648.24	Schwarz criter	11.37830
Log-likelihood	-53.43761	Hannan-Quinn criter.	11.18794
F-statistics	2.461089	Durbin-Wats stat	1.867906
Prob(F-statistics)	0.155095		

Source: Researcher's computation (2023)

In table 4 above, adjusted R squared value of 0.245 indicates that variations in the export rate (EPR) and trade openness (TDO) contributed to a 25% variation in GDP. This suggests that just 25% of changes in the economy's GDP might be described by EPR and TDO, with the remaining 75% being clarified by anonymous variables not captured in the model. The slope coefficients' probability suggests that; P_1 (0.162>0.05), P_2(0.578>0.05). The co-efficient value of; β_1= 1.807 and β_2 = -2.882 for EPR and TDO respectively, implies that EPR is positively related to GDP, while TDO is negatively related to GDP, even so, at 5%, not statistically significant. The model exhibits serial correlation, as indicated by the Durbin-Watson Statistic of 1.867. Based on the GDP regression's F-statistic (2.461) and associated F-statistic probability (0.555), the null hypothesis was accepted and the alternative hypothesis was rejected. Given that the likelihood (F-statistic) of 0.155095 is greater than the critical

value of 5% (0.05), the claim that the export rate has no appreciable influence on economic growth in Nigeria at the 5% level of significance would be substantiated.

4.2.3 Hypothesis Three

H_{03}: The effect of exchange rate on economic growth in Nigeria is not statistically significant.

Table 5: GDP, EXR and TDO Regression Analysis

DV: GDP

Technique: Least Squares

Period: 2012 2021

Observations: 10

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	413.7520	114.4645	3.614677	0.0086
EXR	-0.227054	0.219963	-1.032237	0.3363
TDO	2.080054	3.137254	0.663017	0.5285
R-squared	0.312690	Mean dependt var		433.9400
Adj R-squared	0.116316	S.D. dependt var		69.66848
S.E. of regression	65.49149	Akaike info criter.		11.44504
Sum squared resid	30023.94	Schwarz criterion		11.53582
Log-likelihood	-54.22521	Hannan-Quinn criter.		11.34546
F-statistics	1.592317	Durbin-Wats stat		1.036105
Prob(F-statistics)	0.269175			

Source: Researcher's computation (2023)

With an updated R squared value of 0.116 in Table 5, it was clear that changes in trade openness (TDO) and exchange rate (EXR) caused a 12% variation in GDP. This suggests that just 12% of changes in the economy's GDP could be described by EXR and TDO, with the remaining 88% being explained by unidentified variables that the model did not include. The slope coefficients' probability suggests that; P_1 (0.336>0.05), P_2(0.529>0.05). The co-efficient value of; β_1= 1.227 and β_2 = 2.080 for EXR and TDO respectively, implies that EXR is negatively related to GDP, while TDO is positively correlated with GDP, yet at 5% it is not statistically significant. The model has serial correlation, as indicated by the Durbin-Watson Statistic of 1.036. The F-statistic of the GDP regression is 1.592, and the probability of the associated F-statistic is 0.269. As a result, the null hypothesis was accepted and the alternative

hypothesis was rejected. Since the probability (F-statistic) of 0.269175 is greater than the critical value of 5% (0.05), the claim that the exchange rate has no appreciable impact on economic growth in Nigeria at the 5% level of significance would be upheld.

4.2.4 Hypothesis Four

H_{04}: The effect of inflation rate on economic growth in Nigeria is not statistically significant.

Table 6: GDP, IFR and TDO Regression Analysis

DV: GDP

Technique: Least Squares

Period: 2012 2021

Observations: 10

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	642.2079	74.94276	8.569312	0.0001
IFR	-1685.542	341.4310	-4.936697	0.0017
TDO	0.276006	1.518597	0.181751	0.8609

R-sqd	0.823292	Mean dependt var	433.9400
Adj R-sqd	0.772804	S.D. dependt var	69.66848
S.E. of regress	33.20755	Akaike info criter	10.08676
Sum sqd resid	7719.189	Schwarz criter	10.17753
Log-likelihood	-47.43378	Hannan-Quinn criter.	9.987176
F-statistics	16.30667	Durbin-Wats stat	2.077235
Prob(F-statistics)	0.002320		

Source: Researchers computation (2023)

In table 6, the adjusted R squared value of 0.772 indicates that variations in trade openness (TDO) and the inflation rate (IFR) were responsible for 77% of the variation in GDP. This suggests that only 77% of variations in the economy's GDP could be described by IFR and TDO, with the other 23% being explained by unidentified variables that the model did not include. The slope coefficients' probability suggests that; P_1 (0.007<0.05), P_2(0.861>0.05). The co-efficient value of; β_1= -1685.54 and β_2 = 0.276 for IFR and TDO respectively, suggests that whereas TDO is favorably correlated with GDP, IFR is adversely correlated with it; nonetheless, IFR is statistically significant at 5% while TDO is not at 5%. The model does

not contain serial correlation, as indicated by the Durbin-Watson Statistic of 2.077. The alternative hypothesis was accepted and the null hypothesis was rejected based on the GDP regression's F-statistic of 16.307 and matching F-statistic probability of 0.002. It was confirmed that Nigeria's inflation rate has a notable effect on economic growth at the 5% level because the likelihood (F-statistic) of 0.002320 is less than the significance level of 5% (0.05).

5. CONCLUSION AND RECOMMENDATIONS

The impact of FDI and ER variations on Nigeria's economic growth was investigated in this study. The findings implies that as foreign direct investment, export and exchange rate increases, gross domestic product also increases as well and vice versa. The increase in inflation rate led to decrease in economic growth of the country, thus, became significant to the gross domestic product. This study therefore, concluded that FDI and ER fluctuation affects the growth of economy in Nigeria.

The following were recommended.

1. Policymakers should come up with plans to boost foreign direct investment (FDI) in the financial sector and provide incentives for long-term savings and stock market listings in order to achieve the government's primary goal of promoting growth.

2. It is critical that the government enact laws that will improve the efficiency of product exports across a range of industries and realign Nigeria's economy.

3. The country's monetary authorities ought to create and put into effect policies that will guarantee increase in local production to sustain the value of her local currency thereby reduced levels in which her currency exchange with other foreign currencies.

4. In order to prevent inflation from wearing down the real value of investment and preventing the expansion of the economy, the CBN should develop and implement policy tools that would keep inflation at a respectably low level.

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