SBE, Vol.28, No.1, 2025
ISSN 1818-1228
DOI: https://doi.org/10.29117/sbe.2025.0162

INTEREST RATE, INSECURITY AND FOREIGN INVESTMENT IN WEST AFRICA: IMPACT ANALYSIS

Abdurrauf Babalola
Department of Economics, Al-Hikmah University, Ilorin, Nigeria
abdclement@yahoo.com

Tunde Salau
Department of Economics, Al-Hikmah University, Ilorin, Nigeria

ABSTRACT

Owing to the incessant occurrence of insecurity and the prevalent outrageous interest rates in the region, foreign direct investment has been decreasing over and over, since investors are at risk of losing their investments in regions like these. This research aimed to address the issue of low foreign investment in West Africa by examining the impact of interest rates and insecurity on foreign direct investment, while inflation and environmental sustainability, among others, are controlled for. Ten countries in West Africa were selected for this study. After analysing data from 2007 to 2022 using static panel data analysis. The findings revealed that interest rates had a significant negative effect on foreign direct investment, while the level of insecurity, inflation rate and environmental sustainability had no significant impact on foreign investment in the sub-region. Additionally, while population and total output had a significant positive impact, exchange rates (depreciation) had a significant inverse impact on foreign direct investment. The study suggests that interest rates be reduced, and West African governments should work together to develop and strengthen regional security measures to combat the importation of arms from war-torn nations in Central and North Africa.

Keywords: Foreign direct investment, Insecurity, Interest rate, Panel analysis, Population.

INTEREST RATE, INSECURITY AND FOREIGN INVESTMENT IN WEST AFRICA: IMPACT ANALYSIS

1. INTRODUCTION

Investment is crucial for the growth and development of any economy, whether it is developed or developing, such as the West African economies. The role of interest rates in the expansion and contraction of monetary policies cannot be ignored. Changes in interest rates affect investors positively or negatively, as does insecurity. Insecurity in the West African sub-region has contributed to the economic decline of the area. Many investors have left the economy due to insurgent activities, banditry, high interest rates, exchange rate volatility, poor power supply, and political instability, among other reasons.

In the West African region, there is still unresolved discussion on the precise impacts of interest rates on foreign direct investment. The utilisation of interest rates as a strategy for stimulating investment and economic growth, as shown by existing research, exhibits wide differences. On the one hand, studies have demonstrated that lowering interest rates as a result of expansionary monetary policy may stimulate the economy due to an uptick in economic activity (Jelilov et al., 2018). Similarly, sluggish economic growth that may be brought on by strict monetary regulation through a system of high interest rates might cause an economic growth decline, which might be brought on by the adverse and statistically significant effect of interest rates. Other researchers, such as Hansen and Seshadri (2013), did not discover any connection between interest rates and economic growth.

Interest rates and security are key in determining foreign investment in most economies in the world. High interest rates encourage and attract more foreign investments into the host economy. However, a high rate of insecurity tends to discourage investment, more particularly, foreign investment. The fact remains that economic growth is impossible without investment. The West African region has, over the years, been entangled in economic woes as a result of insecurity and high interest rates, which have created an inequitable distribution of wealth. Critics of the body of work that supports the idea that decreasing interest rates may assist in boosting aggregate demand assert that such a policy change would have little impact given the abnormalities in the credit market, particularly those in emerging nations. Some, however, argue that boosting the real interest rate would encourage saving and improve the effectiveness of investment, which would result in a rise in economic growth (Odhiambo & Akinboade, 2009). The question is whether the stream of interest rates and security measures in West Africa is sufficient to attract foreign investment. Many developing countries are introducing changes to encourage foreign direct investment (FDI), which is making them more attractive for businesses looking to grow. As competition on a global scale becomes more intense, companies are expanding into markets that are culturally and geographically distant. Consequently, developing countries are receiving the majority of global FDI inflows, with a significant increase to around $770 billion in 2021. However, Africa is still lagging in FDI inflows, although there has been a gradual increase to over $80 billion in 2021 (Azémar & Giroud, 2023).

In the economy of Côte d'Ivoire, foreign investment has increased, but the net inward FDI as a percentage of GDP has remained relatively low at around 1.5-2% in recent years. This is significantly lower than the rates seen in other African countries such as Ethiopia and

Mozambique. Before 2018, Côte d'Ivoire managed to attract the third-highest amount of FDI in West Africa. However, with less than $700 million, it was still far behind Ghana ($3.26 billion) and Nigeria ($3.5 billion). In 2017, Côte d'Ivoire received 23 FDI investment projects compared to 96 in South Africa, 64 in Nigeria, and 43 in Ghana (Azémar & Giroud, 2023). The question is, what has attracted these African economies to experience such an increase in their FDI? Could it be due to interest rate interplay or security improvement? In remote terms, could it be because of the depreciation in the exchange rate or high population figures?

Attracting Foreign Direct Investment (FDI) is essential for the economic growth of developing countries, particularly West Africa. An increase in FDI not only reduces unemployment but also facilitates the transfer of knowledge, technology, and expertise, thereby enhancing revenue generation capabilities.

Since the attainment of political independence by most West African countries in the 50s and 60s, the West African economy has undergone fundamental structural changes resulting in policy shifts which have, however, not resulted in desirable exchange rate stability and controlled inflation coupled with insecurity, and civil and political unrest in the region. This is partly because the regional economy is external sector driven and therefore vulnerable to supply shocks whose consequence could be high volatility in inflation, an unstable exchange rate and disruption of the real sector (Lama & Medina, 2012).

In the Gambia, 68% of the workforce is employed in agriculture, which accounts for 26% of the country's GDP. A climate change priority action plan for the Gambia was released in 2016 and focuses on 24 cross-sectoral actions. In conjunction with the government, the UN's $20.5 million Environment Programme aims to rehabilitate forests and marginal agricultural land, but the threat of insecurity and rising interest rates is a cause for concern. Changes in rainfall will have a big impact because the Gambia depends heavily on rain for its agriculture (Matarr & Momodou, 2021).

Numerous factors contribute significantly to the differences between countries, including political issues, corruption, instability, and low interest rates. Scholars have extensively researched the drivers of Foreign Direct Investment (FDI) in developing African countries, including West Africa, Sub-Saharan Africa (SSA), and non-SSA. Various authors have explored FDI in specific economies like Ghana, Côte d'Ivoire, Gambia, and Nigeria. However, there is a gap in the literature regarding the specific impact of interest rates and insecurity on foreign investment in recent times. This study addresses the problem of low foreign direct investment in West Africa by investigating whether interest rates and insecurity could be the reasons for the low FDI in recent times, as suggested by economic theories. Therefore, the goal of this study is to examine the impact of interest rates and insecurity on foreign direct investment in West Africa. The study also examined other factors, such as the population and exchange rates of the respective West African countries. In this regard, the research hypotheses are:

$H0_1$: Interest rate does not have any significant impact on foreign direct investment in West Africa.

$H0_2$: There is no significant effect of insecurity on foreign direct inflow in West Africa.

$H0_3$: The Inflation rate does not have a significant effect on foreign direct investment in West Africa.

$H0_4$: The environmental sustainability rate has no significant influence on foreign direct investment in West Africa.

The study is structured as follows: Section Two presents the literature review, while Section Three explains the methodology. Sections Four and Five present the results and discussion of the empirical analysis and findings of the study. Finally, Section Six concludes the study and provides policy implications.

2. LITERATURE REVIEW

In America, Fisher continued the Austrian tradition of considering interest to be the "agio," or premium for time preference, under the leadership of John Rae and Bohm Bawerk. People place more value on current things because they prefer the present over the future. They must be compensated in the form of interest to persuade them to postpone the enjoyment of the things in the present to the future (Irving, 1907)

Interest is, virtuously, a monetary phenomenon that serves as compensation for using money. It is the incentive for sacrificing cash availability. However, it also serves as compensation for saving money in a bank or parting with one's money (Babalola, 2021). However, interest is defined by neoclassical economists such as Wicksell, Ohlin, Robertson, and Pigou as the cost of using loanable funds. However, modern economists have interpreted interest in terms of productivity, savings, liquidity preferences, and money to avoid this conflicting and contentious viewpoint concerning the nature of interest. In other words, interest serves as both the incentive and the source of money for the pure yield of savings, cash, and capital (Jhingan, 2011, 2013).

Nwagboso (2012) puts insecurity as the risk that business owners and executives take while moving their operations from an unsafe environment to one that is more secure. This point of view applies to Igbo and Yoruba businessmen who returned to their home states after the Boko Haram insurgency, as well as to Nigerians and other West African citizens who left Liberia and Sierra Leone when conflict broke out. Insecurity is causing citizens and foreigners to move and end their investments. Emotional insecurity and a sense of fragility or instability can cause various issues, whether personal, professional, or global. It affects one's self-image or ego and can lead to anxiety by making one feel weak or inferior.

Foreign investment can take two forms: foreign direct investment or foreign portfolio investment. Anyanwu et al. (1997) describe the latter as investment by non-citizens in a domestic economy. Meanwhile, Thirlwall and Bergevin (1985) define the former as investments made by multinational corporations with head offices in industrialised nations. This investment entails the transfer of money and the use of a variety of resources, including physical resources, production methods, managerial and marketing know-how, product advertising, and business strategies aimed at maximising overall profits. FDI, according to the United Nations, is money invested in a company that is physically based in one nation but is "effectively controlled" by citizens of a different nation (Heilig et al., 2010).

FDI theories are based on market structure, as Agarwal (1980) noted. This study is based on three fundamental theories: the differential rate of return, the portfolio diversification theory, and the market size theory. According to the differential rate of return theory, investment inflow into a country is dependent on the rate of return, which is the same as the rate of interest. The higher the rate of return, the higher the FDI (Moosa, 2002). The portfolio diversification theory of Tobin (1958) and Markowitz (2002) deals with the risk of investment. It suggests that countries with a high risk of investment will attract less FDI. The risk of investment can be associated with the security threat present in the host country. This means that countries facing high-security challenges will experience low FDI as foreign investors will be hesitant to risk losing their investment in the face of insecurity. The market size theory (Majeed & Ahmad, 2008) explains a positive relationship between market size and FDI. It further suggests that a large population size translates to a large market size, all other things being equal, which is consistent with Kearney's (2000) global survey in 2006 (Kearney, 2006). This theory means that population is one of the main factors that drives FDI inflow into an economy.

In empirical studies, data from 1975 to 2018 were employed by Daniel et al. (2022) to evaluate the impact of interest rate spread on growth in total output. To examine the relationship between the interest rate spread and total output growth in Ghana, the study utilised the two-step Engle-Granger process, which involved the OLS tool. They found that the interest rate spread is a statistically significant predictor of economic development and has an inverse long-term effect. The outcome also demonstrated favourable long- and short-term effects on the labour force, among others, in Ghana. This result is in line with the theory that says, when interest rates are reduced, investors obtain loans at cheap rates and invest to increase total output (GDP), with a multiplier effect on the real sector of the economy.

In a study conducted by Olaseyinde in 2022, the connection between defence and security and foreign direct investment (FDI) in Nigeria was analysed using quarterly historical data from 1994q1-2019q4. The study employed ARDL and VAR econometric techniques to analyse the data. Both methods showed that security threats have a negative impact on foreign direct investment in both the short and long term.

In a similar vein, Babalola (2021) investigated how interest rates affected the exchange rate in Nigeria. Only the general price level and Treasury bill rate have a major influence on the foreign exchange in the short run, according to his findings using auto-regressive distributed lag and cointegration approaches. While over the long term, all four of the factors used to proxy the short-term interest rate have a considerable influence on Nigeria's foreign exchange rate. This work did not examine how local interest rates would affect foreign investment, only the exchange rate; thus, another study is needed. Adeshola et al. (2020) explored interest rates and exchange rates in Nigeria's oil-dependent economy. The ARDL model was used with annual data from 1981 to 2018. Deposit interest rates, Nominal lending rates and Exchange rates were all represented by the nominal Naira/US Dollar exchange rate. Economic growth is also a factor, represented by a proxy using the money supply and GDP per capita as the controls. Their findings indicate that the loan of interest has both short- and long-term positive and significant effects on the exchange rate. The

findings, however, indicated that the impact of the savings interest rate on exchange rates is minimal both in the short and long terms. Additionally, it was demonstrated that while an increase in money supply significantly lowers the value of the naira in both the short and long periods, economic growth strongly strengthens the naira relative to other nations' legal currency in both the short and long terms. This is quite in line with the monetary policy transmission mechanism.

According to a study conducted by Asiamah et al. (2019), the factors that influence foreign direct investment (FDI) in Ghana were analysed using a Vector Auto-Regressive tool. The study, based on data from 1990 to 2015, found that interest rates had a significant inverse effect on FDI. This suggests that lowering interest rates could result in an increase in FDI in Ghana, which is in line with the classical theory of interest rate determination within a domestic economy. Internationally, the result is in line with the FDI theory of differential rate of return, which says that interest rate has a negative impact on FDI. However, it should be noted that the research only focused on the Ghanaian economy and did not take into account the broader West African region. Furthermore, the study did not consider the impact of insecurity levels on foreign investment.

Jelilov et al. (2018) studied the concern of insecurity in Nigeria and its consequences for economic development. They employed the regression method to analyse data between 2007 and 2017, using the Nigeria Terrorism Index, Oil Prices and Foreign Direct Investment variables. The researchers found that terrorism impacts the total output growth of the Nigerian economy. This present research work is quite different from the work of Jelilov et al. (2018) in that gross domestic product was their response variable, while FDI and the Nigerian terrorism index were the predictors. Also, the data set was too small (11 observations) for a meaningful analysis, despite the clear fact that the analysis was spurious, therefore, results from such work could be unreliable and misleading. Their study could not answer the question of whether or not, interest rates and insecurity affect FDI in West Africa.

Abubakar et al. (2017) examined the influence of insecurity on FDI in Nigeria using exchange rate, trade openness, gross domestic product and defence security vote (DSV) as control variables. The researchers used time series analysis by employing annual data from 2005 to 2014. The study used Granger Causality Tests and Johansen Cointegration Tests to establish a long-term association between FDI outflow and DSV. The study also showed that there is a causal link between DSV and FDI outflow. This implied that, in the long run, insecurity, proxied by DSV, caused an outflow of FDI from the country, thus the need to control insecurity. However, this study by Abubakar et al. (2017) was specific to the Nigerian economy and not to West Africa as a whole, therefore leaving the objective of the present study unanswered. Still on insecurity, Lee (2017) employed terrorism and counter-terrorism variables to investigate the impact on inflows of FDI, using a panel data analysis. His findings revealed that these insecurity variables significantly obstruct FDI inflows to the host countries.

Harswari and Hamza (2017) looked into how interest rates affected a few Asian nations' economies. 48 countries made up the study's target population, and 20 companies were chosen as the sample using a practical sampling method. The results showed that while interest rates had an inverse and significant influence on total output, the general price level also had an inverse but

insignificant impact on FDI. Their results revealed a conformity to the FDI theory of differential rate of return, in which interest rate had a negative impact on FDI for the 48 Asian nations.
Alkhudair and Hakim (2016) studied how the real interest rates and inflation rates in Saudi Arabia influenced the exchange rates of the Saudi Riyal. From January 2004 to September 2015, a regression study was performed on the monthly Saudi Riyal exchange rate, general price level, and interest rate. According to the study, there is no substantial correlation between the exchange rate and interest rates, however, there is a significant association between the Saudi Riyal exchange rate and the general price level. Being an Islamic country that does not base on interest rates as its basis could be responsible for this result differential.

Owusu and Odhiambo (2016) used three nations to study interest rate liberalisation in West Africa. Nigeria, Ghana, and Côte d'Ivoire were the three countries that the researcher selected since they account for 85% of the region's economic production. The researchers reviewed various interest rate liberalisation policies and their challenges, as well as other sectors' policies to draw their inferences. The study consequently concluded that policies promoting interest rate liberalisation, together with other real sector reforms, have a favourable effect on economic growth in the nations under consideration. However, their study did not look into how interest rates affect the FDI of West African countries.

Faroh and Shen (2015) examined the influence of interest rates on FDI in Sierra Leone's economy. Data between 1985 and 2012 were used in the study, and stationarity was tested using the Augmented Dickey-Fuller method and correlation matrix testing for the multicollinearity problem (ADF). Their research revealed that the two main factors affecting the flow of FDI into Sierra Leone are currency rates and trade openness. Other indicators, including GDP, interest rates, inflation, and the rate of national income, were discovered to be negligible contributors to the variability of FDI flows. The result could not be reliable since it used OLS without testing for endogeneity in the model used, hence, it may be inconsistent with the technique employed. This is the result obtained from a single country in West Africa, which could not represent the whole region.

A study conducted in 2015 by Adesegun and Olumide examined the effects of insecurity in Nigeria from 2003 to 2012. Their research discovered a negative correlation between foreign direct investment (FDI) and insecurity, employing the Least Squares technique for analysis and measuring insecurity using Vote on Security and Defence (VSD). However, the study's scope is limited to Nigeria and cannot offer a comprehensive solution for all of West Africa. Furthermore, the measure of insecurity was based on government spending on security, which may have included corrupt expenditures that were not implemented.
In a study conducted by Suliman et al. (2015) on the relationship between exchange rates and foreign direct investment (FDI) in Sub-Saharan Africa, it was found that a higher exchange rate

has a significant influence on attracting more FDI to the host country in the region. This was determined through the use of a Two-Stage Least Squares tool.

Some other empirical studies conducted on this study, though old, are those of Oladimeji and Oresanwo (2014), Onwe and Olanrewaju (2014), Aziz and Makkawi (2012), Bandyopadhyay et al. (2013), Eregha (2010), Kang and Lee (2007), and Rolfe and Woodward (2004). It's important to note that there is a significant research gap concerning the impact of interest rates and insecurity on foreign investment in the West African sub-region. That is why only a few pieces of literature could be reviewed on this topic.

3. RESEARCH METHODOLOGY

3.1 Model Specification

In determining the impact of interest rates and insecurity on foreign investment in the West African economy, the model specification adapts Adesegun and Olubumin (2015) and the functional equation is specified thus:

$$FDI = f(IR, INS, INF, ESR) \quad (1)$$

Where:
FDI = Foreign direct investment
f = function
IR = Interest rates
INS = Insecurity
INF = Inflation rates
ESR = Environmental sustainability rate

Equation 1, put in parametric form, produces equation 2 as

$$lFDI_{it} = \beta_0 + \beta'_1 IR_{it} + \beta'_2 INS_{it} + \beta'_3 INF_{it} + \beta'_4 ESR_{it} + \mu_{it} \quad (2)$$

The FDI was logged to equalise the variables and make them remain at the same level. Due to parsimony, all other variables that could have an impact on FDI but were not included in the model were implicitly included in the error term, μ_{it}, as in equation 2. Equation 1 was the baseline equation of the study proper.

For a robustness check on the baseline equation of the study, equation 2 was modified to equations 3 and 4 as

$$lFDI_{it} = \beta_0 + \beta'_1 IR_{it} + \beta'_2 INS_{it} + \mu_{it} \quad (3)$$

$$lFDI_{it} = \beta_0 + \beta'_1 IR_{it} + \beta'_2 INS_{it} + \beta'_5 lPOP_{it} + \beta'_6 lGDP_{it} + \beta'_7 lEXR_{it} + \mu_{it} \quad (4)$$

Equation 3 showcased only the focus variables of the study, which specified only interest rates (IR) and the insecurity threat index (INS) to check the marginal behaviour of these regressors on FDI, while equation 4 added three different variables (POP, GDP and EXR) as another form of control variables.

Where β_0 (is constant), β'_1 - β'_4 are the variables' parameters for estimation. The subscript *i* (*i* = 1… N) represents the nation *i* in our sample, N is equal to 10, *and t* (*t* = 1, …, T) specifies the period (year). The study has 10 nations and 15 years, so it has more years (T) than nations (N). The study population is therefore T X N = 160 observations.

The *a priori* expectation is that, when the interest rates reduce, foreigners will want to invest in the host economy to realise more income, hence, an indirect impact is expected. High insecurity reduces FDI because of the fear of loss of investment. These and other parameters are algebraically represented as

$$\beta'_1 < 0, \beta'_2 < 0, \beta'_3 > 0, \beta'_4 > 0, \beta'_5 > 0, \beta'_6 > 0, \beta'_7 > 0$$

Secondary data were collected for all the variables employed in the study from ten countries out of the sixteen countries West Africa is made up of. The data were obtained from World Development Indicators (WDI, 2022) as time series and cross-sectional data. The dataset is are yearly time series from the year 2007 to 2022. This is because insecurity data for the selected countries is only available from 2007. The ten countries are Benin, Cape Verde, Côte d'Ivoire, Ghana, Sierra Leone, Gambia, Liberia, Mali, Nigeria and Senegal. West Africa's economies were selected based on performance and availability of data. Out of the ten countries selected, Nigeria, Ghana, and Côte d'Ivoire comprise 85% of the economy of the West African region (Owusu & Odhiambo, 2016).

The data for the security threat (insecurity index) were extracted from TheGlobalEconomy database, and the World Development Indicators (2022) for other variables from 2007 to 2022. The Span from 2007 to 2022 is used because it is a period in which we have complete insecurity index data and other relevant variables used in this study. The insecurity data analysed is an index that takes into account multiple factors that could potentially pose a risk to the state, such as rebel movements, mutinies, coups, and terrorism. It also factors in serious criminal activities like organised crime and homicides, and gauges the level of trust that citizens have in domestic security. The indicator value serves as a measure of the severity of security threats faced by the state, with higher values indicating greater risk.

4. RESEARCH FINDINGS / RESULTS

4.1 Descriptive Statistics

Table 1 displays 158 observations outlining the descriptive statistics of various variables. The environmental sustainability rate (ESR) has the lowest mean (3.348), followed by the exchange rate (LEXR) and insecurity (INS) with 5.2707 and 6.3791. Gross domestic product (GDP) and foreign direct investment (FDI) have the highest mean with 23.23 and 19.89. These close values indicate that the variables are equalised with low differences in measurement. The standard deviations of all the variables are small, indicating convergence. INS, LFDI, LGDP and IR have

kurtoses of less than 3, indicating a flatter distribution compared to the normal, while LPOP has a normal distribution (Mesokurtic distribution) with a kurtosis of approximately 3.0.

The Jarque-Bera statistical test illustrates the data's normality distribution, with the reported probability indicating the likelihood that, under the null hypothesis, the Jarque-Bera statistic will be larger than the observed value in terms of absolute magnitude. Employing the Jarque-Bera probabilities, LFDI (0.0645), INS (0.3172) and LGDP (0.7813 are regularly distributed as their probabilities are more than 0.05, but the others are not normally distributed as their probabilities are less than 0.05. The desire for statistics is achieved since the dependent variable (LFDI) is normally distributed.

Table 1: Results of Descriptive Statistics

	LFDI	INS	IR	ESR	INF	LEXR	LPOP	LGDP
Mean	19.8901	6.3791	9.3493	3.3481	6.3469	5.2707	16.1245	23.2262
Median	19.6700	6.0500	9.4950	3.5000	5.4561	6.0928	16.3340	23.2920
Maximum	22.9027	9.9000	26.0000	4.0000	31.2559	9.2533	19.1787	27.0762
Minimum	16.9516	2.4000	2.0000	2.0000	-2.2480	-0.0698	13.1318	20.9298
Std. Dev.	1.3649	1.7447	6.6083	0.4019	5.9894	1.969103	1.4860	1.67306
Skewness	0.3033	0.2196	0.5412	-0.8755	1.1517	-0.5964	-0.1354	0.5741
Kurtosis	2.3183	2.6051	2.3398	4.3633	4.7175	3.3900	3.0419	2.5516
Jarque-Bera	5.4826	2.2964	10.5844	32.422	53.6589	11.6597	0.4935	10.0023
Probability	0.0645	0.3172	0.0050	0.0000	0.0000	0.0029	0.7813	0.0067
Sum	3142.643	1007.900	1477.195	529.0000	990.1127	832.7753	2547.664	3669.738
Sum Sq. Dev.	292.5004	477.8811	6856.132	25.354	5560.370	608.7469	346.6707	439.4606
Observations	158	158	158	158	158	158	158	158

Source: Authors' computation 2024

The standard deviation coefficient indicates a moderate deviation (7.29) in *IR*, while the disparity standard deviations are low for *INS* (2.15), *LFDI* (1.21), *LPOP* (1.01), *LGDP* (1.48) and *LEXR* (2.34). Skewness is a measure of the asymmetry of the distribution of the series around its mean. Among the variables, only *INS*, *ESR* and *LEXR* are negatively skewed, while all others are positively skewed, indicating that the distribution has a long right tail. The mean values of all the variables are also not too far from one another, indicating that the variables have a close measurement range and are thus suitable for estimation in the specification.

4.1.2 Correlation Matrix

Table 2 below showcases the correlation matrix of the relationship between the variables. All the variables show a positive relationship with FDI, except EXR, which shows a negative relationship.

Table 2. Result of Correlation Matrix

	LFDI	INS	IR	INF	ESR	LPOP	LEXR	LGDP
LFDI	1							
INS	0.2058	1						
IR	0.0446	-0.3460	1					
INF	0.3681	-0.2179	0.6014	1				
ESR	0.1958	-0.2851	-0.1106	0.0319	1			
LPOP	0.7629	0.4329	-0.0985	0.2905	0.1318	1		
LEXR	-0.2297	0.3285	-0.3326	-0.2332	-0.3805	0.0652	1	
LGDP	0.8021	0.4339	-0.1995	0.2068	0.2503	0.9273	-0.0615	1

Source: Authors' computation 2023

It is evident in Table 2 that all the explanatory variables (IR, INS, ESR, INF, EXR, POP and GDP) have a moderate association with one another, indicating the absence of multicollinearity in the model.

4.2 Results of the Unit Root Test

ADF - Fisher Chi-square and PP - Fisher Chi-square are the two unit-root test statistics that were used, in the absence of a deterministic trend. Table 3 shows the results of the Panel unit root tests. The two tests show that LPOP is stationary at the level while all other variables are stationary at 1st difference.

Table 3. Result of Panel Unit Root Test

	ADF			**PP**		
Variable	**Prob @ Level**	**Prob @ 1st Difference**	**Remark**	**Prob. @ Level**	**Prob. @ 1st Difference**	**Remark**
LFDI	0.7218	0.0002***	I(1)	0.2887	0.0000***	I(1)
IR	0.2756	0.0001***	I(1)	0.9435	0.0000***	I(1)
INS	0.8887	0.0001***	I(1)	0.5455	0.0000***	I(1)
ESR	0.6782	0.0117	I(1)	0.0526	0.0000	I(1)
INF	0.1800	0.0045	I(1)	0.1560	0.0000	I(1)
LPOP	0.009***	-	I(0)	0.000***	-	I(0)
LEXR	0.8666	0.0000***	I(1)	1.0000	0.0000***	I(1)
LGDP	0.9876	0.0000****	I(1)	0.0926	0.0000***	I(1)

Source: Authors' computation 2024

***** denote significance at 1% level**

The panel static tool was further used to analyse the data due to the small size of the dataset. The results are presented below.

4.3 Results of the Endogeneity Test

In practical terms, endogeneity in a model is a situation where the effect of an explanatory variable on a response variable cannot be causally interpreted because it includes omitted causes, leading to inconsistent estimates. Therefore, for the study to produce consistent and unbiased results, an endogeneity test for the baseline equation was carried out. The results are presented in Table 4.

Table 4: Results of Endogeneity Test (LFDI as the Dependent Variable)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID_INS	-0.061862	0.075368	-0.820793	0.4133
RESID_IR	-0.007541	0.019336	-0.389975	0.6972
RESID_ESR	-0.077746	0.223410	-0.347998	0.7285
RESID_INF	-0.024066	0.018270	-1.317226	0.1903

Source: Authors' computation 2024

The residuals of the baseline variables (INS, IR, ESR and INF) are regressed on the response variable (LFDI) to come up with the results in Table 4. It shows that all the residuals do not have a significant effect on the response variable, which indicates the absence of endogeneity in the baseline model (equation 3).

4.4. Results of the Panel Estimates of the Effect of Interest Rate and Insecurity on FDI

Table 5 outlines the examination of equation 3 through three distinct models: the Pooled Least Squares (Common Effect) model, the Fixed Effect (FE) model, and the Error Component model (also known as the Random Effect (RE) model). During the analysis of the specific setting for the *generalised least squares weights, the cross-section SUR* was used for both the pooled and fixed effect models. In contrast, the *cross-section random effect* was employed for the Random effect model. This is because of the advantage it has in correcting for heteroskedasticity and contemporaneous correlation in the model. Panels A, B, and C demonstrate the outcomes of each model in Table 5.

Table 5. Panel Selection Estimates of the Effect of Interest Rate and Insecurity on FDI

	Pooled Effect Model (Panel A)		Fixed Effect Model (Panel B)		Random Effect Model (Panel C)	
Variable	**Coefficient**	**Probability**	**Coefficient**	**Probability**	**Coefficient**	**Probability**
Constant	14.5267***	0.0000	18.9824	0.0000	17.5364***	0.0000
IR	-0.0211	0.2729	-0.0383**	0.0532	-0.0131	0.3990
INS	0.2764***	0.0000	0.0359	0.6319	0.1259**	0.0343
INF	0.1169***	0.0000	-0.0146	0.3120	0.0190	0.1552

ESR	0.9192***	0.0004	-0.3377*	0.0584	0.4721***	0.0061
R^2	0.3051		0.8094		0.0616	
R^2 adjusted	0.2862		0.7914		0.0361	
F-Stat	16.1385	0.0000***	45.0661	0.0000***	2.4137	0.0515
Akaike info criterion	3.176335		2.001461			
Schwarz criterion	3.275805		2.279976			
Hannan-Quinn criteria.	3.216743		2.114603			

Source: Authors' computation 2024

***** and **denote significance at 1% and 5% level**

To identify the optimal model between panels A and B, it is essential to evaluate the outcomes of the Chow test, which can be found in Panel D of Table 6. The fixed effect model results in panel B contain both country and period fixed effects, and this specification is tested for in Table 6. Based on the results of this test (in Panel D), as the probability value (0.0238) is less than the 5% threshold, we conclude that the null hypothesis, which suggests the pooled effect (PE) is superior to FE, is rejected. This means the fixed effect model is selected and preferred.

Table 6. Selection Method of the Regression Data Panel

Chow Test (Panel D)				**Hausman Test (Panel E)**			
Effect Test	**Stat**	**df**	**Prob**	Effect Test	Stat	df	Prob
Cross-Section Chi-square	196.58	9	0.0238	Cross-Section random	59.500	4	0.0000

Source: Authors' computation, 2024

The results of the Hausman test, which is used to select between RE and FE, in panel E, suggest that the FE model is better than the RE model with a probability of 0.0000. Therefore, the results in Panel B of Table 5, based on the FE model, will be interpreted and discussed. Selection and preference of FE over RE are frequently realised in *FDI* in most economic literature, while the opposite is seldom found in literature like that of Chibalamu et al. (2023).

The results in Panel B of Table 5 reveal that the interest rate (*IR*) has a negative value of 0.0383 with a probability value of 0.0532, indicating a significant impact on *FDI.* This implies that their interest rates affect the *FDI* inflow into the host West African nations. This finding is against the results of the study of Faroh and Shen (2015) on Sierra Leone's economy, who found an insignificant effect of interest rates on FDI, and Eregha (2010) in Nigeria. However, it is not different from the studies of Asiamah et al. (2019) on Ghana's economy.

On the other hand, the coefficient (0.0359) for insecurity (*INS*) indicates that *INS* has a direct effect on *FDI*. This effect is seen to be insignificant (p-value = 0.6319) at 5 per cent, meaning that the level of insecurity index measured by factors such as bomb attacks, terrorism, and civil war, among

others, in West African nations is not enough to reduce FDI inflows in West Africa. The result is against the findings of Adesegun and Olumide (2015) and Abubakar et al. (2017), among others. Upon examining Panel B in Table 5, it becomes clear that the coefficients of inflation rates (*INF*) and environmental sustainability rate (*ESR*) are -0.0146 and -0.3377, which indicate the multiplier effect of *INF* and *ESR* on *FDI* and suggest a negative impact, however, the two variables show no significance at 5%, as their probabilities (0.3120 and 0.0584) show.

The overall goodness of fit of the model is explained by the R^2, which indicates that 80.94% of the variations in *FDI* are explained by interest rate, insecurity, inflation rates and the environmental sustainability rate, respectively. The R^2 *adjusted* (79.14) is very close to the R^2, which means all the regressors are relevant in explaining the foreign direct investment in the model. The F-statistic (45.0661) is high and implies that the R^2 is significant using the probability (0.0000) indication at a 1% level of significance.

4.4 Robustness Check

To check for the robustness of the baseline results in Table 5, the study estimated the model when only the two major variables (focus variables) of interest were run against the FDI. The results are presented in Table 7. To this result, the control variables are not included.

Table 7: Results of Interest Rate, Insecurity and FDI

Variables	Coefficient	Standard Error	t-value	Prob.
C	20.1617***	0.4772	42.2418	0.0000
IR	-0.0441**	0.0199	-2.2161	0.0282
INS	0.0220	0.0741	0.2973	0.7667
R-squared	0.7866			
Adjusted R-squared	0.7705			
F-statistic	48.9265			
Prob(F-statistic)	0.0000			

Source: Authors' computation, 2024

***** and **denote significance at 1% and 5% level**

According to the results in Table 7, only interest rates (IR) have a significant impact on foreign direct investment (FDI). However, the study's *a priori* expectations did not align with the impact of INS, which shows an insignificant effect. The R^2 value indicates that approximately 73% of the variations in FDI can be explained by the predictors, and the F-statistic is statistically significant at a 1% level.

In the second robustness check outlined in Table 8, we introduced Gross Domestic Product (LGDP), population (LPOP), and exchange rates (LEXR) as control variables, replacing those in the baseline specification. The results are presented in Table 8.

Table 8: Results of IR, INS, GDP, POP, EXR and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-28.617***	9.1706	-3.1205	0.0022
IR	-0.0112	0.0183	-0.6127	0.5410
INS	-0.0492	0.0666	-0.7384	0.4615
LGDP	1.1727	0.3533	3.3189	0.0011
LPOP	1.6647	0.8415	1.9783	0.0498
LEXR	-0.9776	0.2152	-4.543762	0.0000
R-squared	0.8374			
Adjusted R-squared	0.8215			
F-statistic	52.6146			
Prob(F-statistic)	0.0000			

Source: Authors' computation, 2024

***** and ****denote significance at 1% and 5% level**

Based on the results, all five explanatory variables are correctly signed and significant at 1% and 5% significance levels, except for IR and INS, which are not significant even at a 10% level. The total output (LGDP) has a significant positive impact on FDI, which results in an improvement in the overall performance of the baseline specification. This is indicated by an increase in the R^2 to 83.74% and an improved goodness of fit (F-statistic, 52.615). This result is different from the findings of Jelilov et al. (2018), who studied a specific country with a high insecurity threat.

The results of the estimations of equations 3 and 4 in Tables 7 and 8 confirm the baseline results in Table 5, which indicate that interest rates (IR) have a significant effect, while insecurity (INS) has no significant effect on FDI in West Africa.

The significance of the population coefficient signifies that countries with larger populations tend to receive higher inflows of FDI. The result is consistent with the market size theory of Majeed and Ahmad (2008) and the findings of Aziz and Makkawi (2012) in SSA countries.
According to the probability value, the exchange rate coefficient (-0.9776) has a negative and statistically significant (0.0000) impact on foreign direct investment (FDI) at a 1% level. This implies that as the exchange rate goes up (depreciates), there is a corresponding decrease in FDI inflow. It could be due to instability of the exchange rate or low value of the currency in the international market, in which funds obtained from FDI would be of low value during repatriations of profit. However, this result is different from the findings of Suliman et al. (2015) on Sub-Saharan African countries.

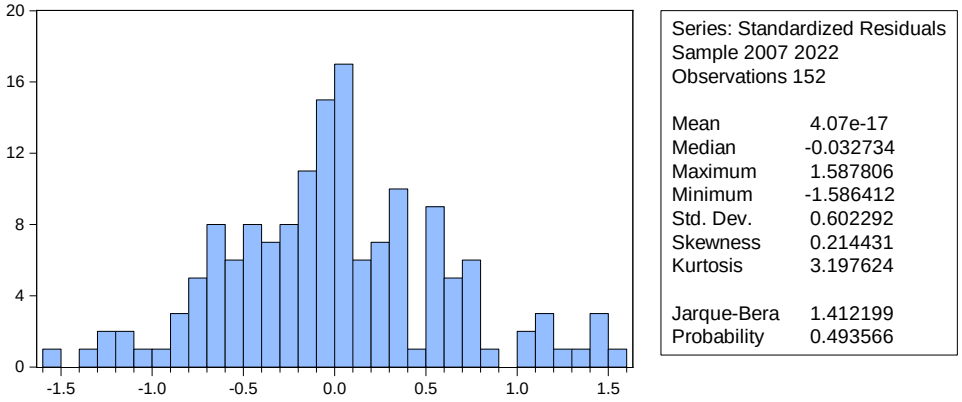
4.5 Post Estimation

The two post-estimation tests, the white test and the normality test, are necessary in this study. The white test diagnosis is used to test for the presence of heteroscedasticity in the model, while the normality test is employed to check if the variables are jointly normally distributed or not using the Jarque-Bera statistics.

As earlier said in the analysis, the cross-section effect methods employed have corrected for heteroscedasticity and contemporaneous correlation in the model, and as such, the result would not be necessary here. The study, therefore, presents the normality test result in Figure 1

In Figure 1, the result of the normality test is presented for the dataset between 2007 and 2022. Being particular on the Jarque-Bera statistics (5.2306), whose null hypothesis is that the variables are normally distributed, the probability value (0.0731) indicates that the null hypothesis is accepted since it is more than 5 per cent, thus it is concluded that the distribution is normal.

Figure 1. Test of Normality



Source: Authors' computation, 2024

5. DISCUSSION OF RESULTS

The study presents a summary of the findings in line with or at variance with previous similar studies. The first question of this study was: What is the impact of interest rates on FDI? The results in Tables 5 and 7 revealed that the interest rate (IR) has a negative and significant impact on FDI inflows in West Africa, most especially looking at the results of the robustness checks. This finding is consistent with the FDI theory of differential rate of return, which is also in line with the empirical studies of Harswari and Hamza (2017), which found a significant negative effect of interest rates on the FDI of the economies of 48 Asian countries, the study of Owusu and Odhiambo (2016) on the impact of interest rates on economic growth of West African countries, and Asiamah et al. (2019) study on Ghana's economy. However, it differs from the studies of Faroh and Shen (2015) on Sierra Leone's economy and Eregha (2010) in Nigeria. Individual countries' peculiarities could have accounted for this difference. Therefore, the study rejects the first null hypothesis of no significant impact and accepts that interest rates have a significant effect on FDI.

The second question of the study was: What is the impact of insecurity on FDI in West Africa? The study's findings indicate that the level of insecurity has an insignificant impact on foreign direct investment (FDI) in West Africa. This means that factors such as bomb attacks, terrorism, and civil war—measured by the insecurity index—do not significantly affect FDI inflows into

West African nations. This finding is different from country-specific studies by Abubakar et al. (2017), Lee (2017), Adesegun and Olumide (2015), Jelilov et al. (2018) and Olaseyinde (2022), which all demonstrate that insecurity has an adverse and significant effect on FDI inflows. However, apart from the country-specific studies entailed, their measurement of insecurity is not broad enough. For instance, Jelilov et al. (2018) used the terrorism index to measure insecurity in Nigeria, Abubakar et al. used the defence security vote to measure insecurity, and some of these authors used government spending on insecurity as a measure. None of the previous researchers has used the security threat index as a measure, which is all-encompassing. This result does not align with the initial expectation of the present study. Hence, the study does not reject the second null hypothesis that INS does not have a significant impact on FDI.

The third research question examined the impact of the inflation rate on FDI in West Africa. The findings of the study obtained in Table 5 have revealed that the inflation rate does not significantly affect FDI. The same result was obtained by Faroh and Shen (2015) in the economy of Sierra Leone, that the inflation rate has no significant impact on FDI. Therefore, the null hypothesis of this study could not be rejected.

The fourth hypothesis, that environmental sustainability rate (ESR) does not have a significant effect on FDI in West Africa, was analysed. The finding showed that the level of ESR did not significantly affect the inflows of FDI into West Africa.

The study also found that the population significantly impacts FDI. The findings presented in Table 7 indicate that population has a positive influence on FDI. This outcome aligns with the *a priori* expectation, as nations with larger populations offer a more extensive market for the goods produced and a significant workforce at a lower cost. Furthermore, Aziz and Makkawi's (2012) study of the SSA and Asian economies corroborates this conclusion.

It was realised that the total output (GDP) of countries in West Africa significantly affects FDI inflows. This was the indication of the result obtained in Table 7 of this study. Though it is in line with the a priori expectation, it is different from the empirical study of Faroh and Shen (2015) on the economy of Sierra Leone.

Lastly, the impact of the exchange rate on FDI in West African countries was analysed. The findings of the study indicate that there is an existence of a negative and statistically significant impact of the exchange rate on FDI. This implies that as the exchange rate goes up (depreciates), there is a reduction in FDI inflow. This may be due to the low value of funds when profits are repatriated. This result is different from the findings of Suliman et al. (2015), who demonstrated a considerable positive impact on FDI in sub-Saharan African countries. The impact can be positive when the researchers use the appreciated value of the currency to mean an increase in the currency rate. This study used depreciation to mean an increase in the exchange rate. When currency has value in the international exchange market, FDI inflows will increase to earn more valuable currency.

6. CONCLUSIONS AND IMPLICATIONS OF FINDINGS

This study aimed to address the issue of low foreign investment in West Africa by examining the impact of interest rates and insecurity on FDI while controlling for inflation and environmental sustainability rates. The findings revealed that interest rates had a significant negative effect on FDI, while insecurity, inflation and environmental sustainability rates had an insignificant effect on foreign investment in the sub-region. More so, while Population and total output (GDP) had a positive and significant impact on FDI, exchange rates had a significant negative influence on FDI.

What makes this study unique is the lack of adequate literature on the subject in West Africa. Previous studies focused on country-specific or region-specific analyses, and none have delved into this particular study. However, the results of these studies largely align with the present study, except for differences in the impact of interest rates on FDI in Ghana and Sierra Leone, which may be due to country-specific issues.

The results have four major economic implications in the West Africa sub-region. To attract more foreign investment to the region, the interest rate policy should be reduced. The level of insecurity has no significant impact on FDI, considering other variables. The environmental sustainability rate of the region is not terrible to discourage inflows of foreign direct investment. Foreign investment does not respond to inflation rates in the sub-region. Other implications of the finding are that when exchange rates appreciate, it tends to motivate foreign investment inflows; the population is directly related to foreign direct investment, therefore, more population, which is tantamount to a larger market size, will attract more inflows of foreign direct investment in the region. Finally, the higher the GDP of a country in West Africa, the more the inflows of foreign direct investment.

References

Abubakar, M., Tanko, S., & Abubakar, A. M. (2017). The Impact of Insecurity on Foreign Direct Investments: Evidence for Nigeria, *Sokoto Journal of the Social Sciences.* 7(2), 175-182. DOI: 10.29816/sjss.7.2.13

Adesegun, O., & Olumide, A. O. (2015). Insecurity and Foreign Direct Investment in Nigeria. *International Journal of Sustainable Development & World Policy*, 4(4), 56–68. https://doi.org/10.18488/journal.26/2015.4.4/26.

Adeshola, F. G., Ajang, J. D., Bwonlu, B. M., & Zumba, Y. I. (2020). Interest Rate and Exchange Rate in an Oil-Dependent Economy: The Case of Nigeria. *International Journal of Advanced Research and Publications, 4(5), 128-135*

Agarwal, P. J. (1980). Determinants of foreign investment: a survey. Weltwirtschaftliches Archive, 116, 739-77. https://doi.org/10.1007/BF02696547

Alkhudair, M. A., & Hakim, S. (2016). The Impact of Inflation and Real Interest Rates in Saudi Arabia on the Sar/Sdr Exchange Rates. *Palarch's Journal of Archaeology of Egypt/Egyptology 18(12), 117-126.*

Anyanwu, J. C., Oyefusi, A., & Oaikhenan, M. (1997). *The Structure of the Nigerian Economy (1960 – 1997).* Joanee Educational Publishers Limited, Onitsha, Anambra.

Asiamah, M., Ofori, D. & Afful, J. (2019). Analysis of the Determinants of Foreign Direct Investment in Ghana. *Journal of Asian Business and Economic Studies.* 26(1) 56-75. https://doi.org/10.1108/JABES-08-2018-0057

Aziz, A. & Makkawi, B. (2012). Relationship between Foreign Direct Investment and Country Population. *International Journal of Business and Management.* 7(8) 63-70. DOI: 10.5539/ijbm.v7n8p63

Babalola, A. (2021). Impact of Interest Rates on Exchange Rate in Nigeria: An Analytical Investigation. *Timisoara Journal of Economics and Business.* 14(2), 107-124. DOI: 10.2478/tjeb-2021-0007

Chibalamu, H. C., Evans, Y., Kachelo, M. & Bamwesigye, D. (2023). The Effect of Foreign Direct Investment and Trade Openness on Economic Growth: Evidence from Five African Countries. *AGRIS online Papers in Economics and Informatics*. 15(1), 35-46. DOI: 10.7160/aol.2023.150103.

Bandyopadhyay, S., Sandler, T., & Younas, J. (2013). Foreign Direct Investment, Aid and Terrorism. Oxford Economic Papers Available at: *http://oep.oxfordjournals.org/ Accessed on 21/07/2015.*

Daniel, B., Paul, H. & Edmond, A. (2022). The Effect of Interest Rate Spread on Economic Growth: Ghana's Perspective, *International Journal of Business and Management Review*, 10(2), 1-24. https://doi.org/10.37745/ijbmr.2013

Eregha, P. B. (2010). Interest Rate Variation and Investment Determination in Nigeria, *International Business Management, 4(2), 41-46.* DOI:10.3923/ibm.2010.41.46

Faroh, A. & Shen, H. (2015). Impact of Interest Rates on Foreign Direct Investment: Case Study Sierra Leone Economy. *International Journal of Business Management and Economic Research (IJBMER), 6(1)124-132.* Ijbmer.com/docs/volumes/vol6issue1/ijbmer2015060103.

Hansen, B., & Seshadri, A. (2013). Uncovering the relationship between real interest rates and economic growth. *Michigan Retirement Research Center Research Paper*, (2013-303).

Harswari, N. B. & Hamza, M. S. (2017). The Impact of Interest Rate on Economic Development: A Study on Asian Countries. *International Journal of Accounting & Business Management 5(1):2289-4519.* https://api.semanticscholar.org/corpusID:207995083

Irving, F. (1907). *The theory of interest is determined by impatience to spend income and the opportunity to invest it.* Reprints of Economic classes. A.M Kelly, New York, 1965 (Originally printed 1907) HB539F54 1965

Jelilov, G., Ozden, K. & Briggs, S. O. (2018). Impact of Insecurity on Investment in Nigeria, *Journal of Management, Economics, and Industrial Organisation, 2(3), 41-61*. DOI: 10.31039/ijomeino.2018.2.3.3

Jhingan, M. L. (2013). *Macro-Economic Theory*, New Delhi, Vrinda Publications (P) Ltd.

Jhingan, M. L. (2011). *Monetary Economics*. Vrinda Publications Ltd. 11th ed. New Delhi.

Kang, S. & Lee, H. S. (2007). Terrorism and FDI Flows: Cross-Country Dynamic Panel Estimation. *Journal of Economic Theory and Econometrics: Journal of the Korean Econometric Society*. 18(1), 57-77.

Kearney, A. T. (2006). Globalisation Index. *Foreign policy*, *157*, 74-81.

Lee, C. (2017). Terrorism, Counterterrorism, Aid and Foreign Direct Investment. *Foreign Policy Analysis.* 13(1), 168-187. https://doi.org/10.1111/fpa.12087

Lama, R. & Medina, J. (2012). Is Exchange Rate Stabilisation an Appropriate Cure for the Dutch Disease? *International Journal of Central Banking.* 8(1), 5-46. https://www.ijcb.org/journal/ijcb12q1a1.pdf

Markowitz, H. M. (2002). Markowitz's "Portfolio Selection": A Fifty-Year Retrospective.
The Journal of Finance. 57(3), 1041-1045. https://www.jstor.org/stable/2697771.

Matarr, N., & Momodou, B. (2021). The Effects of Interest Rate on Economic Activity
Growth: Further Insights from the Gambia. *Journal of Economics and International Finance.* 13(2), *100-105.* doi.org/10.5897/JEIF2021.1127

Majeed, M. T., & Ahmad, E. (2008). Human capital development and FDI in developing countries. *Journal of Economic Cooperation*. 29(3), 79-104. https://mpra.ub.uni-muenchen.de/id/eprint/57514

Moosa, I. A. (2002). *Foreign Direct Investment. Theory, Evidence and Practice*. Hampshire - UK: Palgrave Publisher, Ltd. (formerly Macmillan Press, Ltd).

National Bureau of Statistics (2019). Latest reports, *https://www.nigerianstat.gov.ng/*

Nwagboso, C. I. (2012). Security Challenges and Economy of the Nigerian State (2007-2011). *American International Journal of Contemporary Research, 2(6), 244-258.*

Odhiambo, N. M. & Akinboade, O. A. (2009). Interest-Rate Reforms and Financial Deepening in Botswana: An Empirical Investigation. Economic Notes, Banca Monte dei Paschi di Siena SpA, vol. 38(1-2), 97-116. DOI: 10.1111/j.1468-0300.2009.00211.x

Ohlin, B., Robertson, D.H., & Hawtrey, R.G. (1937). Alternative Theories of the Rate of Interest: Three Rejoinders. *The Economic Journal. 47 (187), 424.* https://doi.org/10.2307/2225356

Oladimeji, M. O. & A. M. Oresanwo (2014). Effects of Terrorism on the International Business in Nigeria *International Journal of Humanities and Social Science*, 4(7), 247-255.

Olaseyinde, T. (2022). FDI Inflow and Insecurity in Nigeria: An Empirical Analysis. *ACTA UNIVERSITATIS DANUBIUS*. 18(5), 240-251.

Onwe, O. J., & Olanrewaju, R. R. (2014). Impact of Inflation on Corporate Investment in the Sub-Saharan African Countries: An Empirical Analysis of the West-African Monetary Zone. *International Journal of Business and Social Science. 5(1), 189-199.*

Owusu, E. L., & Odhiambo, N. M. (2016). Interest Rate Liberalisation in West African Countries: Challenges and Implications. *EKONOMSKI PREGLED, 6(6), 557-580.* https://hrcak.srce.hr/176021

Rolfe, R. J., & Woodward, D. P. (2004). Attracting foreign investment through Privatisation: the Zambian experience. *Journal of African Business*, *5*(1), 5-27. https://doi.org/10.1300/J156v05n01_02

Suliman, A., Elmawazini, K., & Shariff, M. Z. (2015). Exchange Rates and Foreign Direct Investment: Evidence for Sub-Saharan Africa. *The Journal of Developing Areas*, 49(2), 203-226. https://www.jstor.org/stable/24241298

Thirlwall, A.P., & Bergevin, J. (1985). Trends, Cycles and Asymmetries in the Terms of Trade of Primary Commodities from Developed and Less Developed Countries. *Journal of World Development, 13(7), 805-817*. https://doi.org/10.1016/0305-750X(85)90109-3.

TheGlobalEconomy.com: https://www.theglobaleconomy.com<Nigeria/security/threat. Retrieved on December 19, 2022.

Tobin, J. (1958). Liquidity Preference as Behaviour Towards Risk. *The Review of Economic Studies*, Vol. 27, 65–86. https://doi.org/10.2307/2296205

Azémar, C., & Giroud, A. (2023). World Investment Report 2022: International tax reforms and sustainable investment: United Nations Conference on Trade and Development, Geneva and New York, 2022, 219 pp. ISBN: 978 9211130492.

Heilig, G., Buettner, T., Li, N., Gerland, P., Alkema, L., Chunn, J., & Raftery, A. E. (2010). A stochastic version of the United Nations World Population Prospects: Methodological improvements by using Bayesian fertility and mortality projections. *Joint Eurostat/UNECE Work Session on Demographic Projections, Lisbon*.

World Development Indicators (WDI, 2022). Retreived: https://databank.worldbank.org