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FDI inflows and domestic interest rate nexus in Nigeria: A new look at the mundell-flemming hypothesis

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ABSTRACT

The relevance of FDI to an economy has led to an avalanche of studies investigating its link with other macroeconomic variables. One such variable that has been discussed extensively in the literature is the domestic interest rate. The link between FDI inflows and interest has been emphasized by the Mundell-Flemming framework, and in recent times, some scholars have contended that FDI inflows exert a downward influence on domestic interest rates. This study seeks to provide empirical evidence for the latter claim by examining the impact of FDI inflows on interest rates in Nigeria. The study used an annual series ranging from 1981-2022 to and under the ARDL framework. The findings reveal that in both the short and long runs, FDI inflows have a negative and significant impact on the real interest rate. This outcome has implications for the implementation of monetary policy in Nigeria. Although a fall in the interest rate is necessary, it could adversely impact the inflation-targeting objective of the monetary authorities. Therefore, the choice of allowing much inflow of FDI into the country should be weighed against the inflationary impact they portend.

Keywords: FDI inflows, exchange rate, real interest rate, ARDL

1. INTRODUCTION

The penetration of FDI has been noted to assist an economy in diverse ways, especially in developing countries that experience a shortfall in investment funds. Adu and Ntim (2014) noted the complementarity role of FDI inflows, in which FDI is observed to complement the supply of funds for investment, thus encouraging capital formation. Moreover, FDI inflows stimulate local investment, create jobs, increase foreign exchange earnings, generate taxes, and contribute to both physical and human capital accumulation. In many developing countries, the role of FDI in encouraging developmental projects, creating jobs, and strengthening the balance of payments position has been identified (Karau & Ng'ang'a, 2019).

Despite these facts, unregulated FDI inflows could impact some macroeconomic variables in a way that may affect monetary policy management. One such variable that is very sensitive to the economy is the interest rate. The Central Bank of Nigeria (CBN), which is responsible for monetary policy management, is always mindful of the movement in interest rates. This is paramount since its major policy thrust is inflation-targeting, which can be influenced by interest rate movements. The connection between capital inflows and in particular FDI inflows has been observed by Adrian (2018). The author contended that the short-run macroeconomic risk associated with an increase in capital inflows could lead to an excessive expansion of aggregate demand. The transmission through which this is made possible is explained thus: if a country maintains an officially determined exchange rate, its commitment to defend the parity results in the intervention of the monetary authorities in the foreign exchange market to purchase the foreign exchange generated by capital inflows. Doing so entails the monetary authorities creating high-powered domestic money, which encourages an expansion in the monetary base and a corresponding expansion in the broad money supply. This scenario results in lower domestic interest rates and higher domestic asset prices, which could trigger an expansion in aggregate demand, resulting in higher commodity prices.

In Nigeria, the CBN often intervenes in periods of rising inflows by varying the monetary policy rate (MPR), which is the benchmark rate that affects other interest rates. Over the years, the CBN has used different policy measures to stabilize interest rates. Prior to the Structural Adjustment Programme (SAP) in 1986, the CBN fixed the interest rate with periodic adjustments depending on the sectoral priorities of the government (Idoko, Eche & kpeyol, 2020). The reforms in the financial sector carried out in August 1987 led to the liberalization of interest rates (Ikhinde & Alawode, 2001). However, since 2004, the monetary policy committee (MPC) of the CBN has been fixing interest rates depending on the performance of the economy. Before 2007, the Minimum Rediscount Rate (MRR) was a major monetary policy tool used by the CBN to influence the lending rate. However, the introduction and adoption of the Monetary Policy Rate (MPR) on December 11, 2006, replaced the MRR (CBN, 2006).

The question that begs an answer is whether these policy measures have been able to achieve their desired objectives. The fact that monetary policy authorities keep introducing new policies to influence interest rates and sometimes even go back to embrace the abandoned ones indicates that there is a need to examine the factors that could influence it. In the literature, several factors have been identified to influence interest rates. The literature is equally replete with studies that have examined the impact of interest rates on FDI inflows. The emphasis on this area of study is based mainly on the theoretical links between capital inflows and interest rates, as demonstrated in the Mundell-Flemming framework. The Mundell-Flemming framework suggests that interest rates are a determinant of capital inflows. Since the development of the framework, a plethora of studies have been conducted in different countries and regions to verify this hypothesis.

Therefore, this study investigated whether FDI has the tendency to reduce domestic interest rates in Nigeria, as suggested by some scholars (Ali & Nazar, 2017; Kiliçarslan, 2018; Adrian, 2018). It is argued that capital inflows, such as FDI inflows, could lead to a fall in interest rates as they raise the domestic money supply. This approach is a departure from existing empirical works that focus on the impact of interest rates on FDI inflows. This study used the autoregressive distributed lag (ARDL) bounds as an estimation technique.

2. LITERATURE REVIEW

In this subsection, both relevant theoretical and empirical literature are reviewed to provide better insight into past discussions on the topic.

2.1 Theoretical Issue

This study is guided by the Mundell-Flemming framework, which was jointly developed by Robert Mundell and Marcus Fleming in the 1960s. The framework is based on a small open economy and the implications of capital mobility under flexible and fixed exchange rate regimes. By emphasizing a small open economy, it means that the economy can lend or borrow in the world's financial markets as it wishes. Consequently, a country's domestic interest rate is influenced by the global interest rate. In any country where the domestic interest rate rises above the world rate, such a country is in a better position to attract more capital inflows. The inflows will persist until the domestic interest rate aligns with the international rate. On the other hand, a decline in the domestic interest rate in relation to the foreign interest rate will lead to massive capital outflows from the domestic economy, which will persist until the domestic interest rate equates with the international rate. The framework also emphasizes perfect capital mobility, implying that investors can purchase assets in any country of their choice quickly in an unlimited amount with low transaction costs. With perfect capital mobility, investors can move capital to the country that offers the highest return without any form of restriction. The Mundell–Fleming model has been the focus of the argument that an economy cannot simultaneously maintain an independent monetary policy, unrestricted capital movement, and a fixed exchange rate. Two of these objectives can be simultaneously maintained at the same time. The assumptions guiding the model are that the economy which emphasis is made is a small open economy such that it cannot influence foreign incomes or the world interest rate level. In addition, the domestic price level is assumed to be fixed, and all securities are perfect substitutes, just as investment decisions depend on the interest rate.

A major limitation of the Mundell-Fleming model is its inability to differentiate between types of foreign investment. The model assumes that investors will channel their investments to countries whose domestic interest rates are higher than the prevailing world interest rate. However, there was no attempt to strictly demarcate the nature of the investments, that is, whether they were FDI or portfolio investments. Notably, the model follows the neoclassical theory of the differential rate of return, which asserts that differences in the rate of interest across countries are the major determinant of foreign investment. Some scholars, such as Hymer (1976), have criticized this hypothesis on the grounds that it did not differentiate between the different types of foreign investments. Despite this limitation, this theory is relevant to the present study because of the envisaged role of interest rates in influencing capital inflows.

2.2 Empirical Literature

The link between FDI inflows and domestic interest rates has generated research interest among scholars across different countries with diverse findings. In Nigeria, Benson, Eya, and Yunusa (2019) found that interest rates did not have a significant impact on FDI inflows, even though the impact was negative. However, a study in China by Vidhya and Ahamed (2019) revealed that real interest rates led to higher FDI inflows. A study in Kenya by Karau and Ng'ang'a (2019) indicated that interest rates have a positive relationship with FDI inflows. In another study on Nigeria, Karimo (2020) found that differences in interest rates did not impact FDI flows, which supports the earlier finding by Benson et al. (2019). In Iraq, a study by Salim (2020) revealed that interest rates have a positive impact on FDI inflows, which corroborates the finding of Karau and Ng'ang'a (2019).

In a cross-country study comprising Brazil, China, Turkey, and Poland, Karahan and Bayır (2022) observed that a reduction in the interest rate led to rising FDI inflows, while an increase in the interest rate arising from the implementation of contractionary monetary policy constrained the inflow of FDI. The attraction of FDI inflows occasioned by the reduction in interest rates is supported by another cross-

country study involving Sub-Sahara African countries by Isiaka, Osifalujo, and Taiwo (2022), which revealed that in the short run, FDI is attracted by declining interest rates. However, Wawrosz and Traksel (2023) showed that negative interest rates did not affect FDI in Switzerland and Sweden. In emerging markets and developing economies, Tiberto and de Mendonça (2023) indicated that real interest rates had a negative impact on FDI inflows, which contradicts some earlier findings that indicated improved FDI inflows arising from reduced interest rates. In Nigeria, Odionye, Ojiaku, and Uba (2023) indicated that a high interest rate differential encouraged FDI inflows, which contradicted earlier findings (Benson et al., 2019; Karimo, 2020). In Southeast Asia, Nguyen (2023) observed that the official reduction in interest rates led to a decline in FDI inflows, while an increase in interest rates encouraged FDI penetration. A study in some Sub-Saharan African countries by Elumalue, Obi, and Ezi (2025) found that interest rates exert a positive and significant impact on FDI inflows.

From the foregoing, it is observed that the focus of the reviewed studies is mainly on the impact of interest rates on FDI inflows, with different findings even in studies conducted in the same country. As observed earlier, these studies rely on the existing theory, which hypothesizes the role of interest rates in attracting FDI. The possibility of FDI inflows influencing interest rates, as contended by some scholars, has not been adequately investigated, and this is where the current study contributes to the extant literature.

3. METHOD

This study used an annual dataset covering the period from to 1981-2022. Table1 shows the variables used in this study, including their measurements and sources. Data for all variables were obtained from the World Development Indicators, except for oil revenue data, which were sourced from the CBN Statistical Bulletin. Foreign direct investment is measured in current USA dollars, the real interest rate is measured in percentage, and oil revenue is measured in Billions of Naira. On the other hand, the broad money supply (M2) is measured in the current local currency unit, credit to the private sector is measured as a percentage of GDP, and the exchange rate is expressed as the exchange rate of the naira to the dollar using 2010 as the base year. The consumer price index was also measured using 2010 as the base year.

The real interest rate was chosen because it aligns more with reality, as it captures the effect of inflation. Apart from FDI inflows, which have been observed to influence interest rates, the reason for the inclusion of other explanatory variables is provided. The broad money supply (M2) is included because of its link with the interest rate, which has been widely discussed in the literature. Notably, the higher the money supply, the lower the interest rate, and vice versa. Oil revenue is included because of the role that the oil sector plays in the economy. Increased oil revenue usually leads to an increase in the money supply and a corresponding fall in interest rates. If the CBN implements a contractionary policy to reduce the monetary impact of such an increase, it results in an increase in the interest rate. The exchange rate is included because it is linked to the interest rate. For instance, depreciation in the exchange rate could encourage more capital inflows, which impacts interest rates. The link between the consumer price index and interest rate that led to its inclusion in the study is that when the CPI increases, the CBN normally implements policies to rein in the inflationary effect. Such policies often entail an increase in the official rate, which drags other rates up. Credit to the private sector is included because the CBN's policy to regulate it influences the interest rate. For instance, when the CBN intervenes to curtail the ability of lending institutions to extend more credit to reduce inflation, such policies often raise interest rates. To simplify the interpretation of the results and for normalization, FDI inflows, the exchange rate, M2, and oil revenue are expressed in log form.

The study conducted some pre-diagnostic tests to examine the behavior of the variables included in the model. These include descriptive statistics, correlation matrix, and unit root tests. Both the augmented Dickey-Fuller and Phillips-Perron tests were adopted to examine the unit root. The autoregressive distributed lag (ARDL) bounds were used to test for cointegration among the variables. Post-diagnostic tests were conducted to identify whether the series suffers from heteroskedasticity and serial correlation and whether the model is well-specified and stable.

3.1 Model Specification

The baseline model that guided the study is specified as follows:

$$RINTR_t = (LFDII_t, LREXCHR_t, CRPRV_t, LOILR_t, CPI_t, LM2_t) \quad (1)$$

The ARDL form of Equation 1 is expressed as follows:

$$\Delta RINTR_t = \Omega_0 + \sum_{j=1}^{k}\Omega_1 \Delta RINTR_{t-1} + \sum_{j=1}^{k}\Omega_2 \Delta LFDII_{t-1} + \sum_{j=1}^{k}\Omega_3 \Delta LREXCHR_{t-1} + \sum_{j=1}^{k}\Omega_4 \Delta CRPRV_{t-1} + \sum_{j=1}^{k}\Omega_5 \Delta LOILR_{t-1} + \sum_{j=1}^{k}\Omega_6 \Delta CPI_{t-1} + \sum_{j=1}^{k}\Omega_7 \Delta LM2_{t-1} + \Gamma_1 RINTR_{t-1} + \Gamma_2 LFDII_{t-1} + \Gamma_3 LREXCHR_{t-1} + \Gamma_4 CRPRV_{t-1} + \Gamma_5 LOILR_{t-1} + \Gamma_6 CPI_{t-1} + \Gamma_7 LM2_{t-1} + \mu_t \quad (2)$$

where $RINTR$ = real interest rate, $LFDII$ = log of foreign direct investment inflows, $LREXCHR$= log of real exchange rate, $CRPRV$ = credit to the private sector, $LOILR$ = log of oil revenue, CPI = consumer price index, $LM2$ = log of broad money supply (a proxy for money supply) and μ_t is the random term. The parameters of the short-run coefficients are: $\Omega_1, \Omega_2 \ldots \Omega_7$ while the parameters of the long-run coefficients are: Γ_1, Γ_2.... Γ_7

The following null hypothesis guided the test for cointegration: $H_0 : \Gamma_1 = \Gamma_2 = \Gamma_3 = \Gamma_4 = \Gamma_5 = \Gamma_6 = \Gamma_7$ (existence of cointegration). This is tested against the following alternative hypothesis: $H_1 : \Gamma_1 \neq \Gamma_2 \neq \Gamma_3 \neq \Gamma_4 \neq = \Gamma_6 \neq \Gamma_7$ (an absence of cointegration). The existence of cointegration leads to the specification of the following error correction model (ECM):

$$\Delta RINTR_t = \Omega_0 + \sum_{j=1}^{k}\Omega_1 \Delta RINTR_{t-1} + \sum_{j=1}^{k}\Omega_2 \Delta LFDII_{t-1} + \sum_{j=1}^{k}\Omega_3 \Delta LREXCHR_{t-1} + \sum_{j=1}^{k}\Omega_4 \Delta CRPRV_{t-1} + \sum_{j=1}^{k}\Omega_5 \Delta LOILR_{t-1} + \sum_{j=1}^{k}\Omega_6 \Delta CPI_{t-1} + \sum_{j=1}^{k}\Omega_7 \Delta LM2_{t-1} + \delta ECM + \mu_t \quad (3)$$

ECM_{t-1} = error correction model

δ = coefficient of error correction model

4. RESULT AND DISCUSSION

4.1 Descriptive Statistics

In Table 1, credit to the private sector has a mean value of 82.72, which is very high, but the variable that exhibited the smallest mean value is the real interest rate, with a mean value of 0.46. The close proximity between the mean and median of each variable suggests that the variables are symmetric. The consumer price index exhibited the highest volatility since it had the highest range, while the variable with the least range was the real interest rate, indicating that it exhibited less volatility. The real exchange rate and consumer price index are positively skewed (skewed to the right), but the rest of the variables are negatively skewed (skewed to the left). In terms of kurtosis, all variables are heavy-tailed because their values are positive.

Table 1. Descriptive Statistics

	RINTR	LLFDI	LREXCHR	CRPRV	LOILR	CPI	LM2
Mean	0.46	8.94	2.08	30.61	2.59	82.72	1.67
Median	3.66	9.20	2.00	28.18	2.97	37.45	1.69
Maximum	18.18	9.94	2.72	46.30	3.94	421.07	1.88

Minimum	-65.85	0.00	1.69	0.00	0.00	0.48	0.00
Std. Dev.	14.08	1.49	0.25	9.85	1.19	105.56	0.28
Skewness	-2.75	-5.24	1.02	-0.37	-0.63	1.57	-5.13
Kurtosis	13.23	32.12	3.21	3.30	2.10	4.79	31.28
Jarque-Bera	236.32	1676.73	7.40	1.15	4.22	23.00	1584.39
Probability	0.00	0.00	0.02	0.56	0.12	0.00	0.00
Sum	19.51	375.72	87.36	1285.7	109.01	3474.3	70.25

4.2 Correlation Matrix

The results in Table 2 reveal a low and negative correlation with the real interest rate, while having a low and positive correlation with other variables. While there is a low and negative correlation between FDI inflows and the real exchange rate on one hand, its correlation with the consumer price index is low and negative. On the other hand, apart from money supply, which has a strong and positive correlation with, its correlation with other variables such as the real interest rate, credit to the private sector, and oil rent is low and positive. With respect to the model that links the real interest rate with FDI inflows and other explanatory variables, the low correlation among these variables and the real interest rate is evidence of low multicollinearity among the variables (see Table 2).

Table 2. Correlation Matrix

	RINTR	**LLFDI**	**LREXCHR**	**CRPRV**	**LOILR**	**CPI**	**LM2**
RINTR	1	0.09	-0.19	0.40	0.37	0.25	0.17
LLFDI	0.09	1	-0.19	0.67	0.53	-0.33	0.97
LREXCHR	-0.19	-0.19	1	-0.19	-0.44	-0.09	-0.15
CRPRV	0.40	0.67	-0.19	1	0.66	0.40	0.74
LOILR	0.37	0.53	-0.44	0.66	1	0.13	0.53
CPI	0.25	-0.33	-0.09	0.40	0.13	1	-0.22
LM2	0.17	0.97	-0.15	0.74	0.53	-0.22	1

4.3 Unit Root

The results of the unit root at level and first difference in Table 3 indicate that while the real interest rate and consumer price index achieved stationarity (absence of unit root) at level under both ADF and PP, other variables were not stationary. The results in Table 4 indicate that after taking the first difference, all the series that did not achieve stationarity at the level became stationary. In summary, while the real interest rate and consumer price index are integrated of order zero, *that is, I(0)*, the other series are integrated of order one, *that is, I(1)*. Tables 3 and 4 provide further details.

Table 3. Results of Unit Root Tests at Level

Variables	**ADF t-stat.**	**PP t-stat.**	**ADF Critical value at 5%**	**PP Critical value at 5%**	**Order of integration**
RINTR	-7.57	-7.34	-2.93*	-2.93*	*1(0)*
LFDII	-1.55	-1.54	-2.93	-2.93	
LREXCHR	-2.15	-2.04	-2.93	-2.93	
CRPRV	-1.39	-1.60	-2.93	-2.93	
LOILR	-1.66	-1.67	-2.93	-2.93	
: CPI	-3.55	-3.87	-2.93*	-2.94*	*1(0)*
LM2	-1.65	-1.96	-2.93	-2.93	

Table 4. Results of Unit Root Tests at First Difference

Variables	ADF t-stat.	PP t-stat.	ADF Critical value at 5%	PP Critical value at 5%	Order of integration
ΔFDII	-7.14	-7.14	-2.93*	-2.93*	*I(1)*
: ΔCPI	-20.33	-10.78	-2.93*	-2.93*	
ΔREXCHR	-4.39	-4.29	-2.93*	-2.93*	*I(1)*
ΔGDPGR	-6.94	-16.16	-2.93*	-2.93*	
ΔRINTR	-10.22	-25.21	-2.93*	-2.93*	*I(1)*
ΔM2	-2.94	-1.189	-2.93*	-2.93	*I(1) ADF*
ΔNBTT	-6.43	-6.43	-2.93	-2.93	*I(1)*
ΔOILR	-6.11	-6.18	-2.93*	-2.93*	*I(1)*
ΔCRPRV	-5.23	-4.24	-2.93*	-2.93*	

4.4 ARDL Bounds Cointegration

The findings in Table 5 indicate that while the computed F-statistic is 6.70, the upper critical bounds at the 5% level is 3.61, which is lower than the computed F-statistic. Consequently, it is concluded that the series are co-integrated (have a long-run relationship) at the chosen level of significance.

Table 5. ARDL Bound Test Result

Test Statistic	Value	K
F-statistic	6.70	6
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

4.5 ARDL Estimated Results

The estimated ARDL results in Table 6 indicate that in the short run, FDI inflows negatively impact the real interest rate in the current period, even though the impact is not significant. However, after one period lag, its impact was negative and significant at the 5% level. The finding indicates that after one period lag, an increase in FDI inflows by one percent leads to a fall in the real interest rate by 16.5 percent. The long-run result also reveals that FDI inflows negatively impact real interest rates, and the result is significant at the 5% level. If FDI inflows rise by one dollar, the real interest rate declines by 33 percent. The negative impact of FDI inflows on interest rates in both the short-and long-run is in line with emerging opinions that contend that by raising the money supply, FDI inflows could lead to a fall in domestic interest rates. In the short run, the result is not significant in the current period because the impact of FDI on interest rates is not instantaneous; FDI inflows must first impact the money supply, thus introducing a lag. The result also introduces another dimension to the hypothesized relationship between capital inflows (FDI in particular) and domestic interest rates. The postulation of the Mundell-Flemming hypothesis is that interest rates play a major role in attracting capital inflows, thus implying a one-way causal link. However, the present findings indicate the opposite, which, when combined with the theoretical assumption, implies a bidirectional relationship.

However, it was found that in both the short- and long-run, the real exchange rate did not have any significant impact on the real interest rate. The intervention of monetary authorities in the exchange rate market often impacts interest rates. However, the fact that the result was not significant could be due to the dual exchange rate regimes in operation prior to the current exchange rate liberalization. Most transactions in the country were conducted under the unofficial window and, as such, could have affected the implementation of the policy on the exchange rate. Credit to the private sector was found to negatively

impact real interest rates in the short run, but the impact was not significant. However, in the long run, the impact was positive and significant. In the long run, if credit to the private sector rises by one percent, the real interest rate declines by 2.5%. Since the main policy thrust of the CBN is inflation-targeting, monetary policy interventions to curtail the impact of domestic credit expansion often result in an increase in domestic interest rates. At the 5% level of significance, oil revenue was found to impact negatively and significantly on real interest rates only in the short run. If oil revenue improved by one naira, the real interest rate was reduced by 6.1 percent. This finding follows the apriori expectation that rising oil revenue often results in an increase in money supply, which could lead to a fall in the real interest rate. This result finds empirical support in the finding by Onakoya and Agunbiade (2020), who found that oil revenue had an inverse relationship with interest rates in Nigeria. The study also found that the consumer price index negatively impacted real interest rates, and the impact was significant at the 5% level only in the short run. One percent rise in the consumer price index led to a 1.3% decrease in the real interest rate. An increase in the consumer price index often results in monetary policy interventions that raise domestic interest rates.

Finally, in both the short- and long-run, the broad money supply was found to positively impact real interest rates, even though the impact was not significant. The coefficient of the error correction model is negative and significant at the 5% level, corroborating the result of the cointegration. The implication of the ECM result is that approximately 54% of the errors generated in each period are automatically corrected by the system in the subsequent period.

Table 6. Estimated Results of ARDL

Dependent Variable: INTR		Selected Model: ARDL(1, 2, 2, 1, 1, 1, 0)		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Short-run Results				
D(LFDII)	-8.95	6.59	-1.35	0.18
D(LFDI(-1))	-16.54	6.35	2.60	0.01
D(LREXCHR)	0.36	10.49	0.03	0.97
D(LREXCHR(-1))	20.93	12.42	1.68	0.10
D(CRPRV)	-0.65	1.18	-0.55	0.58
D(LOILR)	-6.13	2.90	-2.11	0.04
D(CPI)	-1.30	0.46	-2.79	0.00
D(LM2)	3.71	4.67	0.79	0.43
ECM(-1)	-0.53	0.16	-6.23	0.00
Long-run Results				
LFDII	-33.02	11.23	-2.93	0.00
LREXCHR	-3.37	10.60	-0.31	0.75
CRPRV	2.54	0.79	3.20	0.00
LOILR	4.95	4.01	1.23	0.22
CPI	-0.03	0.08	-0.38	0.70
LM2	3.68	4.57	0.80	0.42

4.6 Post-Diagnostics

The post-diagnostic results in Table 7 indicate that at the 5% level, the series do not suffer from the problem of heteroskedasticity, serial correlation, and the model is well specified. At the 5% level, the evidence in Appendix i also reveals that the errors are normally distributed. In Appendices ii and iii, the plots of the cumulative sum (CUSUM) and the cumulative sum of squares (CUMSUM of Squares) show that the coefficients are stable because the plots fall inside the critical bands of the 5% confidence interval.

Table 7. Post-diagnostic Results

Test	P-value
Heteroskedasticity Test: ARCH	0.4977
Serial Correlation: Breusch-Godfrey LM Test	0.1698
Model Specification: Ramsey RESET Test	0.2002

4.7 Suggestion

It is obvious that due to certain limitations with respect to time, scope, and methodology adopted, this study faces several constraints. Consequently, the authors recommend that measures should be adopted to attract FDI into the economy, such as institutional reforms, infrastructural upgrades, and consistency in policy formulation and implementation. However, in periods of rising FDI inflows or any other form of capital inflow, policy measures adopted to reduce their monetary impact should not hurt the economy in the long run. One such policy recommended in this study within the rising FDI inflow episode is fiscal tightening. This involves fiscal authorities embarking on contractionary fiscal policy through either an increase in taxes, a reduction in public expenditure, or both.

5. CONCLUSION

In this study, the focus was on determining the impact of FDI inflows on interest rates in Nigeria using the ARDL bounds estimation technique. This study aimed to provide a balanced view of the link between FDI inflows and interest rates. The postulation of the Mundell-Flemming hypothesis is that capital inflows, including FDI, are determined by a country's domestic interest. Based on this hypothesis, the focus of extant literature has been to investigate this relationship across different countries. However, there is a dearth of studies that focus on the impact of FDI inflows on interest rates. Recently, some schools of thought contend that capital inflows could mount a downward influence on domestic interest rates, as they tend to raise the money supply. Consequently, this study departs from the existing literature by focusing on the impact of FDI inflows on interest rates.

Findings revealed that FDI inflows negatively and significantly impact the real interest rate in both the short-and long-runs. This outcome has several policy implications. First, much as the fall in interest rates occasioned by FDI inflows is a welcome development as it could help to boost domestic productivity, a continuous fall in interest rates is, however, detrimental to the price stability objective of the CBN. In Nigeria, interest rates are usually very high, discouraging domestic investment. The CBN cannot reduce the interest rate by fiat because the level of inflation in the country is high. Therefore, the policy dilemma facing the monetary authorities is whether to continue to allow FDI inflows to remain unregulated or to use some measures to curtail the monetary impact of the inflows. If the Bank decides to use sterilization measures to insulate the domestic economy from the destabilizing effect of inflows, such measures could have implications. For instance, during a period of rising inflation, increased FDI inflows will worsen the inflationary trend. The CBN may intervene by either raising the benchmark rate or floating debt instruments to control the inflationary impact of inflows. It has been observed that these measures have their implications. For instance, if the Bank decides to raise the benchmark rate, it could end up attracting further inflows into the economy because foreign investors (especially portfolio investors) may take advantage of the rising interest rate to push more investments into the economy. This is because the measure encourages high interest rates, which spur further inflows and can put monetary authorities under undue pressure, as additional inflows imply further rounds of sterilization measures (Ljubaj, Martinis & Mrkalj, 2010). Second, if bonds are floating, the future fiscal cost of when the debts fall due becomes an issue to worry about.

Ethical Approval
Not Applicable

Informed Consent Statement
Not Applicable

Authors' contributions
ICN contributed to the conceptualization and methodology. ACE contributed to the validation and writing of the original draft. HROO contributed to the formal analysis and resources. JNO and ZSE wrote, reviewed, and edited the manuscript.

Disclosure Statement
The Authors declare that they have no conflict of interest

Data Availability Statement
The data presented in this study are available upon request from the corresponding author for privacy.

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REFERENCES

Adrian, T. (2018). Policy responses to capital flows. Speech delivered at LIII Meeting of Governors of Latin America, Spain and the Philippines at the IMF-World Bank Annual Meetings in Bali, Indonesia, October 11. Retrieved from https://www.imf.org/en/News/Articles/2018/11/15/sp101118-policy-responses-to-capitalflows.

Adu, B. E. & Ntim, A. L. (2014). Causality analysis of foreign direct investment, exchange rate and interest rate volatility in Ghana. *Journal of Economics and Sustainable Development,* 5(9), 17-25. https://core.ac.uk/download/pdf/234646389.pdf

Ali, S. & Nazar, R. (2017). Impact of foreign capital inflows and money supply on exchange rate: A case study of Pakistan. *Review of Economics and Development Studies,* 3(1), 83-90. https://www.researchgate.net/publication/322633592_Impact_of_Foreign_Capital_Inflows_and_Money_Supply_on_Exchange_Rate_A_Case_Study_of_Pakistan

Benson, E., Eya, C. I. & Yunusa, A. (2019). .Effect of exchange and interest rates on foreign direct investment in Nigeria. *International Journal of Contemporary Research and Review,* 10(7), 72-85. https://doi.org/10.15520/ijcrr.v10i07.717.

Elumalue, G. I., Obi, K. C., & Ezi, C. T. (2025). The moderating effect of interest rate on exchange rate volatility and foreign direct investment: An insight in some sub-Saharan African countries. *International Journal of Advanced Economics*, 7(3). https://doi.org/10.51594/ijae.v7i3.1821.

Hymer, S. H. (1976). *The international operations of national firms: A study of direct foreign investment*. PhD Dissertation Published posthumously. Cambridge, Mass, Mass: The MIT Press.

Idoko. I. A., Eche, E.& kpeyol, K. (2020). An assessment of the impact of interest rates deregulation on economic growth in Nigeria. *International Journal of Economics, 14(2), 143-156*. https://www.econbiz.de/Record/an-assessment-of-the-impact-of-interest-rates-deregulation-on-economic-growth-in-nigeria-idoko-itodo-ahmed/10009684997

Ikhinde, S, I. & Alawode, A.A (2001). Financial sector reforms, micro economic instability and the order of economic liberation: The evidence from Nigeria. African Economic Research Paper No 112. https://publication.aercafricalibrary.org/123456789/445

Isiaka, N. A., Osifalujo, B. B. & Taiwo, O. K. (2022). Interest rate and foreign direct investment in Sub-Sahara African countries: The comparison between asymmetric and symmetric effects (ARDL and NARDL approach). *International Journal of Economics, Social Science, Entrepreneurship and Technology,* 1(3), 186-200. http://journal.sinergicendikia.com/index.php/ijeset/article/view/193

Karahan, O. & Bayır, M. (2022). The effects of monetary policies on foreign direct investment inflows in emerging economies: Some policy implications for post-COVID-19 *Karahan and Bayır Future Business Journal,* 8(1), 39. Retrieved from: https://doi.org/10.1186/s43093-022-00152-6.

Karau, J., & Ng'ang'a, P. (2019). Effects of macroeconomic factors on FDI in Kenya. *European Journal of Business and Management,* 11(3), 55-62. https://doi.org/10.7176/EJBM

Karimo, T. M. (2020). Impact of interest rate differential and exchange rate movement on the dynamics of Nigeria's international private capital flows. *CBN Journal of Applied Statistics,* 11(2), 29-63. https://dc.cbn.gov.ng/jas/vol12/iss1/7

Ljubaj, L., Martinis, A. & Mrkalj, M. (2010). Capital inflows and efficiency of sterilization: Estimation of sterilization and offset coefficients. Croatian National Bank Working paper 24. https://ideas.repec.org/p/hnb/wpaper/24.html

Kiliçarslan, Z. (2018). The relationship between exchange rate volatility and foreign direct investment in Turkey: Toda and Yamamoto causality analysis. *International Journal of Economics and Financial Issues,* 8(4), 61-67. http: www.econjournals.com

Nguyen, V. C. (2023). Monetary policy and foreign direct investment: Empirical evidence. *Economies,* 11,234. https://doi.org/10.3390/economies11090234

Odionye, J. C., Ojiaku, E. U & Uba, C. N. (2023). Impact of interest rate differential, exchange rate changes and political stability on foreign capital inflow in Nigeria: Discrete threshold regression model. *Cogent Economics and Finance,* 11(1), 2023. https://doi.org/10.1080/23322039.2023.2203590

Onakoya, A. B. & Agunbiade, O. A. (2020) Oil sector performance and Nigerian macroeconomic variables. *International Journal of Economics, Management and Accounting,* 28(1), 35-62. https://doi.org/10.31436/ijema.v28i1.700

Salim, A. D. (2020). Monetary Policy and its role in attracting foreign direct investment: A study in the Iraqi economy for the period (2004-2018). *Journal of Business and Management Studies,* 4(4), 133-148. https://doi.org/10.32996/jbms.2022.4.4.13

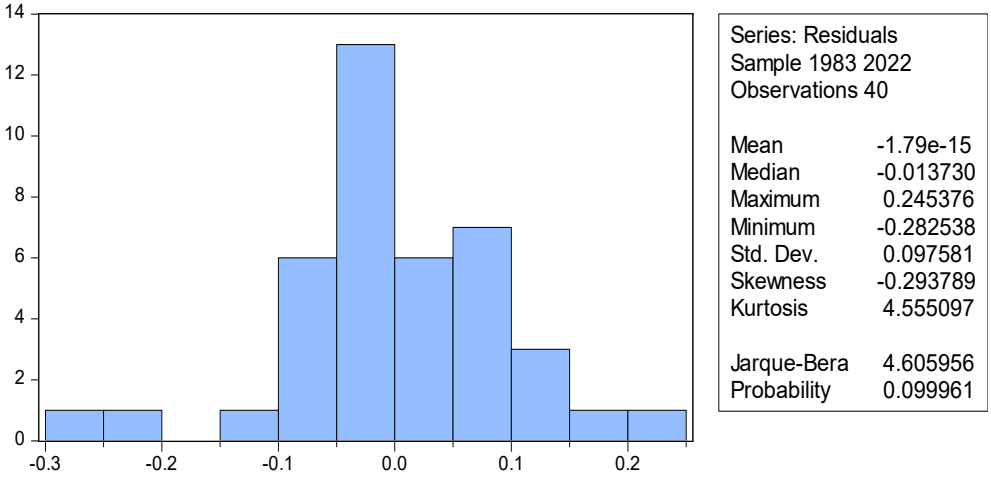
Tiberto, B. P. & de Mendonça, H. F. (2023). Effects of sustainable monetary and fiscal policy on FDI inflows to emerging markets and developing economies. Banco Central do Brazil Working Paper Series 575. https://www.bcb.gov.br/pec/wps/ingl/wps575.pdf

Vidhya, K. & Ahamed, S. B. (2019).The relationship of interest rate, exchange rate, GDP and FDI with respect to Chinese economy. *International Journal of Innovative Technology and Exploring Engineering*, 8(11), 273-277. https://doi.org/10.35940/ijitee.K1042.09811S219.

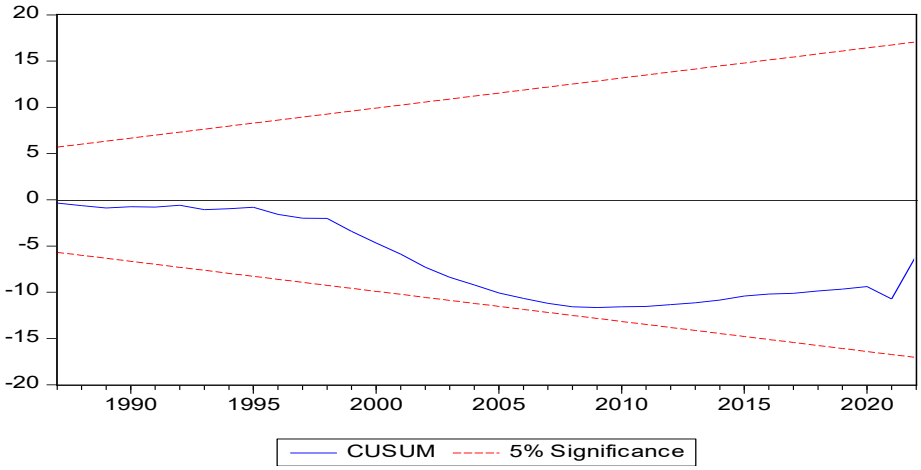
Wawrosz, P. & Traksel, S. (2023). Negative interest rates and its impact on GDP, FDI and banks' financial performance: The cases of Switzerland and Sweden. *International Journal of Financial Studies,* 11, 69. Retrieved from https://doi.org/10.3390/ijfs11020069.

APPENDICES

Appendix I: Normality Test



Appendix II: CUMSUM Test for Stability



Appendix i: CUMSUM of Squares Test for Stability