Exchange Rate Dynamics and Foreign Direct Investment in Algeria: Evidence from an ARDL Approach

ديناميكيات سعر الصرف والاستثمار الأجنبي المباشر في الجزائر: دليل قياسي باستخدام منهجيةARDL

Elmerahi Bachir[1], Benbayer Habib[2]
[1] Mohamed Ben Ahmed university of oran 2 Algeria, bachirmass@gmail.com,
[2]Mohamed Ben Ahmed university of oran 2 Algeria,benbayer_habib@yahoo.fr,
Received on: 08/01/2026 Accepted on:06/05/2026 published on: 31/05/2026

Abstract:
This study examines the relationship between foreign exchange rate movements and foreign direct investment inflows in Algeria, with particular attention to both long-run and short-run dynamics. Using the ARDL bounds testing approach, the analysis confirms the existence of a stable long-term equilibrium between foreign direct investment, the real exchange rate, and economic growth. The results show that currency depreciation positively influences foreign direct investment in the long run, while economic growth emerges as a strong and consistent driver of foreign capital inflows. In the short run, exchange rate fluctuations and economic activity significantly affect foreign direct investment, though their impacts differ from long-term effects. The findings suggest that exchange rate policy can support foreign investment, but its effectiveness depends on sustained economic growth and a stable macroeconomic environment in Algeria.
Keys words: **Foreign Direct Investment; Exchange Rate; Economic Growth; ARDL Model.**
JEL classification codes: F21; F31;C22.

ملخص:تتناول هذه الدراسة العلاقة بين تحركات أسعار صرف العملات الأجنبية وتدفقات الاستثمار الأجنبي المباشر في الجزائر، مع إيلاء اهتمام خاص للديناميكيات طويلة المدى وقصيرة المدى. وباستخدام ARDL، يؤكد التحليل وجود توازن مستقر طويل الأجل بين الاستثمار الأجنبي المباشر وسعر الصرف الحقيقي والنمو الاقتصادي. وتظهر النتائج أن انخفاض قيمة العملة يؤثر بشكل إيجابي على الاستثمار الأجنبي المباشر على المدى الطويل، في حين يبرز النمو الاقتصادي كمحرك قوي وثابت لتدفقات رأس المال الأجنبي. وعلى المدى القصير، تؤثر تقلبات أسعار الصرف والنشاط الاقتصادي بشكل كبير على الاستثمار الأجنبي المباشر، على الرغم من أن آثارها تختلف عن الآثار الطويلة الأجل. وتشير النتائج إلى أن سياسة سعر الصرف يمكن أن تدعم الاستثمار الأجنبي، لكن فعاليتها تعتمد على النمو الاقتصادي المستدام وبيئة الاقتصاد الكلي المستقرة في الجزائر.
الكلمات المفتاحية:**الاستثمار الأجنبي المباشر؛ سعر الصرف؛النموالاقتصادي؛ نموذجARDL**.
تصنيف JEL:F21; F31;C22.

Corresponding author: *Fullname,* ***e-mail:****authorC@mail.com*

1- Introduction

Foreign direct investment (FDI) plays a pivotal role in fostering economic growth, technological upgrading, employment creation, and integration into global value chains, particularly in developing and emerging economies. As a long-term form of cross-border capital movement, FDI is highly sensitive to macroeconomic fundamentals that shape investors' expectations regarding costs, profitability, and risk. Among these fundamentals, the foreign exchange rate has attracted sustained attention in both theoretical and empirical research due to its direct influence on production costs, asset valuation, export competitiveness, and the repatriation of profits (Dunning & Lundan, 2008, pp. 79-82).

Exchange rate movements affect FDI decisions through multiple transmission channels. A depreciation of the host country's currency can lower the relative price of domestic assets and labor when measured in foreign currency, thereby increasing the purchasing power of multinational enterprises. This mechanism, commonly referred to as the *relative wealth effect*, suggests that currency depreciation may stimulate inward FDI by making acquisitions and greenfield investments more affordable for foreign investors (Goldberg & Kolstad, 1995, pp. 425-426). In addition, a weaker currency can enhance export competitiveness, encouraging export-oriented FDI, particularly in economies pursuing outward-looking development strategies (Kiyota & Urata, 2004, pp. 150-152).

However, the relationship between exchange rates and FDI is theoretically ambiguous. While depreciation may reduce investment costs, excessive volatility or persistent devaluation can heighten macroeconomic uncertainty, increase exchange rate risk, and weaken investor confidence. For risk-averse investors, especially those engaged in long-term projects, exchange rate instability may outweigh cost advantages and discourage FDI inflows (Blonigen , 2005, pp. 384- 386). This trade-off highlights the importance of distinguishing between predictable, policy-driven exchange rate adjustments and erratic fluctuations driven by macroeconomic imbalances.

Recent empirical literature provides mixed evidence regarding the exchange rate–FDI nexus in developing countries. Studies focusing on emerging economies such as Egypt and Bangladesh document a positive and statistically significant impact of currency depreciation on FDI inflows, emphasizing the role of reduced production costs and improved export performance (Fadl & Ghoneim , 2020, pp. 214-216). Conversely, evidence from resource-dependent economies, including Algeria, suggests that exchange rate movements alone may be insufficient to attract foreign investment in the absence of supportive institutional frameworks, regulatory quality, and market openness (Brahim, Samira, & Imane , 2025, pp. 61-63).

In the context of Algeria, the exchange rate–FDI relationship presents specific structural and institutional characteristics that merit closer examination. The Algerian economy is heavily dependent on hydrocarbons, with FDI inflows largely concentrated in the energy sector. Moreover, the exchange rate regime has experienced several episodes of adjustment and depreciation, particularly in response to external shocks, fluctuations in oil prices, and pressures on foreign exchange reserves. Despite these developments, Algeria has not consistently attracted diversified and sustained FDI inflows, raising questions about the effectiveness of exchange rate policy as a tool for enhancing foreign investment attractiveness.

This situation suggests that exchange rate movements alone may be insufficient to stimulate FDI in Algeria unless supported by favorable macroeconomic conditions, economic growth, and a conducive investment climate. Consequently, analyzing the impact of exchange rate dynamics on FDI inflows in Algeria is of significant policy relevance, especially in light of the country's ongoing efforts to diversify its economy and reduce dependence on hydrocarbons.

Against this background, this study seeks to examine the relationship between foreign exchange rate movements and foreign direct investment in Algeria, with particular attention to both long-run equilibrium effects and short-run dynamics. By employing a robust econometric framework, the paper aims to provide empirical evidence that can inform exchange rate and investment policies designed to promote sustainable economic development.

To what extent do foreign exchange rate movements influence foreign direct investment inflows in Algeria, both in the short run and the long run?

2- LiteratureReview:

Foreign direct investment (FDI) is widely recognized as a crucial source of capital accumulation, technology transfer, and productivity enhancement in developing economies. Among the macroeconomic determinants influencing FDI inflows, the exchange rate occupies a central role due to its direct effect on investment costs, expected returns, and profit repatriation. Since FDI represents a long-term cross-border commitment, exchange rate movements significantly shape multinational firms' location and entry decisions.

Theoretically, the relationship between exchange rates and FDI remains ambiguous. On one hand, currency depreciation in the host country can stimulate inward FDI by reducing the relative cost of assets, labor, and production inputs for foreign investors. This mechanism, commonly referred to

as the relative wealth effect, enhances the purchasing power of foreign firms and encourages investment inflows (Sofiane & Bouchra , 2017). On the other hand, persistent depreciation or exchange rate instability may increase macroeconomic uncertainty and discourage long-term investment, particularly in environments characterized by weak institutions and policy inconsistency.

A considerable body of empirical literature reports a positive relationship between exchange rate depreciation and FDI inflows in developing countries. In the case of Egypt, Fadl and Ghoneim(2020) find that depreciation of the domestic currency significantly increases FDI inflows, suggesting that lower production costs and improved export competitiveness enhance the country's attractiveness to foreign investors. Their results also highlight the importance of complementary factors such as trade openness, GDP per capita growth, urban population, and natural resource endowments in shaping FDI dynamics.

Evidence from South Asia supports similar conclusions. Using time-series data for Bangladesh over the period 1980–2017, (Mostafa, 2020) demonstrates that exchange rate depreciation exerts a positive and statistically significant impact on FDI in both the short run and long run. However, the study also finds that inflation negatively affects FDI in the long run, emphasizing the importance of maintaining macroeconomic stability to sustain foreign investment inflows.

Recent empirical research on Egypt employing long-span datasets further confirms the existence of a stable long-run relationship between exchange rate movements and FDI inflows. Applying the ARDL and error correction framework, one study covering the period 1974–2023 finds that currency devaluation contributes positively to net FDI inflows, alongside economic growth and trade openness, while inflation and foreign reserves show statistically insignificant effects (Mohamed , 2025). These findings suggest that exchange rate policy can be an effective tool for attracting FDI when supported by favorable macroeconomic conditions.

In contrast to the Egyptian and Bangladeshi experiences, empirical evidence from Algeria points to a weak or insignificant relationship between exchange rate movements and FDI inflows. (Brahim, Samira, & Imane , 2025), using VAR modeling and Granger causality tests over the period 1980–2021, find no statistically significant causal link between the exchange rate and FDI. Their results indicate that FDI inflows into Algeria are not driven by exchange rate dynamics, implying that structural and institutional factors may play a more decisive role in influencing foreign investment decisions.

This outcome aligns with recent arguments suggesting that in resource-dependent economies, exchange rate adjustments alone may be insufficient to

attract diversified FDI unless accompanied by broader reforms related to governance, market openness, and investment regulations.

2-1- Synthesis and Research Gap:

Overall, the empirical literature does not provide a unanimous conclusion regarding the impact of exchange rate movements on FDI in developing economies. While studies focusing on Egypt and Bangladesh document a positive and significant effect of currency depreciation on FDI inflows (Fadl & Ghoneim , 2020) (Mostafa, 2020), evidence from Algeria suggests an insignificant or weak relationship (Brahim, Samira, & Imane , 2025). These conflicting results highlight the importance of country-specific characteristics, exchange rate regimes, and macroeconomic environments.

Despite extensive research, a significant gap remains in understanding why exchange rate depreciation attracts FDI in certain developing countries but not in others. Addressing this gap through country-specific and comparative analyses can provide valuable insights for policymakers aiming to design effective exchange rate and investment strategies that promote sustainable economic development.

2-2- Research hypotheses:

Based on economic theory and the specific context of the Algerian economy, the study tests the following hypotheses:

- **H1:**
  Foreign exchange rate movements have no significant impact on foreign direct investment inflows in Algeria in the long run.
- **H_2:**
  Economic growth exerts a positive and significant effect on foreign direct investment inflows in Algeria.
- **H_3:**
  In the short run, exchange rate movements significantly influence foreign direct investment inflows, but the magnitude and direction of the effect may differ from the long-run relationship.

3- Model Specification

To investigate the relationship between currency devaluation policy and foreign direct investment, we use annual time series data spanning 1990- 2024 from the World Bank development indicator's various issues. This period is selected based on complete data availability.Foreign direct investment net inflows

(GDP%) (FDI), currency devaluation policy (RER) which is Real exchange rate (dinar/dollar), economic growth (GDP) proxy by real gross domestic product.

To empirically examine the relationship between currency devaluation policy and foreign direct investment (FDI), the study specifies the following econometric model:

$$FDI_t = \alpha_0 + \beta_1 RER_t + \beta_2 GDP_t + \varepsilon_t$$

whereε is the stochastic error term. The subscript *t* refers to the time period of the study. The parameter α_0 represents the intercept, while $\beta 1 – \beta 2$are the coefficients measuring the marginal impact of the explanatory variables on FDI.

4-Cointegration: Autoregressive Distributed Lag (ARDL) Bounds Testing Procedure

To investigate the existence of a long-run equilibrium relationship and to assess both short- and long-run effects of the explanatory variables on foreign direct investment, the study adopts the Autoregressive Distributed Lag (ARDL) bounds testing approach. This methodology is particularly suitable due to its flexibility in handling regressors that are integrated of order I(0), order I(1), or a mixture of both, provided none are integrated of order two.

An additional advantage of the ARDL framework lies in its ability to incorporate variable-specific lag lengths and to deliver reliable estimates even in the presence of relatively small sample sizes. These properties make the approach appropriate for the objectives and data structure of the current study.

The bounds test is implemented using an F-statistic to examine the joint significance of the lagged level variables, thereby testing for the presence of a long-run relationship. The hypotheses are formulated as follows:

$$H_0: \beta_1 = \beta_2 = 0 \qquad H_1: \beta_1 \neq \beta_2 \neq 0$$

The decision regarding cointegration is based on a comparison of the computed F-statistic with the critical bounds. If the F-statistic exceeds the upper bound I(1), the null hypothesis of no cointegration is rejected, indicating a long-run relationship among the variables. If it falls below the lower bound I(0), the null hypothesis cannot be rejected. Results lying between the two bounds are considered inconclusive.

5- Analysis Results and Discussion:

5-1- Unit Root Test:

Prior to estimating the ARDL model, the stationarity properties of the variables were examined to ensure their suitability for bounds testing. The Augmented Dickey–Fuller (ADF) unit root test was employed for this purpose. The test was conducted at both level I(0) and first difference I(1), and the results are reported in Table 3.

Table 3. Unit root test results (ADF)

UNIT ROOT TEST RESULTS TABLE (ADF)
Null Hypothesis: the variable has a unit root

		FDI	RER	GDP
At Level				
With Constant	t-Statistic	-2.8834	-6.3853	-4.0243
	Prob.	***0.0578***	***0.0000***	***0.0037***
		*	***	***
With Constant & Trend	t-Statistic	-2.7709	-8.4556	-3.9690
	Prob.	***0.2170***	***0.0000***	***0.0196***
		n0	***	**
Without Constant & Trend	t-Statistic	-1.4862	-2.1284	-1.2304
	Prob.	***0.1263***	***0.0338***	***0.1961***
		n0	**	n0
At First Difference				
		d(FDI)	d(RER)	d(GDP)
With Constant	t-Statistic	-5.9430	-11.4823	-9.1081
	Prob.	***0.0000***	***0.0000***	***0.0000***
		***	***	***
With Constant & Trend	t-Statistic	-6.1375	-11.5966	-8.9826
	Prob.	***0.0001***	***0.0000***	***0.0000***
		***	***	***
Without Constant & Trend	t-Statistic	-6.0336	-11.7373	-9.2125
	Prob.	***0.0000***	***0.0000***	***0.0000***
		***	***	***

Source:Eviews 12 output

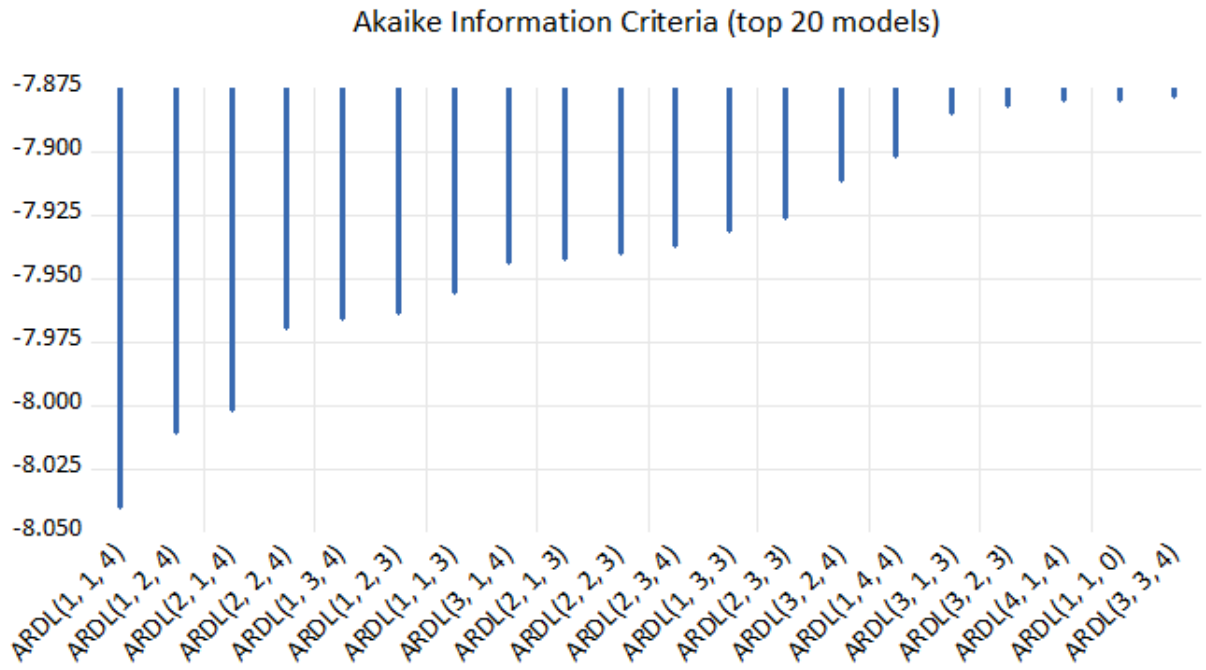
The unit root analysis confirms that the variables are either stationary at level or become stationary after first differencing, satisfying the fundamental requirement for the application of the ARDL bounds testing methodology.

5-2- Lag length selection

For lag selection we depended on the value of akaike information criterion (AIC):

$$AIC= \hat{\sigma}^2 \exp\left[2\left(\frac{p+q}{N}\right)\right]$$

Figure 1. Lag order selection criteria results



Source:Eviews 12 output

Results showing in figure 1 recommend, ARDL (1,1,4). To delve into the long-term relationships and short-term dynamics of the variables, the ARDL model is expressed as follows:

$$\Delta \mathbf{FDI}_t = \mathbf{C}_0 + \sum_{i=1}^{1} \propto_1 \Delta \mathbf{FDI}_{t-1} + \sum_{i=1}^{1} \propto_2 \Delta \mathbf{RER}_{t-1} + \sum_{i=1}^{4} \propto_3 \Delta \mathbf{GDP}_{t-1} + \beta_1 \mathbf{FDI}_{t-1} + \beta_2 \mathbf{RER}_{t-1} + \beta_3 \mathbf{GDP}_{t-1} + \varepsilon_t$$

whereΔ is the difference operator; C_0 is the intercept; $\alpha 1$- $\alpha 3$ and $\beta 1$-$\beta 3$ are short- and long run coefficients, respectively; ε is the error term.

5-3-Bounds testing for cointegration:

The bounds testing analysis examines the existence of a long-run relationship between currency devaluation policy and foreign direct investment. As reported in Table 4, the results indicate that at the 5% level of significance, the calculated F-statistic (5.907212) exceeds the upper critical bound value (3.35). This finding leads to the rejection of the null hypothesis of no cointegration, thereby confirming the presence of a stable long-term relationship between currency devaluation policy and foreign direct investment.

Table 4. Bound test for cointegration relationship

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	5.907212	10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

Source:Eviews 12 output

This result indicates the presence of cointegration among the selected variables. Accordingly, the long-run relationship between foreign direct investment and the explanatory variables is estimated within the ARDL framework. Model selection is based on the Akaike Information Criterion (AIC), which identifies ARDL (1,1,4) as the optimal specification.

5-4- Long-Run Estimation

Following confirmation of a stable long-run cointegration relationship among the study variables, the long-run coefficients are estimated. The estimated parameters, along with their statistical significance at the 5% and 10% levels, are reported in the table below. These results provide insight into the magnitude and direction of the long-term effects of the explanatory variables on foreign direct investment.

Table 5. long-runestimates

Levels Equation Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RER	0.000182	9.54E-05	1.902778	0.0702
GDP	0.210949	0.071572	2.947382	0.0074
C	1.669600	0.825114	2.023478	0.0706
EC = FDI - (0.0002*RER + 0.2109*GDP +1.6696)				

Source:Eviews 12 output

The estimated levels equation (Case 2: restricted constant, no trend) provides evidence of a long-run equilibrium relationship between foreign direct investment (FDI), the real exchange rate (RER), and economic growth (GDP). The presence of an error-correction term confirms that FDI adjusts toward its long-run path following short-run deviations, which is consistent with cointegrationtheory (Engel & Granger, 1987).

The coefficient of the real exchange rate (0.000182) is positive, indicating that an increase in the RERinterpreted as a depreciation of the domestic currencyleads to higher FDI inflows in the long run. Although the coefficient is statistically significant at the 10% level (p = 0.0702), its sign is economically meaningful.

This result supports the relative wealth effect hypothesis, according to which currency depreciation reduces the cost of domestic assets when measured in foreign currency, thereby enhancing the purchasing power of foreign investors and encouraging inward FDI. Depreciation may also improve export competitiveness, making host countries more attractive for export-oriented multinational enterprises (Goldberg & Kolstad, 1995).

Empirically, similar findings have been documented for developing economies, where exchange rate depreciation has been found to stimulate FDI inflows, particularly in countries pursuing export-led growth strategies (Kiyota & Urata, 2004). The result is also consistent with recent evidence from Egypt and other emerging markets, where devaluation policies were associated with increased foreign investment inflows.

The coefficient on GDP (0.210949) is positive and statistically significant at the 1% level (p = 0.0074), indicating a strong long-run relationship between economic growth and FDI inflows. This finding suggests that higher levels of economic activity enhance market size, profitability, and demand potential, thereby attracting foreign investors.

This result aligns with the market-seeking FDI theory, which argues that multinational firms prefer to invest in economies with strong growth prospects and expanding consumer markets (Dunning & Lundan, 2008, p. 42). GDP growth also signals macroeconomic stability and improved investment conditions, reducing uncertainty and encouraging long-term capital commitments.

The positive GDP–FDI nexus has been widely supported in empirical literature, particularly for developing countries, where growth performance is a key determinant of foreign investment decisions (Borensztein a, Gregorio b, & Lee c, 1998)(Asiedu, 2002).

5-5- Short-run estimation

The Error Correction Model (ECM) captures the short-run dynamics among the study variables while accounting for deviations from long-run equilibrium. The estimation results, presented in Table 6, indicate that all explanatory variables are statistically significant at the 5% level. This finding

suggests that variations in the independent variables exert meaningful short-term effects on foreign direct investment.

Moreover, the significance of the error correction term confirms the validity of the estimated long-run relationship and indicates that short-run deviations from equilibrium are corrected over time.

Table 6. Results of short-run dynamic model

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RER)	0.000462	0.000109	4.246151	0.0003
D(GDP)	0.015941	0.029091	0.547986	0.5892
D(GDP(-1))	-0.184362	0.044004	-4.189714	0.0004
D(GDP(-2))	-0.158071	0.047363	-3.337441	0.0030
D(GDP(-3))	-0.075315	0.034732	-2.168458	0.0412
CointEq(-1)*	-0.735964	0.142029	-5.181792	0.0000

R-squared	0.583539	Mean dependent var	0.000161
Adjusted R-squared	0.500247	S.D. dependent var	0.005119
S.E. of regression	0.003619	Akaike info criterion	-8.233284
Sum squared resid	0.000327	Schwarz criterion	-7.955738
Log likelihood	133.6159	Hannan-Quinn criter.	-8.142810
Durbin-Watson stat	1.997475		

Source:Eviews 12 output

5-6- Diagnostic tests results

To ensure the robustness of the estimated results, several post-estimation diagnostic tests were performed. As reported in Table 7, the model is free from serial correlation, heteroskedasticity, and functional form misspecification at the 5% significance level. In addition, the Jarque–Bera statistic indicates that the residuals are normally distributed.

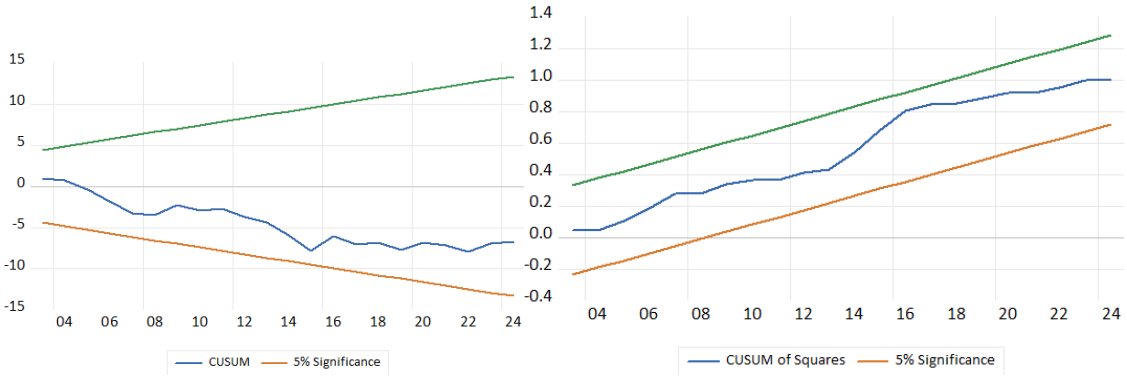
Table 7. Diagnostic tests

Specification	**F-statistics**	**Probability value**
Breusch-Godfrey LM test	0.009029	0.9910
Breusch-Pagan (hetroscedasticity)	0.315507	0.9517
Arch (hetroscedasticity)	1.158915	0.2909
Jarque-Bera (normality)	0.133946	0.935220

Source:Eviews 12 output

Model stability is further confirmed through the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) tests, illustrated in Figures 2 and 3, respectively. The results show that both plots remain within the 5% critical bounds throughout the sample period, indicating parameter stability and reinforcing the reliability of the estimated model.

Figure 2. Plots of CUSUM**Figure 3.**CUSUM of squares



Source:Eviews 12 output

6- Conclusion

This study examined the impact of foreign exchange rate movements on foreign direct investment (FDI) inflows in Algeria, considering both long-run and short-run dynamics using the ARDL bounds testing framework. The findings reveal a stable long-term relationship between FDI, the real exchange rate, and economic growth, indicating that exchange rate dynamics play a meaningful role in shaping foreign investment decisions, albeit in conjunction with broader macroeconomic conditions.

Regarding the first hypothesis, which posited that foreign exchange rate movements have no significant impact on FDI inflows in Algeria in the long run, the results provide clear evidence to the contrary. Currency depreciation positively affects FDI inflows, suggesting that lower relative costs for domestic assets and labor enhance the country's attractiveness to foreign investors. Therefore, this hypothesis is **rejected**, confirming that exchange rate movements do influence long-term FDI patterns in Algeria.

The second hypothesis, which stated that economic growth exerts a positive and significant effect on FDI inflows, is fully supported by the analysis. The strong and statistically significant relationship between GDP and FDI highlights that higher economic activity, expanding market size, and increased demand potential are crucial factors that attract foreign investors. This finding

emphasizes the importance of sustained growth as a driver of foreign investment.

Finally, the third hypothesis, concerning the short-run effects of exchange rate movements on FDI, is also confirmed. The short-run estimates indicate that changes in the exchange rate and economic activity have immediate impacts on FDI inflows, although the magnitude and direction of these effects differ from the long-run relationship. The significance of the error correction term further confirms that deviations from equilibrium are gradually corrected over time, reflecting a dynamic adjustment process.

Overall, the study demonstrates that while exchange rate policy can play a supportive role in attracting FDI, its effectiveness is conditioned by macroeconomic stability, economic growth, and the broader investment climate. For Algeria, policy measures that combine currency management with economic diversification, institutional strengthening, and market openness are essential to maximize the benefits of foreign investment. By providing evidence of both long-run and short-run relationships, this research offers valuable insights for policymakers seeking to enhance Algeria's investment attractiveness in a sustainable manner.

7-Citations:

Dunning, J., & Lundan, S. (2008). *Multinational Enterprises and the Global Economy* (Second Edition ed.). Edward Elgar.

Blonigen , B. (2005). A Review of the Empirical Literature on FDI Determinants. *Atlantic Economic Journal, 33*(4), 383-403. doi:https://doi.org/10.1007/s11293-005-2868-9

Brahim, K., Samira, D., & Imane , C. (2025). The Effect Of Exchange Rate On Foreign Direct Investment In Algeria (1980-2021) , Using Vector Autoregressive Var Model And Granger Causality. *les cahiers du mecas, 21*(1), 327-340. Retrieved from https://asjp.cerist.dz/en/article/268154

Goldberg, L., & Kolstad, C. (1995). Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty. *International Economic Review, 36*(4), 855-873. Retrieved from http://links.jstor.org/sici?sici=0020-6598%2819951 ... 0.CO%3B2-2&origin=bc

Kiyota, K., & Urata, S. (2004). Exchange Rate, Exchange Rate Volatility and Foreign Direct Investment. *The World Economy, 27*(10), 1501- 1536. doi:https://doi.org/10.1111/j.1467-9701.2004.00664.x

Asiedu, E. (2002). On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? *World Development, 30*(1), 107- 119. doi:https://doi.org/10.1016/S0305-750X(01)00100-0

Borensztein a, E., Gregorio b, J., & Lee c, J.-W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics, 45*(1), 115- 135. doi:https://doi.org/10.1016/S0022-1996(97)00033-0

Engel, R., & Granger, C. (1987, march). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica, vol. 55*(No. 2), 251- 276.

Fadl , n., & Ghoneim , H. (2020). Impact Of Foreign Exchange Rate On Foreign Direct Investment: Egypt Case. *Revue d'études sur les institutions et le développement, 6*(1), 138-157. Retrieved from https://asjp.cerist.dz/en/article/136424

Mohamed , S. (2025). The Effect of an Exchange Rate Movements on Net Inflows of Foreign Direct Investment during the Period 1974-2023: An Empirical Study on Egypt. *journal of alexandria university for administration sciences, 57*(1), 97- 141. doi:10.21608/ACJ.2025.416425

Mostafa, M. (2020). Impacts of Inflation and Exchange Rate on Foreign Direct Investment in Bangladesh. *International Journal of Science and Business, 11*(4), 53-69.

omri, a., daly, s., rault, c., & chaibi, a. (2015). Financial development, environmental quality, trade and economic growth: What causes what in MENA countries. *Energy Economics*(48), 242- 252.

Pao, H.-T., & Tsai, C.-M. (2011). Multivariate Granger causality between CO2 emissions, energy consumption, FDI (foreign direct investment) and GDP (gross domestic product): Evidence from a panel of BRIC (Brazil, Russian Federation, India, and China) countries. *Energy, 36*, 685- 693.

Sofiane , M., & Bouchra , A. (2017). Exchange Rate And Foreign Direct Investment: How Close Is The Relationship ? *التكامل الاقتصادي, 5*(4), 1-22. Retrieved from https://asjp.cerist.dz/en/article/79851

Thangaiyarkarasi, N., & Vanitha, S. (2021). The Impact of Financial Development on Decarbonization Factors of Carbon Emissions: A Global Perspective. *International Journal of Energy Economics and Policy, 11*(6), 353- 364.