Revue Française d'Economie et de Gestion
ISSN : 2728- 0128
Volume 5 : Numéro 4

The Effects of Foreign Direct Investment on Entrepreneurial Dynamics and Economic Growth in Morocco: Empirical Study and Analysis

Les effets d' Investissement Directs Étranger (IDE) sur la Dynamique Entrepreneuriale et la Croissance Économique au Maroc : Etude et Analyse Empirique

Sara HABCHI
Doctoral student in Economics and Management
National School of Business and Management
Research Laboratory in Organizational Management Sciences
Ibn Tofail University
Kenitra –Morocco

Abdeslam EL MOUDDEN
Professor-Researcher
National School of Business and Management
Research Laboratory in Organizational Management Sciences
Ibn Tofail University
Kenitra –Morocco

Date de soumission : 24/01/2024
Date d'acceptation : 02/04/2024
Pour citer cet article :
HABCHI.S & EL MOUDDEN.A.(2024) «The Effects of Foreign Direct Investment on Entrepreneurial Dynamics and Economic Growth in Morocco: Empirical Study and Analysis », Revue Française d'Economie et de Gestion «Volume 5 : Numéro 4» pp : 194 – 211.

Abstract

In recent years, foreign direct investment (FDI) has become increasingly important, shaped by the dynamics of the Moroccan economy and political and social stability. It is now regarded as a major economic policy issue. The Moroccan authorities are encouraging the arrival of FDI by implementing attractive policies and reforms, in the hope of stimulating national economic activity summed up by a significant evolution in Moroccan entrepreneurship. The aim of this research is to analyze the impact of FDI flows on local entrepreneurship and economic growth in Morocco. To address this question, we deployed the Autoregressive Distributed Lag (ARDL) approach based on macroeconomic data for Morocco covering the period 2010-2022. The results obtained from this empirical investigation reveal that foreign direct investment exerts a positive and significant effect on economic growth, as well as a positive but insignificant effect on entrepreneurial dynamics measured by the percentage growth in the number of Moroccan business start-ups.

Keywords : Entrepreneurship ; FDI; economic growth; ARDL; cointegration

Résumé

Au cours des dernières années, les investissements directs étrangers (IDE) ont acquis une importance croissante, façonnés par la dynamique de l'économie marocaine et la stabilité politique et sociale. Ils sont désormais considérés comme un enjeu majeur en matière de politique économique. Les autorités marocaines encouragent l'arrivée des IDE en mettant en œuvre des politiques et des réformes attractives, dans l'espoir de stimuler l'activité économique nationale résumée par une évolution significative de l'entrepreneuriat marocain. L'objectif de cette recherche est d'analyser l'impact des flux d'IDE sur l'entrepreneuriat local et la croissance économique au Maroc. Pour aborder cette question, nous avons déployé l'approche Autorégressive Distributed Lag (ARDL) basée sur des données macroéconomiques du Maroc couvrant la période 2010-2022. Les résultats obtenus lors de cette enquête empirique révèlent que les investissements directs étrangers exercent un effet positif et significatif sur la croissance économique, ainsi qu'un effet positif mais non significatif sur la dynamique entrepreneuriale mesurée par le pourcentage de croissance du nombre de créations d'entreprises marocaines.

Mots clés : Entrepreneuriat ; IDE; croissance économique; ARDL; cointégration

Introduction

In the face of market globalization and internationalization trends, Morocco has taken structural measures to strengthen its openness to the world. These reforms, focused on creating a favorable economic environment and a favorable social climate, have driven a sustained pace of economic and social change. Significant progress has been made, particularly with regard to the stability of the macroeconomic framework and the opening up of the job market.

Entrepreneurship is treated as one of Morocco's key development drivers, as it is seen as an essential engine of growth. With this in mind, the country has deployed a number of incentives aimed at stimulating the entrepreneurial dynamic, namely: regulatory measures (company laws, specific statutes for SMEs and VSEs), tax measures (advantages and tax exemptions granted to newly-created businesses), administrative measures (simplified processing and formalities to encourage start-ups), pre- and post-creation support and assistance, financing mechanisms, and welcoming multinational companies, which play a crucial role in improving the productivity of the local economy. Despite these advantages, however, the establishment of foreign subsidiaries can have indirect effects on business creation, generating deficits in the balance of payments, reducing domestic research and development activities, weakening competition, and potentially crowding out local businesses. Although the establishment of new foreign subsidiaries can bring benefits such as technology transfer and job creation, this approach has undesirable consequences in discouraging new Moroccan companies from entering the market. So, while Morocco encourages the creation of a favorable environment for entrepreneurship, it is crucial to carefully monitor the indirect repercussions of foreign investment to ensure the balanced growth of local entrepreneurial dynamics. Our study focuses on exploring the interaction between foreign direct investment (FDI), entrepreneurial dynamics and economic development in Morocco. The central question we seek to address is: Is there a correlation between foreign direct investment, entrepreneurial dynamics and economic growth in Morocco? In other words, to what extent do FDI flows influence the evolution of the country's entrepreneurial culture and development?

To answer our research question, our methodological approach is articulated in three distinct sections. Firstly, the first section will focus on a literature review examining the relationship between Foreign Direct Investment (FDI), entrepreneurial dynamics and economic growth in developing countries (DCs), while presenting the evolution of foreign direct investment and

the number of business start-ups in Morocco. Then, the second section will be dedicated to an econometric analysis based on the ARDL model, covering the period from 2010 to 2022, aiming to assess the impact of FDI on entrepreneurial dynamics and economic growth in Morocco. The final section will discuss and interpret the results obtained from this study.

1. Literature review

1.1. FDI and economic growth :

There is conflicting evidence in the economic literature concerning the extent to which FDI contributes to economic growth. FDI can affect economic growth directly by contributing to capital accumulation and the transfer of new technologies to the host country. In addition, FDI indirectly improves economic growth when the direct transfer of technology increases the stock of knowledge in the host country, notably through training and the acquisition of skills and new management and organizational practices (**De Mello, 1999**). A growing number of studies have demonstrated a positive relationship between FDI and economic growth, in both developed and developing countries (**Zhang, 2001; Alfaro et al., 2004; Choong, 2012**).

Bengoa et al. (2003) examine the relationship between FDI and economic growth using panel data analysis for a sample of 18 Latin American countries for the period 1970-1999. The results suggest that FDI has a positive impact on growth in host countries under the conditions of adequate human capital, economic stability and capital market liberalization.

Borensztein et al (1998) analyzed the effect of FDI on economic growth in 69 developing countries between 1970 and 1989. The results show that FDI has positive effects on growth through its interaction with human capital. They also found that FDI contributed more to growth than domestic investment, and that it also had the effect of increasing domestic investment.

Sakar (2007) examines the relationship between FDI and economic growth in a sample of 51 developing countries over the period 1970 to 2002, using ARDL modeling. The results show that there is no long-term relationship between FDI and economic growth.

Yeboua (2021) analyzed the relationship between FDI and growth in 27 African countries from 1990 to 2017. The findings suggest that FDI stimulates economic growth only in countries that have reached a specific institutional leve

1.2. FDI and entrepreneurship

In the theoretical literature dealing with the effect of inward foreign direct investment, MacDougall (1960) is considered a pioneering author for inserting external effects into the study of the effect of inward FDI on general welfare. Later, **Corden (1967) and Caves (1971**) examined the effect of FDI on optimal tariff policy, social welfare and industrial structure

respectively. These works all aimed to identify the advantages and disadvantages of the entry of multinational firms (MNFs) into host economies. In contrast, other analyses are based on industry dynamics, examining how FDI impacts the rate of domestic firm creation. Thus, a first thesis suggests that inward FDI should generate positive effects for local entrepreneurship.

For **Blalock and Gertler (2004),** investment by multinationals enables local companies acting as suppliers to increase their productivity in the case of upstream links, and increases competition, resulting in lower prices, in the case of downstream links.

For **Rosenkranz et al (2013),** the introduction of new products, services and processes can be a means of generating new know-how. Due to demonstration, networking and spillover effects, the entry of new companies as suppliers (subcontractors) or customers is triggered by investments from foreign companies.

Grosman (1984) theoretically formulated that, through the effect of international competition, the entry of multinationals hinders the creation of local businesses. And in this context, **Caves (1996) and Blomström et al. (2000)**, were able to prove that the probability of multinationals ejecting local firms from markets is very high mainly in developing countries, due to the specific advantages in terms of technology that multinationals hold over domestic firms.

Munemo (2015), suggested that in addition to the crowding-out of local firms due to international competition, high average costs, better working conditions and wages practiced by multinationals, there is also the increase in technological barriers to entry. He points out that this negative effect of spillovers is horizontal in nature, all the more so as the threat of competition is much greater for local companies operating in the same industry. Beyond this, the conciliatory approach to this debate on the one hand is that this crowding-out of local entrepreneurs is a short-term effect **(Ayyagari and Kosova (2008); Barrios et al. (2005)).** Indeed, the rate of business creation follows a U-shaped curve, in the sense that the effect of competition is dominant at first, then gradually replaced by positive effects. Secondly, based on the demand-creating effect of FDI. The entry of multinationals increases demand for local products and services, creating opportunities for local entrepreneurship.

Furthermore, from an empirical point of view, **Barboza and Eiriz (2009)** study the effect of foreign company entry. They tested whether this effect on local business creation depends on the number and size of these multinationals. Using panel data for Portugal's manufacturing and service industries over the period 1986-2000, these authors suggest that they did not find a concrete influence overall. They point out, however, that the first direct investment is very often positive, but there is a marginal impact due to additional investments, which is negative. For

almost similar results, this time focusing on the nature of FDI (mergers and acquisitions), **Estrin et al. (2014)** find that domestic entrepreneurship in intra-industry is negatively influenced by FDI.

This result is based on a micro-panel of over 2,000 entities representing developed and developing economies between 2000 and 2009. Similarly, De **Bakker and Sleuwaegen (2003**), working on Belgian industries, find a negative link between FDI and the creation of local businesses. In other words, the competition created by the arrival of multinationals discourages the entry and stimulates the exit of local entrepreneurs.

The study conducted by **Ben Dhidhi L. Moukoko** in 2020 focuses on analyzing the impact of cross-border investment flows on local business creation in Morocco. The author points out that theory on this issue presents three plausible trends regarding the effect of foreign direct investment (FDI) on local entrepreneurship.The first trend puts forward the idea that the effect of international competition induced by multinational corporations (MNCs) could crowd out newly-established local entrepreneurs or dissuade those considering starting up. In other words, the presence of foreign companies could create significant competitive pressure, making it difficult for local entrepreneurs to break into the market. The second trend suggests that the arrival of FDI generates positive market externalities through demand creation. These externalities can be exploited as business opportunities by local entrepreneurs. In other words, foreign investment could stimulate aggregate demand in the local market, creating conditions conducive to the development of local businesses. Finally, the third trend proposes a synthesis of the previous two. It suggests that these effects - initial intense competition and positive externalities - are reconciled over time. In an initial phase, at the entry of cross-border investment flows, potentially intense competition could result from the advantages held by foreign subsidiaries in terms of economies of scale. Over time, however, local entrepreneurs could take advantage of the opportunities generated by these foreign investments, contributing to the emergence and growth of their own businesses. In summary, the study suggests that the impact of FDI on local entrepreneurship is complex and evolves over time, incorporating both elements of initial fierce competition and long-term growth opportunities for local entrepreneurs.

1.3. The state of business start-ups in Morocco

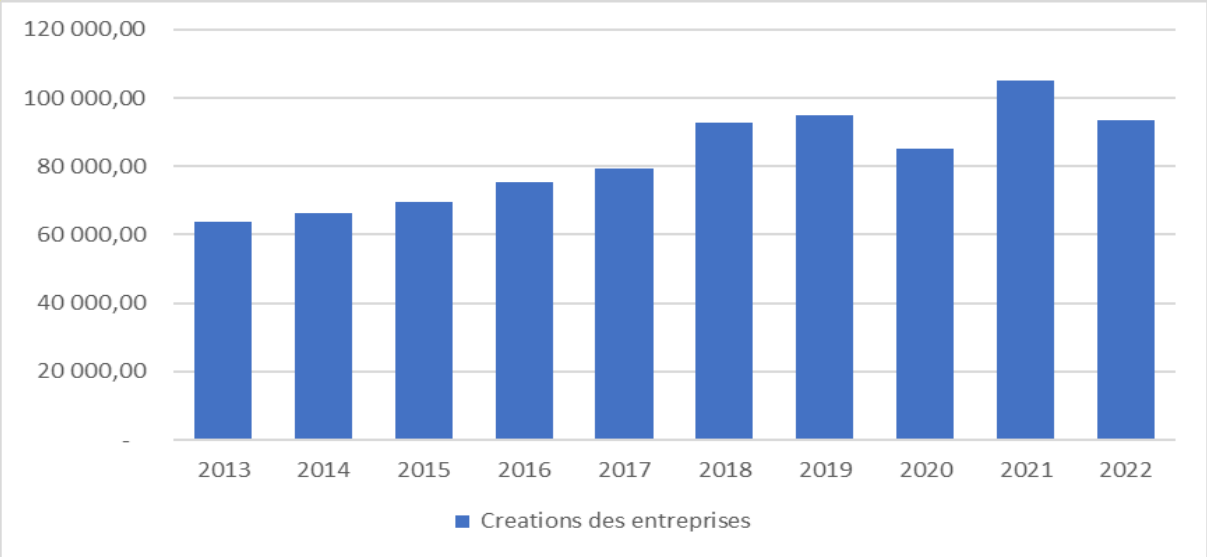
Despite the economic challenges posed by the global health crisis, Morocco has managed to make significant progress in the business start-up sector in recent years. This positive progress is the result of the effective implementation of various development strategies and programs.

The recovery and support measures deployed by various players have played a crucial role, enabling project initiators to re-establish their entrepreneurial ambitions in the face of economic uncertainties.

The pandemic has created a constructive dynamic for business start-ups in Morocco in 2021, despite the difficult economic climate. According to statistics from INFORISK, a significant increase of 30% was recorded over the previous year. In particular, Casablanca stood out with a business start-up rate of 24%, representing the creation of 13,958 businesses over the same period.

Our in-depth study of business start-ups in Morocco is based on the findings of INFORISK's latest research. According to this in-depth analysis, Morocco has seen 30% growth over the year 2020. Data from the Moroccan business creation barometer confirms this trend, revealing the creation of 104,949 new businesses in 2021, compared to 84,997 in 2020. It is important to note, however, that in 2022, the number of business start-ups will have fallen by 11%, despite the increase observed in 2021. These figures underline the crucial importance of support programs, which play a decisive role in encouraging and supporting projects in difficulty or in the start-up phase, thus contributing to the resilience of the Moroccan entrepreneurial fabric.

Figure 1 : Number of start-ups in Morocco in MDH (2013-2022)



Source: Compiled by the author on the basis of data published by the Moroccan Industrial and Commercial Property Office.

1.4. Foreign investment in Morocco

Foreign investment flows to Morocco have been on an upward trend since mid-2008. Despite various measures taken by the public authorities to attract more foreign investors, these flows

remain below the potential of the Moroccan economy, compared with the foreign investment flows attracted by certain competitor countries in the southern Mediterranean.

Foreign investment flows to Morocco are on an upward curve, reaching 19,275.8 million dirhams in 2008, a new record for the country despite the global economic and financial crisis. According to the latest figures from the Office des Changes, Morocco attracted nearly 27,722.2 million dirhams in foreign direct investment (FDI) in 2013, up 43% on 2008, rising to 34,169 million dirhams in 2018, an increase of 23%.

This increase reflects the Moroccan government's efforts to catch up and its determination to strengthen and consolidate administrative, institutional and economic reforms and measures in favor of FDI, and above all to modernize the productive apparatus. This augurs well for the relative confidence of both domestic and foreign private operators in the growth potential of the national economy. A number of large-scale projects are already underway in the country.

FDI-related capital flows showed a decline in both inflows and outflows during the two years of the spread of the virus. FDI inflows fell by 24.60% in 2020 and 7% in 2021, compared with 2019. In sectoral terms, industry and services are the sectors most affected by the pandemic.

Figure 2 : Foreign direct investment in Morocco in MDH (2008-2022)

Source: Compiled by the author on the basis of data published by the Office des Changes.

2. Research methodology

There are several research works that focus on the hypothesis of growth generated by economic growth where the entrepreneurship dynamic has been assumed to be an important determinant of economic growth in addition, foreign direct investment flows are considered to be a very important variable affecting firm creation and economic growth .

Thus, the following functional relationship has been proposed in the literature: GDP$t = f$(ENt ,$IDEt$), Where economic growth (GDP)is a function of the number of business start-ups (ENT) and foreign direct investment (FDI) flows.

This functional relationship in equation can then be expressed in logarithmic form:

$$\mathbf{L}nPIB_t = \beta 0 + \beta 1\, \mathbf{L}nTCE_t + \mathbf{L}nIDE_t + \varepsilon t$$

β0 : is the constant that can capture the effect of other factors not specified in the model

εt :is the residual of the model.

Two hypotheses need to be examined through statistical modeling:

H1: There is a significant relationship between foreign direct investment (FDI) and the entrepreneurial dynamics of host countries.

H2: Foreign direct investment remains crucial and plays a decisive role in a country's economic growth.

Table 1:Description of variables

Variables	Abbreviation	Measures	Source
Gross Domestic Product	GDP	GDP growth (annual %)	BM
Entrepreneurship	TCE	TCE Number of companies created	OMPIC
Foreign direct investment	IDE	FDI inflows % of GDP	BM

Source: Compiled by the author

First, we present the descriptive statistics for the explanatory variables in Table 3 as follows:

Table 2: Summary statistics

Variables	GDP	IDE	TCE
Mean	2,817	2,128	0,047
Median	3,070	2,260	0.047
Maximum	7,929	2,959	0,234
Minimum	- 7,187	1,169	-0,109
Std. Dev.	3,554	0,687	0,091
Skewness	- 1,639	- 0,103	0,101
Kurtosis	6,131	1 ;458	3,349
Jarque-Bera	11,138	1,309	0,088
Probability	0,003	0,519	0,956

Source: compiled by the Authors on the basis of EVIEWS

3. Results and interpretation :

3.1. Empirical results

We note that the GDP and TCE variables are stationary at level (I (0)), while the FDI variable is stationary at first-difference order (I (1)). This result is fully in line with the conditions required for the application of the ARDL approach as presented by Pesaran et al. (2001).Before estimating the model using the ARDL approach, it is necessary to perform the unit root test to ascertain the stationarity of the variables and their degrees of integration.

- **Unit root test (Stationarity of variables) :**

To test the stationarity of a time series, there are several unit root tests (DF, ADF, PP, KPSS...), of which ADF (Augmented Dickey and Fuller, 1979) and PP (Phillips & Perron, 1988) are the most widely used in the literature. In addition, the erroneous Phillips test (PP) has several advantages over the Dickey & Fuller test, and is especially powerful in the case of a relatively small number of observations (HALLAM D., ZANOLI R., 1993). The following table shows the results for the degree of integration of variables

Table 3: Unit Root Test Phillips-Perron

Variables		Intercept	Trend and Intercept	None	Nombre de retard	Degré de stationnarité
GPD	Level	-5.075*	-13.10*	-2.998*	1	I(0)
	First difference	-	-	-		
IDE	Level	-2.030	-6.751*	-0.293	1	I(1)
	First difference	-5.400*	-	-4.839*		
TCE	Level	-10.182*	-9.530*	-3.843*	1	I(0)
	First difference	-	-	-		
* Significant 1%			** Significant 5%			*** Significant 10%

Source: compiled by the Authors on the basis of EVIEWS

We note that the GDP and TCE variables are stationary at level (I (0)), while the FDI variable is stationary at first-difference order (I (1)). This result is fully in line with the conditions required for the application of the ARDL approach as presented by Pesaran et al. (2001).

To ensure the existence of a long-term cointegrating relationship between the variables in our model, we perform the Bound Test .

- **Test for cointegration between variables (Bound Test)**

Table 4. Bounds test for cointegration

Null Hypothesis: No levels relationship		
Test Statistic	Value	K
F-Statistic	28,92088	1
Critical Value Bounds		
Signif	I(0)	I(1)
10%	3,02	3,51
5%	3,62	4,16
2,50%	4,18	4,79
1%	4,94	5,58

Source: compiled by the Authors on the basis of EVIEWS

The aim of this section is to demonstrate the existence of a long-term relationship between the variables in our specified model. To this end, we apply the Pesaran bounds test, which enables us to test for cointegration between variables of different order of integration (I (0) or I (1)). The principle of this test is based on comparing the Statistical File value with the value of the lower and upper bounds for the different significance thresholds.

Cointegration is established when the value of the F statistic is greater than the upper bound. The results of the cointegration test presented in the table indicate that the value of the F statistic (F=28.92088) and (F=17.93675) exceeds the upper bound value for various significance levels, whether for the impact of FDI on GDP or the impact of FDI on TCE, as illustrated in Appendix (I). This finding confirms the existence of cointegration between the variables in our model. Consequently, we are able to assess the relationship in both the short and long term.

- **Estimating short- and long-term relationships :**

Table 5: Short-term coefficients

ARDL Error Correction Regression
Dependent Variable: D(PIB)
Selected Model: ARDL(3, 1)
Case 2: Restricted Constant and No Trend
Date: 02/26/24 Time: 16:08
Sample: 2010 2022
Included observations: 10

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PIB(-1))	2.176876	0.290343	7.497602	0.0017
D(PIB(-2))	1.507602	0.229912	6.557310	0.0028
D(IDE)	3.983091	0.658208	6.051416	0.0038
CointEq(-1)*	-4.150971	0.363863	-11.40807	0.0003

R-squared	0.983303	Mean dependent var	-0.198237
Adjusted R-squared	0.974955	S.D. dependent var	6.843827
S.E. of regression	1.083076	Akaike info criterion	3.286662
Sum squared resid	7.038325	Schwarz criterion	3.407696
Log likelihood	-12.43331	Hannan-Quinn criter.	3.153888
Durbin-Watson stat	2.376469		

* p-value incompatible with t-Bounds distribution.

Source: compiled by the Authors on the basis of EVIEWS

Table 6: Long-term coefficients

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDE	1.447134	0.211613	6.838573	0.0024
C	-0.293893	0.531864	-0.552573	0.6100

EC = PIB - (1.4471*IDE - 0.2939)

Source: compiled by the Authors on the basis of EVIEWS

The results in Table (5) highlight the statistical significance of the adjustment or error correction coefficient (CointEq(-1)), with a probability of 0.0003 and a negative sign (-4.150971), conclusively confirming the existence of a long-term relationship (cointegration) between the variables. Concerning the short-term relationship between the independent variable (FDI) and the dependent variable (TCE), the findings in appendix (II) indicate a positive but non-significant short-term relationship.

Examining the results for the long-term relationship in table (6) and appendix (III), we observe that FDI has a positive influence on both variables (GDP and TCE), but this influence is significant only in the case of GDP, reaching a threshold of 1%.

- **Diagnosis of the estimated model :**

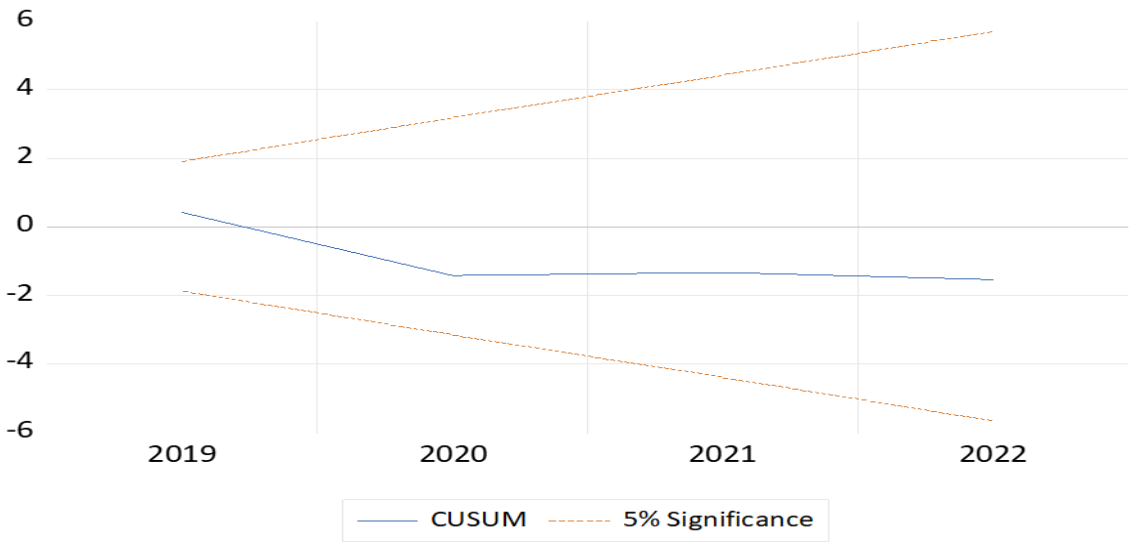
In order to study the quality and robustness of the model, we apply the following diagnostic tests:

Verified hypothesis	Static	Probability
Autocorrelation of errors	0,247805	0,8014
Heteroskedasticity	0,202743	0,9450
Normality	4,868075	0,0876

Source: compiled by the Authors on the basis of EVIEWS

Validation of our estimated model, as well as evaluation of the results for short- and long-term relationships, involves testing several hypotheses, including error correlation, heteroscedasticity and normality. The three tests presented in the table above indicate that the probability associated with each test statistic is greater than 5%. Consequently, the null hypothesis (H0) is accepted in all these tests. In other words, the errors show no autocorrelation, are homoscedastic, and their distribution follows a normal distribution, confirming that our model is well specified. Furthermore, the stability of the coefficients of our ARDL model is confirmed by the CUSUM tests, as the curve remains in the corridor in both tests. In conclusion, our results confirm the robustness of our estimated ARDL model.

Figure 3. The CUSUM stability test



Source: compiled by the Authors on the basis of EVIEWS

3.2. Discussion of results :

The overall analysis of our results based on the ARDL model consistently highlights a significant and positive effect of the variable studied on Morocco's economic growth. This observation is in line with the findings of several empirical studies, including those conducted by renowned researchers such as Globerman (1979), Lucas (1988), Romer (1986, 1990), Blomstrom & Wolf (1994), Caves (1996), De Mello Jr. (1999), Djankov & Hoekman (2000), Li and Liu (2005), Bouoiyour and Toufik (2003, 2004, 2005, 2007).

However, it is important to note that although foreign direct investment (FDI) has a positive impact on business creation, this relationship fails to reach statistical significance in our results. In other words, although the effect is positive, it is not statistically robust, indicating that increased FDI inflows are not directly associated with a significant increase in the number of business start-ups.

This observation highlights the presence of various constraints that may influence this relationship, such as increased market competition, higher operating costs, and potential challenges related to the transfer of new technologies.

Conclusion

Foreign Direct Investment (FDI) is widely recognized as a crucial engine for stimulating the economies of developing countries. In this context, it becomes imperative for nations to enhance their attractiveness to attract these investments, in order to benefit from the positive spillover effects they generate. The main objective of our study was to explore the complex relationship between FDI, economic growth and entrepreneurial dynamics in Morocco. To do this, we chose the ARDL approach, which enabled us to analyze data over an extended period from 2010 to 2021.

The results of our analysis conclusively confirmed the existence of a cointegrating relationship between foreign direct investment and economic growth in Morocco. It became clear that FDI has both a short- and long-term positive influence on the country's economic growth. However, an interesting observation emerges regarding their impact on entrepreneurial dynamics.

Despite the positive impact of FDI on economic growth, our analysis revealed that it does not reach a sufficient level of statistical significance with regard to its influence on entrepreneurial dynamics, either in the short or long term. These results therefore underline the importance for Morocco of carefully monitoring the indirect effects of FDI, particularly on entrepreneurial dynamics, in order to ensure balanced growth of the local entrepreneurial fabric.

Clearly, measures need to be taken to strengthen the entrepreneurial ecosystem, by adopting competitive advantages and reforms that encourage companies to adapt to the market. In conclusion, our study highlights the crucial importance of FDI for Morocco's economic growth, while underlining the need for a strategic and considered approach to maximize its benefits for entrepreneurial dynamics. These findings pave the way for future research to deepen our understanding of this complex relationship, and to inform policies and practices aimed at promoting sustainable and inclusive economic development.

Appendix I : Bounds test for cointegration

Bounds test for cointegration

Null Hypothesis: No levels relationship		
Test Statistic	Value	K
F-Statistic	17,93675	1
Critical Value Bounds		
Signif	I(0)	I(1)
10%	3,02	3,51
5%	3,62	4,16
2,50%	4,18	4,79
1%	4,94	5,58

Appendix II : Short-term coefficients

ARDL Error Correction Regression
Dependent Variable: D(TCE)
Selected Model: ARDL(1, 3)
Case 2: Restricted Constant and No Trend
Date: 02/26/24 Time: 16:38
Sample: 2010 2022
Included observations: 10

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(IDE)	0.005823	0.025989	0.224072	0.8337
D(IDE(-1))	0.017616	0.023827	0.739319	0.5007
D(IDE(-2))	-0.101878	0.022480	-4.531951	0.0106
CointEq(-1)*	-1.590125	0.176992	-8.984173	0.0008

R-squared	0.955554	Mean dependent var	-0.016417
Adjusted R-squared	0.933332	S.D. dependent var	0.177405
S.E. of regression	0.045806	Akaike info criterion	-3.039613
Sum squared resid	0.012589	Schwarz criterion	-2.918579
Log likelihood	19.19806	Hannan-Quinn criter.	-3.172387
Durbin-Watson stat	2.095292		

* p-value incompatible with t-Bounds distribution.

Appendix III : Long-term coefficients

Levels Equation
Case 2: Restricted Constant and No Trend

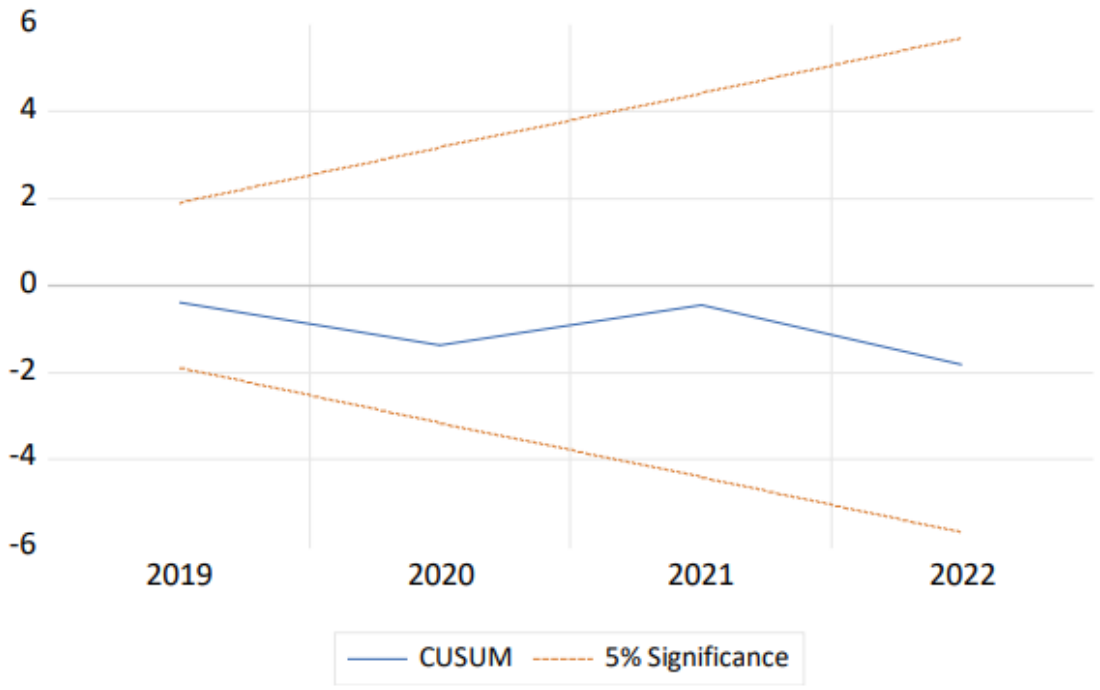
Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDE	0.042255	0.031743	1.331180	0.2539
C	-0.042078	0.073944	-0.569053	0.5998

EC = TCE - (0.0423*IDE - 0.0421)

Appendix IV : Diagnosis of the estimated model

Verified hypothesis	Static	Probability
Autocorrelation of errors	0,0501	0,9523
Heteroskedasticity	1,3943	0,3848
Normality	0,9630	0,6178

Appendix V : The CUSUM stability test



BIBLIOGRAPHIE

1. **ANNAJI H. & AL . (2023)** « IDE, ouverture commerciale et croissance économique : Evidence empirique pour le Maroc (1985-2020) », Revue Française d'Economie et de Gestion « Volume 4 : Numéro 5 » pp :186 – 207
2. **Arbia A. &, Sobhi K. & Karim M**. «Factors of FDI and their Impact on the Moroccan Economy: An Empirical Investigation Using the ARDL Approach» International Journal of Economics and Finance Vol. 15, No. 10; 2023
3. **Barbosa, N., et V. Eiriz. 2009.** « The role of inward foreign direct investment on entrepreneurship », International Entrepreneurship and Management Journal, 5(3), 319-339
4. **Barrios, S., H. Görg, et E. Strobl. 2005.** « Foreign direct investment, competition and industrial development in the host country », European Economic Review, 49(7), 1761-1784.
5. **Ben Dhidhi L. MESSIEURS MOUKOKO (2020),«** Investissements directs étrangers et et entrepreneuriat local en Afrique Subsaharienne**»** Actes de la 2e conférence internationale sur la Francophonie économique .
6. **Bengoa, M. and Sanchez-Robles** (2003), «FDI, Economic Freedom, and Growth: New Evidence from Latin America», European Journal of Political Economy, 19, pp.529-545.
7. **Borensztein E., de Gregorio J. & Lee JW., (1994**), « How does foreign direct investment affect economic growth ? », IMF Working Paper n°94/100
8. **Caves, R.E. (1971),** "International Corporations: The Industrial Economics of Foreign Investment", Economica, Vol. 38, 1-27
9. **De Mello, JR. and Luiz, R. (1999),** « Foreign Direct Investment-led growth : evidence from time series and panel data », Oxford Economic, Papers, 51, pp. 133-151.
10. **DRISSI, I. (2022).** Cadrage théorique sur la situation de création d'entreprise au Maroc a l'instar de la pandémie : Difficultés, entraves et rôle du système d'appui. International Journal of Accounting, Finance, Auditing, Management and Economics, 3(4-2), 266-282
11. **EL MENYARI, Y** «Investissement direct étranger, tourisme international et croissance économique : Le cas du Maroc» Revue AME Vol 2, No1 (Janvier, 2020) 235-250
12. **HABCHI .S & EL MOUDDEN.A (2024)** «A Modèle optimal des déterminants des investissements directs étrangers au Maroc : Une approche modélisée par backward elimination et forward regression» International Journal of Strategic Management and Economic studies OL. 3 NO. 1 : JANUARY 2024.

13. **IAICH M.H. & BOURAOUANE B. (2020)** « Investissement public et croissance économique au Maroc : approche par modèle ARDL », Revue du contrôle, de la comptabilité et de l'audit « Volume 4 : numéro 3 » pp : 467- 485.
14. **MacDougall, G. D. A. 1960**. « The benefits and costs of private investment from abroad: A theoretical approach 1 », Bulletin of the Oxford University Institute of Economics & Statistics, 22(3), 189-211.
15. **MOUSSANE .A, TARBALOUTI .E & OUALI .A, (2023)** « L'impact du capital santé sur la croissance économique : Preuve empirique au Maroc », African Scientific Journal « Volume 03, Numéro 16 » pp: 563 – 585
16. **Rosenkranz, S., U. Weitzel, et S. Danakol. 2013**. « Foreign Direct Investment and Entrepreneurship », Report to the Dutch ministry of economic affairs.
17. **Sarkar ,P** : Does Foreign Direct Investment Promote Growth? Panel Data and Time Series Evidence from Less Developed Countries, 1970-2002 Munich Personal repec Archive (MPRA), Paper No. 5176, posted 07. November 2007 .
18. **TABAKKOUYAT.R. & BENTAHAR.A(2023)** «Les déterminants du déficit commercial au Maroc : analyse structurelle 1981-2020», Revue Française d'Economie et de Gestion «Volume 4 : Numéro 11 » pp :535 – 552
19. **Office Marocain de la Propriété Industrielle et Commerciale (OMPIC**), Royaume du Maroc (2010-2022), "Rapports d'activité.