

An empirical analysis of the attractiveness of foreign direct investment in Morocco

Ibtissam ZOUBEIR

Doctoral student in Economics and Management at the FSJES of Kenitra-Morocco.

&

Zahra MANSOURI

Professor of Economics and Management at the FSJES of Kenitra- Morocco.

Abstract— Foreign direct investment (FDI) is an important lever for the growth and development of the national economy. It contributes effectively to GFCF and GDP at both national and regional levels. As a result, the evolution of incoming FDI flows prompts us to study the attractive factors of foreign investors in Morocco and to analyze their impact on economic growth. The article implements the Error Correction Model (ECM), in tests the impact of attractive factors of foreign investors in the short term (1980-2014) and gives perspectives of the Moroccan economy.

Keywords: Foreign Direct Investment (FDI), Vector Error Correction Model, Morocco.

INTRODUCTION

Since the second half of the 1980s, the world economy has undergone major changes in the way it operates. In fact, increasingly deregulated economies, regulated by free and open markets abroad, have replaced regulated, state-controlled and protectionist economies.

As part of this trend, there has been a significant change in the pattern of global capital flows. Thus, from a situation dominated by bank financial flows for public debt purposes, we have moved to a situation dominated by private flows of direct and portfolio investment.

This shift can be linked, on the one hand, to the privatization movements, to the decreases in the volume of public investments following the withdrawal of the states of the productive system, on the other hand, to the new strategies of multinational firms (MNCs) following the free trade agreements and also to the emergence of new sectors related to information and communication technologies (ICTs).

In this wake and given the importance of foreign direct investment by its positive economic effects and also announcement, it seems advisable to analyze the performance of Morocco in seduction of foreign investors.

More concretely, the ultimate goal of this paper is to answer the following question:

What are the determinants and the impact of foreign direct investment in Morocco in the short and long term ?

In order to give some answers to this question, we will first make a diagnosis of the attractiveness of FDI in Morocco, secondly establish the theoretical foundations of the location of multinational firms (FMN), then we present an empirical study of the attractiveness of FDI in Morocco, we will finally give a sketch of answer to this question (object of this article) stated above through a shock study.

1. DIAGNOSIS OF THE ATTRACTIVENESS OF FDI IN MOROCCO

Morocco has attracted significant foreign investment over

the last two decades, in connection with the start of the privatization process in 1993, the conversion of external debt into investment, likewise the improvement of the legislative, regulatory and corporate governance institutional framework.

Indeed, the introduction of the policy of encouragement and promotion of foreign investors in Morocco to make it one of the main suppliers of FDI in the African continent, according to the 2015 UNCTAD report, which has enabled the Kingdom to consolidate its second largest recipient of FDI in North Africa behind Egypt.

In this perspective, it should be pointed out that the expansion of foreign investment in Morocco is characterized by the predominance of five main sectors namely the industrial sector, the first sector, attracting FDI and draining 23% of total revenue followed by real estate 19%, telecommunications 18%, tourism 12% and banking 7%. These sectors attracted a share of 78% of total foreign direct investment during the period 1996-2014.

It is also important to point out that investments from European Union countries are preponderant, accounting for 72% of total FDI receipts in Morocco over the period 1996-2014, especially investments from France, accounted for 43% of total FDI receipts in the same period. Similarly, direct investment from the United Arab Emirates has improved by 8% in the last decade, especially after the Pan Arab Free Trade Area (PAFTA).

After the diagnostic analysis of foreign direct investments in Morocco, we will move on to the second point which will attempt to lay the theoretical foundations of the FMN.

2. THEORETICAL FOUNDATIONS OF THE LOCATION OF MULTINATIONALS

The issue of foreign direct investment is based on studies of the international economy (links between FDI and trade), the geographical economy (interactions between FDI and the territory) and the industrial economy (the strategies of the FMNs), what

makes its richness but also its complexity.

Indeed, one of the first explanations for the internationalization of firms has been developed by Marxist-inspired currents, particularly via theories of dependence and imperialism. These developments have been resumed and adapted to an environment giving more space to MNC multinational firms, in the neo-imperialist analyzes.

Following these first attempts, several explanatory theories of FDI, based on different approaches, have been formulated : determining a firm's strategic choices between international trade and investment (S.Hirsch , 1976), the eclectic theory « the OLI¹ paradigm » founded by (Dunning, 1993) clarified, extended and developed the Hirsch model. The latter has shown that the eclectic theory of FDI (Dunning.J.H, 1977, 1981) can be conceived as complementary to the theory of internalisation and the theory of transaction costs (Coase, 1937 and Williamson, 1994).

In this sense, the choice of a location for foreign investment depends on the existence of a number of factors that reflect the priorities of potential investors (M. Porter, 1986) in terms of cost-benefit comparison. These correspond both to the costs of factors of production which are more or less low (labor, ...) and to the best attractive advantages of the territories (for example: size of the market, investment rate, price competitiveness, geographic and cultural proximities, qualified human resources, infrastructures, communication, transport, public safety, etc.), openness of the economy to the outside, freedom of capital transfers, quality of institutions (tax, customs, financial, legislative and regulatory...) and growth rate).

To fully understand these factors, we expose theoretical explanations for some, important, FDI attractiveness factors initiated by the host state. In this sense, (El Issaoui, 2008) shows that the size of the Moroccan market, measured by the logarithm of GDP per capita, has a positive and significant effect. Then we expose the action of government notably the introduction of the commercial, financial, fiscal policies, and of policy of incentive and regulation.

In addition, (Batana, 1999), based on an error-correcting model, sought the explanatory variables of international capital flows in Togo. The results of his study covering the period 1965-1992 showed that the investment rate is a relevant factor in the explanation of short-term international private capital flows in Togo.

¹ (O: « Ownership advantage ») the specific advantage of the firm-that explains the "why?" Of its multinationalization-, (I: « Internationalization advantage ») the advantage of internalisation - this answers the question of "how? Internationalization while exploiting / avoiding certain advantages / disadvantages related to market imperfections and public interventions on national hosting territories -, and (L: « Location advantage ») the advantage of location abroad - which answers the question of " where? " to locate -.

Similarly, public spending (basic infrastructure and public services) has a positive effect with a lag of two years.

These constitute the basis of the variables of our empirical study on the determinants of the location of foreign investments in Morocco.

3. EMPIRICAL STUDY OF THE ATTRACTIVENESS OF FDI IN MOROCCO

As we noted in the previous section, the determinants of the attractiveness of FDI are limited and insufficient, in other words, that despite the theoretical and empirical development that has been advanced up to the latter, they have not given convincing conclusions on the fundamental factors of attracting foreign investment.

Therefore, our interest is not to propose an econometric model that includes all the factors of the attraction of foreign investments in Morocco but to select the variables used in most econometric studies of developing countries (DCs), UEMOA countries and even those used in the case of Morocco.

3.1 Data and choice of variables

Endogenous variable: FDI inflows as a percentage of GDP (FDI / GDP)

Exogenous variables: Open trade rate defined here as trade total as a share of GDP, domestic credit versus production (CD) approximated by the domestic credit ratio provided by the banking sector as a percentage of GDP; size of the market (TM) approximated by the GDP / inhabitant or when also calls GDP / head, investment rate (IT) this variable approximated by the ratio of GFCF as a percentage of GDP, Fiscal pressure (PF) approximated by the tax revenue / GDP ratio. Indeed, all these variables² are put in natural logarithm (Ln) to obtain directly their elasticities.

3.2 Econometric model

To test the determinants of the attractiveness of FDI in Morocco and more specifically their impact on the dynamism of the national economy in the short and long term.

We examine here the factors, the variables retained, of the attractiveness of FDI in Morocco by Johanssen's Vector Error Correction Model (VECM) cointegration method. This allows us to determine the long-term relationship (s) between the ratio Ln (FDI / GDP) and the exogenous variables and to analyze the dynamics between these different variables in the short term. In this wake, the equation, below, retained in our model is in the form of logarithmic Neperian³ (Ln) :

² The variables selected come from the database of the World Bank, the United Nations Conference on Trade and Development, and the Directorate of Studies and Financial Forecasting. These data cover the period from 1980 to 2014.

³ With: (LID logarithm) LIDE, (log tradeoff) LOUve, (domestic credit logarithm) LCD, (logarithm of market size) LTM, (loga-

$$LIDE_t = C_0 + \beta_1 LOuve_1 + \beta_2 LCD_2 + \beta_3 LTM_3 + \beta_4 LTI_4 + \beta_5 LPF_5 + \varepsilon_t$$

for $t = 1980, \dots, 2014.$ (1)

3.3 Results

In the light of an empirical analysis, we notice that all the variables are stationary in first difference, so this case we say that all the variables retained have the same order of integration I (1). In this wake, there is the possibility of cointegration between the endogenous variable and the different exogenous variables.

The first step is to first determine the number of delays (p) of the VAR model (p) using, especially, the criteria of « Akaike et Schwarz ». According to the information criteria of Akaike and Schwarz, the number of delays (p) that we will remember is 2.

In addition, the results of the trace test suggest that there is a cointegrating relationship at the 5% threshold between the explained variable Ln (FDI / GDP) and the explanatory variables / FDI pull factors.

This result leads us to the estimation of the long and short term solutions of the FDI attractiveness factors in Morocco within the framework of a vector model with error correction

Table 1: Results of VECM Model Estimation

Variables	Long term relationship
LIDE	1.000000
LOuve (-1)	23.85290 (3.23702) [7.36878] *
LCD (-1)	-2.219942 (1.03717) [-2.14039] *
LTM (-1)	-7.347245 (1.10898) [-6.62525] *
LTI (-1)	-18.89012 (3.42560) [-5.51439] *
LPF (-1)	7.562492 (3.10231) [2.43770] *
C	4.773953
<p>Note : Figures in parentheses are standard deviations. * Significant variable at the 5% level; ** Not significant variable.</p>	
Variables	Short term relationship
CointEq1	-0.650139* (0.18884) [-3.44276] **
LIDE (-1)	-0.508318 (0.17437) [-2.91522] **
LOuve (-1)	8.773927 (4.41555)

	[1.98705] **
LCD (-1)	-5.141755 (2.52832) [-2.03367] **
LTM (-1)	-0.217554 (2.44418) [-0.08901] ***
LTI (-1)	-10.40774 (4.18533) [-2.48672] **
LPF (-1)	12.21612 (4.40768) [2.77155] **
C	0.106837 (0.23426) [0.45606] ***
<p>Note : Figures in parentheses are standard deviations. * The error-corrected term is negative and significantly different from 0; ** Significant variable at the 5% level. ; *** Non-significant variable at the 5% level.</p>	
<p>R-squared: 0.752353 ; Adj. R-squared : 0.573497; Sum sq. resids: 13.61246; S.E. equation: 0.869625 F-statistic:4.206473; Log likelihood: -31.73002 :Akaike AIC :2.858126; Schwarz SC: 3.499386 Mean dependent: 0.062422; S.D. dependent :1.331591 Determinant resid covariance (dof adj.): 1.58× 10⁻¹²; Determinant resid covariance: 5.01× 10⁻¹⁵ ; Log likelihood :254.4160; Akaike information criterion: -10.27600; Schwarz criterion:-6.153621</p>	

Source : Sortie de logiciel « Eviews 8 »

We note from estimations made using the VECM model, that in the long term, the variables retained are significant (at the 5% threshold), ie, the commercial opening has a sign, positive, expected. On the other hand, domestic credit, the size of the market and domestic investment show signs, negative, not in line with what is expected in the same way, the ratio tax revenues / GDP which measures the tax pressure shows a sign, positive, this is not in line with theoretical expectations.

In the short term, the trade opening variable is significant (at the 5% threshold) and a positive sign, expected. On the other hand, domestic credit, domestic investment and the tax burden are significant and show signs that are not in line with theoretical expectations when the GDP / head ratio, which measures the size of the market, appears to be insignificant.

In addition, the Granger causality test performed using Wald statistics. To see short-term causality moving from an independent variable to a dependent variable. This Granger causality test of the variables trade openness, domestic credit and market size have probabilities greater than 5% of the χ^2 for Wald statistics. In this case, we can deduce that there is no short-term causality ranging from inflows of FDI (in%) to trade openness, domestic credit and market size variables. On the other hand, the domestic investment and tax burden variables have probabilities lower than

rhythm of investment rate) LTI, (logarithm of the tax burden) LPF and E (t) (term of random error varied in time t).

5% of the χ^2 for the Wald statistics, so this case we reject the hypothesis H_0 of nullity. This implies, the Granger causality test, the existence of short-term causality ranging from inflows of FDI and the two variables domestic investment and tax burden. We summarize that our model is validated and meaningful.

3.4 Shock studies

After having validated our model, we will pass to interpret our result economically.

This study, based mainly on the application of the VECM model, has shown that there are relevant factors in explaining FDI inflows in the short and long term, 1980-2024, in Morocco. Indeed, the results from this model show that foreign entrepreneurs wait almost two years, late, to start their activities. This is mainly due to the complexity of the regulatory framework of business in Morocco, the costs of the regulatory process remain even lower than the average of the OECD / MENA countries. Similarly, the tax burden is high, more than average, compared to other countries in the African region.

In addition, the results of the long-term VECM model estimate (2015-2024) show that trade openness positively affects FDI inflows in Morocco. Indeed, the increase of 1% would lead to an increase in FDI in Morocco of 23.85 in the long term, more particularly, in the half of 2017 until 2024. This is thanks to the State's involvement in international efforts to tackle climate change (COP22). Similarly, the improvement in activity in the Euro zone and the easing of monetary conditions that should support domestic demand and the acceleration of growth. In addition, the development of trade exchanges and the promotion of investments with the partners of the African continent and other partners of the great powers notably Russia, India and the People's Republic of China.

However, these results of the VECM model show that the determinants of foreign direct investment in Morocco (in the short and long term), especially domestic investments and the tax burden have negatively affected the inflow of FDI.

Regarding, domestic investment has a negative effect on inflows of foreign investment. Indeed, the increase in spending by public institutions and enterprises by 1% would reduce FDI inflows to Morocco by 10.41 in the short term (1980-2014) and reduce the share of national savings. As a result, the decline in the pace of domestic investment, especially the drop in private investment, of 1% would lead to a fall in FDI inflows to Morocco of 18.89 in the long term (2015-2024).

The low growth rate of the investment rate is mainly due to the low contribution of private investment to GFCF. This limited private sector dynamism in Morocco can be apprehended through increased public investment, the heavy weight of the informal sector in the Moroccan economic fabric, the predominance of small and medium-sized enterprises (SMEs) in the Moroccan

economy and their inability to rise to higher levels, and less sectoral diversification in investment.

The significant tax pressure (at the 5% threshold) and a positive sign, this can be explained by the increase in the tax rate in Morocco and the decline in private sector development. At the end of this analysis, the tax burden is one of the major constraints in attracting foreign investment to Morocco. Indeed, the increase in the tax burden of 1% would lead to a fall in flows entering Morocco of 12.22 in the short term (1980-2014). And since tax revenues constitute the largest share of revenue of the Moroccan Government, records on average 88% during the same period. Similarly, the results of VECM's long-term estimate show that FDI determinants namely, domestic credit and market size, negatively affect FDI inflows in Morocco. This can be explained by: Morocco's expansionary fiscal policy is mainly based on rapid credit growth. The latter has facilitated the financing of housing through the new policy of the State to finance housing, the rise in imports due mainly to the growth of consumer credit. Similarly, the increase in the demand for corporate financing not for investment or reinvestment but to finance cash, equipment and bad debts.

The significant market size (at the 5% threshold) is a negative sign. Indeed, the decline in GDP per capita of 1% would lead to a fall in flows entering Morocco of 7.35 in the long term. As a result, the reduction in economic efficiency and productivity of the country, is mainly due to the growth of investment in infrastructure, may hinder the economic activity of domestic enterprises. In short, this analysis shows that the rise in public investment and the resulting deficits can lead to crowding out of private investment (especially FDI) and the current account deficit.

CONCLUSION

The empirical study that we have just conducted allowed us to demystify the problematic, around which our research is built, the determination of the factors of attractiveness of FDI in Morocco and its contributions to the dynamism of Moroccan economy.

This leads us to deduce that the commercial opening positively affects the influx of FDI in Morocco. Despite this, the slowdown in economic growth during the period 2014-2016. But as of 2017, the impact of commercial openness becomes substantial in the long run. On the other hand, the growth of public investments in Public Establishments and Enterprises (EEP), leads to the increase of the tax pressure, since the tax revenues constitute the largest part of the revenues of the Moroccan Government, which will provoke a decrease of the national productivity and economic efficiency (the size of the market) which will induce the reduction of FDI.

Similarly, this increase in public investment (EEP) will lead to an increase in bank loans to EEPs and deficits that may result in a crowding out effect of private investment (notably FDI). This can

lead to an imbalance in the current account (current account deficit) and distort prices between tradable goods (exports and imports) and non-tradables (agriculture, construction, services) and thus lead to a loss of competitiveness (appreciation of the real internal exchange rate), hence a decline in FDI.

In this context, the "Upgrading" of the Moroccan productive fabric is a prerequisite for FDI attraction policies. The creation of an initiative capacity on the part of local manufacturers, is a factor of attractiveness much more powerful than tax and territorial assistance characteristic of the free zones. More generally, it is counterproductive to create more favorable conditions for foreign capital than for local capital.

To make the investment climate more attractive, a range of domestic policies can be implemented. In particular, the reform of the judiciary and the establishment of a predictable and transparent regulatory framework. It is therefore interesting to study, through future research, the determinants of FDI in Morocco taking into account other factors of attractiveness (including business climate, human capital, TCRI, etc.).

ACKNOWLEDGMENT

I would like to thank the organizers and the scientific committee of the international conference on management and international trade.

REFERENCES

- [1] Ait Bari, A. (2015). " Multinationalisation et attractivité: le tourbillon de la mondialisation". Ed. Souss-Impression, Agadir.
- [2] Beaud, M. (1989). "L'économie mondiale dans les années quatre-vingt". Édition La Découverte, Première et Deuxième partie, Paris.
- [3] Bourbonnais, R. (2000). "Econométrie" (éd. 7ème). Dunod, 2009.Paris.
- [4] Aho, E. (2013). " Les déterminants des investissements directs étrangers dans la communauté des Etats de l'Afrique de l'ouest (CEDEAO) ". Revue d'Economie Théorique et Appliquée, Volume 3, n°2, pp 159-178.
- [5] Akinkugbe, O. (2003). " Flow of Foreign Direct Investment to Hitherto Neglected Developing Countries ". UNU/WIDER. Discussion Paper N° 2003/02.
- [6] CNUCED. (2015). World Investment Report " réformer la gouvernance de l'investissement international". Nations Unies, New York et Genève.
- [7] CNUCED. (2015). World Investment Report " réformer la gouvernance de l'investissement international". Nations Unies, New York et Genève.
- [8] Coase, R. (1937). " The Nature of the Firm ". *Economica*, Vol 4, N°.16. pp.386-405.
- [9] Conseil économique, social et environnemental. (2012). "Le système fiscal marocain, développement économique et cohésion sociale ". Rabat: CESE.
- [10]Dje, P. (2008). " Les déterminants des investissements directs étrangers dans les pays en développement : enseignements pour les pays de l'UMOA ". (BCEAO). Revue économique et monétaire, n° 3. Pp53-86, DAKAR.
- [11]Dunning, J. H. (1973). "The Determinants of International Production". Oxford Economic paper, VOL.25, pp:289-336.
- [12]El Issaoui, K. (2008). " Une analyse empirique de l'attractivité du Maroc pour le capital étranger ". Colloque International Ouverture et émergence en Méditerranée, Rabat.
- [13]Frikha, M. (2005). "L'attractivité des investissements directs étrangers dans l'espace méditerranéen". Documents de travail n° 91, Université du Littoral Côte d'Opale, laboratoire redéploiement industriel et innovation (Lab.RII).
- [14]Lipsey, R. (2000). "Interpreting Developed Countries' Foreign Direct Investment". NBER Working paper n°7810.
- [15]Loves, J., & Lage-Hidalgo, F. (2000). "Analysing the determinants of US direct investment in Mexico". *Applied Economics*, Vol 32, issue 10, pp:1259-1267.
- [16]Melitz, M. J. (2003). " The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity". *Econometrica* Vol. 71, pp. 1695-1725.
- [17]Nguyen, H.-T.-T., & Minda, A. (2012). " Les déterminants de l'investissement direct étranger d'exportation-plateforme : L'exemple du Vietnam ". *Revue économique* 2012/1.
- [18]Nkouka, S. (2010). "Analyse des déterminants des investissements directs étrangers au Congo". *Revue CEDRES-ETUDES*, N°51, pp:1-21.
- [19]Singh, H., & Jun, K. (1995). " Some New Evidence on Determinants of Foreign Direct Investment in Developing Countries". Policy Research Working Paper Series, World Bank, N° 1531.