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Association of Maghreb countries with the European Union and entry of FDI

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Abstract

The objective of this paper is to analyze the effect of the Free Trade Agreement (FTA) on the attractiveness of FDI in three countries of the Arab Maghreb Union (Algeria, Morocco and Tunisia) for the period 1987-2022. We used a Tobit model to distinguish the FDI created by this agreement from those that created by other factors.

Keywords: *FDI, Arab Maghreb Union, Free Trade Agreement, Tobit model.*

Introduction

The impact of regional integration (RI) on the attractiveness of FDI depends according Castilho. M and Zignago. M (2015) of three factors. The first and most important is the extent of the RI contemplated by this agreement. The second is related to the credibility of the agreement. The third factor is, however linked to the interdependence between the signature of the agreement and the links between them before the signing of this agreement (measured in particular by the level of barriers to trade and FDI). Norman and Motta (1993) in their model analyzing the case of an eventual economic integration in Eastern Europe have shown that some FDI will be driven by the reduction of trade barriers between member countries. At this level, a better integration between the countries of the region will lead to an improvement of intra – regional exports and subsequently decreasing the profitability of exports to third countries. In this context, Chudnovsky and Porta (1997) showed that the investigations conducted upwind of multinationals, particularly in areas such as NAFTA and ASEAN, have all conclude that the size, dynamics and growth potential of the domestic market are the essential factor attracting FDI. Recent explanations of the issue of regional integration and its implications for business and FDI are increasingly geared towards geographic theory. Krugman (1991) is considered the first to fill the theoretical vacuum concerning the consideration of the spatial dimension in the location of multinational enterprises. Thus, Krugman's basic idea was to focus on the spatial organization of industrial activities as well as the different forces that act on localization equilibria. These equilibria are, according to Krugman, the result of the confrontation in time but also in the space of two types of forces. On the one hand, they are centripetal forces that push the polarization of production activities. On the other hand, there are centrifugal forces, which lead to a dispersion of industries. Puga and Venable (1996) of their shares presented a model of three countries comprising a rich country and two developing countries. They have shown that through the regular decline of customs barriers, the multinationals relating to the Northern countries relocate their industries to the countries of the South because these firms benefit mainly from a better access to the market of the north and importing inputs at low prices. Markusen (2003) by studying the strategies of multinationals showed that the choice of the multinational depends on the type of regional integration: South-South (horizontal integration) or North-South (vertical integration). Thus, when developing countries form a region, the increasing of the size of the market presents real investment opportunities for foreign multinationals, including a horizontal strategy. However, when different countries signed in the context of North-South integration, an integration agreement, multinational companies go where production costs are low and serve the country for re-export. Blomstrom and Kokko proposed in 1997 a matrix that showed some recapitulation of the impact of regional integration on FDI. This impact depends on the one hand of environmental changes reflecting the degree of liberalization of trade and investment. It depends on the other hand of the location

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advantages reflecting the costs of factors of production and availability as well as the overall economic environment.

Matrix effects of regional integration on FDI attractiveness

		Advantages of localization	
		Positive	Negative
Environmental changes	Strong	**1**	**2**
	Weak	**3**	**4**

Source: Blomstrom andKokko (1997)

Viewpoint empirical modeling, Athiam and Biwole (2023) use an econometric analysis of attractiveness policies using the fixed effect model from 2009 to 2019 for UEMO member states. The results indicate that political stability, government effectiveness, rule of law, freedom of expression, and trade openness have a positive and significant effect on FDI while, the quality of institutions and fight against corruption have an insignificant effect.

In an analysis concerning Morocco, Belhaj (2019), concluded that it is the policies adopted by the Moroccan government which have overall positive effects on the attractiveness of this country for FDI. Makossa and Akiana (2023), for their part, show that risk and political instability remain the primary determinants of low FDI in the MENA region. In a study on the role of governance indicators as a determinant of FDI in African countries, between 1985 and 2015, on a sample of 44 African countries, Ed-dib and Aichi (2021) show that the size of the market, the fight against corruption, the execution of regulations, political stability, infrastructure act negatively on FDI flows to African countries.

Cédric (2019) uses a panel data model on the determinants of the attractiveness of Foreign Direct Investment (FDI) in CEMAC over the period from 1987 to 2017. It shows that inward FDI in CEMAC is an increasing function financial development index, urbanization rate, natural resources, public debt rate, population growth rate, economic growth rate, public investment rate and degree of commercial openness.

In a study relating to the Democratic Republic of Congo, Dunia used the ordinary least squares method over the period 1990-2020. He considered variables of economic performance such as GDP, variables of macroeconomic instability such as inflation and unemployment, as well as variables of the quality of institutions such as: the corruption perception index and the index of political dependence. It showed that GDP, inflation and unemployment have no impact on the attractiveness of FDI. Only variables linked to the quality of institutions have a significant and positive effect.

In a relative production costs approach, Buch and Lipponer (2018), Sekkat and Vegansones-Varoudakis (2015) as well as Lafay (2014) showed that the level of exchange rate from the point of view of its effect on relative costs of production factors has a negative effect on the attractiveness of a country to FDI.

Considering the empirical review of the literature, we note that most of the works agree on the fact that the determinants of FDI depend on the host country or economic zone. These studies also show that certain factors are very often significant (market size, institutions, natural resources, etc.), while others are less significant (distance, monetary variables, etc.).

Empirical investigation

Specifying of a Tobit model

In our case, the objective is to see if the signing of the free trade agreement with the EU, in the context of the Barcelona Process in 1995, has actually helped AMU countries to increase their cash received from

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FDI. This flow will be designated by *FDI*. We want so to see if one FDI would be observed after the signing of the free trade agreement. In our case, before and after the free trade agreement, FDI is always observed and we cannot really distinguish FDI that is generated by this free trade agreement of the one is not and created by other factors of attractiveness. In order for the association to join the European Union attracts FDI, the FTA variable represented by an indicator variable must empirically verify the following relation:

FDIflowst□□□□□□*FTA*□□□*t* (1)

With:

FTA: An indicator variable denoting the free trade agreement. It takes the value 0 before the signature of the agreement and 1 after.

εt : An error term.

We assume in this case that the free trade agreement cannot generate FDI unless *FDI* ⟩0. That is to say, if the FDI post liberalization is higher than before ($FDI_t \rangle FDI_{t-T}$, where T is the period before the signature of the Free Trade Agreement). For models based on a dichotomous approach, it is shown that the use of ordinary least squares leads to biased estimates. For a tobit model, it is shown that the preferred estimation method is the maximum likelihood method (Dostie (2004)). We prefer this last one for tests relating to the linear relation 1. Indeed, the relation 1 can be represented otherwise taking into account the loglikelihood associated with the simple Tobit model. Since we cannot distinguish between FDI created by the free trade agreement and those that can be created by other factors to national specificities, we assume in this case that *FDI* is the FDI actually generated by the free trade agreement. Thus, for each country i, it is necessary to write:

$$FDIflows_i = \begin{cases} \overline{FDI}_i \rangle 0 \quad if \;\; FDI_{i,t} \rangle FDI_{i,t-T} \Rightarrow \overline{FDI}_i = \alpha + \beta FTA + \varepsilon_i \\ \overline{FDI}_i = 0 \; if \;\; FDI_{i,t} \leq FDI_{i,t-T} \quad (2) \end{cases}$$

Where, *FDI* denotes the latent variable linearly dependent of FTA variable. It represents the FDI generated by the free trade agreement. It is in this case a censored Tobit model because the variable *FDI* is observed that through *FDI* ⟩0. However, when *FDI*□□ 0, it is not observed: we know that *FDI*□□ 0 but we suppose that *FDI*□□ 0. As the policy of opening up to the European Union began already in the late of 1970s, the period of analysis runs from 1980 to 2015. Data are taken from the United Nations Conference on Trade and Development and are expressed in logarithm. So that the number of observations does not decrease, when the logarithm is indeterminate, we suppose that it is zero. The results of the study are presented in the following table.

Results and Interpretations

TOBIT model results of the effect of the FTA on FDI

Countrys	Variables	Tobit	Z-stat	
Algeria	FTA Constant	2,0007** 3,122	1,9601 2,04	R^2 0,1633 Log likelihood -79,8342 Number of observations 36
Morocco	FTA Constant	0,8909 3,5334	1,062 5,6615	R^2 0,067 Log likelihood

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				-81,1552 Number of observations 36
Tunisia	FTA Constant	0,6143 4,3351	0,8311 4,5001	R^2 -0,0014 Log likelihood -81,33 Number of observations 36

Source: made by the author based on the estimation of a Tobit model by Eviews5.0

We note that Algeria has shown a positive and significant result at the 5% between FTA and FDI attractiveness. This result, which seems a little surprising to some, we were not surprised for a country that has a policy of attractiveness in real progress since the 2000s. This policy has increasingly strengthened with the signing of an association with the EU in 2002, which reflects the image of an economy becoming liberalized. Indeed, the state only actor in the economy has stopped investing and started a real process of disinvestment in many businesses closing and opening the door to private investors. In 2008, there were privatized over 100 public enterprises. Thus, since the beginning of the 21st century, Algeria attracts a considerable number of FDI, whether from developed or developing countries (Mokthar. K (2017). According to the UNCTAD World Investment Report 2016, the stock of FDI in Algeria increased to $ 26.2 billion by the end of 2015, compared with 19.5 at the end of 2010. The organization explained this important progress by changing the direction of investment policies based on a gradual opening of the economy and a reconfiguration of the capital of state enterprises. The country has several energy and mineral resources, also has a relatively large market with 33 million peoples. This can encourage multinationals, even those adopting an horizontal strategy seeking to bring competition to the local market of the host country to be located in Algeria.

The results for Morocco and Tunisia are marked by a clear non-significance of the signing of the free trade agreement on the attractiveness of FDI in both countries with high probabilities. This may call into question the policies of association and co-operation, which continued in the 1970s with the Old Continent. The result is even more surprising if one knows that the two countries were the first to open negotiations with the EU to join forces. They joined forces in 1995 for Tunisia and 1996 for Morocco. Both countries have, alo, shown a strong desire to succeed in their free trade agreement. One of the objectives was to increase the attractiveness of countries for FDI. But the issue of FDI attractiveness can be explaned, especially, by the total dismantling of the international quota system in textiles and clothing, which ended in 2005. Indeed, it is the sector most exporters in both countries which is almost dominated by foreign investments. We noticed also a slow movement of reallocation of resources following the dismantling and subsequently, increased competition from Asian countries. The non-significance of the FTA on the attractiveness of FDI is increasingly expected to Tunisia when we know that the country has a dense network of very small service or building that will not be affected by this free trade agreement. Similarly, the fear of competition from Asian countries in addition to the countries of central and Eastern Europe was mentioned in the "alarmist" FEMISE report since 2003. According this report, the competitiveness of vital sector of the economy of both maghrebin countries would be threatened by rising labor costs. However, the increase in labor costs would not be offset by increasing labor productivity. It is, moreover, in this context that the World Bank has recommended, in 2004, to try to carry out, in addition, trade openness, other accompanying policies more attractive. Indeed, although the open trade policies may have contributed to the growth and return solvency of these countries, they are insufficient by themselves to constitute legitimate grounds for multinationals. The non-significance of the free trade agreement can be found, too, in the famous response matrix of Blomstrom and Kokko (1997). Specifically Zone 3, where countries that are already open before the agreement, would affect relatively low on FDI attractiveness. The problem of weak regional integration on both sides of the Mediterranean and even between countries of the South (the cost of non-Maghreb) is also a major handicap (Bekouche .P (2006)). Indeed, although the subsets of the European region (Turkey,

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North Africa, Eastern Europe and the rest of Western Europe) have a high level of integration intra - trade area (between 3 / 4 and 9/10 exchanges are made in the region), the region lacks a regional production system like what is happening between the East and West of Europe. One of the main reasons is, in addition to their relative weakness, European FDI to AMU countries are limited to traditional sectors, oil, real estate and tourism or privatizations and public service concessions. However, these FDI cannot touch the industrial sector and therefore cannot participate in its modernization or its internationalization.

Conclusion

This work had the merit to be able to identify through a TOBIT model, with great precision, the effect of the signing of the FTA on FDI received by the three Maghreb countries. At this level, the results are marked by a significant effect for Algeria, which has seen a significant and remarkable improvement due to this association to the EU reflecting real credibilisation of its opening policy. Morocco and Tunisia, which are marked by an opening already dating from the 1970s with, as well, the most open countries, surprised us with a non-significant result. The result is explained by, among other things, a real policy of openness already existing, to which the FTA can not add great things (Blomstrom and Kokko [1997]), in particular those related to promoting the attractiveness of FDI. Overall, we can say that the maintenance of the Maghreb countries at the stage of savings derived, in particular, from the low cost of the workforce cannot, on its own, make it possible to attract investment. Today in this era of huge competition sites for FDI attractiveness, the Maghreb countries must cease to play a role of suppliers of labor non-qualified and must develop a knowledge able to make available a skilled workforce in a productive and efficient environment work. The development of a knowledge may also facilitate the reallocation of factors of production following the issue of FDI attractiveness occurred in the textile industry with low added value and unskilled labor.

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