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Regional location determinants of Foreign Direct Investments in Morocco

Youssef Ettoumi[1]PhD, Amal Maâninou[1], Benaissa Chidmi[2]
1 (Department of economics, Mohammed V university, faculty of souissi, Morocco)
[2] (Department of agricultural and applied economics, Texas Tech university, USA)

Abstract: *Foreign direct investments play an important role in the economic development of host countries however these investments can also contribute to the widening of regional inequalities. Indeed Multinational firms have a tendency to concentrate in few developed regions within the recipient countries.*
This paper explores the location choice determinants of foreign companies located in 7 Moroccan regions between 1992 and 2011. We analyze the role of 4 economic variables: The agglomeration economies, the market size, the infrastructure, and the human capital. We built a linear model and conducted a separate regression analysis for each region. Results show that the 7 Moroccan regions of our sample rely on different factors in draining FDI inflows: while the market size and the availability of the human capital have a positive impact on attracting FDI for all regions (except for the northern region of Tanger-Tetouan), the variables agglomeration economies and infrastructure have controversial effects.
Keywords: *Foreign direct investment, Linear model, Location determinants, Morocco, Regional inequalities*

I. Introduction

Over the past three decades global foreign direct investment flows have been increasing dramatically passing from 13 346 million in 1984 to 1 350 926 US $ in 2014. This rise is mainly due to the significance of this type of investment for MNF as well as for home and host countries. Indeed, FDI can benefit to host countries in many ways: help decrease the unemployment rate by creating new jobs, allow technology and knowledge transfer, improve human capital development. For these reasons developing countries have been competing to attract the largest shares possible of FDI.

Morocco as a developing country has also focused on FDI as a way to enhance its macroeconomic fundamentals. In fact Morocco has attracted a large amount of FDI in comparison to other developing countries.

Although FDI have contributed to boost the Moroccan economy, these investments are still concentrated in few developed regions. Indeed 4 regions out of 16 concentrate over 80% of FDI. These regions are the Grand Casablanca, Tanger-Tetoaun, Rabat Salé ZZ, And Marrakech Tansif al Haouz and these are the same regions that contribute to more than 60 % of the country's GDP. This geographical concentration of FDI can lead to the widening of regional inequalities. Given these facts one important question arises: What are the determining factors that influence foreign firms' location choices to the Moroccan regions?

In this article we try to give an answer to this question by analyzing the location choice of foreign industrial firms[1] in 7 regions through the period 1992-2011. We investigate the role of 4 economic determinants: Agglomeration economies, Market size, Human capital and Infrastructure. This article is empirical in nature and is divided into 4 sections: the first one is dedicated to a brief review of the eclectic theory which is the most comprehensive theory of FDI determinants, in the second section we review some empirical studies, the third section is for the model, and finally the fourth section is for discussing results.

II. Brief Review of the Theoretical Literature: The Eclectic Theory of Dunning.

The lacks of a specific theory on the regional determinants of FDI lead us to focus on the theories of FDI determinant in general. These are generally classified into two categories: Macroeconomic theories and Microeconomic theories. The first ones are based on the hypothesis of perfect competition; these theories analyze the determinants from the host country perspective. The second ones are based on the hypothesis of imperfect competition and analyze the determinants of FDI from the firm perspective.

In this section we briefly review the eclectic theory of Dunning, which stands at the intersection of the macroeconomic and microeconomic theory. It's also inspired from the theory of location, and the theory of industrial organization.

The eclectic theory distinguished between three factors or motivations that can push a firm to go multinational. These are the following: Monopolistic advantage, Internalization, and Location specific

[1] In 2013 the share of FDI in the industrial sector is 38, 6%.

advantages. Monopolistic advantage: When the multinational firm possesses some kind of managerial advantages[2] that foreign firms in the host country lack. These advantages are mobile and transferable. In fact in order for the firm to invest abroad, its monopolistic advantage should allow to offset the additional costs related to difficulties to operate abroad. Indeed the economic, political, and social environment of the host country can be very challenging for the MNF. Internalization: It allows Multinational Firms to run and coordinate their assets in the host country at a minimum transaction costs. In fact the eclectic theory argues that it is beneficial to the MNF to choose a direct plant rather than a partnership arrangement (exporting or licensing). The point here is that internalization can allow the MNF to protect its monopolistic advantage.

In fact the possession of a monopolistic advantage as well as the ability to internalize it are important factors in the location choice of the firm, however these two elements are not sufficient. Indeed the existence of location specific advantages in the host country is necessary.

Location specific advantages or (country specific): These are factor endowments (Natural and human Resources of better quality and cost, and other specific advantages that the host country possesses. This can be a better legal and institutional environment (policies and legislation), the cultural environment. These advantages are immobile and non transferable.

Table 1: OLI Model: Country and firm specific considerations

	(Home-Host country)	Firm
Ownership	Factor endowments (e.g. resources and skilled labor) and market size and character; government policy towards innovation, protection of proprietary rights, competition and industrial structure, government controls on inward direct investment.	Size, extent of production, process or market diversification; extent to which enterprise is innovative, or marketing-oriented, or values security and/ or stability, e.g. in sources of Inputs, markets, etc.; extent to which there are economies of joint production
Localization	Physical and psychic distance between countries; government intervention(tariffs, quotas, taxes, assistance to foreign investors or to own MNEs, e.g. Japanese government's financial aid to Japanese firms investing in South East Asian labor-intensive industries).	Management strategy towards foreign involvement: age and experience of foreign involvement (position of enterprise in product cycle etc.); psychic distance variables(culture, language, legal and commercial framework); attitudes towards centralization of certain functions, e.g. R&D, regional office and market allocation etc.; geographical structure of asset portfolio and attitude to risk diversification.
Internalization	Government intervention and extent to which policies encourage MNEs to internalize, e.g. transfer pricing; government policy toward mergers; differences in market structures between countries, e.g. with respect to transaction costs, enforcement of contracts, buyer uncertainty, etc.	Organizational and control procedures of enterprise; attitudes to growth and diversification(e.g. the boundaries of a firm's activities); attitudes toward subcontracting ventures, e.g. assistance agreements etc.; extent to which control procedures can be built into contractual agreements

Adapted from Dunning (1988), P. 31

Overall, the eclectic theory tries to explain FDI location decision by focusing on the role of two types of determinants: the microeconomic and the macroeconomic ones, in our empirical review we focus on these latter and particularly on the location aspect from the host country perspective.

III. Empirical Review

Until the late 1980s the empirical literature on the regional determinants of FDI was still focused on the case of developed countries. This is due to two main reasons: first, Developed countries were the most important destination of FDI inflows. Second, these countries were the first to experience the issue of the uneven distribution of FDI and regional inequalities that result. In the early 1990s, the attention of scholars started to shift from the analysis of developed countries to the analysis of emerging and developing countries. Indeed countries such as China, Brazil, India, Turkey, and others started to attract huge amount of FDI flows, and therefore experienced the same issue of regional concentration and increasing inequalities.

In this section we review some empirical studies on the case of developed as well as developing countries[3] we focus on some of the most commonly used explanatory variables. These are the following: Agglomeration economies, the Market size, the Human capital, and the Infrastructure.

3.1 Agglomeration economies

The geographical concentration of firms is a determining factor in firms' location decision. Indeed firms seek to benefit from the advantages that the spatial concentration can offer. These advantages are:

- Access to a large demand(Backward linkages)
- Proximity to a large number of suppliers (Forward linkages)
- Access to a specialized labor market (labor pool)

[2] Managerial advantages such as sophisticated production techniques and processes, trademarks and patents, entrepreneurial skills, marketing expertise.

[3] Our empirical review is focused on the following countries: China, Brazil, Turkey, Morocco, Romania, Greece, Poland, and Spain.

- Pure externalities: technological spillovers and information exchange.

These advantages are called the centripetal forces (concentration forces) that push firms to cluster. These forces play an important role in shaping the geographical distribution of economic activities but these are not the only ones. In fact there exists another type of forces called the centrifugal forces (dispersion forces). These are immobile factors such as: Natural resources, and land, these elements in Krugman's words "*militate against the concentration of economic activities*". (Krugman, 1998)

It's true that the concentration of firms can be beneficial to new firms; however it can also generate some negative externalities[4] which can lead firms to leave the central place. In fact the location choice results from a confrontation between the centripetal forces and the centrifugal forces.[5] The following table illustrates this idea.

Table 2: Forces affecting geographical concentration

Centripetal forces	Centrifugal forces
Market-size effect (linkages) Thick labor markets Pure external economies	Immobile factors Land rents Pure external diseconomies

Krugman (1998), Oxford review of economic policy, p. 8. Vol. 14, NO.2;

- Some empirical evidence with regard to the Agglomeration economies

Popescu (2013) on the case of 8 Romanian regions found that the spatial concentration of foreign firms measured by the invested stock of foreign capital has a positive impact on FDI inflows. Kwan and Chen (2000) found similar results on the case of Chinese regions. (Self reinforcing effect of FDI). Deichmann, Karidis and Sayek (2003) analyzed the case of Turkish regions and found that agglomeration economies have a positive influence on FDI inflows. Chidlow and Young (2008) on the case of Mazowieckie region in Poland concluded that agglomeration economies are the major pull factor of FDI. Similar results were found by Wei, Parker and Vaidya (1999) on the case of Chinese regions and Petrakou (2013) on the case of Greek regions.

Other evidence in favor of the positive role of agglomeration economies were found on the case of Sao Paolo: Korez-Vide1, Voller and Bobek (2014) found that firms that chose to locate in this region are motivated by the Investor-nation specific agglomeration as well as the industrial specialization and backward linkages (The geographical proximity to customers).

3.2 Market size

The importance of a large market for FDI can be justified by the fact that a large market allows firms to benefit from economies of scales as well as a rational use of resources. For these reasons this variable is used in almost all empirical studies dealing with the determinants of FDI.

Indeed, Artige and Nicolini (2005) claim that market size measured by the GDP is the most important FDI determinant in econometric studies. The GDP per capita and the GDP growth rate are also very often used.

- Some empirical evidence with regard to the market size variable

Cheng and Kwan (2000) on the case of 29 regions in China from 1985 to 1995 found that the regional market has a positive impact on the attractiveness of FDI. In the same line of thoughts Wei, Parker as well as Vaidya (1999), Lighfoot and Na (2006) found similar results on the case of Chinese regions and provinces.

Other evidence in favor of the positive role of the market size is provided by the work of Chidlow and Young (2008) who studied the case of the Mazowieckie region of Poland (warsaw included), the authors found that the market size is the main determining factor in the attractiveness of FDI. Ferreiro, Rodriguez and Serrano (1996) reached the same conclusion on the case of the Basque region of Spain. Petrakou (2013) on the case of Greek regions also concluded on the importance of the regional market.

Even though most empirical studies found that the regional market size has a positive impact on FDI inflows, some studies found contradictory results. Popescu (2013) for example on the case of Romanian regions found that this variable isn't important for FDI inflows.

3.3 Human capital

[4] It's very important to note that with the passage of time the concentration of firms can generate some external diseconomies that can push some firms to leave this location in search for others that are more suitable: indeed the spatial concentration of firms means a tough competition on immobile factors (land and rent) which make prices go up.

[5]Transport costs play a critical role in the location decision of firms; in fact there is tradeoff between from one hand, gains to win by being located in the center (economies of scale and agglomeration economies) and from the other hand the possibility to serve other peripheral markets that have also an important demand.

Most of the literature agrees on the importance of the level of education of the workforce in attracting FDI flows. The availability of a qualified labor force is a key factor in the location choice of firms. (UNCTAD 1998)

- Some empirical evidence with regard to the human capital

Most empirical studies that dealt with the role of the Human capital in the attraction of FDI in the case of Chinese regions and provinces reached the same conclusion: Human capital is an important factor in attracting FDI flows. (Kang, Helldin, 2007 ; Lighfoot, Na, 2006 ; Cheng, Kwan, 2000 ; Wei, Parker et Vaidya, 1999).

Other evidence in favor of the positive role of the human capital is provided by the study of Korez-Videl, Voller and Bobek (2014) who analysed the location decision of German and Austrian firms in the region of Sao Paolo, the authors found that a high level of education as well as qualified labor are essential factors in the location choice of these firms. Finally Petrakou (2013) on the case of Greek regions found similar results.

Even if most empirical studies agree on the positive role of the human capital some studies found contradictory results. Popescu (2013) found that the number of workers in R&D is seen by firms as a negative aspect of regions.

In fact the quality of the human capital is an important aspect in the location decision of MNF, but it's not the only one.when it comes to the human capital, the cost is an essential aspect that should be taken into account. Popescu (2013) found that the cost of the labor force is an encouraging factor in the attraction of FDI. Kang and Helldin (2007) found similar results on the case of eastern regions in China. As for any variable there exist some contradictory results: Wei, Parker and Vaidya (1999) found that the effective rate of wages is not a significant factor in draining FDI flows.

3.4 Infrastructure

A good quality of infrastructure is a very important factor for attracting FDI: foreign investments need roads, ports, railways, airports and telecommunication in order to operate efficiently. Indeed, good quality of infrastructure increases the returns potential of investments in a country and therefore encourages FDI inflows.

Popescu (2013) measured the role of infrastructure by road density and found that this variable has a positive impact on FDI inflows. (Cheng and Kwan 2000; Kang and Helldin 2007) found similar results. Deichmann, Karidis and Sayek (2003) measured the role of infrastructure by the proxy public investment and found that it has a positive impact on FDI inflows. Le Le (2007) found that infrastructure is an important drive but only for small FDI.

3.5 Empirical evidence on the case of Moroccan regions

For the case of Morocco studies that dealt with the regional determinants of FDI are very rare. We can cite the study of the Ministry of urban planning and habitat entitled: FDI and comparative advantages of regions. This study aimed at identifying the determining factors of FDI location choice at the regional level.

The study distinguished between 3 types of factors:

- Factors that are considered to be of high importance, these are the availability and the cost of land.
- Factors that are important, these are the market size, the labor cost, and the proximity to raw material.
- Factors that are of less importance, these are the proximity to telecommunication infrastructure, local taxation, and the quality of labor.

Overall, empirical studies on the regional determinants of FDI tend to suggest that variables such as: the market size, agglomeration economies, infrastructure, and human capital play an important role in the attractiveness of FDI; however the importance of these variables varies greatly from one region to another. This can be explained by 4 main reasons:

First, foreign firms have different motivations depending on their activities (In fact depending on the sector, foreign firms can be attracted by different factors (e.g.) firms operating in low technology industry will not rely on a high quality of the human capital, firms seeking to locate in order to export (vertical FDI) will not be attracted by the size of the local market. A good quality of infrastructure will not be a motivation for firms seeking to invest in infrastructure.

Second, Regions have different geographic positions (The size of the market isn't important for coastal regions located nearby harbors; these regions will mostly attract vertical FDI (which is interested in exporting). In this case low trade barriers for example will be an important determinant).

Third, there are regional differences in terms of economic structures: Depending on their economic structure regions may rely on different factors to drain FDI inflows. For example regions that are abundant in natural resources such as oil generally don't need a large local market in order to drain FDI flows.

Finally, empirical studies use different proxies, econometric models, samples, and time periods.

In the following section we shall present the model as well as a definition of the variables

IV. Data Sources, Definition of the Variables And the Model

4.1 Data sources

We use a panel data from the annual survey realized by the ministry of industry, commerce, and new technologies of Morocco. The survey targets the industrial firms (6500 firms). It's the only available data source on manufacturing industries. The data covers 5 sectors: Agro industry, Textiles and leather, chemical and parachemicals, mechanical and metallurgical, electrical and electronic.
We describe in the following the variables used in our model.

4.2 Variables

4.2.1 Independent variables

- The regional value added (VA): Most empirical studies use the population, the GDP or the GDP growth rate to measure the role of the market size in draining FDI flows.
  We use the regional value added as a proxy for the GDP given the fact that data on the regional GDP are only available for two years 2004 and 2007.
  The regional value added is the difference between the total revenues of the factors of production located in a specific region and their total purchases.
- Regional public investment (RPI): While some studies use the road density as a proxy for the variable infrastructure, some use public investment as a proxy. We use the regional public investment, which includes the public expenses (non-market production), road network, public lighting, justice, police, national defense, public schooling and research. Plus a part of the accumulation of technical capital of public and private companies.
- Human capital (HC): Many variables have been used to measure the role of the human capital: the levels of education, research and development (R&D) expenditures, the rate of illiteracy, and the productivity of labor have been widely used. In this analysis, we use the number of workers per region in the industrial sectors as a proxy to measure the availability of the human capital.
- Number of firms by region (NF): There are many variables that have been used to measure the role of agglomeration economies: The stock of invested foreign capital (the Self-reinforcing effect of FDI), investor-nation specific agglomeration, industrial specialization, and localization economies. We use the number of national and foreign industrial firms in each region to measure the agglomeration economies.

4.2.2 Dependent variable

- Regional Foreign direct investments: these are the net inflows of investments to acquire a lasting management interest (10 % or more of voting stock) in an enterprise operating in an economy other than that of the investor.

4.3 Description of the Model

In each region, the empirical model links the regional foreign direct investment (RFDI) to value added (VA), regional public investment (RPI), human capital (HC), and number of firms through a linear model given by the following expression

$$RFDI_t = \beta_1 + \beta_2 VA_t + \beta_3 RPI_t + \beta_4 HC_t + \beta_5 NF_t + u_t, \quad (1)$$

Where the β's are the unknown parameters to be estimated for each region, and u_t is the error term assumed to be normally distributed with mean zero and variance σ^2. We assume a well-behaved model, where there are no issues of endogeneity, autocorrelation, and heteroscedasticity.

We expect β_2, β_3, β_4, and β_5 to be positive and statistically significant.

V. Results And Discussion

Table 3: A summary of the regression results for all 7 regions[6]. **Significant at 1%. *Significant at 5%.
In the following we discuss the results with regard to each independent variable for the 7 regions analyzed. (We use the Moroccan dirham as a monetary measure) (The unit of measurement is one million dirham).

[6] Region 1: Chaoui Ouardigha, Region 2: Grand Casablanca, Region 3: Marrakech Tansift al Haouz , Region 4: Rabat Salé Zemmour Zairr, Region 5: Doukala Abda, Region 6: Souss Massa Daraa, Region 7: Tanger Tetoaun

Independent variables	Dependent variable: FDI						
	Region1	Region2	Region3	Region4	Region5	Region6	Region7
Agglomeration economies	0.15 (1651.83724)	-3.66 (267.20034)**	-3.48 (83.06645)**	-5.84 (368.67172)**	6.23 (394.46685)**	1.83 (84.63407)	-2.98 (309.3206)**
Value added	1.68 (0.20319)	7.66 (0.04415)**	0.34 (0.02668)	2.80 (0.0772)	-10.13 (0.01493)**	2.24 (0.02309)*	-0.34 (0.11401)
Human capital	0.30 (55.1795)	2.99 (6.36786)**	5.41 (1.57178)**	7.24 (11.23881)**	0.68 (3.87546)	0.90 (1.37044)	4.07 (6.27275)**
Infrastructure	-1.09 (0.32523)	2.05 (0.0629)*	-2.24 (0.02447)	4.26 (0.16594)**	-2.67 (0.03246)**	0.24 (0.02841)	-0.20 (0.08575)
R squared Adjusted R squared Number of observations	0.1473 0.1152 194	0.6927 0.6814 200	0.4777 0.4576 190	0.5116 0.4934 196	0.8718 0.8664 175	0.7657 0.7567 192	0.5682 0.5522 200

5.1The Regional Value added (Market size)

The results show that the variable Regional value added has a positive impact on the attractiveness of FDI to all regions except for the region of Tanger-Tetouan. The regional value added is therefore an important factor in draining FDI; however this importance varies from one region to another. Indeed for the region of the Grand Casablanca when the value added increases by one million, FDI increases by 335400 million dirham, this result is statistically significant. For Chaouia Ourdigha when the value added increases by one million the FDI augments by 340700 mdh. This result is not statistically significant.

For the regions of Rabat salé ZZ, Souss Massa daraa and Marrakech Tensift Al Haouz, the value added plays a less important role in attracting FDI than for the first two regions cited. In fact when this variable increases by one unit, FDI increases by 51800, 9000 and 9000 mdh respectively. The results for the regions of Rabat sale ZZ and SouSS Massa are statistically significant but not significant for Marrakech Tensift Al Haouz.

The only region for which the value added has a negative impact on the attraction of FDI is the northern region of Tanger-Tétouan, for this region a one unit increase in the value added is associated with a decrease of 388400 mdh in FDI. This can be explained by the fact that most FDI located in this region are export seeking (Vertical FDI) and not market seeking (Horizontal).

5.2 The Number of firms by region (Agglomeration economies)

The impact of the variable number of firms on the attraction of FDI is controversial. In fact we can distinguish between two groups of regions:

The first one composed of Doukala Abda, Chaouia Ourdigha, and Souss Massa daraa, for this one, the number of the existing firms has a positive impact on FDI. Indeed when the number of firms in each region increases by one, FDI increases by 250 026 940, 250 026 940, and 155 074 920 mdh respectively. For these regions, the number of existing firms is a motivating factor in the attraction of FDI. The results for the region of Doukala Abda are statistically significant. However for Chaouia Ourdigha as well as Souss Massa daraa, they are not significant. The second group of regions is formed of Rabat Salé ZZ, the Grand Casablanca, Tanger Tétoaun, and Marrakech Tensift al Haouz, for this group, the number of existing firms is a discouraging factor for FDI inflows. In fact this variable has a negative impact on FDI location: when the number of existing firms in each region cited increases by one, FDI goes down by 977106710, 920281230, and 289100080 mdh respectively. Results for this group of regions are statistically significant. Overall, the results for these two groups of regions are very intuitive. Indeed the regions that are characterized by a high level of economic concentration are the ones which experienced a decrease in FDI.

This situation can be explained by the fact that with the passage of time, the geographical concentration of economic activities generates a high level of competition as well as an increase in the prices of land and wages. (Negative externalities). As expressed by Krugman *"Why is the financial services industry concentrated in London? Partly because the sheer size of London itself makes it an attractive place to do business, and the concentration of the financial industry itself means that many clients and many ancillary services are located there; but a thick market for special skills, such as securities lawyers, and the general importance of being in the midst of the buzz are also important. Why doesn't all financial business concentrate in London? Partly because many clients are not there, partly because renting office space in London is expensive, and partly because dealing with the city's traffic, crime, etc. is such a nuisance".*

5.3 The availability of human capital by region (Human capital)

This variable has a positive impact on all **7** regions with different significance. In fact we can distinguish between two groups of regions: A first one for which the availability of labor force is very important

in the attraction of FDI. This group is formed of Rabat salé zz, Tanger- Tetouan, Grand Casablanca, and Chaouia Ourdigha. For each of these regions, when the number of workers increases by one, FDI go up by 81351700, 25516570, 19038290, and 16362040 mdh respectively. For the three first regions results are statistically significant; however for Chaouia Ourdigha results are statistically not significant.

The second group is formed by 3 regions: Marrakech Tensift, Doukala Abda, Souss Massa Daraa. The availability of labor for this group of regions is also important but in a less degree than for the first group. Indeed, for every additional firm, FDI increases by 8497180, 2631790 and 1231050 respectively. Results are statistically significant for Marrakech and Doukala ABda, but not significant for Souss Massa Daraa.

This difference in term of the importance of labor availability with regard to the attractiveness of FDI can be explained by the fact that regions of the first group are specialized in industrial activity and most FDI that locate in these regions run labor intensive activities, therefore they are seeking a large amount of labor force.

In contrary the regions belonging to the second group are service oriented, and most FDI that choose to locate there are service FDI that don't require large amount of labor force.

5.4 Regional public investment (Infrastructure)

With regard to the regional public investment, this variable has different effects on the regions; in fact we can distinguish between two groups of regions. The first one is composed of Rabat Salé ZZ, Grand Casablanca, and Souss Massa Daraa. For these regions, the regional public investment has a positive impact: When Regional investment augments by one million, FDI go up by 706640, 128700, and 6760 mdh respectively. The second group is formed of Chaouia Ourdigha, Doukala Abda, Marrakech Tansift and Tanger Tétouan. For these regions when Regional public investment increases by one million, FDI go down by 354900, 86820, 54820 and 17270 mdh respectively.

The results are statistically significant for Rabat Salé ZZ, Grand Casablanca, Doukala Abda, and Marrakech Tansift while they are not significant for Souss Massa Daraa, Chaouia Ourdigha, and Tanger Tétouan.

VI. Conclusion

In this article we tried to measure the importance of 4 economic determinants in draining FDI inflows to 7 Moroccan regions. We chose the eclectic theory of Dunning that offers a holistic theoretical framework. The location aspect of this theory matched our analysis.

Our empirical analysis showed that the 7 Moroccan regions of our sample rely on different factors in draining FDI inflows, in fact the importance of the 4 variables that we analyzed varies from one region to another: While the market size and the availability of the human capital have a positive impact on draining FDI for all regions (except for Tanger-Tetouan), the variables agglomeration economies and infrastructure have controversial effects: With regard to Agglomeration economies

Concerning the agglomeration economies, two groups of regions with different results were identified: the first one is composed of Doukala Abda, Chaouia Ourdigha, and Souss Massa daraa, for this one, the number of the existing firms has a positive impact on attracting FDI. For the second group formed of Rabat Salé ZZ, the Grand Casablanca, Tanger Tétoaun, and Marrakech Tansift al Haouz, the number of existing firms by region is a discouraging factor for FDI inflows.

With regard the infrastructure, results allowed to distinguish between two groups of regions. The first one is composed of Rabat Salé ZZ, Grand Casablanca, and Souss Massa Daraa. For this group, the regional public investment has a positive impact. A second group of regions for which infrastructure has a negative impact on FDI inflows is composed of Chaouia Ourdigha, Doukala Abda, Marrakech Tansift and Tanger Tétouan.

The lack of consensus and a general pattern is mainly due to the existence of differences in terms of regional economic structures or specializations, FDI motivations, and the geographic positions of regions.

One limitation of this work is that we used some proxies such as the regional value added that are not commonly used in this field. We lacked data on the regional GDP which is the most widely used variable to measure the importance of the regional market size. Further research should focus on the analysis of FDI determinants at the regional level with sectoral considerations. The use of other explanatory variables such as the local taxation, the role of institutions, the level of urbanization and the level of the human capital qualification could be very interesting.

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