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A COMPARATIVE STUDY OF FDI ATTRACTIVENESS IN 3 ARAB SPRING COUNTRIES: TUNISIA, MOROCCO AND EGYPT

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ABSTRACT

There is a considerable body of literature that seeks to shed more light on the determinants of foreign direct investment (FDI), thus offering a wider suite of variables that determine FDI flows. In order to analyze the attractive factors of FDI, several empirical studies have been carried out using different econometric models. The present article is an attempt to identify the determinants of FDI in the form of a comparative study between Tunisia, Morocco and Egypt through a gravity model. The results of the econometric estimate point to the divergence of the main factors of attractiveness in these three countries between the period 1995 and 2010.

Contribution/ Originality: This study contributes to identify the determinants of FDI in Tunisia, Morocco and Egypt through a gravity model.

1. INTRODUCTION

Driven by long-standing aspiration for dignity and freedom as repeated demands for political, social and economic justice, hundreds of thousands of protesters took it in turns to voice their concerns. These protests broke out on January 14 then went viral in Cairo on January 25 and then reached Morocco on February 20. These countries have undergone numerous and profound changes that have had important political, security, economic and social consequences. Haddar (2013) concedes that "the process of transition is uncertain and non-linear and that the first decisions determine the nature of the trajectory that a country would take" (p.7). Following this line of reasoning, Nabli (2013) former governor of the central bank of Tunisia, believes that macroeconomic policy is complex and controversial during normal periods. It is even more so during periods of crisis, major shocks or profound and rapid changes "(p.59).

The demands of the demonstrators hinged around two main issues: the right to work and the need to establish a new model of economic and social development. According to Haddar (2011) these new requirements must be

based on constructed advantages where the technological component is important in creating higher growth. The author believes that the prosperity of countries in democratic transition depends largely on the doubling of business investment and a vibrant and innovative private sector capable of creating wealth and better job opportunities. In this context, the attractiveness of FDI is an inescapable ingredient for the development and stimulation of economic growth. Thus, in a democratic transition economy marked by the scarcity of new technologies and financial means, foreign direct investment (FDI) can play an important role in economic and social development. At this level, the Moroccan, Tunisian and Egyptian decision-makers, working to improve the business climate, have turned towards attracting and boosting international investment by seeking to implement a number of reforms aimed at encouraging these flows of FDI. The latter are seen as an essential vehicle for job creation, growth and the process of economic development insofar as they increase human capital formation, facilitate integration into international trade, and improve the social conditions of host countries. To ensure all of these beneficial effects of FDI, host governments have to maintain an 'enabling environment', conducive to the installation of these FDI, have the capacity to attract foreign investors, secure their plant locations and capture the benefits of FDI.

There is a vast body of literature on the determinants of FDI where several studies have highlighted the significance of these determinants in setting up foreign firms in the host countries. Hence, the interest of a reflection on the determinants of FDI in Tunisia, Morocco and Egypt especially in a context in full mutation. Accordingly, the problem is as follows: Are the economies of post-revolution Tunisia, Morocco and Egypt still attractive to FDI?

After January 14, 2011, evaluating FDI attractiveness in the Arab Spring-affected countries has garnered increasing interest. Thus, the present article is mainly intended to contribute to the literature on the determinants of FDI in the Tunisian, Moroccan and Egyptian context. A comparative study of the three countries in question has been conducted based on the gravity model.

2. ARAB SPRING: A COMPARATIVE STUDY OF POST-2011 TUNISIA, MOROCCO AND EGYPT

The unexpected collapse of Ben Ali's regime in Tunisia, followed by the ousting of Egypt's Hosni Mubarak after several weeks of protests brought to the fore the core issue of stability in North Africa.

Tunisia: an exemplary democratic transition in the region

The democratic transition in Tunisia was marked by short periods of political divergence and internal discord which in turn gave rise to political instability, punctuated by acts of violence and high social tensions. Admittedly, unlike the rest of other Arab spring countries, Tunisia stands alone in matters of conflict management since decision-makers in that small country have opted for seeking consensus, thus avoiding both the throes of chaos and civil war.

In the aftermath of Ben Ali's flight on January 14, 2011, the country entered a process of political and institutional reform, culminating in holding the first free and transparent elections in its history with the aim of forming the National Constituent Assembly. The overarching objective was the adoption of a new Constitution and laying the foundations for a new democratic regime. The results have placed the Islamist party Ennahdha, with its 89 seats out of 217, far ahead of the Congress for the Republic (CPR), 21seats for Ettakatol and 16 for the Progressive Democratic Party (PDP). Following the elections for the National Constituent Assembly in October 2011, Ennahda, CPR and Ettakatol then joined forces to form a coalition government known as "troika", with the provision of appointing Doctor and activist Moncef Marzouki as president of the Republic, Mustapha Ben Jaafar,President of the National Constituent Assembly and Hamadi Jebali Prime Minister.

Since 2012, Tunisia has experienced episodes of political violence and security concerns linked with the attack on the US embassy in September 2012, the two political assassinations of Ckokri Belaid (February 6, 2013) and Mohamed Brahmi (July 25, 2013) and the terrorist attacks of Chaambi mountain.

These events have caused the most serious political crisis since the fall of Ben Ali's regime and precipitated the country into a deep crisis regarding the legitimacy of these interim institutions. Social movements, political opponents and civil societies have persistently spoken out against the troika's hijacking of the political transition to their exclusive profits in order to perpetuate their powers in the run-up to the forthcoming elections. For the disenchanted demonstrators on the place of Bardo, the escalating political violence and the failure of the government to live up to its electoral promises served as grounds for proclaiming the illegitimacy of the institutions. In addition, the opposition's demands went further to ask for the dissolution of the NCA and the revocation of the government by calling "departure" of the Troika. On the other side, the troika activists have also mobilized themselves to defend the legitimacy of transitional institutions now threatened by "communist assassins ", "saboteurs" and " coup supporters". This crisis has escalated further with the NCA chairman's decision to suspend the work of the Constituent Assembly on August 06, 2013. As a result, Tunisia found itself faced with a severe political crisis on which the future of the country stood at a crossroads.

To overcome these problems, the UGTT, the employers' organization (UTICA), the Bar Association and the Tunisian League for Human Rights, known as the "mediation quartet", propose a " National Dialogue "to the different protagonists and a roadmap to adopt a new Constitution and to organize, according to precisely defined stages, the end of the transitional process until the next elections. Tunisia has adopted a new government of technocrats, headed by Medhi Jomaa, and on the 24th of January 2014, the Constituent Assembly voted on the long-awaited Constitution almost unanimously (200 votes out of 217) carried along by a wave of euphoria and concord never seen in the ANC. That constitution establishes a democratic and participative republican regime within the framework of a civil state and safeguards human rights in an unprecedented way in the region. The organizational success of the 2014 legislative and presidential elections which were free and transparent met the international standards (NDI, confirms the status of Tunisia in its original quality for the democratic transition in the region.
Owing to the capacity of the main political and social players to formulate a series of compromises and reconciliations, the country has skillfully managed to overcome the current stalemate, face the many challenges of the post-revolutionary period and complete a process of political transition. The Tunisian model sets the example of a successful democratic transition in the Arab world (Marzouki, 2016).

Morocco: a silent revolution

The downfall of Ben Ali's regime in Tunisia, coupled with the outbreak of the demonstrations against President Mubarak's regime in Egypt have taken their toll on the functioning of the only monarchy of North Africa: Morocco. A group of Moroccan activists and young Internet users without political or ideological affiliation believe that it could not stay away from the dynamics of change triggered in the region (Tourabi and Zaki, 2011). Against a backdrop of multiple mobilizations in Tunisia and Egypt in 2011 decrying the government's poor handling of the overall situation, there occurred numerous calls for mobilization that have been launched on the social networks, intended to demonstrate peacefully for a broad political reform in their country and a better distribution of the country's wealth (Desrues, 2012). On February 20, 2011, thousands of Moroccans demonstrated in more than 50 cities with strong demands: dignity, freedom, social justice, fight against corruption and despotism (Baylocq and Granci, 2012). Demonstrators of the movement demanded the establishment of a democratic regime from a constituent assembly, the application of the principles of good governance in public affairs, recognition of social pluralism and identity of Moroccan society, enlargement of the population's access to health, education and employment (Catusse, 2011).

Unlike its Arab neighbors where the main demand of the protesters was to overthrow the president and oust his regime, the departure of the king has by no means been demanded. In the Kingdom of Morocco, it is not the image of the king which is targeted by slogans. The protesters increasingly targeted circles close to the Palace and members of government or Parliament (Desrues, 2012).

The first reaction to the wave of public protests during the Arab Spring came from the King of Morocco who opted for more political openness and new structural reforms in a royal speech made on March 9, 2011. In this context, some authors such as Bennani-Chraïbi and Jeghllaly (2012) believe that the Moroccan monarchy has proven to be an "expert in survival", thus escaping the vicissitudes of regional uncertainty through taking the preemptive and, in hindsight, prudent step of adjusting to the transformations of its environment and drawing the lesson from the mistakes of its neighbors. The King promised to keep on with the regionalization process and political reforms: enhancing the status of Prime Minister, empowering the elected presidents of regional councils to the detriment of agents of royal authority, and appointing members to the consultative commission. Unlike the previous constitutional amendments that were elaborated by a group of French experts, this commission was mainly composed of academics (Azbeg, 2014). It is tasked with drafting a comprehensive constitutional reform which was submitted on 12 June 2011 to the King for consideration and then to a popular referendum in view of early parliamentary elections. On July 1, 2011, Moroccans voted by an overwhelming majority (98%) for the draft resolution in a nationwide referendum, thereby reaffirming their deep attachment to the monarchy and placing their trust in King Mohammed VI to put the country on the path of democracy and introduce democratic principles without cutting corners (Ferrié, 2012).

Following the approval of the reform, parliamentary elections were held on 25 November 2011. The Islamists of the Justice and Development Party (DPJ) largely won the elections (107 seats out of 395). Unlike Ennahda in Tunisia and the Muslim Brotherhood in Egypt, the PJD did not raise the issue of whether applying the sharia law or not (Ferrié and Dupret, 2012). For the DPJ, the Commandery of the believers is attributed to the king. In this way, the PJD leaders seek to reveal themselves as a civil party spearheading a dynamic political, economic and social reform agenda, while ensuring politics remains firmly in the hands of the monarchy (Azbeg, 2014). In accordance with the new constitution which stipulates that the prime minister shall belong to the winning party, Abdalilah Benkirane, secretary general of PDJ, took the helm of the Moroccan government. The new head of government invited three other parties (the Istiqlal, the People's Movement and the Party of Progress and Socialism) to join his team in a bid to ultimately secure a majority and form a coalition government.

The Moroccan regime has accordingly demonstrated remarkable flexibility to adjust to the political context in order to avert the risk of descent into political violence, major social movements and attacks. This major shift was the only viable option capable of ensuring the country's security, promoting national reconciliation and preventing a potential threat to the stability of that country. Consequently, Morocco has witnessed a sizeable wave of democratization initiated from the top down. King Mohamed VI proposed a constitutional reform which has revitalized political life (Tourabi and Zaki, 2011). Moreover, these measures prevented a major crisis in the regime and offered Morocco a quiet revolution (Sallon, 2013).

Egypt still unstable

Unlike the Moroccan and Tunisian cases, the political transition in Egypt is long and painful. After two years, the country experienced two protest movements, which led to the collapse of two political regimes and ended in an authoritarian regime marked by the omnipresence of the military apparatus (Messiha and Teulon, 2014).

Obviously, the downfall of Ben Ali has brought down the wall of fear in the neighboring countries (Pagès-El Karoui and Vignal, 2011). Using social networking sites, several activist bloggers launched a protest movement whose demands ranged from the toppling of the regime to the introduction of political reforms and eradication of poverty, torture, corruption, and unemployment. On 25 January, a wave of demonstrations, which was also dubbed Day of anger, took place in various cities of Egypt. After an eighteen-day sit-in at Tahrir Square in the heart of downtown Cairo, Hosni Mubarak was forced to step down as president after 30 years in power marred by political authoritarianism and handed over the rule of the country to the Supreme Council of the Armed Forces (SCAF) (Ben Néfissa, 2011).

Since the military coup in 1952 against the monarchy, the army's presence has been omnipresent in Egypt. It continues to be widely perceived by Egyptians as a powerful and autonomous institution that can intervene in many social and economic crises. It has been a key player in building today's Egypt. Now it has become the largest owner of real property (Pagès-El Karoui and Vignal, 2011). For all these reasons, the Egyptians have entrusted the Supreme Council of the armed forces with ensuring the political transition of the country. Marshal Mohamed Tantawi, chairman of the SCAF, promised that the main purpose of the armed forces is to pass the transition period to an elected civilian power. It formally undertakes to organize free and transparent elections and to give power to a civilian president and an elected parliament. The first transitional phase was the creation of an independent commission to amend the Constitution, which will then be submitted to a referendum on 19 March 2011. This new draft constitution was approved by 77% of the voters, with a participation rate of 41%. With the outcome of the referendum, the CSFA promulgated on 30 March a genuine road map describing the key stages of transition to a democratically elected civil power (Steuer, 2013). The elections to parliament were held in three phases between 28 November 2011 and 11 January 20. As the results of the elections came out, it turned out that most Egyptians voted for Islamist parties, with an overwhelming majority of 73 % in the Lower House and 80% in the Upper House of the parliament.

The presidential elections were held in two rounds. A first round was held on 23 and 24 May 2012, which saw 13 candidates compete against each other. Two candidates were qualified for the second round: Ahmad Shafiq (former minister of Mubarak appointed head of government) and Mohammed Morsi (candidate of the Muslim Brotherhood). The second round was held on 16 and 17 June 2012. Mohamed Morsi was declared the winner of the presidential election, becoming the first democratically elected president in Egypt.

One year after his ascent to power as the first democratically elected president, Mohamed Morsi and his government had to deal with strong resistance from many institutions, media and protesters on the street. A new movement of young opponents dubbed Al Tamarrud called for civil disobedience by demanding the resignation of Mohamed Morsi. Following these events, the army, led by General Abdelfatah Al Sissi, Minister of the Defense President of CPFA intervenes on the political scene. On 03 July 2013, Al Sissi deposed President Morsi and appointed Adly Mansour, President of the Supreme Constitutional Court, as Acting President of the Republic. To the new youth movement, this was a new revolution.

Following the removal from power of the first democratically elected president, large demonstrations broke out. there was much talk among the supporters of the deposed president about counter-revolution and calls for demonstration in all parts of the country (Messiha and Teulon, 2013). Thousands of Egyptians have demonstrated in several cities. These demonstrators had been violently repressed, persecuted or imprisoned (Myard, 2014). On Wednesday 14 of August 2013, Egyptian security forces launched an assault on the two sit-ins in Rabiya Al-Adawiya and Al-Nahdha squares, consisting mainly of the supporters of the dethroned president. According to Egyptian human rights watch, that massive clampdown cost the lives of more than 1,500 people in various regions of the country. On December 25, 2015, Deputy Prime Minister Hossam Eissa formally designated the Muslim Brotherhood a terrorist organization.

At beginning of July 2013, the world witnessed the deposition of the democratically elected president by the CFSA. This was followed by a three-phase transition period (Mohamed-Afify, 2015). The first stage focused mainly on passing a constitutional amendment, designed to give the armed force the upper hand. This bill was put to a referendum on 14 and 15 January 2014 and was approved by more than 98% of voters. The second stage concerns the presidential elections which took place from 26 to 28 May 2014. Not surprisingly, the former leader of the armed forces Abdel Fattah Al-Sissi was officially proclaimed president with 96.6% of the vote. The third stage was the organization of the parliamentary elections which took place in two phases from 17 October to 2 December 2015. These elections were held in the near total absence of the opposition and with a very low voter turnout where only 28.3% of Egyptians cared to vote in the legislative ballot. The "For the love of Egypt" coalition, which counts

a large number of former members of the National Democratic Party (PND) of the deposed president Hosni Mubarak, won most of the seats. The majority of new parliamentarians have offered unconditional support to President Abdel Fattah Al-Sissi.

Roughly two years after the military takeover, Egypt has still been gripped by intractable poverty and violence (Kibangula, 2013). The country was virtually on the verge of a civil war. With the number of terror attacks soaring, the regime in Egypt had to use all its military capabilities to reclaim Sinai and establish order and security there (Sand, 2014). On the political front, things aren't any better. With the country falling deeper in the hands of an ultra-authoritarian regime, a broad de facto crackdown on the political opposition, be it Islamist or secular, has reared its ugly head. According to non-governmental organizations, there are numerous counts of forced dispersion, torture, arrest of thousands of political opponents perpetrated by the regime (El Massassi, 2016; Sallon, 2016). The latter tightened its grip on the media after passing the new legislative reforms and judicial procedures (El Massassi, 2017). With the formation of three regulatory bodies to oversee Egyptian media and the approval of new laws governing the institutional organization of the sector, the regime gains total oversight over both private and state-owned media outlets. For several observers, it is the end of the democratic process "(Moisseron, 2013) and the return to authoritarianism (Racine, 2016).

3. LITERATURE REVIEW ON THE DETERMINANTS OF FDI AND RESEARCH HYPOTHESES

The role of FDI in the economic growth has been widely discussed in several studies confirming their positive effects on the economic development of host countries. Consequently, seeing FDI as a generator of several positive effects on the economy and as one of the main drivers of globalization motivates governments to prepare an enabling environment for FDI. In fact, the latter are considered as an essential element in the determination of national economic policies. To do so, it is necessary to identify the attractive and determining factors of FDI that are the key factors in attracting foreign investors. A sound body of literature concerned with the determinants of FDI inflows in developing countries. These different studies propose a large number of variables that determine the flow of FDI, some of which are deduced from the different theories and hypotheses related to FDI and others are intuitively integrated into the explanation of the determinants.

Trade liberalization plays a key role in the location choices of FDI (Catin and Van Huffel, 2004). These authors consider trade liberalization policies to be one of the modalities of openness that is characterized by the reduction of tariff barriers and the increasing FDI inflows. Thus, trade openness is a determining factor in the impact of FDI on the economic growth (Balasubramanyam *et al*., 1996). From these studies, the first hypothesis suggests that the factor of trade liberalization can positively impact the attractiveness of FDI.

Human capital also appears to be an indispensable factor for foreign investors to settle up in the host country. The latter must have a skilled and cheap labor force to attract FDI. FDI can stimulate economic growth in the host country, provided that human capital is well educated and qualified to take advantage of the technological inputs induced by foreign investment (Borensztein *et al*., 1998). In this case, it can be assumed that this factor of human capital positively affects the attraction of foreign investors.

Other authors emphasize the importance of the host country's economic size in attracting foreign direct investment. Thus, the higher the economic size of the host country, the more it is able to attract foreign investors (Kumar, 1994). The underlying assumption is that the size factor is a major boost to FDI attractiveness.

The location choice of a multinational enterprise can be looked upon as a sequence of geographical choices (Mayer and Mucchielli, 1999). The company must first choose the country and then a region in the same country. In this case, the geographical distance is an important consideration for foreign investors, which makes one assume the following hypothesis: the geographical distance is a factor that acts positively on the attractiveness of the FDI.

In an econometric study, Menegaldo (2000) states that the exchange rate is one of the important determinants of FDI flows, underlining the importance of its significant effect on FDI inflows. This exchange rate variable, which reflects the relationship of the host country with the rest of the world, appears to be a very important variable that influences the evolution of foreign investment. Several studies show that exchange rate variability has a positive and significant influence on FDI flows. For example, exchange rate variability can increase FDI flows in the case of foreign investors' risk aversion, meaning that, when they consider FDI as a means to diversify risks, which lead to less risky choices. This uncertainty is correlated with export shocks in the markets that FMNs want to serve (Goldberg and Kolstad, 1995). Other authors such as Froot and Stein (1991) show that undervaluation of the exchange rate stimulates export production and thus attracts FDI. In their study conducted on America's FDI, these authors came to link the depreciation of the currency of the host country to the increase in FDI flows. In other words, the exchange rate factor appears to be a crucial determinant that can influence the decision of foreign investors in their settlements in the host country.

Political stability also plays an important role in the decision of FDI to invest in a country. Foreign investors are willing to invest their money only in a stable and promising environment. A climate of political instability would only removes incentives for them to investing in an unstable country (Dunning, 1973). We can therefore assume that political instability has a negative influence on the attraction of foreign investors.

Other writers such as Morisset and LumengaNeso (2002) have focused on corruption and bad governance. Indeed, according to these authors, corruption leads to an increase in administrative costs, which discourages the entry of FDI. Wei (1997) showed that an increase in the level of corruption in the host country negatively affects FDI inflows. The author concluded that in the long run, corruption reduces FDI flows. The underlying assumption is as follows: the factor of corruption constitutes a repulsive determinant for foreign investors and thus it has a negative effect on the attraction of FDI.

Finally, infrastructure development is a key factor targeted by foreign investors. Indeed, when the host country has a well-developed basic infrastructure, the cost of investment will be low as well as its operating cost, which increases the return on investment and thus stimulates FDI. Moreover, Wheeler and Mody (1992) and Asiedu (2002;2006) argue that quality infrastructure is a prerequisite for the attraction and success of foreign investors. Thus, it can be assumed that the development of the infrastructure acts positively on the attraction of foreign investors.

4. PRESENTING THE MODEL AND VARIABLES

With reference to a considerable body of literature on the gravity model and the divergent results yielded by previous empirical studies, our aim is to identify a general econometric model in order to explain FDI inflows in Tunisia, Morocco and in Egypt. Thus, drawing on different models (Anderson, 1979; Anderson and Wincoop, 2001; Alaya, 2008) the basic model can be presented as follows:

$$IDE_{ij} = f(X_i, X_j, L_{ij}) \quad (1)$$

IDE_{ij} : denotes FDI inflows between countries i and j

X_i : variables of the country of origin

X_j : variables of the host country

L_{ij} : link variables

The linear form of the equation is therefore presented as follows:

$$(2) \qquad IDE_{ij} = \alpha_0 + \alpha_1 X_i + \alpha_2 X_j + \alpha_3 L_{ij}$$

The present paper examines the determinants of FDI flows from the countries of origin to a single host country. Thus that equation can be presented as follows:

$$(3) \qquad IDE_{*j} = \sum_{i=1}^{I} (\alpha_0 + \alpha_1 X_i + \alpha_2 X_j + \alpha_3 L_{ij})$$

The substitution of (2) in (3) results in the following expression:

$$(4) \quad IDE_{*j} = I\alpha_0 + \alpha_1 \sum_{i=1}^{I} X_i + I\alpha_2 X_j + \alpha_3 \sum_{i=1}^{I} L_{ij}$$

$$IDE_{*j} = I\alpha_0 + \alpha_1 X_* + I\alpha_2 X_j + \alpha_3 L_{*j}$$

The variable X_i defines the characteristics of the country of origin so it is assumed that this variable is independent of the characteristics of the host country. Then, X_* becomes a constant for the host country. In this case, the equation (4) can be presented as follows:

$$IDE_{*j} = \theta_0 + \theta_2 X_j + \theta_3 L_{*j}$$

where :

$$\theta_0 : I\alpha_0 + \alpha_1 X_*$$

$$\theta_2 : I\alpha_2$$

$$\theta_3 : \alpha_3$$

In this case and according to this equation, it can be said that the FDI inflows to the host country depend on the host country variables as well as the link variables. In this article, four databases have been adopted for study. The first database is sourced from the World Bank, which allowed for retrieving most of the data from our variables such as:

- *FDI*: Foreign direct investment flows
- *CRPIB*: The growth of the gross domestic product
- *CI:* The rates of openness measured by the ratio of the sum of exports and imports to GDP.
- *POP*: The population of the country
- *TXCHG*: The real effective exchange rate index (2005 = 100)
- *INFR*: Infrastructure is measured by measuring the density of the railway lines expressed as the ratio of the railway lines (in km) to the area of the study area (in km2)
- *KH*: Human capital is measured by the gross enrollment ratio at the secondary level

To measure the level of corruption in countries, we have selected the indicator provided by Transparency International over the period (1995-2015). This indicator is a measure spread on a scale of 0 to 10 which represents the perception of corruption by the economic actors.

We also mobilized the data base of the Center for Prospective Studies and International Information (CEPII) to measure the variable of remoteness. Finally, political instability was measured through the Polity IV dataset. This database is provided by "The Center for Systemic Peace" (CSP). According to some observers, it is probably the most comprehensive data base on political rights since it contains a democracy score, an autocracy score, the duration of the current regime in a year and a score on equal political opportunities. From this database, 11

variables were released which measure political instability. Principal component analysis (PCA) allows reducing these variables in a single dimension (see Table 1 appendices 1) in order to return to a space of reduced size. The results yielded an explained variance of 86% (see Table 2 appendices 1), with an alpha coefficient of Cronbach equal to 0.975 (see Table 3 appendices 1), which reflects the internal consistency and reliability of the indicators in our study.

5. ECONOMETRIC ESTIMATION AND INTERPRETATION OF RESULTS

The following model serves as a basis of comparison of the determinants of FDI between these three countries (Tunisia, Morocco and Egypt). To this end, there exists a succession of observations over time (between 1995 and 2015) for one country, which is Tunisia in a first model, then Morocco in a second model and finally Egypt in a last model. Before performing the regression using the 9.0 Eviews software, it is essential to perform the stationarity tests of this time series using the Augmented Dickey and Fuller (1981). In this case, the stationarity of the variables will be put to test in order to determine their order of integration, using a means of comparison across the statistical values of ADF and the critical values of Mckinnon (Mackinnon Critical Value) (MCV). To this end, the null hypothesis of the presence of a unitary root has to be tested. Put differently, the non-stationarity of the series versus the alternative hypothesis of stationarity.

H_0 : presence of the unitary root (non-stationarity of the series

H_1 : lack of the unitary root (stationarity of the series)

In the case where the augmented Dickey-Fuller t-statistic values are lower than the critical value of Mckinnon, the null hypothesis is rejected and the assumption of the absence of the unit root is accepted, that is, the stationarity of the series. In the case where the increased Dickey-Fuller t-statistical values are greater than the critical value, the hypothesis of the presence of the unit root is accepted, which confirms the non-stationarity of the series (is not of order 0). In this case, it must be verified whether they are integrated in order 1 (see Appendices- Table 2).

Table-1. Estimation results

	Tunisia	**Morocco**	**Egypt**
C	0,82 (2,12)	3,67 (8,03)	6,44 (3,10)
CI	11,03 (0,18)	1,45 (1,86)*	9,66 (1,23)
CORR	-1,88 (-1,87)*	-4,55 (-2,46)**	-2,27 (-1,91)*
CRPIB	9,08 (2,16)**	3,42 (1,81)*	7,47 (1,13)
INFR	-1,05 (-1,50)	5,12 (0,91)	3,02 (1,99)*
INSTP	-17,32 (-1.89)*	-2,45 (-1.23)	-10,11 (-2.33)**
KH	2,18 (1.78)*	4,33 (3.18)***	5,56 (1.08)
POP	0,79 (2,88)***	0,17 (2,11)**	2,11 (2,23)**
REM	-6,08 (-4,02)***	-2,02 (-2,98)***	-3,33 (-3,19)***
TXCHG	8,30 (0.44)	3,33 (1.94)*	7,13 (1.07)
	R^2 = 0,80 ; **DW** = 1,95 ; **F**= 9,09*** ; Prob (F)= 0.0001; **AIC** = 9,02 ; **SC** = 11,12;	**R^2** = 0,81 ; **DW** = 2,02 ; **F**= 12,17*** ; Prob (F)= 0.0001; **AIC** = 10,11 ; **SC** = 9,03;	**R^2** = 0,78 ; **DW** = 1,98 ; **F**= 17,98*** ; Prob (F)= 0.0001; **AIC** = 9,33 ; **SC** = 10,10;

With : **C** : constant ; **R^2**: R-squared ; **DW**: Durbin Watson; **F**: F-statistic; Prob(F) : probability of F-statistic; **AIC**: Akaike criterion ; **SC** : Schwartz criterion ; ( ) : t- Statistic

*, **, *** significant at 10 %, 5 %, and 1 % level.

Thus, after studying the stationarity of the variables and econometrically validating the model by ensuring that the residuals behave as a white noise following a normal law (absence of autocorrelation between residues, residual normality and residual homoscedasticity); we will pass to the statistical and economic validation of this model through the empirical results from the 9.0 Eviews software:

According to the empirical results presented in the table above, it appears that the models of three countries are significant by referring to the importance of the value of the coefficient of R^2, which means that the models have a strong explanatory power. In addition, one can refer to Fisher's global test values that are significant at 1% and F-statistic probability values which are almost zero, which means that the models are globally significant.

Regarding the test of the significance of the variables, it is found that most of the variables of Tunisia's and Morocco's models respect the predicted signs. For their significance, we note that six explanatory variables are significant for these two countries. With respect to Egypt, only five variables are significant.

To start with, the first variable of corruption is significant in the three countries and shows the negative sign. This result is expected since as the presence of corruption devalues the confidence and legitimacy of countries, which creates an environment of uncertainty that acts as a "push factor foreign investors. This factor does not attract foreign investors to settle in these three countries, which explains its negative and significant sign. Another significant variable for the three countries is the population variable which reflects the size of the market. As expected, the size of the market reflects a significant potential for Tunisia, Morocco and Egypt to attract foreign investors. This may confirm that the size of the market variable is included in the foreign investor's decision to set up in the host country. On the other hand, the GDP growth variable which also reflects the size of the market has the expected and significant sign only in the case of Tunisia and Morocco, while Egypt's GDP growth is not high enough to attract FDI. The third variable that is highly significant and has the expected sign for the three countries is the variable of remoteness. Indeed, the geographical position of the host country counts a lot in the decision of the foreign investor as the factor of the geographical proximity is very favorable for FDI. The higher the distance, the more foreign investors are discouraged from investing in Tunisia, Morocco and Egypt. On the other hand, if the country of origin is close to these host countries, this will lead to a reduction in the cost of transport, which encourages foreign investors to locate in these countries. This result pleads in favor of the factor of geographical proximity which is an attractive factor in attracting FDI.

As for the infrastructure variable, it is not significant for Tunisia and Morocco. That explains the great interest brought by the governments of these two countries in improving the quality of the infrastructure, considering its significant impact on the decisions of foreign investors. As regards Egypt, infrastructure is an attractive factor for foreign investors.

The human capital variable is a positive sign, slightly significant in Tunisia and highly significant in Morocco. This result is expected in view of the great importance given to the quality of the workforce in choosing the location of FDI. Indeed, if the country adopts a policy aimed at improving the quality of human capital, then it is better placed to receive foreign investment. It can therefore be confirmed that the quality of the workforce of Tunisia and Morocco positively influences the choice of foreign investors to establish themselves in these territories. In the case of Egypt, the human capital variable is not significant. It appears that the level of human capital in this country has not yet reached a threshold level to meet the needs of foreign investors and thus attract FDI.

As for the variable of instability, it has the expected negative sign for all the countries but it is significant only for Tunisia and Egypt. In fact, the more political instability, the more the investors are discouraged to settle in these countries. So the situation in Tunisia and Egypt, which is a delicate situation of instability and insecurity no longer encourages foreign investors to settle in their territories.

For the international trade variable, it has the expected sign for all countries but it is significant only for Morocco. In this case, Tunisia and Egypt have to show more interest in opening up to the world and engaging

more economic reforms in order to improve their image vis-à-vis the outside world and to attract more foreign investors into the region.

Finally, the last variable that is the exchange rate which is significant only for Morocco. In fact, several studies have emphasized the importance of the role of the exchange rate as a determinant of foreign direct investment. The main argument of this work is that the fact that a country has a strong currency encourages national firms to finance their settlements abroad. In another sense, undervaluation of the national currency may lead to strong penetration by foreign direct investment, which will finance the deficit in the balance of payments. Thus, the devaluation of the currency of the host country leads to an increase in the flow of FDI. While for Tunisia and Egypt this variable is not significant therefore there is no complementary relationship between this variable and the variable explained in these countries.

6. CONCLUSION

The role of FDI in economic growth has been widely discussed in several studies confirming their positive effects on economic development. Thus, considering FDI as a generator of several positive effects on the economy and as one of the main drivers of globalization encourages governments to prepare for an enabling environment for FDI. Foreign investments are considered an essential element in determining the national economic policies. Consequently, the present article can be seen as an attempt to identify the attractive and determining factors of FDI in three countries, Tunisia, Morocco and Egypt, between 1995 and 2010. The results of this econometric work point to the divergence of the main "pull factors" in these three countries. In fact, the factors determining the attractiveness of FDI in Tunisia are the absence of corruption, the size of the market, political stability, the quality of human capital and the significance of geographical proximity. For Morocco, the variables of human capital quality and geographic proximity are highly significant and are the main factors in attracting FDI. Thus, the absence of corruption, trade openness, the size of the market and the exchange rate are determinants of the attractiveness of FDI in Morocco. Finally, the main attractiveness factors for FDI in Egypt are the absence of corruption, good infrastructure, political stability, the size of the population and geographical proximity.

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ANNEXE-1.

Table-1. The saturation matrix of factors

The indicators of political instability	Component
	1
Parreg	0,998
Xrreg	0,998
Xrcomp	0,998
Parcomp	0,998
Exconst	0,997
Xconst	0,997
Xropen	0,997
Exrec	0,996
Polcomp	0,993
Polity 2	-0,684
Resignex	-0,367

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Table-2. total variances explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Polity 2	9,546	86,786	86,786	9,546	86,786	86,786
Xrreg	0,906	8,233	95,019			
Xrcomp	0,540	4,913	99,932			
Xropen	0,004	0,041	99,973			
Xconst	0,002	0,014	99,987			
Parreg	0,001	0,009	99,996			
Parcomp	0,000	0,003	99,999			
Exrec	9,605E-5	0,001	100,000			
Exconst	3,231E-5	0,000	100,000			
Polcomp	1,793E-6	1,630E-5	100,000			
Resignex	1,295E-16	1,177E-15	100,000			

Extraction Method: Principal Component Analysis.

Reliability statistics

Cronbach's Alpha	Nombre d'éléments
0,975	11

ANNEXE-2.

Table-4. The ADF test of the variables in level (Tunisia)

variable	ADF t-statistic	Critical value (5 %)	Decision of stationarity
LIDE	-2,63	-3,02	Non stationarity
LCI	-1,40	-3,02	Non stationarity
LCORR	-0,48	-3,02	Non stationarity
LCRPIB	-2,53	-3,04	Non stationarity
LINFR	-1,59	-3,14	Non stationarity
LINSTP	-1,75	-3,06	Non stationarity
LKH	-4,26	-3,02	Stationarity I(0)
LPOP	-3,30	-3,02	Stationarity I(0)
LREM	-1,44	-3,02	Non stationarity
LTXCHG	-3,17	-3,02	Stationarity I(0)

Source: Table developed by us according to the results of 9.0 Eviews software
Note: the variables are expressed in Neperian logarithm

Table-5. The ADF test of the variables in first difference (Tunisia)

variable	ADF t-statistic	Critical value (5 %)	Decision of stationarity
D(LIDE)	-7,87	-3,02	Stationarity I(1)
D(LCI)	-4,90	-3,02	Stationarity I(1)
D(LCORR)	-6,06	-3,02	Stationarity I(1)
D(LCRPIB)	-5,94	3,05	Stationarity I(1)
D(LINFR)	-3,65	-3,25	Stationarity I(1)
D(LINSTP)	-4,31	-3,05	Stationarity I(1)
D(LREM)	-4,08	-3,02	Stationarity I(1)

Source: Table developed by us according to the results of 9.0 Eviews software
Note: the variables are expressed in Neperian logarithm

Table-6. The ADF test of the variables in level (Morocco)

variable	ADF t-statistic	Critical value (5 %)	Decision of stationarity
LIDE	-1,57	-3,04	Non stationarity
LCI	-1,40	-3,02	Non stationarity
LCORR	-1,87	-3,02	Non stationarity
LCRPIB	-3,48	-3,05	Stationarity I(0)
LINFR	-0,91	-3,02	Non stationarity
LINSTP	-2,01	-3,05	Non stationarity
LKH	-0,34	-3,02	Non stationarity
LPOP	-1,01	-3,06	Non stationarity
LREM	-3,08	-3,02	Non stationarity
LTXCHG	-3,32	-3,02	Stationarity I(0)

Source: Table developed by us according to the results of 9.0 Eviews software
Note: the variables are expressed in Neperian logarithm

Table-7. The ADF test of the variables in first difference (Marocco)

variable	ADF t-statistic	Critical value (5 %)	Decision of stationarity
D(LIDE)	-3,74	-3,05	Stationarity I(1)
D(LCI)	-5,73	-3,02	Stationarity I(1)
D(LCORR)	-3,81	-3,02	Stationarity I(1)
D(LINFR)	-3,68	-3,02	Stationarity I(1)
D(LINSTP)	-4,01	-3,06	Stationarity I(1)
D(LKH)	-3,88	-3,02	Stationarity I(1)
D(LPOP)	-3,51	-3,06	Stationarity I(1)
D(LREM)	-4,03	-3,02	Stationarity I(1)

Source: Table developed by us according to the results of 9.0 Eviews software
Note: the variables are expressed in Neperian logarithm

Table-8. The ADF test of the variables in level (Egypt)

variable	ADF t-statistic	Critical value (5 %)	Decision of stationarity
LIDE	-1,39	-3,02	Non stationarity
LCI	-1,41	-3,02	Non stationarity
LCORR	-2,14	-3,02	Non stationarity
LCRPIB	-3,81	-3,06	Stationarity I(0)
LINFR	-3,14	-3,02	Stationarity I(0)
LINSTP	-1,88	-3,02	Non stationarity
LKH	-1,90	-3,02	Non stationarity
LPOP	-3,16	-3,05	Stationarity I(0)
LREM	-1,78	-3,02	Non stationarity
LTXCHG	-4,88	-3,02	Stationarity I(0)

Source: Table developed by us according to the results of 9.0 Eviews software
Note: the variables are expressed in Neperian logarithm

Table-9. The ADF test of the variables in first difference (Egypt)

variable	ADF t-statistic	Critical value (5 %)	Decision of stationarity
D(LIDE)	-3,78	-3,02	Stationarity I(1)
D(LCI)	-3,51	-3,02	Stationarity I(1)
D(LCORR)	-6,08	-3,02	Stationarity I(1)
D(LINSTP)	-4,05	-3,02	Stationarity I(1)
D(LKH)	-4,17	-3,02	Stationarity I(1)
D(LREM)	-3,19	-3,02	Stationarity I(1)

Source: Table developed by us according to the results of 9.0 Eviews software
Note: the variables are expressed in Neperian logarithm