

Tourist Flows and Factors Attractiveness in Southern Mediterranean Countries

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Abstract Tourism has a long history in the South East Mediterranean Countries (SEMC) and became in most of them a powerful tool for development and a strong dimension of Euro-Mediterranean cooperation. This is explained mainly by the natural and cultural resources of the region, the approval of its climate and proximity to major markets. To study the attractiveness factors that influence the development of tourism flows in SEMC, a panel gravity model, which is based on bilateral tourism flows from one country of origin to a country of destination is used. The results show the positive impact of regional agreements, as well as the existence of common borders and common language between SEMC help develop their tourist flows.

Keywords SEMC, Tourism sector - Gravity model

JEL classification L83 - F15 - F36

Introduction

The Mediterranean is a large inland sea between Southern Europe, North Africa and Western Asia. It is a sea full of hidden and attractive seaside resort treasures. The Mediterranean is valued for its climate and geographical location. All sides of the Mediterranean are rich in natural beauty: the coast, the terrain, all combine to create beautiful landscapes. Also, besides the charm of the natural environment, the Mediterranean region has serious cultural attractions. Indeed, the Mediterranean Basin is exceptionally rich in natural and cultural values which explains its tourism potential. This is why this space is the first tourist space in the world. With these advantages, the Mediterranean countries have a great potential to further develop tourism, an activity that will create wealth in the entire region, a framework at a time of cooperation, economic trade and human mobility and a sector that is a major focus of the cooperation and the promotion of regional integration among the countries.

In this study, we try to empirically determine the factors that influence the development of tourism between the SEMC. To do so, this article is organized as follows: in a first section, we present the importance of tourism, the study of international tourist flows and intra-regional

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in the SEMC. In a second section, we use the gravity model to determine the (geographic and economic historical) factors of attractiveness that develops tourism flows in the SEMC.

I. The importance of tourism in the SEMC

Tourism is one of the fundamental areas of activity. It promotes the movement of people, capital, goods and knowledge. Tourism can also be seen as a lever for development countries. As Nathalie Fabry (2009) wrote, “apart from mobility barriers of distance, administrative formalities (visas), geopolitical factors (terrorism, political crises) and health (vaccines, epidemics), the prospects for recalls tourism development seem almost limitless.”

According to the World Tourism Organization (2011), the Mediterranean area forms the most important tourist destination in the world. It totaled 295 million international arrivals in 2010. The Mediterranean has received in 2010 over 12.4 million international arrivals more compared to 2009. Considered as a homogeneous area of destination, it is the first tourist destination in the world, ahead of Europe, the Americas, Asia Pacific, the Middle East and sub-Saharan Africa.

1. Tourist flows in SEMC

Mediterranean countries enjoy a high visibility and significant tourist attractions. They have registered the world's highest growth in the number of international arrivals in the last two decades: 9% on average according to the World Tourism Organization (UNWTO), against 1% for northern neighbors since 2005. International tourist arrivals in the SEMC increased 17.08 million in 1990 to 82,300 in 2010. However, this country, since 2010 experienced a significant decline in the number of its arrival and its market share in international tourism. In 2011, the decrease in number of tourist arrivals was 12.3%. The known events in the region make it less attractive for international tourists.

Overall, the direct impact of the events of 2011 caused a loss of nearly 9 million arrivals accumulated on the southern and eastern shores of the Mediterranean:

- For the countries of North Africa (Morocco, Algeria, Tunisia, Libya, Egypt - including Mauritania off MED 11), the evolution between 2010 and 2011 was 20.5%, with 26 million arrivals of international tourists for the period 2000-2011, growth has been 68.10%. Three destinations are not out: Morocco, Tunisia and Egypt, three countries whose economy and employment depend heavily on tourism.
- To the east of the Mediterranean, Palestine, Israel, Jordan, Lebanon, Syria and Turkey bank, lower arrivals was made less (-5.02% between 2010 and 2011). Due to the weight of Turkey, a major destination in the world.

The events of 2011 did not have any impact on the number of tourist arrivals in Algeria, Morocco and Turkey has increased by 15.70%, 0.58% and 8.68%. For other countries, the year 2011 was characterized by a dramatic drop in tourist arrivals from 12.77% to 90.41% in Jordan in Libya.

Table 1 International tourist arrivals in the MED area 11

Countries	2000	2010	2011	% change 2011/2010
Algeria	866	2070	2395	15,70%
Egypt	5506	14051	9497	-32,41%
Israel	2672	2803	2820	0,61%
Jordan	1427	4557	3975	-12,77%
Lebanon	742	2168	1655	-23,66%
Libya	174	271	26	-90,41%
Morocco	4420	9288	9342	0,58%
Palestine	1055	522	446	-14,56%
Syria	3015	8546	5070	-40,67%
Tunisia	5244	6902	4782	-30,72%
Turkey	10428	27000	29343	8,68%
Total	35549	78178	69351	-11,3%

(Source: UNWTO Barometer 2012)

2. Importance of tourism in the SEMC

Tourism is a vital sector for the economy of most SEMC. It is an essential part of the GDP of these countries and as intensive activity in labor, generates a significant number of jobs. Turkey is the first destination of all MED 11. In 2011, tourism receipts reached 23,020 compared to 20,807 in 2010. As for Morocco, the tourism year 2011 can be considered good with growth of its tourism revenue. However, Jordan, Tunisia and Egypt had their tourism revenue declining in 2011.

The share of tourism in GDP is significant in the MED countries. Indeed, in Egypt, Jordan, Morocco, Syria, Tunisia and Turkey, tourism growth has been faster than growth in other sectors, resulting from its increasing role in the economy. In Algeria and Libya, the development of the tourism sector is not a priority policy due to the energy sector being in full expansion.

Tourism employment makes a very significant contribution to overall employment in the MED 11 countries. Tourism contributes about 8% of total employment in Jordan, Tunisia and Morocco, a little less in Syria, more than 9% of total employment in Lebanon. The share of tourism in total employment is declining in Israel, Libya and Turkey.

Table 2 Weight of tourism in the economy of the MED countries

Year	International tourism receipts (\$ millions)		% of GDP	% of jobs
	2010	2011	2010	2010
Algeria	267	n.a.	4,1	3,6
Egypt	12 528	8 707	8,2	7
Israel	4 768	4 849	2,6	2,8
Jordan	3 585	3 000	9	8
Lebanon	8 012	n.a.	9,5	9
Libya	60	n.a.	1,6	1,6
Morocco	6557	6703	9,5	7,9
Palestine	667	n.a.	n.a.	n.a.
Syria	6 190	n.a.	6,3	5,3
Tunisia	2 645	1 805	8,7	7,9
Turkey	20 807	23 020	4	2,1

(Sources: UNWTO and WTTC)

3. Growing inequalities in tourism flows between the riparian countries

The markets of the East Mediterranean shore and those on the southern shore have the fastest growth in international arrivals in the Mediterranean. Indeed, the South Shore realizes an average annual growth rate of arrivals over 11 years (2000-2010) of 6.95%. However, the eastern shore had in the same period an average annual growth rate of arrivals of 9.54%. On the other hand, the North Shore has an average annual growth rate of arrivals of 0.24%. The global market share between 2000 and 2010 on the southern shore increased by 1.19 points whereas a growth of 2.41 was achieved by the eastern shore. However, the North Shore suffered a loss of 7.31 points in the global market share in the same period (Pauchant (2011)).

Despite the importance of the tourism sector as a key sector in the economy of the SEMC, tourism presents specific challenges:

- Tourist flows are highly concentrated in the coastal areas.
- The tourism business is very seasonal. It is concentrated in five months (May to September, with a peak in July and August).
- Tourist flows are uneven between the two sides:
 - The first inequality concerns demand, mainly oriented towards the more developed countries of the Mediterranean (France, Spain and Italy).
 - The second inequality is even within the shores of South Africa (?), where the request is directed to certain countries over others: Turkey, Tunisia and Egypt are the three favored destinations SEMC.
 - The third inequality regards the tourist offer between the North and South of the Mediterranean, where natural resources and capabilities of housing and transportation are unequal.

4. Tourism and regional integration in the SEMC

The analysis of international arrivals in the Mediterranean countries shows that the level of tourism integration in the Euro- Mediterranean region is very strong. Therefore, the European Union is a major market that emits tourists in SEMC. Since 2009, over 77% of tourists are headed to Morocco and over 83% of tourists to Turkey. In 2010, over 55% of tourists from

the European region visited Tunisia and 75.8% more tourists visited Egypt (League of Arab States (2011)).

However, tourist flows south-north are low. Creating therefore a competition between countries of the South, when they have to select local partners, adds a barrier to South-South integration.

As far as the European market is concerned, the new emerging markets such as India, Brazil, China and Russia still generate low tourist flows, but growing in the SEMC .

Syria, Jordan, Lebanon and Tunisia have become in recent years important destinations for Arab tourists. Indeed, in 2009, 71.9% and 80.2% of Arab tourists visited respectively Syria and Lebanon and in 2010, 83.7% of Arab tourists visited Jordan and Tunisia 43% (League of Arab States (2011)).

This regionalization is due to various factors. First, a geographical factor, since the element of proximity is critical in any process of integration. Indeed, the existence of borders commuted facilitates trade and the promotion of intra-regional cooperation. In addition, a historical factor, since the SEMC have a long and rich common history which is an advantage for the development of regional tourism cooperation. Thus, the existence of a common language and short distances reduce transport costs and facilitate travel by car. This is the case in the Maghreb countries, where Tunisians, Algerians and Libyans can travel without geopolitical constraints.

Development prospects are great: tourism should continue to experience dynamic growth in most countries of the southern shore, so that the number of tourists visiting the SEMC is expected to double between 2005 and 2020. "Tourism illustrates the difficulty of the region to think beyond national and political divisions in terms of market. From a prospective point of view, yet it is the key to effective rapprochement between the two shores and the first of all the process of regionalization, cooperation and integration " (Guillaume Alm  ras and C  cile Jolly (2010)).

The process of Euro-Mediterranean integration, revived by the creation of the Union for the Mediterranean (2008), is particularly favorable to the structuring of the tourism sector, as it provides a framework for both cooperation and exchanges economic and human mobility. Thus, the implementation of sustainable tourism that contributes to the development, protects the environment and respects the cultures is important to deepen Euro-Mediterranean integration and increase regional tourist flows (both North-South and South).

II Empirical Analysis

1. Review of the literature

Several recent studies use the gravity model to analyze tourism demand and study the factors of influence. These studies showed that the gravity model is a useful analytical tool, although the analysis of international flows is carried out on a specific sector of tourism. Indeed, Dana Dudokh (2009) studied the factors influencing the choice of destination for tourists during the period 2000 to 2007 in 8 countries (Oman, Saudi Arabia, Syria , Tunisia, Yemen , Egypt, Lebanon and Bahrain) using a gravity model . The results show that per capita income has a positive influence on the demand for tourism. However, the relative price is inversely proportional to the total number of trips abroad by tourists. Substitution prices have a positive impact on tourism demand. So when the price of substitution increases, the demand for tourism and mainly for recipient countries increases. The cost of transportation has a negative impact on tourism demand.

Hanafiah.M Mohd Mohd Harun.M and Jamaluddin.M (2010) studied, using a gravity model, the relationship between bilateral trade and tourism in Malaysia and analyzed the sensitivity of economic parameters that affect international demand for tourism between Malaysia and Asian countries (China, Japan, Thailand, Indonesia and the United Arab Emirates) for the period 1997-2008. The results show that the variables of GDP are statistically significant and positively affect tourism demand in Malaysia. The coefficient of distance is negative, as expected. This result explains that the cost of moving and relative prices reduce the demand for tourism.

Li-Yen Chang and Da-Jie Lin (2010) estimated a gravity model to develop the relationship between passenger flow and the factors that can significantly affect the flow. These are factors of production, attraction and the distance between two countries. They find that the positive signs of the variables GDP for both countries of origin and destination can increase the flow of passengers. Thus, when a country's GDP increases, the economic and business travel demand, too, will increase. In addition, national income (per capita) is a variable that has a positive effect on the flows of passengers to the country of origin while the distance has a negative effect.

2. Theoretical Foundations and presentation of the gravity model

2.1 Theoretical Foundations

The gravity model has many advantages for modeling bilateral trade flows. Since the pioneering work of Tinbergen (1962), trade between countries is often modeled using the model called gravity. According to this model, which is based on the theory of Newton, the bilateral trade flows are positively related to the size of each partner (which can be measured by GDP) and negatively affected by the level of "transport costs" (mostly captured by the distance between).

Then, the gravity model has been renewed, including the introduction of several other factors in the literature to analyze trade flows, such as GDP per capita as a proxy for standard of living indices (Bergstrand (1985-1989)) as well as variables to examine differences in the geographic and historical links including the existence of borders and common language (Fontagné and al (1998)), the risk of exchange rate and trade policies by the explicit introduction of variable tariff and non tariff barriers (Festoc (1997), Castillo (2003)).

The influence of regional trade agreements (RTAs) should not be overlooked in the analysis of trade flows. It will be assimilated through dummy variables that mark the presence or absence of regional agreements (Bayoumi and Eichengreen (1995) and Frankel and Wei (1998)).

2.2 Presentation of the model

The gravity equation used in this work is derived from the work of Bergstrand (1985), which incorporates traditional determinants of trade such as geographic distance, GDP and GDP per capita. We introduce dummy variables determining the importance of South-South economic integration in MENA.

Empirical regressions will be conducted using panel data. This data type takes into account at the same time individual and temporal dimensions. In addition, the panel regressions are more appropriate (the cross section regressions) when using the gravity model, because they can control the country-specific effects and time effects (Peter Egger (2000)). A gravity model and panel will be adopted.

Tourism has become one of the most remarkable socio-economic phenomena and it is considered as an essential dimension of regional integration and trade activities. Gravity models were the first causal models developed for forecasting tourism demand. In fact, tourism is a

form of international trade, the factors behind the tourist flow to a region can be naturally studied in the context of a gravity model (Vietze, C, (2008), Hanafiah, MF and MH Harun, (2010)).

The equation of the model is that which is presented below:

$$\text{Log}(T_{ij}) = \alpha_0 + \alpha_1 \log(Y_i) + \alpha_2 \log(Y_j) + \alpha_3 \log(y_i) + \alpha_4 \log(y_j) + \alpha_5 \log(D_{ij}) + \alpha_6(L_{ij}) + \alpha_7(C_{ij}) + \alpha_8 \text{GAFTA}_{ij} + \alpha_9 \text{UMA}_{ij} + \alpha_{10} \text{Agadir}_{ij} + U_{ij}$$

Where:

i and j : are respectively the destination country i and the origin country j .

$\text{Log}(T_{ij})$: The logarithm of the number of tourist arrivals to country j in country i in millions.

$\text{Log}(Y_i)$: The logarithm of the Gross Domestic Product (GDP) of the country of destination i .

$\text{Log}(Y_j)$: The logarithm of the Gross Domestic Product (GDP) of the country of origin j .

$\text{Log}(y_i)$: The logarithm of Gross Domestic Product per capita in the destination country i .

$\text{Log}(y_j)$: The logarithm of Gross Domestic Product per capita of country j .

$\text{Log}(D_{ij})$: The logarithm of the distance between countries i and j distance.

(L_{ij}) is a binary variable that is unity if the country of origin and the country of destination have a common language and zero otherwise.

(C_{ij}) : The distance according to the degree of contiguity between countries i and j is a binary variable that is equal to unity if the country of origin and the country of destination have a common land border and zero otherwise.

GAFTA_{ij} : binary variable shows the membership or non-GAFTA agreement between Arab countries.

UMA_{ij} : binary variable shows the membership or non-UMA agreement between the countries of the Arab Maghreb.

Agadir_{ij} : binary variable shows the membership or non Agadir Agreement between Tunisia, Jordan, Egypt and Morocco.

U_{ij} : is an error term

The sample is composed of a set of 9 SEMC countries (Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia and Turkey). We propose to analyze the evolution process of tourist flows between these countries. Data on macroeconomic variables come from the World Bank, the International Monetary Fund Statistics (IMF) and the World Tourism Organization (UNWTO). The analysis period runs from 2006 to 2011.

3. Estimation

3.1. Early signs of the variables

The expected signs of the variables describing their effects on tourism flows and their coefficients allow us to understand the proportions in which they affect changes in these flows.

The expected GDP of the country of origin and country of destination sign is positive, as more developed economies and bilateral tourist flows will tend to develop: α_1 and α_2 should therefore be positive. Similarly, the expected sign α_3 of α_4 and which denote the coefficients of the variables GDP per head respectively of the country of destination and origin should be positive.

Kilometer distance for each pair of regions of origin and destination is included as a proxy for transportation costs, and therefore, it should have a negative impact on the tourism move-

ments (Eilat & Einav, 2004; Khadaroo & Seetanah 2008, De la Mata-Verduras & Llano, 2012). Geographically very distant countries will face higher costs (Disdier and Head (2008)). However, tourists prefer to the country of destination-specific attributes (culture, climate, tranquility) can partially compensate for the negative influence of the distance (Nicolau, MAS, 2006). The expected sign of α_5 is negative.

Sharing an official language also can greatly reduce communication barriers. This advantage of easy communication should therefore be reflected positively on tourism flows (Zhang and Jensen 2007). Then we expect a positive sign for the variable α_6 .

Proximity should facilitate tourist flows, and the presence of a common border should have a considerable impact on the development of these flows as (Gil-Pareja and 2007. Al). Then we expect a positive sign of the variable α_7 .

The existence of a regional integration agreement is likely to promote regional cooperation and integration between countries. Thus, the expected sign of the coefficients: α_8 , α_9 and α_{10} will positive (Jean-Marc Siroën (2007)).

3.2 Estimation Method

Both conventional techniques estimates panel data models are the method Fixed effects (FE) (Within) and the random effects (RE) (Between). Based on our results, the test of significance of the Lagrange Multiplier (Breusch Pagan LM) confirms the significance of random effects.

The Hausman test is used to check the most appropriate data model. In view of this test, the probability (chi2) associated with this test is less than 5%. Therefore, the model must be specified with individual fixed effects and we must remember the estimator (Within).

Although the Hausman test method calls for fixed effects, it could be applied to the extent that this method does not estimate the invariant variables over time, which is the case of three our variables: distance, degree of contiguity and common language.

It is therefore necessary to use the method of instrumental variables proposed by Hausman-Taylor (1981). Indeed, it allows us to estimate our model taking into account both the explanatory variables variants and time invariant, while correcting for endogeneity correlated with bilateral effects variables: "The easiest way to overcome the correlation between specific effects and the explanatory variables is to eliminate specific effects using the estimator Within. But these changes do not allow estimating the impact of an invariant variable in time. The instrumental variables estimator of Hausman and Taylor can lift this limit "(Kpodar K (2007). This method has found new applications in international economics, including showing its relevance to estimate gravity equations (Babetskaia-Kukharchuk and Maurel, 2004; Carrère, 2005; PERIDY, 2005).

Connected to the test(chi 2) (see Table 2) compares the random effects model to the Hausman Taylor (HT) model. According to this test, the rejection of the H0 hypothesis has led us to conclude that the (HT) method produces the best estimated parameters as random effect model.

3.3 Economic Analysis of estimation results

Tables 3 The estimation results

variables	FE (1)	RE (2)	HT (3)
GDP i (Log Yi)	1.277 (3.66)***	0.556 (3.33)***	0.763 (3.28)***
GDP per capita i (Log yi)	-0.712 (-1.81)*	-0.028 (-0.13)	-0.174 (-0.64)
GDP j (Log Yj)	0.234 (1.88)*	0.510 (4.67)***	0.363 (1.86)***
GDP per capita j (Log yj)	-0.289 (-1.07)	-0.467 (-2.13)**	-0.316 (-1.34)
Distance (log Dij)		-0.662 (-5.70)***	-0.453 (-1.87)*
Border effects (Cij)		0.783 (2.39)**	0.995 (1.81)*
Common language (Lij)		0.04 (0.14)	0.083 (1.19)
GAFTA agreemen (GAFTAij)		0.253 (0.92)	0.189 (0.44)
Agadir agreement (AGADIRij)		-1.091 (-1.86)*	-1.107 (-1.21)
UMA agreement (UMAiij)		1.045 (2.88)**	0.958 (1.74)*
Constant	1.016 (1.89)*	5.854 (5.60)**	4.153 (2.20)*
Number of observations	155	155	155
Number of group	31	31	31
Fischer test (specific effect)	46.42 (0.0000)		
Housman	23.01		
P-values	(0.0001)		
Chi 2		Chi2(10)	Chi2(10)
Wald		137.32	83.85
P-values		(0.000)	(0.000)

***) Significant at 1%; **) significant at 5% *) significant at 10%

The results show that the coefficients of the variables of GDP for both countries of destination (0.736) and origin (0.363) are statistically significant and positively affect tourism flows between the SEMC. Indeed, GDP is a basic measure of a country's overall economic performance. Thus, when the GDP of a country increases, economic activities and travel demand will increase.

The coefficient on GDP per capita for both countries is negative and not the expected sign. This shows that when GDP per capita increases, the desire to travel in the SEMC decreases and therefore the tourist flows between the SEMC decreases. This perhaps shows that when GDP per capita increases, the desire to travel to the North and other distant countries increases.

The distance variable (an approximation of the cost of transport) has a significant negative effect on tourist flows (-0.453). Indeed, when the distance between two countries increases, travel time and travel costs increase. Therefore, the desire to travel will also be reduced. The

coefficient associated with the variable border is positive, statistically significant and slightly close to unity (0.995). Indeed, the element of proximity is essential in any process of regional integration. Thus, the existence of borders commuted facilitates trade and the promotion of intra-regional cooperation in tourism.

The coefficient of the existence of a common language between the two partner countries has a positive sign (0.083). Sharing an official language can greatly reduce communication barriers. This advantage should easily communicate positively affect tourism flows between the SEMC. These historical and geographical factors promote bilateral tourism flows between SEMC and are important elements to significantly influence the desire to travel agents and encourage South-South integration. The results of the gravity model suggest that regional agreements (GAFTA and UMA) can increase and promote the development of tourism flows between member countries. Indeed, the sign of the coefficient on the dummy variable is positive GAFTA (0.18) indicating that the association agreements have the expected sign and they positively affect tourism demand. To the agreement of the Arab Maghreb Union (UMA), the coefficient of this variable is positive and statistically significant and high (0.958). This explains the importance of this agreement in the development of tourism between the Arab Maghreb countries, especially in tourist flows from Algeria, Libya and Morocco to Tunisia.

However, the sign of the coefficient AGADIR Agreement is negative (-1.107) and does not have the expected sign. Thus, this agreement does not show its real role in the development of tourism, especially, it is limited to only four Arab countries and shows their small role in tourism cooperation between them.

It therefore appears that regional agreements are a significant factor in the development of tourist flows and intra-regional integration between the SEMC.

Conclusion

SEMC absorb a considerable share of tourist flows are becoming more and more important in the way of service status to that of a real industry for the creation of millions of jobs and employment and contributing to boost economies these countries through currency inflows.

The tourism sector is a highly regionalized in the SEMC activity. Indeed, many geographical, historical and economic factors that promotes regionalization.

In order to study the factors that influence the choice of tourist destination and to identify the determinants of bilateral tourism flows and the impact of trade agreements in the tourism sector between the SEMC, we applied the model of tourism demand based on a gravity model. The empirical results of the gravity model shows the importance of the explanatory variables (GDP, language and common border) in the development of tourist flows. But the distance is an obstacle to their development.

SEMC have a long and rich common history which is an advantage for the development of regional tourism cooperation. The existence of a common language and proximity distances and reduce transportation costs. This is the case of the Maghreb countries, where Tunisians, Algerians and Libyans can travel without geopolitical and cultural constraints.

Also, the membership of the two countries to the same regional agreement allows evaluating its effect on the volume of bilateral tourism flows. Therefore a positive sign indicates a positive effect of the agreement on tourism demand.

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