VARNA
UNIVERSITY OF
MANAGEMENT

Determinants of tourist arrivals in European Mediterranean countries: Analysis of competitiveness

Luisa Marti [1]* and Rosa Puertas [2]

[1] Grupo de Economía Internacional. Universidad Politécnica de Valencia, Camino de Vera s/n, Valencia 46022, Spain; tel. 0034963877000 ext 74756; fax 0034963877479, e-mail: mlmarti@esp.upv.es

[2] Grupo de Economía Internacional. Universidad Politécnica de Valencia, Camino de Vera s/n, Valencia 46022, Spain; tel. 0034963877000 ext 79955; fax 0034963877479; e-mail: rpuertas@esp.upv.es

* Corresponding author

Abstract

This research employs a gravity framework to evaluate the tourism in European Mediterranean countries. The paper analyses the destination competitiveness as a means for tourism attraction and also verifies whether more competitive countries can be used as a point of reference for the development of those lagging behind. The gravity equations are used because of their proven effectiveness in estimating other similar studies fields. The study focuses on the Mediterranean European countries, mainly due essentially, to the wide span of their positions along the TTCI ranking (Spain ranks first, whereas Montenegro is in 67th place). Results reveal that these European destinations are not efficiently exploiting their tourism capacity and they need apply policies to foster this economic activity and enable the transformation of competitiveness into greater numbers of visitors.

Introduction

The tourism sector is an important source of growth and employment generation, which explains the increasingly noted efforts to offer quality services to attract a larger volume of visitors. Currently, tourism is a key activity sector of socioeconomic progress, encouraging authorities to integrate strategies that favour the excellence of the services offered in their development policies and to engage in competition related to image, safety, health, infrastructure, and the environment, among other factors.

Despite the different circumstances of economic growth and contraction, tourism has experienced continuous progress. Blanke *et al.* (2009) regard it as a sector that is apparently unaffected by financial crises, changes in oil prices, and even natural disasters. Tourism

continues to have significant representation in the global Gross Domestic Product (GDP). According to the latest data form the World Tourism Organization (WTO), globally, the arrival of international tourists has increased from 527 million in 1995 to 1,138 million in 2014. This increase implies that countries with a large tourist attraction have raised their incomes from 104,000 million dollars in 1995 to 1.425 billion dollars in 2014. Forecasting suggests that this tendency will be maintained in the coming years. The WTO (2011) has estimated a 3.3% annual growth rate for international tourist arrivals for the year 2030. It even suggests that arrivals at emergent destinations will double those of advanced economies (4.4% versus 2.2%).

Tourism may be analysed in the same manner as the trade flow, given that it is a service export that depends on geographic, social, and cultural factors. In this sense, Kyriakidis *et al.* (2009) consider that these factors not only facilitate economic growth but are also simultaneously key for the globalisation process and the expansion of commercial trade relations. In the literature, there are studies that focus on identifying and evaluating tourism determinants; their results have great implications for the definition of policies adopted by authorities (Song *et al.*, 2012). A variety of methodologies are applied, ranging from the multinomial logit applied by Eliat and Einav (2004) to the Generalised Method of Moments used by Massidda and Etzo (2012) for examining domestic tourism flows on a panel composed of Italian regions or the Bayesian Autoregressive Spatial Model of De la Mata and Llano-Verduras (2012) for studying tourist movements within regions in Spain for the years 2001 and 2007. Following this idea, Marrocu and Pací (2013) apply a Spatial Autoregressive Model and gravity equations to the analysis of tourism determinants in 107 Italian provinces.

Furthermore, destination competitiveness, as a means for tourism attraction, has been the object of multiple empirical studies (Gooroochurn and Sugiyarto, 2005; Gomezelj and Mihalic, 2008; Das and Dirienzo, 2012; García and Siles, 2015). The contribution of destination competitiveness should translate into larger economic growth for the host region. However, this relationship—which, in theory, is direct and positive—has not been verified in some instances. Webster and Ivanov (2014) attempt to explore this idea in depth, using the Travel and Tourism Competitiveness Index (TTCI) as a variable to identify country competitiveness; they conclude that there is no positive relationship between a destination's competitiveness and its contribution to economic growth. On the other hand, Jovanović *et al.* (2014) use the Global Competitiveness Index (GCI) in addition to the TTCI, and by means of a cluster analysis, they analyse the competitiveness of southeastern European countries, showing a high correlation between both indices. The study results advise these regions on the need to innovate their strategies for tourism development, with the goal of increasing their global competitiveness.

According to the World Economic Forum (WEF, 2011) "competitiveness is the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of their citizens at long and medium term". By applying this definition to tourism, one may claim that a destination is competitive if it generates economic, social, and environmental benefits to the residents of the destination. Richie and Crouch (2003) dare to further delimit this idea, considering that it is the capacity to increase tourism expenditure to increasingly attract visitors by providing satisfactory experiences conducted in a beneficial way while assuring the well-being resident population and preserving the destination natural capital for future generations.

Following this line of research, the aim of this paper is to resolve several issues of interest. First, this paper addresses the identification of the determinant variables for European tourism in the Mediterranean. Then, it divides the countries of destination into two groups according to the ranking obtained in the TTCI. This division provides arguments for the second objective: verifying whether more competitive countries can be used as a point of reference for the development of those lagging

behind. Third, and linked to the former, this paper examines which countries have been capable of transforming their competitiveness in higher levels of tourist arrivals. This research will identify the determinants of tourism with particular reference to competitiveness in the tourism sector in the Mediterranean.

This examination requires not only studying the aggregated index but also individually analysing each of its components, with the purpose of specifying which of them have the greatest incidence in the tourism of that region. Last but not least, there is an attempt to provide quantitative information to the authorities in charge of development policies through a reliable guide for the decision-making process. Similar to other studies (Gil-Pareja *et al.*, 2007; Durbarry, 2008; Khadaroo and Seetanah, 2008), gravity equations are used because of their proven effectiveness in estimating bilateral trade.

The study focuses on the Mediterranean European countries, mainly due essentially, to the wide span of their positions along the TTCI ranking (Spain ranks first, whereas Montenegro is in 67th place). This coastal region offers a variety of tourist destinations, with each having a specific and differentiated peculiarity, where price-based competition is being abandoned in favour of continuous improvement in the services offered. Their tourist activity is under continuous transformation, with the "sun and beach" offer being complemented with tourism that is more oriented towards culture and nature, where planning, managerial, and trade policies will determine competitive advantages among countries. The use of TTCI in this geographical area is a novel contribution to the literature. This is an index that measures the factors and policies that make attractive the development of the tourism sector in a wide range of countries (WEF, 2009).

This paper has the following structure. Part 2 describes the competitiveness tourist index used in the model. Part 3 explains the methodology applied for the development of the empirical research. Part 4 presents the results obtained, and finally, part 5 presents the conclusion of the study conducted.

Travel and Tourism Competitiveness Index

A geographical region's tourist attraction is closely linked to its level of competitiveness. This concept is wrongly associated exclusively with its capacity to generate wealth. There is an increasing need to enlarge its range of influence to include issues such as the environment, the quality of life of its local population, and technological advances. In this regard, the TTCI provides authorities with a very valuable instrument for decision making, facilitating the comparative assessment of the tourism potential of 141 countries, representing all continents. Since 2007, the WEF has published this index in two-year intervals, offering a quantitative measure for factors and policies affecting the attraction and development of tourism in the different regions. Unlike previous editions, the last TTCI (2015) is composed of four sub-indices entailing a total of 14 pillars defined by 90 individual indicators. In this manner, it allows covering a wide range of issues, simplifying the consideration of different aspects related to third-party services offered to international visitors. As Figure 1 shows, the TTCI is divided into the following subindexes:

Subindex A. Enabling Environment: the general issues particular to each country (the business environment, safety, health and hygiene, human resources and labour economics, and ICT availability).
Subindex B. Travel & Tourism Policy and Enabling Conditions: specific policies and strategic aspects with a direct impact on tourism (the prioritisation of the tourist activity, international openness, competitive prices, and a sustainable environment).
Subindex C. Infrastructure: physical infrastructure availability and quality for each economy (infrastructure for air, ship, and ground transportation and tourist services).
Subindex D. Natural and Cultural Resources: the natural and cultural resources that justify the trip (natural and cultural resources and business trips).

The TTCI is calculated using the arithmetic mean of the rating obtained, starting with the pillars, to obtain the value of each of the sub-indices, and with those sub-indices, the aggregated index is calculated. They all have
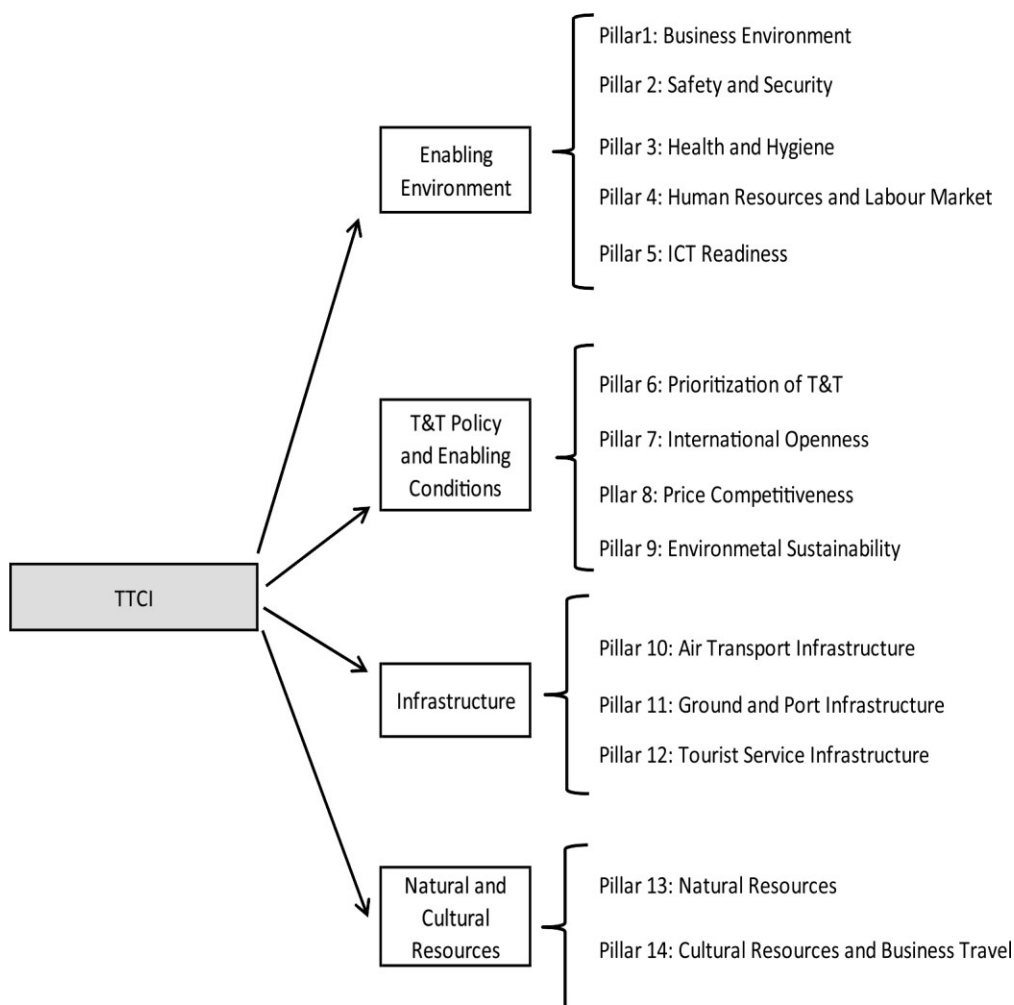
Figure 1. *TTCI components*

Source: Own elaboration. The Travel & Tourism Competitiveness Report 2015.

values ranging from 1 to 7, with 7 being the best-valued aspect. Currently, Europe represents six of the top 10 ranked countries (Spain (1), France (2), Germany (3), United Kingdom (4), Switzerland (5), and Italy (8)) because of their infrastructure services, their sanitary and health conditions, and their high degree of international openness and integration. However, this behaviour is not possible to generalise to the entire continent, given that there are still countries such Albania that hold rankings similar to those of African countries (106).

In the last edition, Spain is positioned at the top of the ranking for the first time. It is the third most visited country in the world, with approximately 60.6 million arrivals. It maintains a growth trend, owing to its openness to emerging markets such as China, Brazil, and Mexico. Its main attractiveness is the good appraisal of its existing vast historical heritage, which provides multiple cultural resources, in addition to the great offer of international conferences, which translate into business trips. In second place is France, which has the greatest number of tourist arrivals, 84 million.

Its success lies in a combined offer of culture, attractions, ski resorts, and beaches.

Overall, the 2015 TTCI results indicate the following conclusions:

1. The tourism industry maintains a fast rate of growth independent of the external disruptions (economic and environmental) that occur.
2. The countries that have been able to adapt to the new tendencies hold the top positions in the ranking.
3. The tourist sector translates into economic growth and greater employment opportunities.
4. The tourism industry development needs international coordination by public and private organisation

Despite its established value, verified in the literature (Barnett *et al.,* 2006; Vidaver-Cohen, 2007), the index has also taken some criticism. Wu *et al.* (2012) note the mistake of giving the same weight to all pillars and sub-indices; they consider that the cultural and natural resources of each county have very differentiated characteristics, and thus, their use in the development of the tourism industry is by no means homogeneous. Indeed, the assignment of different weights could significantly modify the ranking obtained.

Methodology
The analysis of tourism determinants is based on the gravity models typically applied to international trade. Tinbergen (1962) and Pöyhönen (1963), pioneers in applying gravity equations, considered that trade flows depended positively on economic incomes and negatively on the distance between countries, aligned with Newton's law of gravitation. In the tourist sector framework, there is an equation in which the arrival of tourists to a given country is the dependent variable, explained by a set of factors described below:

$$\text{Log} (A_{ij}) = \beta_0 + \beta_1 \text{Log} (D_{ij}) + \beta_2 \text{Log} (Y_i) + \beta_3 \text{Log} (Y_j) + \beta_4 \text{Log} (P_i) + \beta_5 \text{Log} (P_j) + \beta_6 \text{Log} (TTCI_j) + \beta_A W + u_{ij} \quad (1)$$

where:
A_{ij}: Number of arrivals to country i from country j
D_{ij}: Distance between country i and country j
Y_i: GDP of origin country i

Y_j: GDP of destination country j
P_i: Population of origin country i
P_j: Population of destination country j
$TTCI_j$: Travel and Tourism Competitiveness Index for country j
W: Dummy variables (Border, official language, second language, colony, common coloniser after 1945, common coloniser currently, colonial relationship after 1945, are or have been the same country)

According to equation (1), tourism quantified in terms of arrivals is a function of economic, geographic, and demographic factors and the tourist services themselves. In this proposal, the basic hypothesis is that the incorporated variables have a significant impact on tourism and that their signs correspond to the postulates of economic theory. Distance, as an approximation measurement for transportation costs, is not free of problems, given that there are the assumptions that it is independent of the means used for transportation and that capitals are the economic centres of countries. According to the theoretical approach, one can expect a negative sign for this coefficient (β_1), given that a shorter travel time may make the tourist destination more attractive and less expensive.

The GDP coefficients, for both the origin and the destination (β_2 and β_3), should be positive. Greater economic volume makes tourism more interesting because people have greater buying power to allocate to leisure activities (β_2) or because the greater wealth of the host country allows it to offer higher-quality services (β_3). On the other hand, the coefficient of the population for the origin (β_4) should be positive because the more populated a territory is, the greater the number of people there are who are willing to travel. However, the destination population coefficient (β_5) may display an ambiguous sign, given that a scarcely populated country may be attractive to someone looking for peace and quiet; inversely, if it is very populated, then it may be interesting for those whose preferences are associated with places with a considerable amount of activity.

Based on the aim of this study, the TTCI value of a destination country is included in the model. The value has an associated coefficient

(β_6) that represents the weight of competitiveness of tourism services over tourist arrivals to a given country, with the expectation that the coefficient will have a positive sign, given that the better appreciation of the services should translate into a greater inflow of tourists to that destination. Finally, the set of dummy variables represents the social and cultural resemblance among the analysed countries. All of them are expected to have a positive impact on tourist arrivals.

The study also focuses on the analysis of the relevance of each TTCI subindex on tourist arrivals. The existence of a strong correlation among them does not allow estimating a single equation (Tables 1A and 2A), given that it would create a situation of multicollinearity, leading to incorrect results. This fact has motivated the estimation of regressions similar to equation (1) that include each component individually. Therefore, the following equations have been defined:

Originally, the subindexes coefficients should prove to be significant and positive, given that the greater values for these variables (the environment, policies, infrastructures, and natural resources) would favour tourist arrivals to the country. The comparison between the results and the estimate will allow identifying which component has had the greatest impact on tourism during the year 2013[1].

The gravity model has been estimated on a sample in which the tourist destinations are composed of the 10 Mediterranean European countries with the greatest tourist attraction[2]. The achievement of the second objective defined by this paper has compelled the calculation of the TTCI average for all of the countries, making it possible to divide the sample into two subgroups: those whose index is higher than average, depicting high tourist competitiveness (Spain, France, and Italy), and those whose index is below average (Cyprus, Croatia, Slovenia, Malta, Greece, Montenegro,

$$\text{Log } (A_{ij})= \beta_0+ \beta_1 \text{ Log } (D_{ij})+ \beta_2 \text{ Log } (Y_i) +\beta_3 \text{ Log } (Y_j) + \beta_4 \text{ Log } (P_i) + \\ + \beta_5 \text{ Log } (P_j) +\beta_6 \text{ Log } (\text{Subindex } A_j) + \beta_A W+ u_{ij} \tag{2}$$

$$\text{Log } (A_{ij})= \beta_0+ \beta_1 \text{ Log } (D_{ij})+ \beta_2 \text{ Log } (Y_i) +\beta_3 \text{ Log } (Y_j) + \beta_4 \text{ Log } (P_i) + \\ + \beta_5 \text{ Log } (P_j) +\beta_6 \text{ Log } (\text{Subindex } B_j) + \beta_A W+ u_{ij} \tag{3}$$

$$\text{Log } (A_{ij})= \beta_0+ \beta_1 \text{ Log } (D_{ij})+ \beta_2 \text{ Log } (Y_i) +\beta_3 \text{ Log } (Y_j) + \beta_4 \text{ Log } (P_i) + \\ + \beta_5 \text{ Log } (P_j) +\beta_6 \text{ Log } (\text{Subindex } C_j) + \beta_A W+ u_{ij} \tag{4}$$

$$\text{Log } (A_{ij})= \beta_0+ \beta_1 \text{ Log } (D_{ij})+ \beta_2 \text{ Log } (Y_i) +\beta_3 \text{ Log } (Y_j) + \beta_4 \text{ Log } (P_i) + \\ + \beta_5 \text{ Log } (P_j) +\beta_6 \text{ Log } (\text{Subindex } D_j) + \beta_A W+ u_{ij} \tag{5}$$

Table 1. *Classification of countries according their TTCI*

Destination	Number of origin countries	Number of tourists	Percentage of tourists analysed	TTCI ranking
Countries whose TTCI is above average				
Spain	39	37,304,922	90.4%	1
France	36	29,088,425	87.22%	2
Italy	44	36,537,467	91.36%	8
Countries whose TTCI is below average				
Cyprus	36	1,799,934	93.6%	36
Croatia	39	4,281,595	91.63%	33
Slovenia	46	1,571,446	87.66%	39
Greece	36	9,374,251	89.36%	31
Malt	14	1,248,993	78.94%	40
Montenegro	42	580,329	96.09%	67
Turkey	84	19,816,207	95.83%	44

Source: Own elaboration

and Turkey[3]). This division makes it possible to establish the patterns of reference for the territories in need of improvement. On the other hand, countries of origin are all those that have had tourists who are willing to travel to these destinations and have a TTCI level. Table 1 describes the sample distribution according to the groups studied.

The third column shows the percentage of tourists analysed over the total received by the country. Evidently, in all cases, approximately 90% of the total arrivals to each country have been taken into account, which allows the claim that the database used in the empirical study is representative of the population analysed. Among the more competitive countries, Spain, with 50% of its tourism coming from the United Kingdom, Germany, and France, is the greatest host. In France, tourists from the United Kingdom, Germany, and the United States prevail. Lastly, in Italy, Germans are also the most attracted by Italian lands, followed by Americans and the French.

The case of Turkey can be singled out among the least competitive Mediterranean destinations because, in addition to having the largest number of arrivals, it is the country with the most variety in provenance, with a prevalence of Germans (23%) and Russians (17.5%). The proximity factor is very relevant in the determination of the provenance of tourists in a country. This fact is supported by the statistics: Russian (19.6%) and Serbian (19.2%) tourists prevail in Montenegro, whereas Italian tourists prevail (18.7%) in Malta and Slovenia (21.63%).

The dependent variable represents the tourist arrivals to each of the Mediterranean countries considered in this study who do not stay in hotels and similar establishments. The information comes from the Yearbook of Tourism Statistics, Data 2009-2013, published in 2015 by the WTO. Regarding the explanatory variables, the distance between countries, expressed in kilometres, has been calculated by the length of a straight line between capital cities as a first approximation, given the complexity of determining the localisation of the main tourist regions distributed throughout the territory. The

statistical source is the Centre d´Etudes Prospectives et d´Informations Internationals (CEPII). Data on GDP (expressed in USD), and populations have been obtained from the United Nations database. The TTCI variable, which represents tourist competitiveness by country, comes from the index published in 2015 by the WEF. Lastly, the group of dummy variables that socially and culturally characterise the countries has been obtained from the CEPII.

Results
Applying the methodology presented in the previous section, gravity equations have been estimated for each of the models specified, differentiating when using TTCI tourist competitiveness as a proxy or their components individually. The equation was estimated by Ordinary Least Squares with Stata 12.0 software. All coefficients obtained have been standardised to eliminate the different variables' measurement units and produce comparable results.

First, to identify the determinants of tourist arrivals, a model corresponding to the TTCI aggregated index for the sample comprising all countries was estimated. Second, the Mediterranean countries were grouped according to their degree of competitiveness, and for each group, an equation identical to the former was built (Table 2). It may be observed that, despite the similarities in the determinants coefficients in these models, they show some significant differences, enabling a first approximation to establish a behavioural pattern for these countries.

The estimation results corresponding to the complete sample (column 1) reveal that the origin and destination GDP are the variables with the greatest weight in determining the volume of tourism (0.470 and 0.433, respectively). Ultimately, this finding confirms that a country economic potential is key to fostering this activity. Next is distance, which, as the economic premise establishes, is a negative component, reducing the number of potential visitors. Lastly, the most atypical behaviour is the level of competitiveness, which, contradicting the hypothesis established a priori, negatively affects the number of

Table 2. *Coefficients of the gravity models using TTCI*

Variables	All countries	More competitive countries	Less competitive countries
Distance	-0.290***	-0.248***	-0.417***
GDP destination	0.433***	-0.520***	0.582***
GDP origin	0.470***	0.733***	0.615***
Population destination.	0.063	0.437***	-0.027
Population origin	-0.003	-0.155***	-0.036
Border	0.034	0.042**	0.051**
Official language	-0.022	0.023	0.017
Second language	0.047	-0.038	0.063
Colony	-0.013	-0.003	-0.047
Common coloniser after 1945	0.028	-	0.028
Common coloniser currently	-0.014	-	-0.084**
Colonial relationship after 1945	0.058**	0.012	0.136***
Are or have been the same country	0.049***	-	0.013
TTCI	-0.268***	-0.112***	-0.027
R^2	0.832	0.903	0.709
Observations	415	119	296

Notes: Variables are log-transformed; Level of significance: ***1% and **5%

tourists that the Mediterranean region receives (-0.268). This finding requires an analysis that more closely focuses on behaviour of these countries, according to their TTCI level.

In the estimations for both groups of countries, the economic potential of the country of provenance (GDP origin) is the variable with the greatest weight in determining the number of international arrivals, indicating that the wealth of the tourist is the main engine of tourism. This variable is followed by destination GDP, which shows a disparity between the analysed groups (-0.520 versus 0.582 in the less competitive group). In economies with strong competitiveness, the negative sign of the coefficient indicates that the destination's economic capacity is not a pulling force for tourists. This finding may be explained by the fact that services in the wealthiest countries are typically more expensive, which increases the cost of the trip. However, in the other group, the level of economic development benefits tourism, as shown by the coefficient for this variable. Another distinguishing aspect can be found in the behaviour of the coefficients linked to population and distance. For the first group (column 2), tourist arrivals depend more on population than on destination proximity, whereas for the other group (column 3), distance is the only important barrier that limits the tourist attraction of the territory. Regarding the dummy variables, sharing a border is a tourist stimulator for both groups, unlike the colonial condition, which is only a determinant in the less competitive groups.

Once again, the proxy variable for competitiveness behaves differently than initially expected. The TTCI coefficient for the first group (-0.112) requires an in-depth consideration because it indicates that the Mediterranean countries rated by the index as more competitive have been unable to translate this condition into selling their services. Indeed, this rating penalises the tourist flows. In the second group, the index does not prove to be significant, that is, its position in the TTCI ranking does not affect tourism in this

Table 3. *Coefficients of the gravity models using the TTCI components*

Variables	More competitive countries				Less competitive countries			
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 1*	*Model 2*	*Model 3*	*Model 4*
Distance	-0.025***	-0.238***	-0.234***	-0.257***	-0.379***	-0.417***	-0.244***	-0.361***
GDP destination	-0.586***	-0.445***	-0.456***	-0.611***	0.485***	0.559***	0.321***	0.457***
GDP origin	0.796***	0.676***	0.774***	0.832***	0.574***	0.626***	0.348***	0.545***
Population destination.	0.495***	0.370***	0.385***	0.518***	0.012	-0.006	-0.007	0.015
Population origin	-0.176***	-0.142***	-0.201***	-0.193***	-0.037	-0.043	0.013	-0.032
Border	0.042*	0.043*	0.048**	0.043*	0.046	0.050*	0.035	0.044
Official language	0.025	0.017	-0.001	0.024	0.008	0.013	0.003	0.006
Second language	-0.035	-0.038	-0.016	-0.031	0.068	0.067	0.055	0.067
Colony	-0.008	0.002	-0.009	-0.011	-0.065**	-0.057*	-0.051**	-0.066**
Common coloniser after 45	-	-	-	-	0.034	0.031	0.031	0.034
Common coloniser currently	-	-	-	-	-0.093***	-0.093***	-0.056**	-0.090***
Colonial relationship after 45	0.017	0.007	0.016	0.020	0.152***	0.151***	0.098***	0.147***
Are or have been the same country	-	-	-	-	0.010	0.010	0.020	0.011
SIndex A	0.068**	-	-	-	-0.153***	-	-	-
SIndex B	-	0.139***	-	-	-	-0.048**	-	-
SIndex C	-	-	-0.114***	-	-	-	-0.379***	-
SIndex D	-	-	-	-0.031	-	-	-	0.190***
R^2	0.917	0.908	0.899	0.899	0.742	0.712	0.837	0.756

Notes: Variables are log-transformed; Level of significance: ***1%, **5%, *10%

geographical area. Nonetheless, although this result is of great interest, it should be noted that it is an aggregate fact. Thus, it is necessary to deepen and analyse each of its components to determine which factor is failing and therefore requires special attention.

The results in Table 2 allow a first approximation of the objectives pursued by this paper. The tourist destinations of the Mediterranean coast that wish to increase the volume of their tourism should work on improving the services they offer to overcome the negative effect that results from the distance from their visitors' origin. In addition, the most competitive destinations should review how their economic development may be undermining growth of this activity.

Table 3 shows the result of the gravity models, in which the influence of each TTCI component on the dependent variable has been assessed.

Evidently, all of the models have a fair goodness of fit; their coefficient of determination (R^2) shows that the variables explain 70% of the tourist visits, in some cases reaching 91.7%.

Focusing the analysis on the index components' coefficients, models 1 and 2 show important differences between both groups (0.068 and 0.139 vs. -0.153 and -0.048, respectively). Thus, although environmental conditions and the adopted tourism policies encourage the arrival of non-residents to the countries rated as the most competitive, in the other group, such factors negatively affect tourism. The implication is that countries such as Turkey, Croatia, and Slovenia should follow the same behavioural pattern established by Spain and France.

On the other hand, the coefficient of the component that represents the availability and

quality of physical structures estimated in model 3 shows that, indifferently, both groups of countries have been unable to transform their resources into a tourism advantage (-0.114 and -0.379, respectively).

The last model (column 4 and 8) reveals that less competitive destinations were capable of offering tourist packages in which natural and cultural resources have increased the number of visitors (0.190). Inversely, the other countries, all of which have important historical heritage and great natural resources, do not manage this potential well because it is not a determinant for the arrival of non-residents. The reason may be that nations such as Turkey, Croatia, and Cyprus are less well-known destinations and that tourists are only now in the process of discovering all the natural wonders that they can offer, compared to the attractions traditionally offered by destinations such as Italy and France. For example, Croatia has unpolluted marine areas reflected through numerous nature reserves and 116 Blue Flag beaches. Croatia is ranked as the 18th most popular tourist destination in the world. About 15% of these visitors (over one million per year) are involved with naturism, an industry for which Croatia is world famous. It was also the first European country to develop commercial naturist resorts.

Conclusions

The relevance of tourism in some Mediterranean destinations, according to the TTCI, has stimulated interest in understanding the sector's determinants in the region and revealing whether there is a match between the index rating and the actual tourism numbers. Using the gravity model as a consolidated tool for trade flows (also suited for the tourism sector), equations were estimated, using tourist arrivals as the dependent variable; geographical, economic, and social factors as determinants; and the TTCI as the proxy for tourism competitiveness.

The empirical research conducted has made it possible to detect which Mediterranean countries hold the highest positions on the TTCI ranking, highlighting the cases of Spain, France, and Italy, in addition to which countries occupy the lowest positions, such as Cyprus,

Croatia, Slovenia, Greece, Malta, Montenegro, and Turkey. Given their high goodness of fit, the estimations obtained provide excellent reliability and are of great interest and usefulness to operators in the sector. The values of the coefficients quantify the relevance of all of the explanatory variables, given that they determine their influence on the number of arrivals to the Mediterranean region.

Although the wealth of the origin country is the factor with the greatest weight and this variable is out of the zone of influence of the institutions of the destination country, there are other aspects on which it is possible to work to improve the activity. The negative sign of the TTCI coefficient shows that these destinations are not efficiently exploiting their tourism capacity, and therefore, it is necessary to apply policies to foster this economic activity and enable the transformation of competitiveness into greater numbers of visitors.

Tourism is an important engine for growth and economic development, which coincides with the fact that the least competitive countries are the most disadvantaged areas. Given this scenario, it is not difficult to argue that the latter should orient their efforts to reproduce the positive aspects of the more prosperous countries. Their public and private policies should be directed towards improving safety, health, businesses, and other general aspects so that these factors can generate a greater number of international visitors.

Similarly, countries like Cyprus, Turkey and Montenegro, among others, should enhance their primary focus of attraction, unknown places that give them a unique appeal. They are countries with many unexploited natural and cultural resources and, to some extent, they are exotic places for visitors from more cosmopolitan areas. Policymakers must focus their competitive strategies on improving the marketing of these places, this would help to sell tour packages with rich natural content like the Plitvice Lakes National Park in Croatia (UNESCO World Heritage site), the catacombs of the Dingli Cliffs Clips in Malta, Triglav National Park in Slovenia, or other places in Turkey like Istanbul or Cappadocia.

Finally, the results of the empirical analysis also reveal that all countries in the Mediterranean region need to allocate resources for the continuous improvement of the quality of their infrastructure and the services offered, regardless of their position in the ranking. Policymakers should integrate transport policies in tourism planning, especially in countries with weak infrastructures. Thus, for instance, it is necessary to avoid strikes, which entail endless and tedious delays and create a bad image for the country at the international level, decreasing future potential visits to that particular country.

Endnotes:
[1] The TTCI that was published in 2015 collects information related to 2013
[2] Among destinations in the Mediterranean, Albania was not taken into account, given that there were no data on arrivals available. In addition, in the cases of Bosnia and Herzegovina and Monaco, there was no information on the TTCI, and the consideration of Gibraltar implied attaching the index of the United Kingdom, which would not be representative of this territory.
[3] Turkey is a country that shares its territory with both Europe and Asia. In this sample, however, it has been considered among the Mediterranean countries.

References

Barnett, M., J. Jermier, B.Lafferty (2006) Corporate reputation: The definitional landscape. *Corporate Reputation Review* 9(1), 26-38.

Blanke, J., T. Chiesa, ET. Herrera (2009) The Travel & Tourism Competitiveness Index 2009: Measuring sectoral drivers in a downturn. In The Travel & Tourism Competitiveness Report 2009, Blanke J, Chiesa T. (ed). World Economic Forum: Geneva, Switzerland.

Das, J., CE. Dirienzo (2012) Tourism competitiveness and the role of fractionalization. *International Journal of Tourism Research* 14, 285-297.

De la Mata, T., C.Llano-Verduras (2012) Spatial pattern and domestic tourism: an econometric analysis using inter-regional monetary flows by type of journey, *Papers in Regional Science* 91(2), 437-470.

Durbarry, R. (2008) Tourism taxes: Implications for tourism demand in UK. *Review of Development Economics* 12 (1), 21-36.

Eilat, Y., L. Einav (2004) Determinants of international tourism: a three dimensional panel analysis. *Applied Economics* 36, 1315-1327.

García, A, D. Siles (2015) Tourism destination competitiveness: the Spanish Mediterranean case. *Tourism Economics* 21(6), 1235-1254.

Gil-Pareja, S., R. Llorca-Vivero, JA. Martínez-Serrano. (2007) The impact of embassies and consulates on tourism. *Tourism Management* 28(2), 355-360.

Gomezelj, D., T. Mihalic (2008) Destination competitiveness – applying different models, the case of Slovenia. *Tourism Management* 29(2), 294-307.

Gooroochurn, N., G.Sugiyarto (2005) Competitiveness indicators in the travel and tourism industry. Tourism Economics 11(1), 25-43.

Jovanović, S., V. Janković-Milić, B. Krstić (2014) Homogeneity analysis of south-eastern European countries according to tourism competitiveness performances', *Economic Research* 27(1), 207-220.

Khandaroo, J., B. Seetanah (2008) The role of transport infrastructure in international tourism development: A gravity model approach. *Tourism Management* 29(5), 831-840.

Kyriakidis, A., H. Hancock, S. Oaten, R. Bashir (2009) Capturing the visitor economy: A framework for success. In The Travel & Tourism Competitiveness Report 2009, Blanke J, Chiesa T (ed). World Economic Forum: Geneva, Switzerland.

Marrocu, E., R. Pací (2013) Different tourists to different destinations. Evidence from spatial interaction models. *Tourism Management* 39, 71-83.

Massidda, C., L. Etzo (2012) The determinants of Italian domestic tourism: a panel data analysis. *Tourism Management* 33(3), 603-610.

Ritchie, J.R., G.I. Chrouch (2003) The Competitive Destination: A Sustainable

Tourism Perspective. UK: CABI Publishing

Pöyhönen, P. (1963) A tentative model for the volume of trade between countries. *WeltwirschaftlichesArchiv* 90, 93-100.

Song, H., L. Dwyer, G. Li, Z. Cao (2012) Tourism economics research: a review and assessment. *Annals of Tourism Research* 39(3), 1653-1682.

Tinbergen, J. (1962) *Shaping the world economy: Suggestions for international economic policy*. The Twentieth Century Inc: New York.

Vidaver-Cohen, D. (2007) Reputation beyond the rankings: A conceptual framework for business school research. *Corporate Reputation Review* 10: 278-304.

Webster, C., S. Ivanov (2014) Transforming competitiveness into economic benefits: Does tourism stimulate economic growth in more competitive destinations? *Tourism Management* 40, 137-140.

WEF (2009) *The Travel & Tourism Competitiveness Report 2009*. World Economic Forum: Lausanne, Switzerland

WEF (2011) *The World Competitiveness Report*. World Economic Forum: Lausanne, Switzerland

WEF (2015) *The Travel & Tourism Competitiveness Report 2015*. World Economic Forum: Geneva, Switzerland

WTO (2011) *Tourism Towards 2030: Global Overview*. World Tourism Organization: Madrid, Spain.

Wu, W-W., L. Lan, Y-T. Lee (2012) Critiquing the World Economic Forum's Concept of destination competitiveness: A further analysis. *Tourism Management Perspectives* 4, 198-206.

—————————————————————

Annex

Table 1A. *Correlation matrix for countries above the average*

	Subindex A	Subindex B	Subindex C	Subindex D
Subindex A	1			
Subindex B	0.934	1		
Subindex C	0.09	-0.269	1	
Subindex D	-0.994	-0.89	-0.198	1

Table 2A. *Correlation matrix for countries below the average*

	Subindex A	Subindex B	Subindex C	Subindex D
Subindex A	1			
Subindex B	0.893	1		
Subindex C	0.79	0.431	1	
Subindex D	-0.996	-0.853	-0.838	1