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International competitive advantages in tourism: An eclectic view

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ABSTRACT

This study investigates the determinants of competitive advantages in tourism services for the EU-28 countries over the period 2000–2013. After having extended the Balassa methodology to measure competitive advantages, a dynamic panel data model is implemented to explain their drivers. The econometric analysis indicates that specific factor-proportions variables, as well as variables related to the new trade theory, contribute significantly to the explanation of international competitive advantages in tourism. At the same time, factors related to the new trade theory help strengthening these advantages. Particularly interesting seems to be our finding about the negative statistical association between competitive advantages in tourism and the overall efficiency of the country, measured by per capita GDP. Some policy and managerial implications conclude the work.

1. Introduction

Over the past decades international tourism has experienced continued expansion, becoming one of the largest and fastest-growing economic sectors worldwide. Despite the uncertain global economic outlook and terrorism risks, the number of international tourists has shown a virtually uninterrupted growth from 25 million arrivals in 1950 to 528 million in 1995, reaching a total of 1,235 million in 2016 (UNWTO, 2017). In the ranking by total arrivals at tourist accommodation establishments, Europe leads the growth in absolute terms and the Mediterranean countries[1] as a whole cover the highest share of the European market.

In this context, the present study provides a comprehensive analysis of competitive advantages in tourism and their determinants for the EU-28 countries given their role as top tourist destinations. A country has a competitive advantage in tourism services when it is able to produce them at a lower opportunity cost than other countries. This advantage can be due to the relative abundance of a destination's factor endowments (natural, historical and cultural resources), different countries' technologies and productivities, or other factors. The presence of a competitive advantage gives a country the ability to sell tourism services on international markets at a lower price than its competitors and realize stronger revenues. When countries specialize according to their competitive advantages they can compete successfully in international export markets, raise profits and support job creation.

Understanding the determinants of competitive advantages in tourism is, hence, of key importance for both advanced and developing economies, since it would allow them to have a more comprehensive overview of the sources of tourism performances, enabling policy makers to design better strategies to enhance those activities exhibiting such potential and improve performance. From a managerial point of view, it would permit to monitor tourism progress over time, identify emerging risks for firms operating in the sector and track relative performances against key competitors over time.

The present study contributes to the existing literature in different ways.

First, it offers an extensive investigation of competitive advantages and their drivers. As it has been highlighted by Webster, Fletcher, Hardwick, and Morakabati (2007), while much of the empirical research on tourism has focused on tourist flows (e.g. Algieri & Kanellopoulou, 2009; Bobirca, 2007; Crouch, 2010; Crouch & Ritchie, 1999; Dwyer, Forsyth, & Rao, 2000; Enright & Newton, 2005; Gooroochurn & Sugiyarto, 2005; Mazanec, Wober, & Zins, 2007), also from an environmental or a sustainable tourism perspective (e.g. Evans, 2016; Ritchie & Crouch, 2003), few studies have focused on competitive advantages in tourism. The present study tries to fill this gap by specifically addressing the nature and the triggers of competitive advantages in the EU-28 countries. There is a subtle distinction between comparative and competitive advantage. Porter (1990a, 1990b) and Crouch and Ritchie (1999) indicate that competitive advantage depends on the efficiency and effectiveness of resource deployment over the long-term. Destinations that are factor disadvantaged are often

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stimulated "… to find innovative ways of overcoming their comparative weakness by developing competitive strengths" (Porter, 1990a, 1990b, p.83). Therefore, " … a destination is competitive if it can attract and satisfy potential tourists and this competitiveness is determined both by tourism-specific factors and by a much wider range of factors that influence the tourism service providers" (Enright & Newton, 2004, p. 778).

Comparative advantage is a potential advantage, i.e. a country is potentially better suited for production of one good or service than another good or service, but it should exploit its advantage to become competitive. If countries specialize according to their competitive advantages, then they grow in competitiveness and gain from trade. Comparative and competitive advantages hence coincide only when competitive advantages are fully exploited. Conversely, it is possible that a country has a potential comparative advantage, but it is not exploited because either infrastructure deficiencies or skill shortages or other policy choices make the sector overlooked. Similarly, competitive advantages can be created or, at the very least, raised significantly without having comparative advantages. This is the case of Las Vegas that overcame the natural and environmental obstacles of desert and has ranked among the top tourist destinations.

Second, from a methodological point of view, we develop an extended version of the Balassa index to account for tourism specificities. The Balassa index is a traditional measure of comparative or competitive advantages computed using export flows; we extend it to account for the total trade flows in tourism, i.e. both tourism exports and imports. The use of the extended Balassa index seems to be preferable to the traditional index both on theoretical grounds, since it takes into account both exports and imports (Balassa & Noland, 1989) and on empirical ones, since it turned out to perform significantly better in terms of explicative power of the model in the econometric analysis.

Third, we propose an econometric dynamic panel data model, which reflects an eclectic view of theoretical foundations of competitive advantages, going from the classical factor-proportions theory, to the new trade theory, to the management theory insights put forward by Porter. A similar study that applies a panel data approach to explain the drivers of comparative advantages has been carried out by Zhang and Jensen (2007), but our study differs from their contribution for at least two important aspects. First, while Zhang and Jensen use the 'number of arrivals' as proxy for comparative advantages in tourism, we employ a specific measure of competitive advantage, obtained extending the classical Balassa methodology. Additionally, while Zhang and Jensen implemented a static panel analysis, we adopt a dynamic System-GMM framework to explicitly account for endogeneity problem and persistency in trade structure. To the best of our knowledge, our study is the first to estimate a dynamic model of competitive advantages in tourism.

The remainder of the study is organized as follows. Section 2 revises the literature on comparative and competitive advantages. Section 3 presents the linkages between comparative and competitive advantages. Section 4 discusses the adopted competitive advantage indicators. Section 5 shows the empirical results of the traditional and extended competitive advantage indices. Sections 6 and 7 present the econometric analysis of competitive advantages' drivers and discuss the empirical findings. Section 8 concludes.

2. Literature review

The theory of comparative advantages is one of the most important theories for explaining international specialization in goods and services, but applications to the analysis of tourism have been quite scarce. Its main conceptualization goes back to David Ricardo (1817) and his seminal work 'On the Principles of Political Economy and Taxation'. According to Ricardo, comparative advantages and disadvantages stem from international differences in opportunity costs of products. If each country specializes in goods and services with a lower opportunity cost there could be an increase in global economic welfare. Comparative advantages are never absent, even if one country is more efficient in the production of all goods than another, as long as there are international differences in products efficiency.

More than one century after Ricardo, two Swedish economists, Eli Heckscher and Bertil Ohlin (H-O), highlighted that comparative advantages can be triggered by different relative factor endowments across countries combined with dissimilar relative factor intensities across products; therefore, even when countries have the same technology, it is possible for them to benefit from international specialization. Explicitly, a nation will export the commodities whose production requires a relatively more intensive use of the nation's relatively abundant factor, and import the commodities whose production requires a relatively more intensive use of the nation's relatively scarce factor. Relative factor abundance and relative factor intensities drive comparative advantages and international specialization.

With respect to the generality of the principle of comparative advantage, two views can be distinguished in the literature (Siggel, 2007). The first is that the sources of comparative advantages are confined to Ricardian and Heckscher-Ohlin-type trade and are not related to other factors. The second is a more general interpretation of the principle. It suggests that a country has a competitive advantage in a product if its production costs in terms of equilibrium factor prices are lower than those of an international competitor, regardless of the sources of the cost advantage. The source of this advantage can be different technologies (Ricardo), the relative abundance of some factors (Heckscher-Ohlin) or other drivers identified by the new trade theory, such as innovations (Posner, 1961; Vernon, 1966), scale economies internal to the firm (Krugman, 1979), external scale economies stemming from the agglomeration of industry clusters (Ottaviano & Puga, 1998) or the role of multinational companies (Ethier, 1986; Markusen, 1995). For instance, with increasing returns to scale, specialization will occur even between countries with identical tastes, technology and factor endowments (e.g. Helpman, 1981; Krugman, 1979; Lancaster, 1980). Similarly, the presence of industry clusters can be generators of long-term competitiveness through provision of virtuous circles of superior learning, thick factor markets, infrastructural improvements and hence better technologies (Ottaviano & Puga, 1998; Porter, 1990a, 1990b).

Here we share the more general and eclectic interpretation, by including several different sources of competitive advantages in our empirical analysis.

As mentioned above, while the comparative or competitive advantage approach has been adopted in various studies that focus on manufacturing specialization and exports, few researches have been devoted to the analysis of the tourism sector. They generally examine comparative or competitive advantages in tourism focusing only on small or developing countries and most of them consist in a descriptive analysis.

More specifically, a first branch of literature focuses on tourism specialization based on revealed comparative advantages indices. Algieri (2006) shows that 'small' countries well-endowed with high-quality natural attractions tend to specialize in tourism. These economies could grow at a non-decreasing rate and promote sustainable economic development if manufacturing and tourism are distant substitutes, i.e. the elasticity of substitution between tourism and manufacturing is less than 1. Seyoum (2007) uses revealed comparative advantage indices to measure developing countries' comparative advantages in selected services for the period 1998–2003. Strong comparative advantages exist for many developing countries in transport and travel services, while weaknesses are registered in financial and business services. Webster et al. (2007) provide an analysis of international tourism using comparative advantage indices and intra-industry trade measures. Their evidence suggests that many countries do specialize as both 'exporters' and 'importers' of international tourism and the determinants of such patterns of specialization may have common ground with those described by international trade theory. In addition, the dominant pattern of international exchange in tourism

services has an intra-industry nature. Jackman, Lorde, Lowe, and Alleyne (2011) analyse the competitiveness of eighteen small island developing states (SIDS) employing two measures of comparative advantage, namely the Balassa index and the Vollrath (1991) and find that most SIDS on average had at the very least a weak comparative advantage in tourism. The results further indicate that competitiveness in tourism services in most SIDS increased over the sample period. Bento Cerdeira (2014) uses the revealed comparative methodology to assess the structure of trade in travel services of the EU and finds that the strongest revealed comparative advantages are detected in Southern and Eastern European countries and these advantages remained relatively stable over time. This author, however, considers only narrow measures of comparative advantages without exploring their drivers.

A second, but scant, branch of literature examines the factors affecting competitive advantages in tourism and their nature. In particular, Zhang and Jensen (2007) test whether a supply-side perspective as explained by international trade theory is applicable to explaining competitive advantages in international tourism. The results of their static panel analysis render strong support for the relevance in explaining international specialization in tourism of certain supply-side factors such as natural endowments, created assets associated with technology, infrastructure and international knowledge spillovers. Du Toit, Fourie, and Trew (2010) investigate comparative advantages in the export of travel services, seeking to identify their sources. Their results show that, in addition to the natural environment, also transport endowments and the neighbourhood variable – which measures the benefits obtained from regional tourism cluster – have a large positive and significant impact on a country's revealed comparative advantage.

A third branch of literature considers a strategic management perspective and investigates how firms or countries achieve and sustain competitive advantage. For instance, Teece, Pisano, and Shuen (1997) develop a dynamic capabilities framework to analyse the sources and methods of wealth creation and capture by private enterprises operating in environments of rapid technological change. They conclude that competitive advantages of firms rest on distinctive processes shaped by their asset positions and their inherited evolution paths. Ritchie and Crouch (2003) identify and prioritize the factors that they believe determine the competitiveness and success of tourism destinations. They further provide conceptual framework for translating theory into practice. Evans (2016) presents arguments as to how conceptually sustainable competitive advantage might be achieved in tourism and develops a five-stage model to this purpose. Campón-Cerro, Hernández-Mogollón, and Alves (2017) examine the importance of loyalty as a sustainable competitive advantage and the capacity of rural tourism destinations to generate tourist loyalty. Using a partial least squares technique, they find that image, quality and destination attribute satisfaction is the direct antecedents of rural tourism destination loyalty in Spain.

Our study, based on an eclectic view of the theoretical foundations of competitive advantages, contributes to these branches of literature by measuring revealed competitive advantages through an extended version of the Balassa index and by enlarging empirical evidence on the drivers of competitive advantages in European countries through the adoption of a dynamic panel data analysis.

3. Comparative advantages versus competitive advantages

According to the Economist (January 27th, 1996), the principle of comparative advantages is one of the subtlest, but most powerful deductions of economic theory. Samuelson (1969) stated that the theory of comparative advantage, particularly in the specification of the Torrens-Ricardian paradox, is perhaps the only proposition in social sciences which is both true and non-trivial. The theory of comparative advantages is usually attributed to Ricardo (1817), although some insights were already present in the essay on the external corn trade by Torrens (1815). The theory of comparative advantages represents a milestone in international economics, since it is a fundamental improvement over Adam Smith's principle of absolute advantages as the essential source of beneficial trade.

Over the last decades of the 20th century, Michael Porter, one of the most important management theorists, put forward the concept of competitive advantage (Porter, 1990a; Porter, 1990b) which for some aspects seemed a return to Adam Smith's theory[2] as the major source of gainful trade. Porter combined the main theories of competitive strategy and international economics in order to analyse both the factors of the global performances of nations and the international patterns of competitive advantages. In his celebrated “diamond of national advantage”, he identified four determinants of national competitive advantages: 1) factor conditions, i.e. the nation's position in factors of production, and in particular skilled labour and infrastructures; 2) home demand conditions, i.e. domestic demand for different products; 3) related and supporting industries, i.e. the presence or absence in the nation of upstream and downstream industries that facilitate innovation through exchanging ideas; 4) firm strategy, structure and rivalry, i.e. the conditions governing how companies are created, organized and managed, as well as the nature of domestic rivalry.

The emphasis on factor conditions as a main determinant of competitive advantages seems to link Porter's analysis to the orthodox economic analysis of comparative advantages, and in particular to the Heckscher and Ohlin's factor proportions theory. Porter, however, did not focused on basic, non-specialized or inherited factors of production, such as capital, natural resources or labour, but on skills specific to each particular industry, which can be created and upgraded through investments. Factor conditions are indeed those elements that Porter believes a country's economy can generate for itself, such as a large pool of skilled labor, technological innovation, infrastructure and capital. In this sense, the author suggest that sometimes the absence of some basic factors, such as natural resources, can have positive effects by spurring innovations, as in the case of Japan[3]. This is an argument which seems to be connected to the “Dutch disease” analysis by Corden and Neary (1982).

A link with the “new trade theories”, in particular to the explanations of competitive advantages in terms of external scale economies generated from clusters or industrial districts, seems to be the importance attributed by Porter to the presence in the nation of related and supporting industries as a determinant of competitive advantages in certain productions.

Another connection with the international economic analyses of competitive advantages, although not the orthodox ones, is Porter's inclusion of home demand conditions as one of the four fundamental drivers of competitive advantages; this argument seems to resemble Linder (1961).

From the terminological view point the difference between comparative and competitive advantage can be illustrated as follows. Comparative advantage can be viewed as a relative concept, i.e. a country is relatively better suited for the production of certain goods than others. Comparative advantage depends on relative inter-country differences in real production costs. Competitive advantage is an absolute concept related to the absolute inter-country differences in the prices of factors of production (e.g. the price of labour) and the real exchange rates. If a country is generally more productive (i.e. has an absolute advantage in everything) then it must have higher real wages. The condition of competitive equilibrium requires that to be competitive the relative countries' wages should be comprised between the maximum and the minimum differences in the countries' relative productivities. This is because given that wages reflect productivity, less

[2] It is his attention to the factors determining the global performance of nations that puts Porter's analysis along the same lines as Adam Smith's analysis.

[3] Japan has developed a competitive global economic presence beyond the country's inherent resources, in part by producing a very high number of engineers that have helped to drive technological innovation by Japanese industries.

productive countries can compete and trade only with low wages, instead highly productive countries can be competitive and trade also with high wages.

As an example of comparative and competitive advantage, consider two countries: Germany and Poland, three products: A, B, and C, and only one factor of production (labour). If the real production costs are 48 hours of labour in Poland and 4 hours in Germany for products A, 30 hours of labour in Poland and 3 hours in Germany for product B, 36 hours of labour in Poland and 4 hours in Germany for product C, assuming that the quality of each product is the same in Poland and Germany, we obtain the following order of products from the point of view of the strength of the comparative advantage of Poland with respect to Germany: C, B, A. The reverse order applies from the point of view of the comparative advantages of Germany with respect to Poland. To identify competitive advantages we need to know the ratio of the price of labour in Germany with respect to Poland (or vice versa). For example, if the price of labour is more than 12 times higher in Germany than in Poland, Germany has no competitive advantage with respect to Poland, while Poland has a competitive advantage with respect to Germany both in A and B and C. If the price of labour is less than 9 times higher in Germany with respect to Poland, Germany has a competitive advantage with respect Poland in A, B and C, while Poland has no competitive advantage. If the ratio of the price of labour in Germany with respect to Poland is smaller than 12 but greater than 10, Germany has a competitive advantage in product A while Poland has a competitive advantage in B and C. If the ratio of the price of labour in Germany with respect to Poland is smaller than 10 but greater than 9, Germany has a competitive advantage in A and B, while Poland has a competitive advantage in product C. For a global competitive equilibrium between Germany and Poland the ratio of the price of labour in Germany to the price of labour in Poland should be smaller than 12 but greater than 9, so that in a competitive equilibrium Germany will have a competitive advantage in A while Poland will have a competitive advantage in C. In the range from 9 to 12, the equilibrium value of the ratio of the price of labour in Germany to the price of labour in Poland depends both on the relative dimensions of total demand for products A and C, and upon the relative dimensions of production capacities of Poland and Germany. Assuming no substantial difference in total demand for A and C, on the basis of the small-country paradox, it is likely that the equilibrium value of the price of labour in Germany to the price of labour in Poland will be smaller than 10 but greater than 9, so that in equilibrium Germany will have a competitive advantage in A and B, while Poland will have a competitive advantage in C. In conclusion, while comparative and competitive advantages could be considered conceptually different, they are however empirically correlated in the sense that in a competitive equilibrium the products in which each country has a competitive advantage are likely to be the same in which it has the strongest comparative advantage.

4. The measurement of competitive advantages

In the simple Torrens-Ricardian world with only two perfectly homogeneous product (*A* and *B*), two countries (*i* and *j*), labour as the only factor of production and constant returns to scale, comparative advantages are univocally identified. Assuming that the production of product *A* requires L_{Ai} and L_{Aj} unit of labour in countries *i* and *j* respectively, the production of product *B* requires L_{Bi} and L_{Bj} unit of labour in countries *i* and *j* respectively, and that L_{Ai}/L_{Aj} is greater than L_{Bi}/L_{Bj}, country *i* has a comparative advantage in product *B* and country *j* has a comparative advantage in product *A*. Provided the ratio of the price of labour in country *j* to the price of labour in country *i* is greater than L_{Bi}/L_{Bj} and smaller than L_{Ai}/L_{Aj}, country *i* will have a competitive advantage in product *B* and country *j* will have a competitive advantage in product *A*. With free trade and no state interventions, country *i* will export product *B* and import product *A*, while country *j* will export product *A* and import product *B*. The opposite will be true if L_{Ai}/L_{Aj} is smaller than L_{Bi}/L_{Bj}.

The introduction of more than one factor of production, as in the Heckscher-Ohlin world, complicates somewhat the analysis, but the fundamental logic remains unchanged: provided that marginal opportunity costs are different between the two countries, each of them has a comparative advantage in the product with a smaller opportunity cost. If differences in the prices of factors of production compensate for differences in productivity between the two countries, each country will have a competitive advantage in the product in which it has a comparative advantage; hence it will export this product and import the other one.

The picture is rather more complex with more than two, even homogeneous, products. As an example, consider two countries *i* and *j*, one factor of production (labour), constant returns to scale and five homogeneous products: 1, 2, 3, 4, 5, with the ratio of productivities between country *i* and country *j* equal to 1.4 for product 1, 0.9 for product 2, 0.7 for product 3, 0.6 for product 4, 0.5 for product 5. Competitive advantages depend on the ratio between the price of labour in country *i* and the price of labour in country *j*, whose equilibrium value mainly depends on total world demand for the various products and on total productive capacities of countries. If the world demand is much greater for product 1 than for the other products, and/or country i's total productive capacity is smaller than country j's total productive capacity, the equilibrium value of the price of labour in country *i* with respect to country *j* could be greater than 0.9 (but smaller than 1.4), so that country *i* would have a competitive advantage only in product 1, while country *j* would have a competitive advantage in all the other products. Conversely, if the world demand is more intense for product 5 than for the other products, and/or country j's total productive capacity is smaller than country's total productive capacity, the equilibrium value of the price of labour in country *i* with respect to country *j* could be between 0.5 and 0.6, so that country *j* would have a competitive advantage only in product 5, while country *i* would have a competitive advantage in all the other products. So far as products are perfectly homogeneous, however, there is no intra-industry trade: each country would only export the products in which it has a competitive advantage and would only import the other products.

Much more elaborated is the case with heterogeneous products, as, in particular, tourism services. With differentiated (either horizontally or vertically) products, the allocation of demand between different products depends not only upon their prices, but also upon tastes and incomes. This means that even if the price of tourism services is smaller in country *i* than in country *j*, there will be a demand also for tourism services produced in country *j* by people willing to pay a higher price for tourism in the preferred country, and also in the absence of a preferred country, just because most people can have a preference for variety. In this context, comparative and competitive advantages are no more absolute, but relative, concepts, and the intensity of competitive advantages is a matter of degree, which can hence be measured. Ceteris paribus, the stronger a country's competitive advantage in tourism services, the greater would be its exports and the smaller its imports of tourism services. In this case, a measure of the strength of competitive advantages 'revealed' by trade flows could be obtained on the basis of data on exports and/or imports. The simplest measure of the strength of comparative or competitive advantages 'revealed' by trade flows is the 'normalized' share of exports proposed by Balassa (1965, 1977, 1989). The traditional Balassa index (B) is given by:

$$B_{yi} = \frac{\dfrac{\exp_{yi}}{\sum_{y=1}^{N} \exp_{yi}}}{\dfrac{\sum_{i=1}^{M} \exp yi}{\sum_{y=1}^{N}\sum_{i=1}^{M} \exp yi}} \quad (1)$$

where $\exp_{yi}$ stands for country *i*'s exports of commodity/service *y*, with $i = 1\ldots$ M countries and $y = 1\ldots$ N products. For example, according to

the Balassa index, Italy's revealed comparative advantage in tourism services is measured by the share of tourism services in total Italian exports normalized (i.e. divided) by the share of tourism services in total world exports. The greater the share of tourism in Italian total exports with respect to the share of tourism service in total world exports, the stronger Italy's comparative advantage in tourism services.

We have extended this index to include the import side of trade:

$$EB_{yi} = \frac{\frac{\exp_{yi}}{\sum_{y=1}^{N} \exp_{yi}}}{\frac{\sum_{i=1}^{M} \exp_{yi}}{\sum_{y=1}^{N}\sum_{i=1}^{M} \exp_{yi}}} \Big/ \frac{\frac{imp_{yi}}{\sum_{y=1}^{N} imp_{yi}}}{\frac{\sum_{i=1}^{M} imp_{yi}}{\sum_{y=1}^{N}\sum_{i=1}^{M} imp_{yi}}} \quad (2)$$

where imp_{yi} stands for country i's imports of tourism services y. The extended Balassa (EB) index is the ratio between the Balassa index calculated for exports and the Balassa index for imports, i.e. EB is the ratio between two ratios. The numerator is the share of country i tourism exports in its total exports of goods and services normalized by the share of world tourism exports in world total exports of goods and services. The denominator represents the same ratio for imports. Both the original and the extended Balassa index have a lower bound of zero and no upper bound[4]. Values greater than 1 indicate the presence of a comparative or competitive advantage, while values ranging between 0 and 1 indicate comparative or competitive disadvantages. The greater the index, the stronger the competitive advantage.

The extended Balassa index seems to be preferable from a theoretical point of view to the original version, given that the Ricardian and H-O theories state that not only exports, but also imports, depend upon competitive and competitive advantages. This extension further supports the studies by Aquino (1978, 1999), Greenaway and Milner (1993) and Algieri, Ankkuriniemi, and Zampieri (2001).

5. The extended Balassa indices for tourism services

In this paragraph we report the mean values of competitive advantages measured by the traditional Balassa index (1) and by its extended version (Table 2), computed for the period 2000–2013. Detailed year-by-year values are reported in the appendix (Tables A2, A3).

The empirical analysis is based on data collected from Eurostat and UNCTAD statistics. Explicitly, trade flows in tourism correspond to the voice 'travel services' in the current account of the balance of payments of each country as described in the VI Manual of the International Monetary Fund[5].

The results show that the northern and central EU countries, especially Germany and Sweden, have a competitive disadvantage in tourism, while the opposite occurs for most EU southern countries and the Mediterranean group. Following the classification system proposed by Hinloopen and Marrewijk (2001), we can cluster the EU countries in one of the following four classes:

Class a: $0 < EB_{yi} \leq 1$ competitive disadvantage;
Class b: $1 < EB_{yi} \leq 2$ weak competitive advantage;
Class c: $2 < EB_{yi} \leq 4$ medium competitive advantage;
Class d: $\ldots EB_{yi} > 4$ strong competitive advantage.

[4] Other comparative or competitive advantages indices that correct for import flows are the Vollrath index (1991) and the Donges and Riedel index (1977). The Vollrath index is more similar to our extended Balassa index, while Donges and Riedel index is more similar to the Grubel-Lloyd intra-industry trade index. However, both indices have the drawback of ranging between $-\infty$ and $+\infty$, therefore one cannot use logarithms in the empirical analysis when negative signs are detected.

[5] The service sector includes ten categories, namely: travel, transport, communications, construction, insurance, financial, computer and information, royalties and license fees, other business services, and personal, cultural and recreation services. Travel services include tourist accommodation expenditures and exclude passenger transportation.

Table 1
Competitive advantages according to the traditional Balassa Index – B. Mean values, 2000–2013.
Source: Elaborations on UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html.

Austria	1.802	Estonia	1.486	Italy	1.426	Portugal	2.631
Belgium	0.601	Finland	0.557	Latvia	0.906	Romania	0.466
Bulgaria	2.574	France	1.403	Lithuania	0.998	Slovakia	0.633
Croatia	6.916	Germany	0.456	Luxembourg	1.130	Slovenia	1.496
Cyprus	5.402	Greece	4.742	Malta	2.866	Spain	2.852
Czech Rep.	1.079	Hungary	1.099	Netherlands	0.443	Sweden	0.775
Denmark	0.801	Ireland	0.474	Poland	1.139	UK	0.930

Table 2
Competitive advantages according to the extended Balassa Index – EB. Mean values, 2000–2013.
Source: Elaborations on UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html.

Austria	1.516	Estonia	1.868	Italy	1.462	Portugal	3.011
Belgium	0.594	Finland	0.612	Latvia	0.881	Romania	1.013
Bulgaria	2.240	France	1.356	Lithuania	1.314	Slovakia	1.246
Croatia	8.854	Germany	0.340	Luxembourg	0.862	Slovenia	1.931
Cyprus	2.652	Greece	5.305	Malta	3.170	Spain	3.743
Czech Rep.	1.704	Hungary	1.940	Netherlands	0.533	Sweden	0.546
Denmark	0.604	Ireland	0.582	Poland	1.271	UK	0.586

In general, the mean values of the extended Balassa index are in line with the traditional Balassa index for the Mediterranean countries with very strong and medium competitive advantages. According to both indices, Croatia and Greece have strong competitive advantages, although their degree of specialization has experienced a wave pattern over time (Tables A2, A3). According to the traditional Balassa index, Cyprus holds a strong competitive advantage too. These results accord with the international experience of 'sea, sand and sun' in small countries (Giannoni & Maupertuis, 2007; McElroy, 2006) and with the fact that their economic development is dependent on the contribution of tourist earnings. Put differently, the 'small size' effect matters, thus it is likely that the opportunity cost of specialization in tourism is smaller, the smaller is the country (Candela & Cellini, 1997). Spain, Malta and Portugal have medium competitive advantages, while France, Italy and Slovenia have weak competitive advantages. Outside the Mediterranean group, Bulgaria shows a medium competitive advantage, Austria, and Estonia have weak competitive advantages according to both indices. Conversely, Germany, Sweden, the Netherlands, Belgium and the UK exhibit the most pronounced competitive disadvantages, since the index is always below one over the years 2000–2013.

There are substantial differences between the two indices for some countries outside the Mediterranean group, namely Lithuania, Romania, Slovakia and Luxembourg. In particular, the first three countries have a competitive advantage in tourism considering the extended Balassa index (Table 2), but they show a disadvantage according to the traditional index (Table 1). Luxemburg has, instead, a disadvantage according to the extended version of the index, while the country holds an advantage according to the traditional Balassa index.

The values of both the original and the extended Balassa index can range in theory from zero to infinity, with the value of 1 separating competitive advantages from competitive disadvantages. In our sample, however, the values of the original Balassa index range between 0.35 (Ireland in 2012 and Romania in 2013) and 7.55 (Croatia in 2013). This means that even the countries which, according to this index, revealed the strongest competitive disadvantage in tourism services, recorded a share of tourism exports in total exports greater than one third of the share of tourism services in total world exports. In 2013, seven of the 28

UE countries – in decreasing order: Croatia, Cyprus, Greece, Malta, Portugal, Spain, Bulgaria – had a share of tourism services in their total exports between 2 and 7 times greater than the share of tourism services in world total exports. On the other side, in 2013 four countries – in decreasing order: Germany, Netherlands, Ireland and Romania – had a share of tourism services in their total exports smaller than half the share of tourism services in world total exports.

The normalized shares of tourism imports have a range of variability much smaller than the normalized shares of exports: they go from a minimum of 0.36 for Hungary to a maximum of 2.80 for Cyprus in 2013. Excluding Cyprus, the maximum value is 1.84 for the UK in 2007.

The five countries with the smallest values of the normalized shares of tourism imports in 2007 have been, in increasing order: Hungary, Lithuania, Romania, Slovakia and Slovenia. These are all countries of Centre or Eastern Europe, and none of them is among the seven countries with the highest values of the normalized shares of exports.

The five countries with the highest values of the normalized shares of imports of tourism services in 2007 have been, in increasing order: Germany, Denmark, United Kingdom, Sweden and Cyprus; of these, only Germany is among the four countries with the smallest share of the normalized share of exports.

To better comprehend the nature of international specialization, in the next paragraph we analyse the drivers of competitive advantages in tourism.

6. The determinants of competitive advantages in tourism

In order to analyse the sources of competitive advantages in tourism, we estimate a dynamic panel data model for the EU-28 countries over the period 2000–2013 using both the original and the extended Balassa indices as dependent variables.

The dynamic specification accounts for persistence in tourism trade flows and control for possible sources of endogeneity. It is formally expressed as:

$$\ln EB_{it} = \alpha_i + \delta \ln \mathrm{eb}_{i,t-1} + \beta' \ln X_{it} + \gamma' \ln Y_{it} + e_{it} \quad (3)$$

where *ln* denotes natural logarithms, EB_{it} stands for the values of the extended Balassa index computed for country i during the period of analysis *t*. α is the specific intercept, the X_{it} vector includes the traditional explanatory variables regarding a country's competitive advantage, the Y_{it} vector comprises additional control variables, e_{it} is the i.i.d. error term. The persistency in a dynamic setting is captured by the lagged dependent variable eb_{it-1} among the regressors.

We implement the system generalized method-of-moment (S-GMM) estimator which uses the level Eq. (3) to obtain a system of two equations: one differenced and one in levels. The variables in levels in the second equation are instrumented with their own first differences. The S-GMM methodology developed by Blundell and Bond (1998) uses extra moment conditions that rely on certain stationarity conditions of the initial observations, so to increase efficiency.

In accordance with the theory of competitive advantages, the *X* vector includes the overall efficiency of countries and a number of explanatory variables related to the H-O theory. In particular, the overall efficiency of countries is proxied by per capita GDP in PPP. The variables relevant for the H-O theory are synthetized as follows:

- The UNESCO rate, expressed as the number of world heritage sites per total land area in squared kilometres. The UNESCO rate is an indicator of cultural and historical attractiveness of travel destinations.
- The coastline ratio constructed as the ratio between the length of coastline in meters over the total land area in squared kilometres of each considered country (m/km^2). A coastline of zero indicates that the country is landlocked. This is an indicator of physiographical attractiveness of destinations.
- A dummy variable for Mediterranean countries (d_{med}) equals to 1 for the EU group of countries that surround the Mediterranean sea, 0 otherwise. This is a proxy for the climatic elements and natural environment that can determine the attractiveness of a destination[6].
- A dummy variable for ancient historical heritage ($d_{history}$) that is equals to 1 for Greece and Italy, 0 otherwise.
- A dummy variable for Eastern Europe (d_{est}) that is equals to 1 for Eastern countries, 0 otherwise.

We further incorporate in an augmented version of the model the new strand of trade theory which posits a special attention on the role of scale-economies, multinational corporations and social and infrastructural environment as sources of specialization (Helpman, 1981; Helpman, Melitz, & Yeaple, 2004; Hummels & Levinsohn, 1995; Krugman, 1979, 1983). These factors[7], entering the *Y* vector, are proxied by:

- the market integration – given by FDI intensity as percentage of GDP – to mirror the multinational component;
- the average hotel size – given by the ratio between the total number of bed-places and the total number of hotels and other holiday accommodations – to account for firm-level scale-economies.
- the robbery rate – expressed as the number of robbery crimes per 100,000 inhabitants – as a proxy of social order;
- the airport rate – expressed as the number of airports (with more than 15,000 passenger movements per year) per total land area in squared kilometers– as a proxy of infrastructures.

A detailed description of the considered variables is reported in Table A1 in the Appendix.

7. Main results of the econometric analysis

In accordance with the international specialization theory, we initially estimate a baseline model which includes tourism-specific factors following Heckscher-Ohlin, as well as a measure of the overall country's efficiency. We then augment the model adding a set of factors linked to the new trade theory.

The results of dynamic panel estimates for the baseline and augmented model considering both the traditional and the extended Balassa indices as dependent variable are reported in Table 3.

The results show that the lagged indices of competitive advantages, as expected, are highly persistent since their coefficients are significantly positive in all the regressions and range between 0.10 and 0.32. At the same time, the estimations indicate that, the natural environment, cultural and historical heritage are statistically significant in explaining revealed competitive advantage in tourism. Interestingly, results reveal that, ceteris paribus, competitive advantages in tourism are negatively associated with the overall efficiency of the country.

In particular, a rise in the overall efficiency (proxied by per-capita GDP) by 1% lessens competitive advantages by a range of 0.3 to 0.92% (Table 3). This negative relationship stems most likely from the fact that specialization in tourism services is a 'specialization of the poor', typical of countries that have failed to promote development of manufacturing activities or of higher value services (such as IT and finance). The exports of the globally most efficient countries, in fact, is usually spread across manufacturing and services, sometimes including tourism services (e.g. Italy and France) in which poor countries' exports are mainly concentrated.

The Heckscher-Ohlin proxies are significant too. More specifically,

[6] Two indicators of climatology –the mean annual temperature and mean annual precipitation – were not used for lack of data.

[7] Other covariates such as country's environmental preservation given by total greenhouse gas emissions or CO2 index has been excluded from the model for multicollinearity problems.

Table 3
Determinants of competitive advantages in tourism, 2000–2013 - dynamic model.

	(1)	(2)	(3)	(4)	(5)	(6)
	B	EB	B	EB	B	EB
L. Competitive advantages index	0.103*	0.256***	0.216***	0.323***	0.233***	0.160*
	(0.076)	(0.000)	(0.005)	(0.000)	(0.009)	(0.093)
L. GDP	− 0.667***	− 0.578***	− 0.274	− 0.721***	− 0.543***	− 0.922***
	(0.000)	(0.000)	(0.458)	(0.008)	(0.000)	(0.000)
L. UNESCO rate	0.304***	0.284***	0.815**	1.491***	0.591*	1.287***
	(0.001)	(0.003)	(0.036)	(0.007)	(0.063)	(0.000)
Coast area	− 0.00123***	0.0000789	− 0.00422***	0.000144	− 0.00185***	0.000773
	(0.000)	(0.810)	(0.000)	(0.756)	(0.000)	(0.130)
d_{med}	1.882***	1.632***	2.781***	0.444*	2.294***	0.402***
	(0.000)	(0.000)	(0.000)	(0.087)	(0.000)	(0.006)
$d_{history}$	1.915***	3.662***	1.549***	0.955**	2.489***	0.896**
	(0.000)	(0.000)	(0.000)	(0.037)	(0.000)	(0.020)
d_{est}	0.164	1.204**	− 0.222	0.502**	− 0.0896	0.438
	(0.276)	(0.000)	(0.288)	(0.462)	(0.358)	(0.244)
L. Robbery rate			0.0657	0.0681		
			(0.507)	(0.593)		
L. Market integration			0.0442***	0.0517**	0.0495***	0.042**
			(0.005)	(0.014)	(0.000)	(0.047)
L. Hotel size			0.632**	0.592**	0.302***	0.581***
			(0.028)	(0.028)	(0.002)	(0.004)
L. Airport rate					0.254***	0.224**
					(0.006)	(0.027)
Constant	2.563***	1.747***	8.862	− 4.718	5.871***	− 3.398
	(0.000)	(0.007)	(0.105)	(0.353)	(0.000)	(0.311)
N	362	362	217	217	217	217
df_m	7	7	10	10	10	10
chi2	6567.8	5358.1	6376.8	4173.9	5766.3	4096.2
chi2 (p-value)	0	0	0	0	0	0
ar1(p-value)[a]	0.0814	0.0000	1.34e-19	0.0156	0.0252	0.0336
ar2 (p-value)[b]	0.331	0.735	0.184	0.656	0.111	0.375
Sargan (p-value)[c]	0.492	0.212	0.646	0.300	0. 219	0.365
N groups (i.e. countries)	28	28	28	28	28	28

Notes: All variables are in logarithms. Methodology: System-GMM estimator with endogenous instruments. Dependent variables: B = Balassa Index; EB = Extended Balassa Index. L = lagged variable. Dummy variables: d_{med} (equals to 1 for the Mediterranean countries excluding Italy and Greece, 0 otherwise); $d_{history}$ (equals to 1 for Greece and Italy, 0 otherwise); d_{est} (equals to 1 for Eastern European countries, 0 otherwise). P-values in parentheses.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.

[a] Arellano and Bond test for AR(1) in first differences. H_0: there is no-first order serial correlation in residuals.

[b] Arellano and Bond test for AR(2) in first differences. H_0: there is no-second order serial correlation in residuals.

[c] Sargan test of overidentifying restrictions. H_0: Model specification is correct and all overidentifying restrictions (all overidentified instruments) are correct (exogenous).

the two dummies d_{med} and $d_{history}$, and the UNESCO rate suggest that a large endowment of natural, cultural and historical resources increases a country's competitive advantage in tourism. In the models, to be surrounded by the Mediterranean Sea and to be endowed with classical heritage (ancient Greek and Roman) increase competitive advantages. Specifically, to be a Mediterranean country raises tourism specialization by a factor of about 1 above the average.

The coastline variable, when significant, has a negligible impact on tourism specialization suggesting that it is more the position on the Mediterranean Sea that matters, rather than the length of the coast itself.

The dummy for the eastern countries enters significantly with a positive sign only when competitive advantages are measured with the extended Balassa index. This because most of these countries – having been for a long period isolated from the rest of the world for political reasons – have registered relatively low values for both exports and imports of tourism services over the years 2000–2013, so that the traditional Balassa index is usually less than one. The extended Balassa index, instead, considering both exports and imports, detects some competitive advantages in tourism services for these countries.

The variables mirroring the new trade theory contribute to explain competitive advantages too, both with the traditional Balassa index and with its extended version (Table 3, columns 3–6).

The proxies for market integration and scale-economies are always significantly positive across specifications. Global market integration tends to increase competitive advantages, given that fewer barriers facilitate the movement of people. The positive sign of average hotel size can be motivated by both scale-economies involved in setting up a sophisticated pricing policy and the consideration that the opportunity cost associated with potential empty rooms increases with the number of available bed-places (Boffa & Succurro, 2012). The airport rate (Eqs. 5 and 6) has a positive impact on competitive advantages, since the presence of infrastructures facilitate tourist flows. Only the robbery rate is not significant in explaining tourism competitive advantages.

On the whole, the results highlight that a country with a larger endowment of resources particularly important for the production of

tourism services tend to specialize in tourism services. This specialization becomes much more pronounced if a country's GDP is relatively low. Market integration, scale-economies and airport infrastructures are significant too. This confirms that both the H-O and the new trade theories are important determinants of competitive advantages in tourism, therefore supporting an eclectic view of the drivers of international specialization in tourism services.

Our dynamic model appears well specified. A significant AR(1) serial correlation and the absence of second-order serial correlation, necessary conditions for the validity of the instruments, are indeed satisfied. The Sargan test indicates also that the over-identifying restrictions are valid, since the null hypothesis that the population moment conditions are correct is not rejected. The diagnostic results have supported the robustness of the estimations and the goodness of the models used in the empirical analysis.

8. Conclusions

This study has investigated the competitive advantages in tourism and their drivers for the EU-28 countries. To this purpose, a traditional Balassa index and its extended version have been calculated on data collected from Eurostat and UNCTAD statistics for the period 2000–2013.

The results suggest that Mediterranean countries have competitive advantages in tourism, but the degree of specialization varies across the countries: Croatia and Greece have strong competitive advantages; Malta, Portugal and Spain own medium competitive advantages; France, Italy, Cyprus and Slovenia have low competitive advantages. Moreover, competitive advantages in tourism remain stable over the years 2000–2013 for Greece, Spain and Portugal, while they decrease somewhat for France and Italy.

Northern and eastern countries show more complex patterns. While Hungary and Austria have the strongest competitive advantage in tourism outside the Mediterranean group, the competitive advantages of some eastern countries can be due to the ‘small size’ effect.

To better assess the nature of the international specialization in tourism, a dynamic panel data model has been estimated. The econometric findings show that both the H-O and the new trade variables are important drivers of competitive advantages in tourism, therefore supporting an eclectic view of international specialization in tourism services.

Indeed, on the one hand, we find that being endowed with natural and cultural resources increases a country's competitive advantage in tourism services. The intuition is simple: following the factor-proportions theory, a country with a favourable natural and cultural environment should specialize in tourism services. The empirical results support this conclusion and would suggest that the productive activities closely linked to the natural and cultural environment should be encouraged and advertised in order to strengthen competitive advantages and attract more tourists. At the same time, the greatest challenge for a tourism-based economy consists in preserving natural and cultural resources. This is important from an ecological, managerial and economic perspective given that competitiveness in tourism services can be strengthened by safeguarding the attractiveness of the environment and by a sustainable management of resources. By adopting energy conservation and pollution prevention schemes, countries can gain sustainable competitive advantages generating positive images of tourist destinations, improving reputation and increasing the number of visitors. This is also important for an effective tourism planning oriented to maintain the quality of tourist experience and shape perceptions of place and lifestyles. Despite the possibility of some externalities, the experience made by some visitors may enhance a destination's appeal and increase its value.

On the other hand, additional predictors like market integration, scale-economies and airport infrastructures are significantly positive across econometric specifications. This may indicate that scale economies offer substantial incentives for mergers and acquisitions among small and medium sized hotels and accommodation establishments. The competitive circumstances may hasten consolidation among those accommodation establishments seeking to reduce the cost disadvantages when operating at less than the optimal scale. Larger accommodation establishments could further provide diversified facilities and various services, such as restaurants, business centres, meeting lounges, clubs or other recreational facilities to meet different needs of travellers. Appropriate airport infrastructures would support the tourism market.

Interestingly, we also find that the overall efficiency of a country has a negative impact on competitive advantages in tourism, suggesting that specialization in tourism is a ‘specialization of the poor’ typical of countries that have not been able to boost manufacturing and high-value services activities. Thus, public policies could be aimed at mitigating the lower productivity that characterizes countries specialized in tourism with actions devoted to stimulate innovation in tourism activities. At the same time high-value services and manufacturing activities indirectly linked to tourism sector could be fostered. This would also imply more cooperation between different and heterogeneous actors in the business value chain.

In conclusion, our study highlights both the theoretical foundations and the empirical evidence of competitive advantages in tourism in order to impart a basic understanding of what a country can try to achieve in order to improve its competitiveness. From this point of view, given the changing nature of a destination's competitiveness, this study can also help policy makers and managers in countries with low competitive advantages. Indeed, a destination which is intrinsically weak may have its tourism potential boosted by some amplifying factors which enable the country to attract a larger market share. As this study shows, because of the unique nature of tourism, the true ability of a tourism destination to compete involves not only its natural and cultural resources, but also its social, political, technological and environmental strengths. Thus, in order to formulate an effective tourism policy, policy makers and managers in countries with low competitive advantages have to think about the elements that enhance a destination appeal, that is the factors that motivate individuals to choose one particular country over the others. Effective policy interventions can provide guidance for tourism planning and development that create a favorable environment for tourism.

Future research might address the relationship between competitiveness and sustainability at both global macro and micro environment and provide managerial implications. In particular, it might focus on the ways by which a destination could preserve its competitive advantage, while avoiding degradation of the factors that have originated its competitive position. We believe that every country should improve all dimensions of sustainability in order to preserve or develop true competitiveness.

Conflict of interest

All authors contributed equally to this manuscript

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Table A1

Description of variables and source of data.

Variables	Short description	Source
Exports and imports of tourism	236 travel; exports and imports are expressed in US$	UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html
Exports and imports of services	200 total services; exports and imports are expressed in US$	UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html
Exports and imports of goods and services	Exports and imports are expressed in US$	UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html
Efficiency factors		
GDP per capita in PPP Index	The volume index of GDP per capita in Purchasing Power Parity (PPP) is expressed in relation to the European Union (EU28) average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries.	Eurostat http://ec.europa.eu/eurostat/web/products-datasets/-/tec00114
Heckscher-Ohlin factors		
Coastline: cost/area ratio (m/km^2)	Length of coastline, in meters. A coastline of zero indicates that the country is landlocked. Land Area Km^2	https://en.wikipedia.org/wiki/List_of_countries_by_length_of_coastline
AREA of the country	Area of the regions in Square kilometre	Eurostat
The UNESCO rate	Ratio between the numbers of heritage sites included in the World Heritage List of UNESCO over total land area in squared kilometres.	http://whc.unesco.org/en/list/
Population on 1 January (2000–2013) persons	The number of persons having their usual residence in a country on 1 January of the respective year. When usually resident population is not available, countries may report legal or registered residents.	Eurostat
New trade theory factors		
Accommodation size index	The ratio between the number of bed-places and the number of establishments	Eurostat
Total number of establishments over total area	Establishments include hotels; holiday and other short-stay accommodation; camping grounds, recreational vehicle parks and trailer parks	Eurostat
Market Integration - Foreign Direct Investment intensity (% of GDP)	Average of inward and outward Foreign Direct Investment (FDI) flows divided by gross domestic product (GDP). The index measures the intensity of investment integration within the international economy. The direct investment refers to the international investment made by a resident entity (direct investor) to acquire a lasting interest in an entity operating in an economy other than that of the investor (direct investment enterprise). Data are expressed as percentage of GDP to remove the effect of differences in the size of the economies of the reporting countries.	Eurostat
Robbery rate	Robbery recorded by the police. The robbery rate is normally expressed as the number of crimes per 100,000 habitants. E.g. a Community *A* has a population of 50,000. Last year they had 5 robberies (5 / 50,000) × 100,000 = 10 robberies per 100,000 population	Eurostat
Airport rate	Number of airports (with more than 15,000 passenger movements per year) per total land area in squared kilometers– as a proxy of infrastructures.	Eurostat

Table A2

Balassa index – tourism services.
Source: Own Elaborations on UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	1.85	1.79	1.81	1.92	1.79	1.82	1.81	1.70	1.83	1.85	1.83	1.79	1.75	1.69
Belgium	0.52	0.52	0.59	0.61	0.59	0.61	0.63	0.58	0.58	0.63	0.65	0.64	0.65	0.61
Bulgaria	2.56	2.24	2.39	2.77	2.78	2.76	2.49	2.81	2.88	2.93	2.66	2.35	2.26	2.15
Croatia	5.31	5.68	5.92	7.28	6.71	7.20	7.29	7.29	7.74	7.18	6.95	7.37	7.35	7.55
Cyprus	6.44	6.19	5.96	5.73	5.31	5.32	5.41	5.17	4.98	4.18	4.48	5.07	5.46	5.93
Czech Rep.	1.38	1.26	1.07	1.08	0.95	1.06	1.15	1.10	1.10	1.07	1.05	1.02	0.93	0.88
Denmark	0.83	0.87	0.95	0.94	0.89	0.77	0.76	0.73	0.69	0.69	0.75	0.80	0.79	0.76
Estonia	1.75	1.67	1.75	1.69	1.78	1.61	1.49	1.31	1.38	1.48	1.32	1.18	1.16	1.24
Finland	0.44	0.45	0.47	0.50	0.48	0.49	0.49	0.50	0.51	0.56	0.63	0.74	0.78	0.76
France	1.35	1.32	1.35	1.36	1.48	1.44	1.48	1.54	1.51	1.33	1.31	1.40	1.41	1.36
Germany	0.49	0.45	0.44	0.46	0.46	0.47	0.48	0.45	0.47	0.45	0.44	0.44	0.44	0.44
Greece	5.23	5.06	5.36	5.00	4.59	4.86	4.98	4.59	4.45	4.47	4.21	4.53	4.33	4.73
Hungary	1.65	1.64	1.29	1.34	1.04	1.01	0.96	0.85	0.98	1.04	0.99	0.94	0.85	0.80
Ireland	0.49	0.45	0.45	0.51	0.50	0.54	0.59	0.58	0.59	0.44	0.39	0.38	0.35	0.37
Italy	1.55	1.41	1.40	1.45	1.42	1.41	1.44	1.38	1.43	1.46	1.42	1.43	1.39	1.37
Latvia	0.67	0.57	0.70	0.82	0.78	0.84	1.06	1.11	1.17	1.17	1.00	0.98	0.89	0.93
Lithuania	1.27	1.04	1.12	1.15	1.16	1.14	1.14	1.08	0.90	0.88	0.78	0.83	0.76	0.72
Luxemburg	…	…	1.31	1.41	1.35	1.20	1.06	0.96	1.03	1.02	1.03	1.12	1.07	1.00
Malta	2.74	2.96	2.84	3.13	3.06	3.04	2.70	2.84	2.75	2.39	2.74	2.99	2.85	3.10
Netherlands	0.46	0.43	0.47	0.47	0.45	0.44	0.45	0.46	0.42	0.42	0.43	0.44	0.42	0.44
Poland	2.05	1.49	1.25	0.97	1.06	1.02	1.02	1.20	1.13	0.95	0.96	0.96	0.98	0.91
Portugal	2.57	2.62	2.55	2.50	2.53	2.63	2.58	2.64	2.69	2.60	2.76	2.76	2.74	2.67
Romania	0.49	0.44	0.34	0.37	0.32	0.59	0.64	0.64	0.66	0.44	0.39	0.41	0.44	0.35
Slovakia	0.56	1.00	0.69	0.59	0.50	0.61	0.63	0.62	0.66	0.69	0.64	0.60	0.54	0.53
Slovenia	1.50	1.44	1.39	1.47	1.46	1.50	1.46	1.36	1.48	1.57	1.63	1.58	1.60	1.50
Spain	2.96	2.91	2.78	2.93	2.91	3.03	3.05	2.91	2.97	2.74	2.74	2.80	2.65	2.55
Sweden	0.61	0.68	0.72	0.68	0.67	0.78	0.85	0.90	0.82	0.78	0.78	0.84	0.86	0.88
UK	0.90	0.79	0.81	0.83	0.90	0.95	0.99	1.05	0.99	0.89	0.95	0.95	0.98	1.04
(World)	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table A3
Extended Balassa index – tourism services.
Source: Own Elaborations on UNCTAD data, 2016 http://unctadstat.unctad.org/EN/Index.html.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	1.41	1.34	1.36	1.39	1.43	1.51	1.50	1.53	1.60	1.54	1.57	1.67	1.67	1.71
Belgium	0.63	0.62	0.60	0.60	0.59	0.60	0.60	0.58	0.56	0.59	0.58	0.59	0.60	0.58
Bulgaria	2.02	1.84	1.66	1.79	1.82	2.22	2.10	2.49	2.28	2.32	2.85	2.70	2.77	2.50
Croatia	4.98	5.68	5.63	10.21	8.48	10.62	11.59	10.35	10.68	9.06	9.07	9.47	8.57	9.57
Cyprus	4.45	4.20	3.66	3.28	2.75	2.48	2.47	1.95	1.98	1.77	2.03	1.99	2.00	2.12
Czech Rep.	2.26	2.14	1.81	1.80	1.71	1.80	1.89	1.74	1.49	1.48	1.54	1.46	1.41	1.32
Denmark	0.64	0.65	0.67	0.64	0.65	0.64	0.64	0.60	0.56	0.52	0.53	0.56	0.57	0.58
Estonia	2.40	2.54	2.48	2.21	2.28	2.25	1.84	1.66	1.43	1.55	1.43	1.33	1.39	1.36
Finland	0.55	0.55	0.56	0.59	0.57	0.60	0.58	0.59	0.60	0.56	0.63	0.73	0.75	0.71
France	1.53	1.46	1.46	1.41	1.37	1.33	1.37	1.40	1.37	1.26	1.19	1.20	1.35	1.29
Germany	0.33	0.30	0.30	0.30	0.31	0.32	0.36	0.35	0.35	0.35	0.36	0.37	0.38	0.38
Greece	2.65	2.81	5.22	5.68	5.23	5.44	6.41	6.45	5.98	5.69	5.48	5.32	5.71	6.20
Hungary	2.42	2.44	1.85	1.57	1.58	1.73	2.13	1.73	1.72	1.80	1.92	1.92	2.10	2.25
Ireland	0.80	0.71	0.64	0.63	0.65	0.63	0.63	0.58	0.50	0.49	0.44	0.45	0.47	0.53
Italy	1.57	1.53	1.44	1.40	1.57	1.48	1.58	1.48	1.40	1.37	1.42	1.44	1.39	1.40
Latvia	0.58	0.61	0.82	0.84	0.90	0.73	0.95	1.02	0.86	0.86	0.93	0.99	1.08	1.17
Lithuania	1.64	1.79	1.56	1.42	1.29	1.31	1.25	1.18	0.90	0.83	1.08	1.45	1.30	1.40
Luxembourg	…	…	0.93	0.94	0.93	0.89	0.81	0.79	0.81	0.78	0.79	0.88	0.90	0.89
Malta	3.03	3.06	3.65	3.28	2.96	2.83	2.39	3.90	3.26	2.95	3.22	3.45	3.21	3.19
Netherlands	0.51	0.48	0.52	0.50	0.52	0.53	0.54	0.57	0.50	0.50	0.54	0.57	0.56	0.62
Poland	1.96	1.39	1.41	1.47	1.20	1.08	0.97	1.38	1.24	1.16	1.07	1.19	1.16	1.12

Portugal	3.02	3.25	3.28	3.23	3.34	3.15	2.95	2.97	2.99	2.94	2.92	2.76	2.71	2.65
Romania	0.91	0.91	0.92	1.07	1.09	1.39	1.28	1.45	1.21	0.94	0.75	0.75	0.83	0.68
Slovakia	1.33	1.63	1.69	1.45	1.17	1.42	1.39	1.24	1.13	1.03	1.06	1.01	0.94	0.96
Slovenia	1.84	1.71	1.64	1.69	1.77	1.94	1.86	1.91	1.87	1.77	1.89	2.16	2.46	2.52
Spain	5.13	4.68	4.38	4.47	3.97	3.57	3.52	3.40	3.35	3.12	3.10	3.27	3.28	3.16
Sweden	0.41	0.48	0.52	0.51	0.47	0.55	0.65	0.68	0.60	0.59	0.54	0.56	0.55	0.53
UK	0.56	0.50	0.51	0.49	0.52	0.55	0.57	0.57	0.54	0.59	0.65	0.66	0.71	0.78
(World)	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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