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Seasonal concentration decomposition across segments of tourism demand

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José David Cisneros Martínez

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Seasonal concentration decomposition across segments of tourism demand

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D. José David Cisneros Martínez

Dirigida por el Doctor:

Dr. Antonio Fernández Morales

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D. Antonio Fernández Morales, Profesor Titular de la Universidad de Málaga,

CERTIFICA:

Que la memoria presentada por **D. José David Cisneros Martínez**, bajo el título "Seasonal concentration decomposition across segments of tourism demand", ha sido realizada bajo mi dirección, reuniendo a mi juicio los requisitos necesarios para optar al grado de Doctor por la Universidad de Málaga, por lo que autorizo su presentación.

Asimismo, informo que las publicaciones que avalan la tesis no han sido publicadas en tesis anteriores.

Y para que así conste, firmo el presente certificado.

En Málaga a 6 de noviembre de 2015

Fdo.: Antonio Fernández Morales
Profesor Titular
Departamento de Economía Aplicada (Estadística y Econometría)
Facultad de Ciencias Económicas y Empresariales
Universidad de Málaga

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INCLUDED PAPERS AND BOOK CHAPTERS

1: Cisneros-Martínez, J.D., & Fernández-Morales, A. (2015). Cultural tourism as tourist segment for reducing seasonality in a coastal area: the case study of Andalusia. *Current Issues in Tourism, 18*(8), 765-784. doi: 10.1080/13683500.2013.861810

2: Cisneros-Martínez, J.D., & Fernández-Morales, A. (2015). Destination Competitiveness, the Environment and Sustainability: Challenges and Cases. In M. Kozak, & A. Artal (Eds.), *Understanding seasonal concentration of tourist arrivals: An exploratory study for the South of Spain* (pp. 131-143). Wallingford: CAB International. doi: 10.1079/9781780646978.0131

3: Fernández-Morales, A., & Cisneros-Martínez, J.D. (2015). Seasonal Inequalities in Visitor Distribution in Argentina's Tourism Regions. *e-Review of Tourism Research, 12(1/2),* 115-126. URL: http://3ws1wk1wkqsk36zmd6ocne81.wpengine.netdna-cdn.com/files/2015/08/3.-eRTR_ARN_Vol.12-No1.2_Fernández-Morales-and-Cisneros-Martínez.pdf

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5. Fernández-Morales, A., Cisneros-Martínez, J. D., & McCabe, S. (2016). Seasonal concentration of tourism demand: Decomposition analysis and marketing implications. Tourism Management, 56, 172-190. doi: 10.1016/j.tourman.2016.04.004

CONFERENCE CONTRIBUTIONS

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2: Cisneros-Martínez, J.D., & Fernández-Morales, A. (2013). Análisis de la concentración estacional del turismo en Andalucía a través de la entrada de flujos turísticos en los aeropuertos andaluces. En P. Águas, F. Serra, & J. Santos (Eds.), *TMS Algarve 2013-Tourism & Management Studies International Conference* (p. 55). Olhão, Portugal: Escola Superior de Gestão, Hotelaria e Turismo, Universidade do Algarve. ISBN: 978-989-8472-36-6

3: Cisneros-Martínez, J.D., & Fernández-Morales, A. (2014). Seasonal concentration of tourism on the Andalusian coastline. En M. Kozak, & N. Kozak (Eds.), *7th World Conference for Graduate Research in Tourism, Hospitality and Leisure* (pp. 801-806). Estambul, Turquía: Anatolia. ISBN: 978-605-4940-25-7

4: Cisneros-Martínez, J.D. (2014, Agosto). *Concentración estacional de la demanda hotelera en Argentina*. Comunicación presentada en 1ª Jornada de Licenciatura en Turismo y 2º Simposio Internacional Turismo y Sustentabilidad, Buenos Aires, Argentina.

SUMMARY

The study of seasonality has traditionally focused on analysing demand patterns, the description of this phenomenon in tourist destinations, the negative effects it has on employment and investment, and the policies drawn to combat it, as well as its implications. However, in recent years, some studies have begun to focus on the approach and proposal of new techniques for measuring seasonality.

When tourist destinations managers apply deseasonalising measures, they find it difficult to identify what kind of tourists contribute to deseasonalisation, as these potential tourists may go unnoticed due to the lack of a methodology that identifies them. Given this deficiency, in this thesis we have tried to outline a measurement approach that provides information about the type of tourists that should be targeted to reduce seasonal concentration in the destinations analysed. For this, the methodology used in this thesis, which includes the additive decomposition of the Gini index, provides information about the contribution of each demand segment to the overall seasonal concentration of a destination. By using this decomposition, the seasonal component can be expressed through relative marginal effects, which allows one to identify those tourists who are more favourable for reducing seasonality. In addition, the seasonal factors were estimated using the multiplicative method, which served to improve the analysis since they provided the seasonal patterns of the demand segments analysed. Furthermore, depending on the destination investigated, different complex classifications were used according to tourists´ origin, their main travel motivation, and the region visited within each of the destinations analysed, which has allowed one to distinguish more accurately within inhomogeneous classifications.

Previous studies have used the Gini index (without disaggregating) to analyse the annual seasonal concentration exerted by tourism demand in certain destinations, and some demand patterns have gone unnoticed. In this sense, a sufficiently disaggregated level of tourism demand can reveal nuances which are lost with aggregated data. Therefore, this thesis aimed to disaggregate seasonal concentrations by disaggregating the Gini index, and consequently, get tourist destination managers to respond more precisely to certain demand variables by using marketing policies. The application of the proposed methodology in the tourist destinations analysed (where a sufficient a disaggregate level was used) aim to provide tourism managers with additional information so they could identify which tourists they should be directing their catchment policies, as long as their goal is to reduce the seasonal concentration in these destinations.

In fact, it has been seen that in the tourists destinations analysed, the seasonal patterns and consequent degree of seasonal concentration observed, significantly differ when it was studied with disaggregated data. For this reason, it is essential to use an adequate level of disaggregation as a reference when planning deseasonalising policies.

As indicated in the introduction, the thesis has been developed by a compendium of scientific publications in which the seasonal concentration of three destinations and their regions have been analysed; the destinations studied were the coast of Andalusia, Argentina, and the United Kingdom.

In Chapter 2, an analysis of seasonal concentration in the Andalusian coastline is provided. For this chapter, the particular characteristics of tourism in the destination have been taken into consideration. Since its inception as a tourist destination, this destination has been driven by climate factor in most of the Andalusian coastline. Thus, good weather can be considered the coastline´s signature brand, being a resource that has not only made it possible to develop tourism activities, but also satisfies the needs of the demand, which in many cases is the main reason of travel.

Climate has a significant influence on tourist seasonal concentration and, consequently, on the profitability that this destination gets from the tourism sector. This is due both to the specialisation of sun and sand tourism and to the lack of diversification in other tourism products that do not solely depend on the weather, as in the case of cultural tourism. Furthermore, it is understood that a good forecast and detailed knowledge of the weather in this destination can help adapt the same tourism activities, achieving the reduction of the effects caused by tourism seasonality. This way, the importance of tourism products diversification is emphasized since, if a predict weather forecast fails at the destination; tourists can redirect in situ their stay by having more alternatives for other touristic activities not conditioned by the weather.

Traditionally, in this coastline, the sole demand for sun and sand tourism mostly takes place in the summer months, demonstrating a noticeable seasonality both by the climatic characteristics of this type of tourism and by the tourists´ working conditions: they have paid holidays during this period. However, this affirmation has been losing weight in recent times; greater hotel occupancy is being achieved in the months immediately before and after the traditional months of high concentration. This can be explained by the visitors' current tendency to split their holidays, and also by the fact of not wanting to deal with the overcrowding that happens in the main summer months; there is a high concentration of tourist which lowers the quality offered by tourism entrepreneurs.

The main reason behind this destination's persisting seasonality is due to the predominance of sun and sand tourism. However, this trait is showing a corrective upward evolution due to the wager there in on incorporating other complementary tourism products. Although cultural tourism is often considered a deasonalising tool, in some of Andalucía's management plants it is not considered economically profitable if it is implemented in the littoral area. As a result, these plans often opt for other emerging tourism products such as health and beauty, or golf tourism to diversify the supply demand in the coastline. Even if cultural tourism is not economically profitable, this chapter has investigated its effectiveness to reduce seasonality.

Andalusia is characterized by its huge variety and diversity of cultural resources, which constitutes a heritage with great tourism potential. Globally, cultural tourism is increasingly being considered an emerging and deseasonalising tourism product due to the new motivation tourists have, who are either looking for difference and diversity or want to increasing their interest for culturally related things, together with the splitting of holidays, which translates into an increase in short trips. These factors favour the development of cultural tourism. Likewise, this current global situation can be applied to Andalusia thanks to the abundant and diverse cultural heritage (tangible and intangible) available in the region.

Hence, to verify if cultural tourism was appropriate as a deseasonalisation strategy in the Andalusian coastline, the cultural segment was identified. To do this, tourism demand was disaggregated into different tourism segments: by main travel motivation, which distinguishes the sun and sand tourists from cultural ones and others; by the tourists´ country of origin, differentiating national tourists from foreign tourists; and by the coast tourists visited: Costa de la Luz de Huelva, Costa de la Luz de Cádiz, Costa del Sol, Costa Tropical and Costa de Almería. The measurement unit for tourism demand used in this chapter was the number of travellers staying in hotels on the littoral due to the predominance of hotels as the most demanded accommodation by tourists in this destination.

In general, all the coasts in Andalusia have to cope with the effects of seasonality. Local and regional authorities, along with tourism entrepreneurs, are currently facing this problem by implementing corrective measures to reduce seasonal concentration with the pursuit of new ways of product diversification. This can be corroborated by the recent coordination between the government and the private sector to tackle this problem. For this coordination to be effective, they must dispose of the knowledge and appropriate tools for measuring seasonality. The results obtained in this chapter show the importance of using an adequate and sufficient level of disaggregation for this matter. The inclusion of segments according to travel motivation and the classification of tourists according to country of origin, together with the coast analysed, reveal important features that can be masked when aggregated information is studied as a whole in the destination.

Planning tools containing measures to reduce seasonality in Spain tend to be established at higher territorial levels (national or regional). Therefore, local tourism managers are limited in their decision-making when it comes to diversifying tourism activities within their territories. The most significant plans that were in force when this study was conducted were: the *Plan del Turismo Español Horizonte 2020* – Plan de Turismo Español 2008-2012, at a national level; and the *Plan General de Turismo Sostenible de Andalucía 2008-2011*, the *Plan Director de Marketing de Andalucía 2009-2011* and the *Plan de Acción de Playas*, *Playas de Andalucía 2007-2011*, at a regional level. In all of these plans, the challenge of reducing seasonality in coastal destinations is addressed, and various general measures are proposed. Among the measures proposed are ‘open beaches all year’, ‘weekends and long weekends’ or

‘Christmas in Andalusia’. The projects aim to attract demand segments in low seasons through specific offers and proposals, and through several direct communication actions and marketing to promote a destination as a whole during medium and low season. Furthermore, diversifying the sun and sand tourism product is seen as an objective to increase the competitiveness of the sector while also contributing to reducing seasonality, which is in accordance with the product mix variation proposed by some authors in the literature.

In Andalusia’s planning resources, foreign tourists are considered less seasonal than domestic ones, ratified by the results obtained in this chapter. However, with the methodology used, one observed that while all foreign tourists were considered favourable for reducing seasonality, they were not all favourable to the same extent; it depended on the type of tourists. On the other hand, it was found that the domestic-cultural segment had characteristics that made it a favourable group for reducing seasonality in spite of the fact that domestic tourists are not usually considered favourable for such task. However, the planning resources mentioned do not use quantitative tools with a sufficient level of disaggregation. On this matter, the methodology used in this thesis has been very useful. Tourism policies aimed at alleviating seasonal concentration could be adjusted to more specialised approaches with the analysis on the evolution of the relative marginal effect during the period observed, especially the last year analysed (2011).

Among the main results, it was found that given the heterogeneity in both the domestic and international tourists groups, it was much more effective to focus, within each group, in the specified segments in this chapter. The cultural segment was detected as the most favourable for deseasonalisation, especially the one composed of domestic tourists. Meanwhile, cultural-foreign tourists did not have the same deseasonalising impact in all of the Andalusian coasts, demonstrating little relevance in two of them. In general, it can be verified that seasonal concentration, in all the coasts of Andalusia, has experienced an upward trend in the 13 years studied. In addition, all the coasts, especially two of them (Costa de la Luz de Huelva y Costa de la Luz de Cádiz), showed that they either had not implemented enough measures for reducing seasonal concentration or that the ones in place had not been effective. Furthermore, it was found that seasonal patterns and the consequent degree of seasonal concentration observed in the segments analysed significantly differ when studied with disaggregated data. In fact, we were able to verify that while using a simple disaggregation by tourist nationalities in the destination as a whole, foreign tourists were the most favourable for deseasonalisation since they showed negative relative marginal effects of greater magnitude; this diagnosis significantly changed when a more complete segmentation was used and segments like the sun and sand, the cultural, and others were introduced. Thus, in recent years, foreign tourists only remain favourable, in terms of their deseasonalising effect, within the cultural segment since they have a similar relative marginal effect as domestic-cultural tourists. Thus, the importance of betting on cultural tourism as deseasonalising instrument on the Andalusian coastline is confirmed. This

affirmation on the impact of cultural tourism to reduce seasonality previously lacked rigorous quantitative research that could ratify this on the coastline.

In general, cultural tourists have been identified as the most favourable for reducing seasonality in the Andalusian coastline, and for this reason, wagging on cultural tourism as means to decongest the coastline is proposed. Cultural tourists often seek to complement their sun and sand tourism with other activities that do not usually require a thorough tour of all the monuments and sites; they want to experience the local people, the gastronomy, etc. Under the umbrella of cultural tourism, one can find tourism of historic cities, which has traditionally gone in the opposite direction to sun and sand tourism, and has been an option chosen by tourists fleeing the masses in coastal destinations, in preference to a visit to a historic town in a quiet atmosphere. Today, the current reality is different since sun and sand tourists are increasingly demanding additional cultural activities that fit during their stay. Due to this changing reality, it would be advisable that, as in the case of Málaga city, other historic towns located close to the Andalusian coastline such as Huelva, Cádiz and Almería, proposed a complementary tourism product in which part of the vacation travel include a visit to the historic city centre.

The measures proposed against seasonality in the various management plans applicable to the Andalusian coastline are very diverse and generally, they try to provide support through marketing activities or by directly supporting those specific segments that contribute to deseasonalisation. However, these plans do not include the development of analytical tools for determining thoroughly which are those segments and the relative magnitude of their deseasonalising effect. Therefore, the methodology presented in this chapter, both from the point of view of calculating the relative marginal effects as a quantitative measure of the deseasonalising effect and the triple disaggregation by region, nationality, and segments, can be a valuable tool for the design and implementation of management plans against seasonality in the Andalusian coastline.

Finally, it should be noted that this chapter particularly emphasises the capacity that cultural tourism has to contribute to deseasonalisation. However, it should be noted that there are various kinds of motivations included inside the ‘other segments’ group with which, by performing a new disaggregation, one could obtain other more specific tourism segments that could help reduce seasonality, like the results in this analysis have shown. Not to mention, this group is considered somewhat favourable for reducing seasonality in the Andalusian coastline

Furthermore, an update of the results obtained here are given in Chapter 3, which include data up to 2013, and once again, travellers staying in hotels were used as the unit of measurement. The new updated results revealed that the policies adopted to fight seasonality have not been very effective in the Andalusian coastline during recent years. Due to the fact that domestic tourists are more seasonal than international ones, catchment policies should be directed at the international segment as long as the

objective is to reduce seasonal concentration. For comparison purposes, a complementary analysis was carried out in which passengers arriving at Andalusian airports were used as the unit of measurement instead. In this case, passenger segmentation was done according to airports and whether they were national or international passengers. The reasoning behind this decision is based on the fact that 81% of international tourists visiting the Andalusian coastline use the plane as their mode of transport. Although only 16% of domestic tourists use airplane transport, the national segment was kept in the analysis to maintain consistency in the applied decomposition, as well as to analyse whether this segment had specific seasonal characteristics.

The estimated Gini indices for international passengers were within the same range as the ones estimated in the previous chapter, which used as a unit of measurement traveller staying in hotels. By contrast, domestic passengers showed an extremely low level of seasonal concentration, significantly differing from the previous analysis (using the data from travellers staying in hotels). The difference is due to the fact that domestic passengers using the plane as a mode of transport form a minority quite different in participation than the national segment of travellers. If we distinguish the seasonal pattern and evolution of the Gini indices by airports, the Gini indices for Málaga airport is equivalent to the one obtained for all the Andalusian airports; this can also be explained by the fact that Málaga airport is responsible for 69% of all arrivals to the region.

For a more comprehensive view, seasonal factors were estimated in five Andalusian airports, differentiating between national and international passengers. The seasonal pattern of domestic passengers is clearly distinguishable from domestic travellers grouped in the sun and sand segment and other segments that were analysed in the previous chapter. Therefore, the domestic passenger segment should be seen as a possible objective for direct catchment policies designed to reduce seasonality. On the other hand, international passengers showed a greater level of concentration during the summer months, especially at small airports. Finally, the additive decomposition of the Gini index was only first applied to the main Andalusian airports, which are the Málaga and Sevilla airports; afterwards, it was applied to all Andalusian airports as a whole up to the year 2013, where international passengers were segmented according to country of origin, and airport of arrival.

Some of the results on this chapter indicate that the seasonal patterns together with the consequent degree of seasonal concentration in the segments analysed, differ significantly when they are studied with higher levels of segmentation. Therefore, an adequate level of segmentation is essential in order to better focus policies against seasonality. The use of double segmentation (by origin and by main travel motivation) in the coasts analysed did not only reveal very interesting results, but it also helped identify segments with features that are not visible in the simplest segmentations. Furthermore, the analysis of the passengers also provided some useful results such as, the potential deseasonalising effect of domestic passengers and the identification of the

countries from where passengers arriving to either Málaga or Sevilla airport were coming from. Finally, the growing trend of seasonal concentration indices in many coasts and airports in Andalusia indicate that policies adopted in recent years to fight seasonality have not been sufficiently effective. Therefore, more research is still needed in order to provide policy makers and tourism managers with more concise information on the phenomenon of seasonality in Andalusia.

Chapter 4 analysed the distribution of travellers staying in different types of regulated accommodations in Argentina's touristic regions. The estimated seasonal factors and the Gini (without marginal decomposition) in which the domestic and international demand were distinguished, were also analysed. In addition, the territorial and tourists classification established by the Hotel Occupancy Survey elaborated by Argentina's Ministry of Tourism and National Statistic and Census Institute, was used as the main statistical source in this chapter. Thus, based on Argentina's Ministry of Tourism definition of touristic regionalization, the 23 provinces were grouped into six touristic regions: Buenos Aires, Centro, Cuyo, Litoral, Norte, and Patagonia. The city of Buenos Aires was added as a separate region given the destination's high travel demand.

The degree of concentration of tourism demand in Argentina is not very high compared to other international destinations, but still, there are disparities in the level of seasonal concentration among regions. At a national level, federal tourism plans have established measures to combat seasonality. Furthermore, there are laws, such as the Bank Holidays Act, that have been passed in order to counteract the effects of seasonality since, as in Spain, tourism is regarded as a strategic sector for Argentina.

Specific studies about tourism seasonality in Argentina are scarce. The Argentine Ministry of Tourism only uses the seasonal factors figures obtained from the Hotel Occupancy Survey to analyse the phenomenon of seasonality. The impact seasonal concentration has on hotel demand in Argentina and its touristic regions is analysed in this chapter using the monthly variable 'visitors staying in hotels and para-hotels establishments' in the Hotel Occupancy Survey. Moreover, the regional disaggregation used is the one described above with the exception that in the regions of origin for domestic tourists, the city of Buenos Aires has been added to the region of Buenos Aires since visitors from both regions have a similar seasonal pattern.

The study presented in this chapter aimed to enrich the quantitative framework used by the Argentine Ministry of Tourism by using the Gini index, which provides a synthetic measure for the annual degree of seasonal concentration. In addition, the strategies that are being carried out today in Argentina to combat seasonality are briefly described. The main results also revealed that there were significant inequalities both in the seasonal patterns of different demands and in seasonal concentration levels. Therefore, one of the main implications of this chapter for policies designed to combat seasonality is to consider the concentration of tourism demand by region visited, origin, and volume.

An excessively aggregated analysis can hide specific seasonal characteristics found in different regional markets, which in turn prevents for effective strategies against seasonality to be provided. In this sense, if in addition to the seasonal factors, the Gini index is applied to tourists' series adequately; useful disaggregated information that could be effective in the design of policies against seasonality can be obtained. Policies to combat seasonality have varying degrees of effectiveness depending, among other factors, on the weight that the domestic demand has in the overall tourism demand in each region. This chapter also poses new questions for future lines of research. For instance, to find a better explanation of the effects various segments analysed (by origin) have on the overall level of concentration, a more precise disaggregation of domestic and foreign tourists would need to be carried (by regions, and countries or continent, respectively). This has been done in the following chapter.

In Chapter 5, the seasonal concentration of the hotel demand in the touristic regions of Argentina were analysed using the additive decomposition of the Gini index as it helps to identify more easily the least seasonal visitors. The results of this chapter indicated that, given the heterogeneity between regions in terms of seasonality, it was necessary to disaggregate domestic tourists at least by region of origin and international ones by countries. Using this level of disaggregation showed that most of the international origins are favourable for deseasonalisation. With regards to domestic tourists and to the reduction of seasonality in some regions, residents proceeding from the same region are seen as the most favourable ones. This is information that would go unnoticed if the total number of residents was analysed without the disaggregation aforementioned.

In Argentina, there is concern regarding the effects seasonality has in the tourism sector. However, there are few studies that examine the presence of seasonality in tourism demand, and in the few that do, only time series methods are used to evaluate the seasonality caused by inbound tourism in the country. At an institutional level, the tourism action plans developed by the Ministry of Tourism are only at an national scale, among them are the two editions of the *Plan Federal Estratégico de Turismo Sustentable* (The Strategic Federal Plan for Sustainable Tourism): the *Plan de Marketing Internacional Conectar* (The International Marketing Plan Connect) and the *Plan de Marketing de Turismo Interno Conectar* (The Internal Toursim Marketing Plan Connect). However, these plans resort to a traditional way of calculating the seasonal factors of overnight stays in hotels and para-hotel establishments, by using a disaggregation that only distinguishes between the overnight stays carried out by national and international tourists throughout all the country's regions. In both plans some measures against seasonality are established. Due to all the above, in order to evaluate the effectiveness of these measures, it is necessary to have quantitative tools which are able to measure seasonal concentration levels along with their evolution, in addition to the participation of certain tourists in the observed seasonal concentration level.

Regarding the institutional measures against tourism seasonality, one of the strategies used in Argentina to reduce the negative effects of seasonality and generate a better temporal distribution of tourist flows has been the organising of national holidays in order to plan work breaks and displacements three-year in advance. Other tools established by the Argentine Ministry of Tourism to fight seasonality worth highlighting are: the managing of events in Argentine destinations to boost economic development, and the creation of a social tourism federal program that is in effect during low season. In addition, some Regional Integrating Products are established in the Regional Strategy Reports, which may be useful to counteract the effects of seasonality as they can be carried out at any time during the year. To all these measures against seasonality aforementioned, it would be useful to add analytical tools such as those proposed herein; these tools enable us to discern which tourists can help in reducing seasonal concentration by studying the usual seasonal patterns of tourists.

Among some of the main results, one could observe that the use of a simple disaggregation (where both domestic and international tourists were differentiated) identified domestic tourists, in the period analysed, as the most favourable for deseasonalisation; they demonstrated negative relative marginal effects. These results for the North and Central regions and for the city of Buenos Aires were also the same. However, in the last year analysed, the results in the domestic segment, for six of the seven regions, were contrary to previous years. This diagnosis changed and was considerably enriched when a more comprehensive segmentation of domestic and international tourists (classified according to region or country of residence) was used.

Thus, in 2013 the most favourable segment in six of the seven regions analysed was the one which had the same region of residence, together with most of international tourists. Both showed negative relative marginal effects of varying magnitude, which emphasized the relationship between the behaviour of less seasonal international tourists with their proximity to their countries of residence.

Moreover, the measures against seasonality proposed in the tourism action plans elaborated by the Argentine Ministry of Tourism are very limited, and they do not include the development of analytical tools that are able to determine with sufficient detail who are those visitors that can make a greater contribution to the reduction of seasonality. Therefore, the methodology proposed in this thesis, i.e., the application of relative marginal effects as a quantitative measure of the deseasonalising effect, as well as a the disaggregation of the hotel demand in Argentina (used in this chapter), can be a valuable aid in the design and implementation of action plans against seasonality in this country.

In Chapter 6, tourism seasonality in the UK, and in England and its regions was analysed. Again, for these destinations, tourism demand was disaggregated by the tourists´ country of origin, and by their main travel motivation. To date, there have been very few studies on seasonality in the UK and its measurement. Furthermore, none of them have focused on England. Similarly, there are no studies that analyse the

behaviour of both domestic and international tourists in the UK. Tourism is one of the most important industries in that country, and like many international destinations, seasonality is institutionally recognized as a problem for the sector. In addition, as part of their strategy to increase tourism, tourism programs, are carried out in the UK during low season as a way to promote various less seasonal tourism programs that are classified both by region and by season.

To carry out this analysis, the unit of measurement used was the number of trips made both by domestic and foreign tourists. Furthermore, to identify domestic tourists the monthly Great Britain Tourism Survey from 2011 was used. Similarly, the monthly International Passenger Survey was used to identify international tourists, which were classified by countries of origin. In addition, in order to disaggregate international tourists by their country of origin, the quarterly data Travelpac 2013, elaborated from the International Passenger Survey, was used.

The seasonal concentration exerted by tourists visiting the UK is not very high compared to other international destinations, but it is nonetheless desirable to minimize its negative effects given the social and economic benefits that occur in a tourist destination. Thanks to the joint analysis of domestic and international tourists, we can see that international tourists exerted a less seasonal behaviour throughout the period analysed, and indeed they were favourable tourists in all the years observed. As for the level of concentration exerted by international tourists, it can be said that, generally, the closer the countries of origin were, the lower the Gini index was; therefore, they exerted a lower seasonal concentration in the UK. In addition, the international tourists who seemed to be more favourable for reducing seasonality during the entire period analysed were the European groupings, highlighting the EU15 group with negative relative marginal effects in all the years observed. While European tourists exerted a low level of concentration as a whole, with the disaggregation of international tourists by country of origin (used in this chapter), one could discern more accurately, and note that not all European tourists exerted a low concentration; Tourists from Austria, Germany, Estonia, Croatia and Iceland manifested a medium level of concentration, whereas, tourists from Bulgaria, Spain, France and Ireland exerted a significantly lower level of concentration.

In the analysis of seasonal concentration of domestic tourism in England, the regions of this nation were analysed as independent destinations in order to identify the differences in the levels of concentration exerted in each of them by residents in Britain. Most seasonal concentration in all regions of England was exerted by tourists from Wales especially in the North East, Yorkshire, Humberside, East and East Midlands. The same occurred with those from Scotland, who also exerted a high concentration in all regions except in the North West. As for inter-regional demands, it was observed that in almost all regions, residents from the region itself (intra-regional tourists) exerted a medium level of concentration, with the exception of London and the West Midlands where they manifested a high concentration; they are precisely the only regions without a coast. The regions whose demand by regional origin had the highest concentration

levels were the North East and the South West, where tourists from seven of the nine regions demonstrated a high level of concentration. On the contrary, the region of London received less seasonal inter-regional tourists; it exhibited a medium level of concentration from inter-regional tourists, with the exception of Londoners themselves and residents from the North East who both exerted a high level of concentration, visiting this region. As for Yorkshire and Humberside, they were the only regions in which no inter-regional tourists exerted a high level of concentration, except tourists coming from London. With the results obtained, one found that, at a regional level, proximity is not related to tourists´ less seasonal behaviour; the only case in which this was found not to be true was in the South East region where the less seasonal tourists are those from the region itself, and the adjacent region of the East. In the other regions, tourists who are considered as favourable for reducing seasonality came from both near and far regions.

This chapter also analysed the seasonal concentration according to the main travel motivation expressed by tourists who visited the UK and the regions of England. In the case of the UK, the motivations for the domestic demand were categorised as followed: holiday, business or visiting friends and relatives. For the international demand, a 'miscellaneous' category was added along with the previous, according to the sources used. Also, in the regional analysis of England, the seasonal concentration in each region was evaluated depending on the main travel motivation of British resident tourists who visited England, and the same motivation categories applied to the UK´s domestic demand analysis were used.

As previously mentioned in earlier chapters, the additive decomposition of the Gini index was used to obtain the relative marginal effect of each of the analysed demand segments' Gini Index. From the decomposition made in this chapter, the components that were calculated in previous chapters are analysed with more in-depth. To be more precise, these components were the shares that each segment had in the total demand, and the Gini index correlation coefficient for the segments analysed with the total demand. To enrich the decomposition of the Gini index and represent their components, a multivariate graphical technique, the biplot, was used in order to identify demand segments with similar characteristics, and to interpret the variations between the Gini Index disaggregation components and their influence on the relative marginal effect.

The importance of the methodology used in this chapter does not only consists of detecting demand segments that can contribute to the reduction of seasonal concentration by identifying the segments with lowest relative marginal effects, but also in the estimation and interpretation of the components in the dissagregation of the Gini index. These components can be very valuable in the design of policies against seasonality since they allow one to differentiate between demand segments that affect differently the seasonal concentration of the destinations analysed.

Finally, it can be concluded that the results obtained in this thesis highlight the need to perform a more comprehensive analysis of tourism demand patterns in order to

analyse the seasonality of tourist destinations. To do this, the methodology proposed in this thesis is very useful since it makes it possible to identify less seasonal segments in tourism demand. As it has been found in the destinations analysed in this thesis, an adequate level of disaggregation of tourism demand provides a better understanding of the seasonal concentration levels exerted by demand segments in the overall seasonal concentration of the destination to be analysed. In doing so, the effectiveness of policies aimed at fighting seasonality increases since the catchment policies can be addressed towards those tourists identified as less seasonal.

Contents

Summary **XI**

1. Introduction **1**

1.1. Seasonality in tourism....1

1.1.1. The phenomenon of tourism seasonality....1

1.1.2. Causes and effects of seasonality in tourism sector....2

1.1.3. Implications on the strategies against tourism seasonality....2

1.2. Quantitative evaluation of tourism seasonality....4

1.3. Thesis objective....5

1.4. Reasoning behind the chosen analysed destinations....6

1.5. Thesis structure....6

2. Cultural tourism as tourist segment for reducing seasonality in a coastal area: the case study of Andalusia **11**

2.1. Introduction....12

2.2. Literature review....13

2.3. Touristic and territorial contextualization of the Andalusian coastline....14

2.4. Methodology....16

2.5. Results....18

2.5.1. Seasonal patterns....18

2.5.2. Seasonal concentration....20

2.5.3. Relative marginal effects....23

2.6. Discussion....26

2.7. Conclusions....27

2.8. Supplementary material: Table 1: Number of tourists staying in hotels on the Andalusian coastline by origin, by segments and by areas....32

3. Understanding seasonal concentration of tourist arrivals: a case of the south of Spain **33**

3.1. Introduction....34

3.2. Literature review....35

3.3. Methodology....35

4.4. Results....36

4.5. Conclusions....45

4. Seasonal inequalities in visitor distributions in Argentina´s tourism regions **47**

4.1. Introduction....49

4.2. Literature review....49

4.3. Current measures against seasonality in Argentina....51

4.4. Research methodology....52
4.5. Results and discussion....53
4.6. Conclusions....55
5. Concentración estacional de la demanda hotelera en Argentina `Seasonal concentration of the hotel demand in Argentina´ 61
5.1. Extended abstract....62
5.2. Introducción....65
5.3. Revisión de la literatura....66
5.4. Contextualización territorial y turística de Argentina....68
5.5. Metodología....71
5.6. Resultados....72
5.6.1. Patrones estacionales....72
5.6.2. Concentración estacional....76
5.6.3. Efectos relativos marginales....79
5.7. Conclusiones....82
6. Seasonal concentration of tourism demand: decomposition analysis and marketing implications 87
6.1. Introduction....88
6.2. Seasonality in the tourism industry....89
6.3. Data sources and Methodology....90
6.3.1. Data sources....90
6.3.2. Methodology....91
6.4. Results....92
6.4.1. Seasonal concentration of tourism in the UK....92
6.4.2. Analyzing the UK international tourism demand....92
6.4.3. Analyzing the concentration of the UK tourism demand by motivation....95
6.4.4. Analyzing regional tourism demand in England....97
6.4.5. Marketing implications....100
6.5. Conclusions....102
Appendix: Gini index decomposition....103
7. Conclusions 107
8. Appendix: Resumen en español 109

Chapter 1

Introduction

1.1. Seasonality in tourism

1.1.1. The phenomenon of tourism seasonality

Seasonality is an intrinsic feature of the tourism sector (Allcock, 1994; Baum & Lundtorp, 2001), being one of the most pressing political issues in tourism management which has gained relevance in recent literature and in tourism management plans. Although seasonality is commonly associated with tourism, it is a phenomenon that affects many economic activities. Managers and tourism entrepreneurs show a widespread concern in countering the effects of seasonality because they have to deal with important problems caused by this phenomenon such as discontinuous jobs, restrictions on profitability, and the massification of tourist destinations.

The aspects traditionally studied, such as the definition of seasonality, its causes, problems and strategies to tackle it, have been described in several studies (Baum & Lundtorp, 2001; Boffa & Succurro, 2012; Butler, 1994; Butler & Mao, 1997; Cannas, 2012; Coshall, Charlesworth, & Page, 2015; Espinet, Fluvia, Rigal-I-Torrent, & Salo, 2012; Getz & Nilsson, 2004; Jang, 2004; Koenig-Lewis & Bischoff, 2005; Kulendran & Wong, 2005). For this reason, this introductory chapter is not fully dedicated to defining those seasonality aspects but rather on the context in which this research was developed.

Several authors have defined tourism seasonality as the concentration of tourist flows during certain periods of the year (e.g. Allcock, 1994), being considered an inevitable phenomenon that causes a temporary imbalance between supply and demand in a given tourist destination. With regard to the measuring unit of seasonality, Butler (1994) describes tourism seasonality as a temporary imbalance that can be expressed in terms of various elements such as the number of tourist or the spending they incurred, employment, tourist attractions tickets, and the traffic on highways and other forms of transportation.

The phenomenon of tourism seasonality affects almost all tourist activities and destinations as a whole. Therefore, the participation and action taken by managers and tourism entrepreneurs to try to minimize its effects is of vital importance. In this sense, there are other definitions of tourism seasonality that reflect better the current realities as the one provided by Lanquar (2001), who describes seasonality as a constant marketing perception of the tourist destination managers, who seek to keep specific programs within certain limits. Similarly, Rosselló Nadal, Riera Font, and Sansó Rosselló (2004) extend the effort for reducing seasonality to both public and private sectors due to the implications it has for employment and investment.

1.1.2. Causes and effects of seasonality in tourism sector

In the tourism sector, seasonality is due to both factors of demand and supply, and despite the fact that it is well known that this sector is characterized by a changing demand profile and a relatively static supply side, seasonality is mainly generated by the behaviour of the demand. Therefore, to investigate this phenomenon in this thesis, the patterns of tourism demand in the destinations analysed have been chosen. In fact, most of the studies on seasonality are based from the point of view of the demand side.

Seasonality in tourism is a problem which in the long term affects, to a greater or lesser extent, most tourist destinations. Hence, it cannot go unnoticed by tourism managers that must deal with it by establishing appropriate policies to minimize the tourism seasonal effect. Dealing with the effects of seasonality is not an easy task since it is related to several social, labour, and weather related factors. However, it remains a phenomenon that can be addressed to some extent by the existence of a temporal leeway that allows for its effects to be mitigated.

Seasonal fluctuations are integrated into the tourism sector due to the climatic and socio-structural cycles of destinations and markets. The main effects of seasonality are the underutilization of tourist facilities in low season, and vice versa, the saturation of them in high season. This causes a number of negative effects that give rise to various problems that both managers and tourism entrepreneurs must cope with, such as unstable employment (Ashworth & Thomas, 1999; Ball, 1988; Baum & Lundtorp, 2001); income instability causing limits on investment returns (Butler, 2001; Jang, 2004; Manning & Powers, 1984; Sutcliffe & Sinclair, 1980); inefficient use of tourist facilities (Manning & Powers, 1984; Sutcliffe & Sinclair, 1980); environmental degradation (Manning & Powers, 1984); and various socio-cultural effects between visitors and residents in a given destination (Waitt, 2003). Although the aforementioned effects have a negative connotation, seasonality can also be advantageous, e.g., in low season it can bring ecological and sociocultural recovery to the destination (Higham & Hinch, 2002) or the reform and maintenance of tourist facilities (Grant, Human, & Le Pelley, 1997); as well as the incorporation of discontinuous workers (Mourkdoukoutas, 1998).

The effects of seasonality are felt throughout all the aspects of tourism supply, i.e., in the labour financial and investment field of tourism enterprises, as well as in the operations management, planning, and tourism marketing. Therefore, the destinations that can achieve a greater uniformity in the distribution of their tourist demands will be able to optimize the use of their resources and reduce the negative impacts associated with seasonal fluctuations in demand.

1.1.3. Implications on the strategies against tourism seasonality

In order to reduce the negative effects of seasonality, tourism managers often opt for diversifying tourism products with the aim of attracting a type of tourist with a lesser

seasonal behaviour. Traditional deseasonalising strategies are based on market development strategies such as the cheap holidays in low season for pensioners, the offer of tour packages based on cultural events, tours of historic cities, sports tourism and sports events, and the promotion of business tourism by offering adequate facilities for conferences (Sutcliffe & Sinclair, 1980). However, several authors have pointed out the need to bet on other strategies such as market segmentation depending on the needs and demands of tourists during certain times of the year (Calantone & Johar, 1984), or the commitment to differential pricing to stimulate tourism in low season (Manning & Power, 1984). Even though decreasing prices in low season can translate into greater profits by increasing demand, destination quality may diminish (Espinet et al., 2012). Nevertheless, product diversification stands out as the prevailing means to deal with seasonality; the main strategies used to reduce this effect: complementing traditional tourist products offer by destinations or using differential pricing in terms of price discrimination (Allcock, 1994; Butler, 1994; Commons & Page, 2001; Espinet et al., 2012; Goulding, Baum, & Morrison, 2004; Jang, 2004; Jeffrey & Barden, 1999; Witt & Moutinho, 1995). Baun and Hagen (1999) provide additional complementary strategies that could be carried out in destinations located on the periphery of a main destination. In fact, several destinations are recently implementing these strategies by creating events and cultural, religious or sports related festivals during low seasons, or with the public sector's response through its incentives to keep certain services throughout the year.

At present, there is a clear trend to diversify tourism products to meet the needs of the current tourist who is both more experienced and has higher demands. This makes tourism managers work hard to redraw a more diversified offer in order to meet tourists' expectations. Diversification as a strategy aims to, aside from the possible deseasonalising effects, first, achieve greater competitiveness by increasing the overall holiday value of loyal visitors in all the different destinations analysed; and second, attract new visitors and market segments above all. To do this, tourism managers try to offer a combination of holidays which include various tourism products given that, at present, they can be offered in a complementary manner due to several factors such as, the division of the holiday or the new tourist preferences. In this sense, it is well known that for many periods of the year, the use and enjoyment of certain activities during the tourist stay is not feasible due to climatic reasons, so other activities adapted to these limitations should be considered.

Tourism managers face the difficult task of choosing an optimal response to seasonality since they do not always have a detailed knowledge of seasonal patterns of demand. This is because there are few studies that offer tourism managers the necessary information to develop successful strategies in increasing demand in low season or extending the high season. There is thus a need to generate methods and indicators that provide such information. In this regard, the additive decomposition of the Gini index, used in this thesis, allows the classification of different demand segments in relation to their share in the annual seasonal concentration, thus identifying the less seasonal

tourists. This information is important since it can help reduce seasonality by directing marketing efforts toward those demand segments less seasonal.

1.2. Quantitative evaluation of tourism seasonality

Although the main causes and consequences of seasonality in tourism are well known, understanding the patterns of tourism demand and its trend to seasonal concentration is rather limited by the methods and analysis techniques available. The most common approach for measuring seasonality is based on the estimation of seasonal factors in the time series, using proportional deviates to moving averages, through dummy variables in multiple linear regressions, or with other time series methods (Fernández-Morales, 2003). There are numerous studies that use this approach: focusing on the measurement of seasonality in tourist destinations (Cuccia & Rizzo, 2011; Donatos & Zairis, 1991; Nieto González, Amate Fortes, & Nieto González, 2000; Pegg, Patterson, & Vila Gariddo, 2012; Sutcliffe & Sinclair, 1980; Yacoumis, 1980); based on the hotel sector (Boffa & Succurro, 2012; Capó Parrilla, Riera Font, & Rosselló Nadal, 2007; Coenders, Espinet, & Saez, 2003; Espinet, et al., 2012; Koenig-Lewis & Bischoff, 2004); or comparing techniques for measuring seasonality describing their advantages and disadvantages (De Cantis, Ferrante, & Vaccina, 2011; Koenig-Lewis & Bischoff, 2003, 2005; Kulendran & Wong, 2005; Lundtorp, 2001). Some authors as Fernández-Morales (2003), Lundtorp (2001), Rosselló Nadal et al. (2004) and Wanhill (1980) pose a complementary approach in their works, consisting of the estimation of annual concentration indices such as the Gini or Theil indices, or the coefficients of variation, which provide a single measure of the level of concentration throughout the year. Of these measures, the most used has been the Gini index (without a marginal decomposition).

The aforementioned quantitative tools focus on reproducing representative models of seasonality, reaching general conclusions about the level of seasonal concentration exerted by tourists. However, these techniques do not allow one to know exactly what type of tourist is truly favorable for reducing the seasonality of a destination when there are complex segmentations nor the relative significance of the possible deseasonalisation impact. To carry out this task, it is necessary to have tools that allow quantifying the levels of seasonal concentration, their evolution and the share of the demand segments at the level observed in the tourist destination as a whole.

The Gini index is a measure that has traditionally been used to measure the concentration of wealth in a given region or country and it is often used to quantify inequalities of distribution of economic variables. This index has a number of advantages: it is a measure that takes into account the skewness of distribution and it is less influenced by extreme values in comparison with other measures of concentration (Wanhill, 1980; Yacoumis, 1980); it shows greater stability (Lundtorp, 2001), and satisfies the condition of Pigou-Dalton, which in the field of tourism means that the transfer of tourism demand from a month with more occupation to another with less,

reduces the coefficients, i.e. seasonality (Aguiló & Sastre, 1984). Additionally, unlike the monthly or quarterly factors, which do not provide a synthetic measure of the annual level of seasonality, an annual single measure that quantifies annual seasonality may allow the identification of years in which the seasonality has increased or decreased, providing thus, information about the annual effectiveness of policies against seasonality (Fernández-Morales, 2003). In addition, the Gini index as a measure of annual seasonal concentration can be decomposed to differentiate demand segments; this can contribute to a deeper understanding of the role each demand segment has in the distribution of the annual seasonal concentration. However, the Gini index has a relative disadvantage give that it is not additive like the Theil index and the coefficient of variation. For this reason, in order to investigate the relative marginal effect of different demand segments, it is necessary to carry out a decomposition of seasonal concentration to compensate this disadvantage as the additive decomposition of the Gini index developed by Lerman and Yitzhaki (1985) that has been used in this thesis and previously in the field of tourism by Fernández-Morales and Mayorga-Toledano (2008), and Halpern (2011). This decomposition provides an easier interpretation of the Gini index components compared to other decompositions of this index, as the one carried out by Shorrocks (1982) or by Dagum (1997), which do not allow obtaining relative effects marginal. It is also important to highlight that there are different approaches to calculate the Gini index. In this thesis, the method of variance was used.

Like other alternative measures such as the coefficient of variation or the Theil index, the Gini index does not take into account the natural chronological order of the months (De Cantis et al., 2011). For this reason, different seasonal patterns may result in the same value of the index, so that it is appropriate to complement the interpretation with the analysis of seasonal factors as it has been done in this thesis. Specifically, the seasonal factors have been estimated using the multiplicative decomposition with the X11 method. The seasonal factors obtained for each month, are represented by what proportion, on average, the values of the series in each month is above or below the trend-cycle of the series (Koenig-Lewis & Bischoff, 2003)

1.3. Thesis objective

The thesis aims to provide a methodology, which includes both the additive decomposition of the Gini index and the calculation of the relative marginal effects that serves as a useful tool for tourism managers interested in reducing tourism seasonality as it helps identify less seasonal tourists. Furthermore, it is also an objective of this thesis the application of the methodology in several tourist destinations to verify its usefulness. In addition, the methodology is also proposed as a controlling and monitoring measure with which tourism policies aimed at reducing seasonal concentration can be tailored by analysing the evolution of the relative marginal effects throughout the period for which there are sufficient disaggregated data available for as in the case of last year. By applying this methodology, the goal is to improve the

effectiveness of policies targeted against seasonality due to the fact that the policies can be directed towards demand segments identified as less prone to seasonality.

1.4. Reasoning behind the chosen analysed destinations

First, the Andalusian coastline, which is located in southern Spain, was selected as an ideal destination for applying the methodology used in this thesis. On the one hand, it is composed of a set of coastal destinations that are little diversified and are characterized by a high level of seasonal concentration; on other hand, the statistical data available to conduct the analysis using different units of measurement (passengers and travellers) for establishing comparisons.

Second, two international researches were conducted on site, Argentina and the United Kingdom, in order to apply the methodology in a territorial and touristic context completely different from Spain. These works helped to establish an external point of reference and provided the opportunity to refine certain aspects of the methodology in order to widen its applicability.

The main reason Argentina was selected as a destination to be analysed arose from the idea of applying the methodology used herein to a tourist destination located in the southern hemisphere where the seasons are the opposite to those in Spain. In fact, while Argentina's tourism demand tends to be concentrated in the spring and summer as in Spain, these seasons occur during the first and fourth quarters of the year in Argentina while in the case of Spain, they occur during the second and third quarters.

The choice to analyse the UK as a destination was motivated by the intention to investigate how the main issuing country of tourists to Andalusia, since tourism markets began to be accounted in this region in 2004, faces the problem of seasonality in its own territory. It is estimated that the region of Andalusia was visited in 2014 by a total of 2.16 million British tourists, which represent 24.9% of foreign tourists and 9.0% of total tourist arrivals in Andalusia (Consejería de Turismo, Comercio y Deporte de Andalucía, 2014).

These international researches have been done in situ through research stays and have been carried out with researchers from these countries. In both cases, we have analysed the causes and effects of seasonality in these destinations, the current strategies being carried out to mitigate its effects, and the possible actions to be taken if they are not being effective the current ones through the results obtained with the proposed methodology for, finally, draw the general conclusions of the studies.

1.5. Thesis structure

This thesis has been elaborated by a compendium of scientific publications and has been divided into 7 chapters. The first chapter is an introduction in which the implications of this thesis regarding aspects related with tourism seasonality as well as

the methodology used for the measurement of seasonality in the destinations analysed are presented. In the following chapters the seasonal concentration of three destinations and their regions are analysed: the Andalusian coastline (second and third chapters), Argentina (fourth and fifth chapter), and the UK (sixth chapter). The results are shown in the enclosed copy of the five publications that make up this thesis. Finally, conclusions are given in the seventh chapter, where a general analysis and the summary of the conclusions of all contributions are shown.

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Chapter 2

Cultural tourism as tourist segment for reducing seasonality in a coastal area: the case study of Andalusia

Abstract: The present paper analyses the seasonal concentration on the Andalusian coastline, a Spanish Mediterranean coastal destination characterised by its high seasonality in the summer months. The analyses were conducted by separating tourists according to their main travel motivation, and distinguishing sun and sand tourists from cultural and other segments tourists, based on their place of origin and on the coast they visited. The quantitative tools applied included the additive decomposition of the Gini index and the calculation of the relative marginal effects. The proposed methodology serves as a useful tool for tourism managers and administrators interested in reducing seasonality, since it facilitates the identification of tourists segments that can effectively contribute to the reduction of seasonal concentration. Among the main results for the studied area, it was found that given the heterogeneity of the groups of tourists (both domestic and foreign), it was much more effective to separate tourist segments by their main travel motivation. The cultural segment was the most favourable for deseasonalisation, especially within domestic tourists, since with foreigners the same deseasonalising effect was not present in all the coasts analysed.

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Authors: Cisneros-Martínez, J.D. and Fernández-Morales, A.

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Cultural tourism as tourist segment for reducing seasonality in a coastal area: the case study of Andalusia

José David Cisneros-Martínez[a*] and Antonio Fernández-Morales[b]

[a]*Departamento de Economía Aplicada (Estadística y Econometría), Facultad de Turismo, Universidad de Málaga, Málaga, Spain;* [b]*Departamento de Economía Aplicada (Estadística y Econometría), Facultad de Ciencias Económicas y Empresariales, Universidad de Málaga, Málaga, Spain*

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The present paper analyses the seasonal concentration on the Andalusian coastline, a Spanish Mediterranean coastal destination characterised by its high seasonality in the summer months. The analyses were conducted by separating tourists according to their main travel motivation, and distinguishing sun and sand tourists from cultural and other segments tourists, based on their place of origin and on the coast they visited. The quantitative tools applied included the additive decomposition of the Gini index and the calculation of the relative marginal effects. The proposed methodology serves as a useful tool for tourism managers and administrators interested in reducing seasonality, since it facilitates the identification of tourists segments that can effectively contribute to the reduction of seasonal concentration. Among the main results for the studied area, it was found that given the heterogeneity of the groups of tourists (both domestic and foreign), it was much more effective to separate tourist segments by their main travel motivation. The cultural segment was the most favourable for deseasonalisation, especially within domestic tourists, since with foreigners the same deseasonalising effect was not present in all the coasts analysed.

Keywords: Gini index; Andalusian coastline; seasonality; relative marginal effect; methodology

Introduction

Seasonality is a problem in tourism which in the long term can affect many activities in the industry, especially in coastal tourist destinations. For this reason, tourism managers and administrators cannot ignore it; they are the ones who must deal with it by establishing appropriate policies aimed at minimising the impact of seasonality in tourism. Addressing the effects of seasonality is not an easy task since it is linked to various social, labour and weather factors.

Tourism managers devote much of their efforts to fighting the effects of seasonality in coastal destinations. In most cases, they bet on the diversification of tourism products with the hope that these may attract a type of tourist favourable of reducing seasonal concentration. Product diversification as a means to deseasonalise a destination has been a strategy recommended by several authors (Allcock, 1994; Andriotis, 2005; Baum & Hagen, 1999). Nevertheless, to carry out this task, it is necessary to have quantitative tools that allow

*Corresponding author. Email: joscismar@uma.es

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tourist managers to quantify the seasonal concentration levels, their evolution and the role of the different tourist segments in the observed level in the whole tourist destination.

This work is especially needed in undiversified destinations, in particular in costal destinations whose primarily focus is the sun and sand segment as the Andalusian coastline. In the main plans of action, both the state (Ministerio de Industria, Turismo y Comercio, 2008) as well as the regional government (Consejería de Turismo, Comercio y Deporte [CTCYD], 2007, 2008, 2009) consider the formulation of new measures for reducing seasonality in the industry a priority.

Traditional quantitative tools of analysis, such as the seasonal variation indices or the undecomposed Gini index, are focused on reproducing representative models of seasonality; thus, they reach general conclusions on some characteristics such as the nationality of the tourists that are more favourable of alleviating the seasonal effects. However, these techniques do not really allow one neither to know exactly what type of tourist is truly favourable for reducing the seasonality of a destination when there are complex segmentations nor the relative magnitude of the possible deseasonalisation impact.

Therefore, this paper aims to complement the quantitative tools previously mentioned by using the additive decomposition of the Gini Index, and by obtaining the measures of the relative marginal effect (RME) on the index as a means to identify the tourist segments more favourable for the reduction of seasonal concentration. Furthermore, a complex classification was used following three criteria: the origin of the tourists, their main travel motivation, and the coast visited within the destination, which made it possible to distinguish with more accuracy within inhomogeneous rankings. With the application of this methodology, it is intended to provide tourism managers, whose objective is to reduce the seasonal concentration in a tourist destination, additional information regarding what type of tourists they should direct their catchment policies.

Literature review

Academically, there is a consensus that identifies the work of BarOn (1975) as the first relevant study on seasonality in tourism; he made a distinction between natural seasonality, which is based on the weather, and institutional seasonality, based on cultural values. The works of BarOn (1975) and Sutcliffe and Sinclair (1980) have been highlighted by various authors for being one of the few studies examining the problems in measuring seasonality.

Allcock (1994) described tourism seasonality as the tendency of tourist flows to become concentrated into relatively short periods of the year. He also highlighted that the widespread acceptance of seasonality as an inevitable trait within the tourist sector has been accompanied by a clear lack in research. Butler (1994), on the other hand, conducted a review of all the literature on seasonality, and this made him realise that seasonality was focused on the analysis of demand patterns, the description of seasonality in specific destinations, the negative effects on employment and investment, and the policies against seasonality and its implications; we can conclude that up to that point, only new ways of measuring seasonality were raised.

Regarding the kinds of seasonality, Butler and Mao (1997) classified them into three kinds: one-peak, two-peak and three-peak. In Spain, like Portugal, Greece and Cyprus, the one-peak form is predominant; it is characterised by a very marked peak in the annual trend of seasonality, and coincides with the summer months in most of the cases if we take into account all the tourists who visited the country. On the other hand, Cuccia and Rizzo (2011) states that some Mediterranean sun and sand destinations,

where seaside tourism can be practised, have their peak season in summer but suffer the rest of the year, even if their climate is favourable (Cuccia & Rizzo, 2011). In this paper, we investigate if these statements can be extended to the Andalusian coastline, which occupies almost the entire coast of Southern Spain and has traditionally been a sun and sand touristic destination.

In the past decade, more accurate definitions of seasonality, which are closer to the current situation emerged; these take into account the underlying problem of seasonality – it affects almost all tourism activities and all destinations as a whole. Thus, the participation and action of entrepreneurs and tourism managers is vital in minimising their effects. It is worth noting that Lanquar (2001) argues that seasonality is a constant marketing perception of the tourist destination managers, who seek specific programmes to keep it within certain limits. Meanwhile, Higham and Hinch (2002) specify that seasonality is a widely extended and well-known feature, but it is also the least understood.

With regards to the measurement of seasonality, the most common approach for measuring seasonality in tourism consists of estimating seasonal factors in time series, using proportional deviates to moving averages, through dummy variables in multiple linear regressions, or with other time series methods. There are numerous studies which use this approach: focusing on seasonality measurement in a given destination (Cuccia & Rizzo, 2011; Donatos & Zairis, 1991; Nieto González, Amate Fortes, & Nieto González, 2000; Pegg, Patterson, & Vila Gariddo, 2012; Sutcliffe & Sinclair, 1980; Yacoumis, 1980); based on the accommodation sector (Boffa & Succurro, 2012; Capó Parrilla, Riera Font, & Rosselló Nadal, 2007; Coenders, Espinet, & Saez, 2003; Espinet, Fluvia, Rigal-I-Torrent, & Salo, 2012; Koenig-Lewis & Bischoff, 2004); or comparing seasonality measures and describing their advantages and disadvantages (De Cantis, Ferrante, & Vaccina, 2011; Koenig-Lewis & Bischoff, 2003, 2005; Kulendran & Wong, 2005; Lundtorp, 2001; Wanhill, 1980).

The treatment of seasonality is also a key element in tourism forecasting and modelling, which can be considered as a deterministic or a stochastic component in time series analysis (Song & Li, 2008). Several papers such as Alleyne (2006), Chang and Liao (2010), Koc and Altinay (2007), Kulendran and Wong (2005), Lim and McAleer (2001, 2002) and Shen, Li, and Song (2009) discuss the procedures for detection of deterministic or stochastic seasonality. More recently, Gil-Alana (2010) uses fractional integrated time series models and seasonal long memory models, and Chan and Lim (2011) use spectral analysis.

In addition, as Fernández-Morales (2003), Lundtorp (2001), Rosselló Nadal, Riera Font, and Sansó Rosselló (2004) and Wanhill (1980) argue, a complementary approach consists of estimating annual concentration indices such as the Gini or Theil indices, or the coefficient of variation, providing a single measure of the level of seasonal concentration through the year. Furthermore, the Gini index as a measure of annual seasonal concentration can be decomposed and differentiated to markets or segments; this may contribute to a deeper knowledge of the role that each market or segment has in the annual seasonal distribution (Fernández-Morales & Mayorga-Toledano, 2008; Halpern, 2011).

Touristic and territorial contextualisation of the Andalusian coastline

The coastal zone of the Andalusia region is known as the Andalusian coastline. Andalusia is just one of the 17 regions that makes up Spain. In 2011, Andalusia was the most populated region of Spain with 8,371,200 inhabitants (National Statistics Institute 'Instituto Nacional de Estadística' [INE], 2011) and the second largest one with 87,268 km^2. Andalusia has

established itself as one of the main tourist destinations in Spain; it is estimated that in 2011, Spain received a total of 21,781,273 tourists, of which approximately 60.1% visited the Andalusian coastline (CTCYD, 2011). The Andalusian coastline stretches along 917 km, on a littoral of varying widths, which represents just less than 20% of the Andalusia territory but where almost 40% of the population and economic activity in the region is concentrated (CTCYD, 2008). From a geophysical point of view, the Andalusian coastline is located on the south of the Spanish peninsula; to the East, it borders with the region of Murcia, to the West with Portugal, to the North, it borders with the regions of Extremadura and Castilla-La Mancha; and to the South with the Atlantic Ocean, the Mediterranean Sea and the Strait of Gibraltar. The coasts that form the Andalusian coastline are the Costa de la Luz de Huelva, the Costa de la Luz de Cádiz, the Costa del Sol, the Costa Tropical and the Costa de Almería (hereinafter referred as 'study areas'; Figure 1). These are precisely the areas in Andalusia that receive a higher influx of tourists. All these study areas have in common the prevalence of the sun and sand tourism over other types of tourism.

The most significant features that have contributed to the great development on the Andalusian coastline tourism have been the weather, the quality of the beaches, cultural identity and the hospitality of the local population. At present, the tourism market is experiencing great changes caused mainly by the demand of new types of tourism that complement or replace the sun and sand tourism; in a sense, culture is gaining strength as an important attraction (CTCYD, 2008).

As Cuccia and Rizzo (2011) stated, the fact that cultural tourism is an increasing segment of tourism demand that can reduce seasonality is commonly accepted even if it is difficult to prove. However, this type of tourism is not considered profitable for deseasonalising the touristic activity developed in the Andalusian coastline; therefore, usually, other emerging products such as health and beauty, or golf (CTCYD, 2008) have been

Figure 1. Location of the study area: Andalusian coastline (Spain).

opted for. Nevertheless, in this study we investigate whether cultural tourism is truly not effective for the reduction of seasonality in the Andalusian littoral.

Methodology

Following Crouch (1994), who states that the number of tourists is usually the basic measuring unit of tourism demand, and taking into account the short availability of monthly variables related to tourism demand; the impact of tourism seasonality on the Andalusian coastline was analysed based on the hotels (of different categories in each of the study areas) where travellers stayed, and by differentiating between domestic and foreign tourists. This decision was based on the dominance of the hotel as the most relevant type of demand for tourist accommodation on the Andalusian coastline. In 2011, of the 9,160,006 tourists staying in different types of formal accommodation, 85.7% stayed in hotels, 6.1% in campsites and 8.2% in apartments (INE, 2011).

The selected monthly variables come from the Hotel Occupancy Survey 'Encuesta de Ocupación Hotelera' provided by the (INE, 2011). These variables are included in a temporary space that covers a period of 13 years between January 1999 and December 2011 (hereinafter referred as 'period analysed').

Furthermore, the percentage for the three-month seasonal series from 1999 to 2011, states the tourist main motivation for visiting Andalusia. These data were provided by the headquarters of the public company Turismo Andaluz (Sistema de Análisis y Estadísticas del Turismo en Andalucía, 2011), which have made it possible to classify tourists under the hypothesis that travellers can be grouped into touristic segments based on their main travel motivation (hereinafter referred as 'segments'). These segments have been established according to the main travel motivation of the tourists as follows: sun and sand segment (weather and beach); cultural segment (popular festivals and folklore, and visiting monuments) and other segments (prices, nature and rural tourism, visiting family and friends, sports, etc.).

With the objective of establishing different tourist seasons on the Andalusian coastline, as a whole and by study areas, the indices of seasonal factors resulting from a seasonal adjustment through the moving average method estimated by the multiplicative procedure have been applied.

On the other hand, the Gini index has been applied as a measure of yearly seasonal concentration. This measure, which is often used to quantify inequalities of distribution of economic variables, has also been used in several studies that analyse the seasonal concentration of tourist variables (Cuccia & Rizzo, 2011; De Cantis et al., 2011; Fernández-Morales & Mayorga Toledano, 2008; Grabler, 1997; Halpern, 2011; Lee, 1996; López & López, 2007; Lundtorp, 2001; Martín Martín, Jiménez Aguilera, & Molina Moreno, 2013; Rosselló et al., 2004; Sutcliffe & Sinclair, 1980; Tsitouras, 2004; Wöber, 1997; Yacoumis, 1980).

The Gini index has useful advantages: it is a measure that takes into account the skewness of the distribution and it is less influenced by extreme values than other concentration measures (Wanhill, 1980; Yacoumis, 1980). Moreover, this index satisfies the condition of Pigon-Dalton, whose meaning in the field of tourism suggests that the transfer of tourism demand from a month with more occupation to another in with less, reduces the coefficients, i.e. seasonality (Aguiló & Sastre, 1984) and furthermore, it shows greater stability (Lundtorp, 2001). In addition, unlike monthly or quarterly factors which do not provide a synthetic measure of the annual level of seasonality, an annual single measure of the extent of this phenomenon may permit the identification of those years in which seasonality

has increased or decreased as well as providing information about whether counter-seasonal policies have been effective or not (Fernández-Morales, 2003).

The Gini index has a relative disadvantage since it is not additive like Theil index and the coefficient of variation, thus in order to investigate the RME of different markets, it is necessary to carry out a decomposition of seasonal concentration. The technique used in this study developed by Lerman and Yitzhaki (1985) compensates this disadvantage.

There are also other different techniques that can be used to decompose the Gini index as the decomposition carried out by Shorrocks (1982) or the one conducted by Dagum (1997). Dagum's (1997) decomposition of the Gini index by subpopulations, for example, can be a useful tool for assessing the degree of variation between seasons (Fernández-Morales, 2003) but it does not allow the obtention of RMEs. In contrast, Lerman and Yitzhaki's (1985) approach easily yields estimations of RMEs and falls into the Shorrock's (1982) category of 'natural' decompositions of the Gini index, providing an easier interpretation of the components than in other Gini decompositions.

This work uses de formula of Lerman and Yitzhaki (1985) based on the covariance, which is applied to the monthly values of the variable Y ($Y = Y_1, Y_2, \ldots, Y_{12}$) corresponding to the year analysed, represented as follows:

$$G = \frac{2}{\overline{Y}} \mathrm{cov}(Y, F), \tag{1}$$

where $\overline{Y}$ is the mean of Y, F is the distribution function of Y and cov (Y, F) stands for the covariance between Y and F. The Gini index ranges from 0 to 1; as it approaches to 1, it indicates a higher temporary concentration (of the selected variable in the year observed) and, consequently, a greater seasonality in the behaviour of the variable. Whereas a value close to 0 determines a more equitable distribution in time, and therefore, lower seasonality.

To estimate the effect of the components of each variable on the annual Gini, Lerman and Yitzaki's (1985) proposal was applied. This proposal was first used in the area of tourism to measure the concentration of hotel demand in the Costa del Sol (Fernández-Morales & Mayorga-Toledano, 2008). More recently, it has been used to investigate the seasonal concentration of passenger demand in Spanish airports (Halpern, 2011). In this study, this decomposition is used to measure the contribution of each tourist segment to the overall seasonal concentration. For a monthly series with K additive components $Y = Y^1 + Y^2 + \cdots + Y^K$, the annual Gini index Y can be decomposed as follows:

$$G = \sum_{k=1}^{K} C_k = \sum_{k=1}^{K} S_k R_k G_k, \tag{2}$$

where C_k represents the contribution of component k to the overall Gini index, G_k is the annual Gini index of k, S_k is the annual participation of Y^k in the annual value of Y and R_k represents the Gini correlation between Y^k and Y (R_k=cov(Y^k, F)/(Y^k, F^k)), F^k being the distribution function of Y^k. This approach yields an intuitive interpretation of the elements making up each source's or market's contribution to the overall concentration level (Lerman & Yitzhaki, 1985).

This decomposition, as pointed out by Fernández-Morales and Mayorga-Toledano (2008), facilitates the estimation of the marginal effect produced by a given variation in some of the components analysed in the overall Gini index. The RME quantifies, in relative terms, how much the overall Gini index increases or decreases when a small relative

increase e^k (equally distributed throughout the year) occurs in component k. It can be calculated as follows:

$$\mathrm{RME}_k = \frac{\partial G}{\partial e^k}\frac{1}{G} = S_k\left(\frac{R_k G_k}{G} - 1\right). \quad (3)$$

This decomposition can be a very useful tool for tourism managers, who establish measures to reduce seasonality, since with the estimation of the RME they could know how proportional changes in each component k will influence the overall level of seasonal concentration.

Results

Seasonal patterns

To extract and study the seasonal patterns, the multiplicative seasonal decomposition has been applied, thus, obtaining the seasonal adjustment factor or indices that are analysed in this section (Figure 2).

To facilitate the analysis of seasonal patterns, different seasons were established based on the following criteria: first, low season is understood to be located between the months whose values are less than the unit, and peak season is considered to be located in the remaining months. Furthermore, within peak season, a higher season has been established for those months with values above 1.5.

By first analysing the seasonal indices of all the travellers visiting the Andalusian coastline as a whole, a peak season from April to October is obtained; within this season, there is a higher one in the months of July and August (with 55% and 67%, respectively), which is above the series trend-cycle. The low season is located between November and March and it reaches its lowest value in January.

The peak season is maintained between the month of April and October in all the study areas. The maximum values observed were located in August and the minimum ones in January for all the study areas, placing the most difference between the maximum and the minimum value on the Costa Tropical and the Costa de la Luz de Huelva. Thus, it can be deduced that in the previously mentioned coasts, the most irregular seasonal distribution in the entire Andalusian coastline can be appreciated, making them the areas that require greater deseasonalisation action measures. The remaining areas, although they are characterised for maintaining a notable seasonality in the summer, are located within less pronounced values.

Next, when travellers are separated between domestic and foreign, it appears that domestic travellers have a peak season that is slightly shorter, and it ends in September. Domestic travellers also have a higher season that reaches the 89% and surpasses the trend cycle in August. However, what stands out is the fact that foreign travellers show a two-peak seasonality which breaks with the prevalence of the one-peak seasonality that generally occurs in Spain and in most Mediterranean destinations. Two very short higher-seasons are also established for the months of May and September, with 50% and 51%, respectively, above the trend cycle. This reveals that foreign travellers have a less seasonal behaviour than domestic tourists. This pattern of behaviour, with slight differences, is maintained throughout all the study areas.

If we focus our attention to the tourist segments created in this study, we find large differences between the seasonal behaviour for each of them; we can see that the sun and sand segment is the most seasonal in all the study areas.

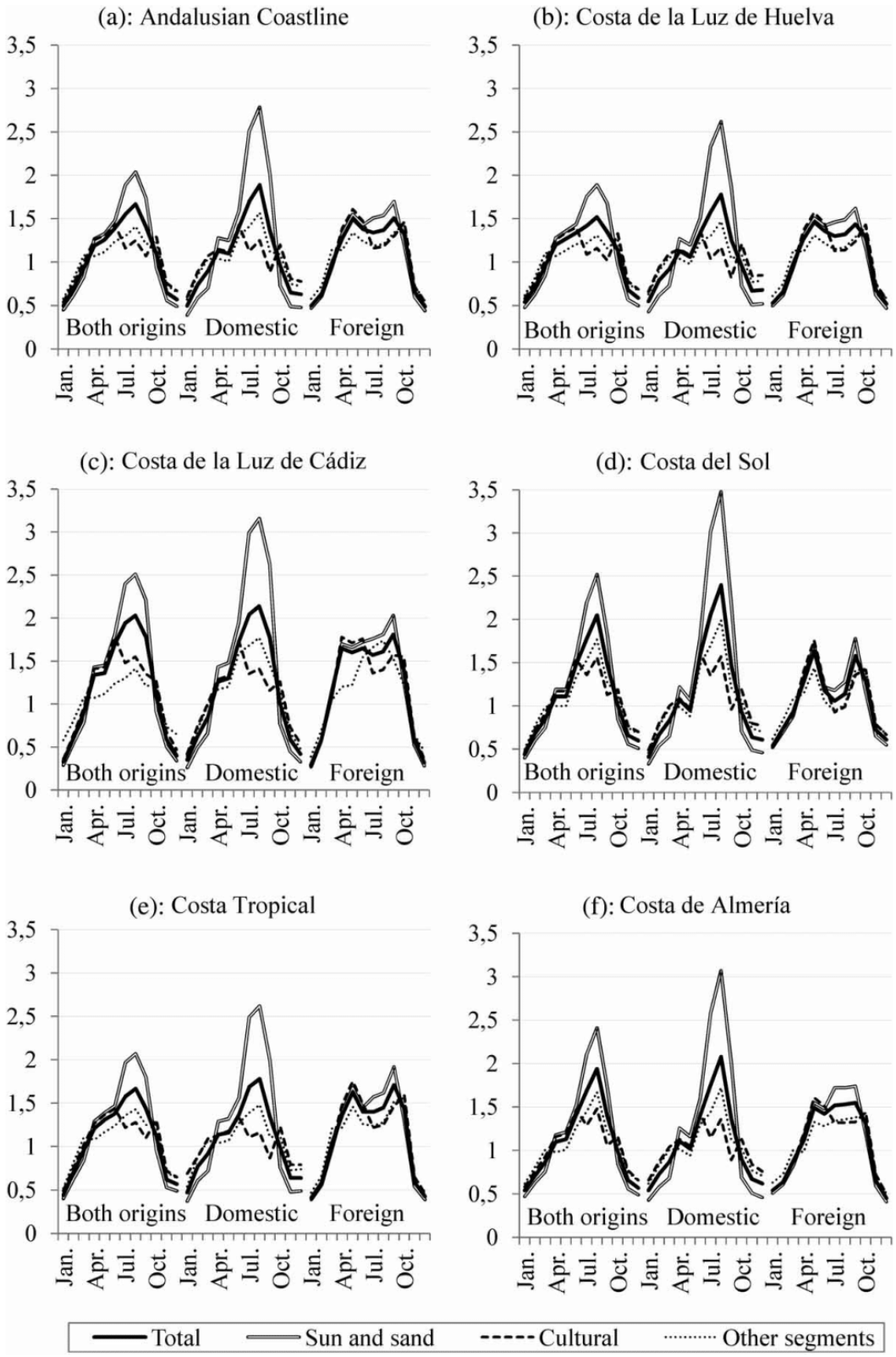

Figure 2. Seasonal patterns.

Taking into account the total number of visitors to the Andalusian coastline, one finds that in the sun and sand segment peak season takes place from April to September and the higher season from July to September, with a peak in August (104% above the series trend-cycle); these are very similar results to the total of travellers. As for the cultural segment, it is less seasonal by nature since it does not depend on the weather; peak season can take place from March to October, and in this case, it lacks a higher season just like the rest of the tourist segment groupings.

Seasonal concentration

In this paper, we used the Gini index as a measure of seasonal concentration. This index is an indicator that provides useful information regarding the degree of concentration of travellers' demand. To facilitate the analysis, this study has established a specific classification of the seasonal degree of concentration for the study areas, considering a low concentration when values are below 0.20, medium when they are from 0.20 to 0.24, medium-high from 0.25 to 0.29 and, lastly, a high concentration is considered for those values equal or greater than 0.30.

Regardless of the origin of the travellers, the degree of seasonal concentration on the Andalusian coastline has been increasing slightly throughout the period analysed (Figure 3). It has gone from a low concentration (with a value of 0.19) in 1999 to medium-high (with 0.25 in 2011), being domestic travellers the most involved in this concentration with 0.27 in comparison to foreign (with a concentration average of 0.22), who again present a less seasonal behaviour, and thus help to reduce the total seasonal concentration of the Andalusian coastline.

Differentiating between tourist segments and comparing between the first and the last year analysed (Figure 4), the sun and sand segment is the one that has contributed to the seasonal concentration on the Andalusian coastline; it went from a medium concentration (0.22) to a high one (0.31). By contrast, the cultural segment reduced its seasonal

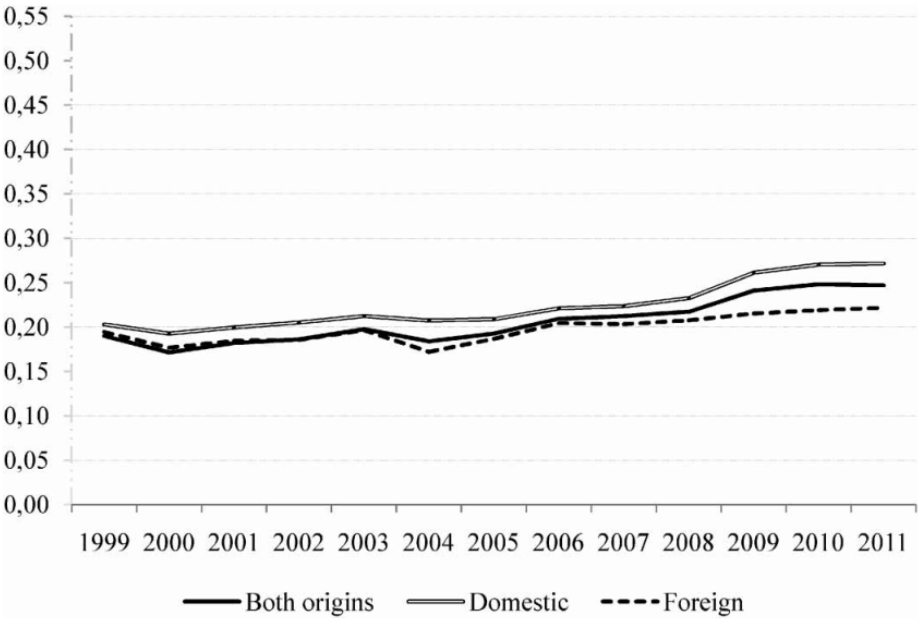

Figure 3. Gini index by origin.

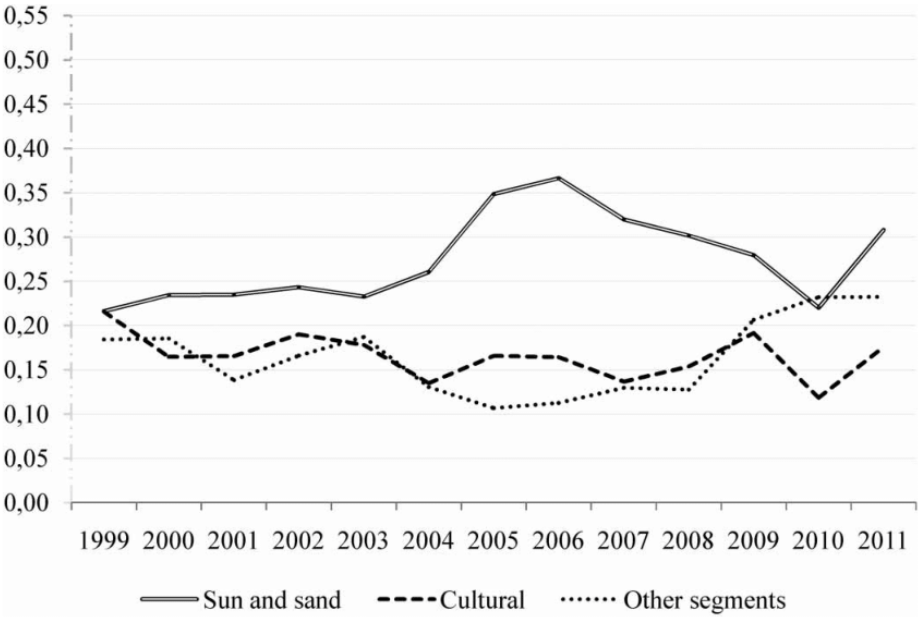

Figure 4. Gini index by segments.

concentration participation from a medium concentration (0.22) to a low one (0.18); finally, the rest of the tourists segments have gone from a low concentration (0.18) to a medium one (0.23).

If we analyse the tourist segments defined in this study, we can observe how differences in the annual seasonal concentration are accentuated (Figure 5). Domestic-sun-sand travellers are the first group that causes the greatest degree of concentration in the entire Andalusian coastline (0.34); this high concentration has been maintained throughout the analysed period. This is followed by foreign-sun-sand travellers as well as domestic travellers of other segments, they have gone from having a low concentration at the beginning of the

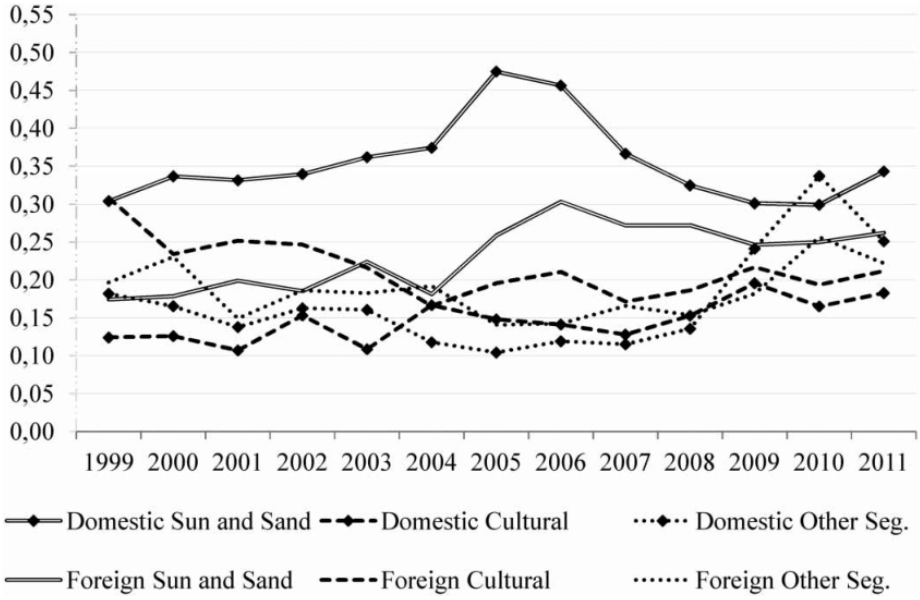

Figure 5. Gini index by origin and by segments.

period analysed (0.17 and 0.18) to a medium-high one at the end of it (0.26 and 0.25). On the other hand, domestic-cultural travellers are the ones that have the lowest concentration in the entire coastline (0.18), it is a concentration that has been considered low since 1999 (0.12). Finally, foreign travellers from the cultural segment and as well as groupings of other segments present a medium concentration (0.21 and 0.22, respectively). Comparing the first year analysed with the last one, foreign-cultural travellers are the only case where the level of concentration has been reduced.

In all study areas, regardless of the origin of the travellers, if the first and last year analysed are compared, the degree of concentration has increased; this increase has occurred progressively with small fluctuations in all cases. The most significant increases have occurred in the Costa de la Luz de Cádiz and in the Costa de la Luz de Huelva (increasing by 0.11 and 0.09 points, respectively). Breaking down between domestic and foreign travellers, the largest increase has also occurred within domestic travellers on the aforementioned costs (with 0.12 and 0.11, respectively), followed by foreign travellers on the Costa de la Luz de Cádiz (with an increase of 0.07 points). The only decrease was registered among the domestic travellers in the Costa Tropical. At present, the Costa de la Luz de Huelva is the area with the highest degree of concentration (0.34); it is also the area that recorded the second largest increase. By contrast, the Costa del Sol has a lesser degree of concentration, with a medium concentration, that is almost low (0.20). The remaining areas have a medium-high concentration.

If domestic and foreign travellers are classified by areas (Figure 6), the travellers that caused a higher degree of concentration in 2011 were the domestic ones. In the Costa de la Luz de Huelva, they had a concentration of 0.36 points, and in the Costa Tropical they had 0.31 points, both with a high concentration. Following with a medium-high concentration were domestic and foreign travellers on the Costa de la Luz de Cádiz and the Costa de Almería (0.28), followed then by domestic travellers on the Costa de la Luz de Huelva (0.26). On the other hand, travellers with lower degree levels of concentration were situated at a medium concentration, and these were the foreign travellers on the Costa Tropical (0.20) together with domestic and foreign travellers on the Costa del Sol,

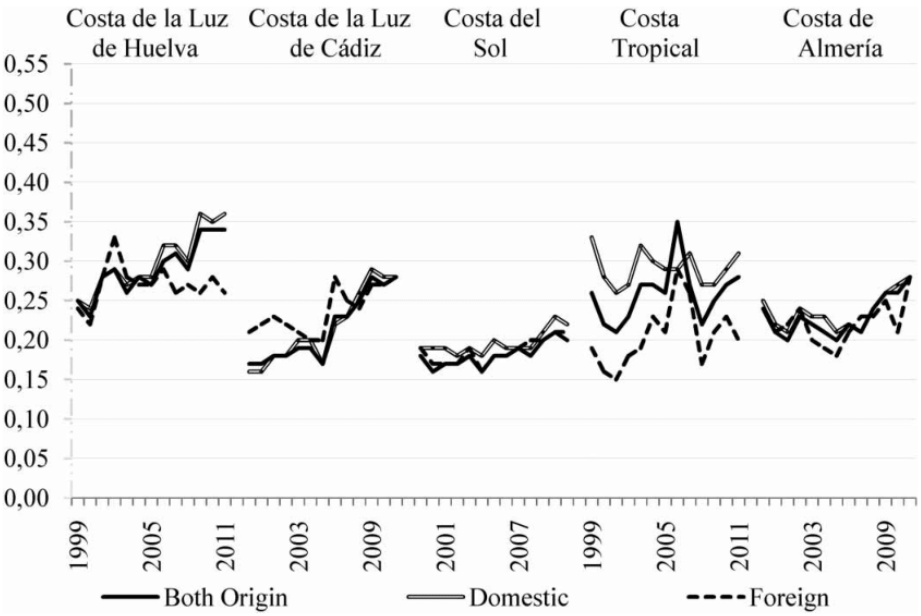

Figure 6. Gini index by origin and by areas.

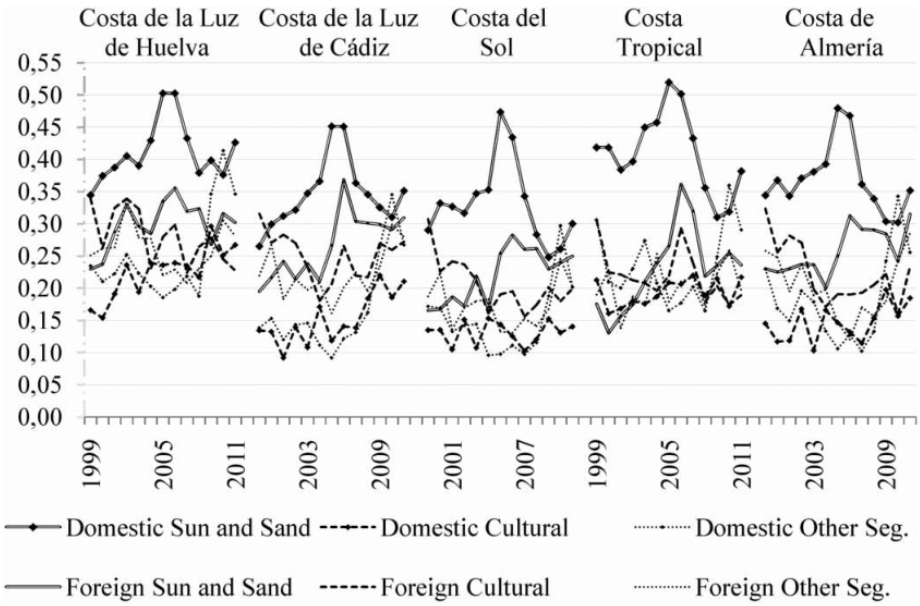

Figure 7. Gini index by origin, by segments and by areas.

who had a low concentration up to 2008; afterwards, they had medium concentration (0.21 and 0.22, respectively) in 2011.

When the annual seasonal concentration of touristic segments separated into study areas is examined, it demonstrates how the observed differences are even more important (Figure 7). For example, in 2011, in the Costa de la Luz de Huelva, domestic-sun-sand travellers reached the value of 0.43 and 0.38 on the Costa Tropical. On the other hand, standing out with a low concentration were the domestic-cultural travellers on the Costa del Sol and Costa de Almería (with 0.14 and 0.18, respectively). Whereas, the foreign-cultural travellers on the Costa de la Luz de Cádiz and on the Costa de la Luz de Huelva had a medium-high concentration.

Finally, foreign-cultural travellers, stand out as being those who have been reducing the degree of concentration in all the study areas throughout the period analysed. Meanwhile, without an established pattern in almost the entire coastline, domestic-cultural travellers have increased the seasonal concentration.

Relative marginal effects

Obtaining marginal relative effects can be a useful tool for establishing a preferable classification of certain types of travellers that might be favourable for reducing seasonal concentration. Thus, for the destination analysed in this paper, the following criteria have been established. Favourable groups of travellers or tourists segments will be those whose RMEs are less than −0.02, and conversely, those that present a RME above 0.02 will be unfavourable. Furthermore, the following intermediate range has been established for travellers whose favourability is considered low (−0.02, 0.02).

When we analyse the Andalusian coastline as a whole, the most widespread perception is that seasonal concentration can be reduced if tourism policies are aimed at attracting foreign travellers because of their less seasonal behaviour (Figure 8). In 2011, the RMEs were −0.06 points regarding foreign travellers visiting the coast. However, it is

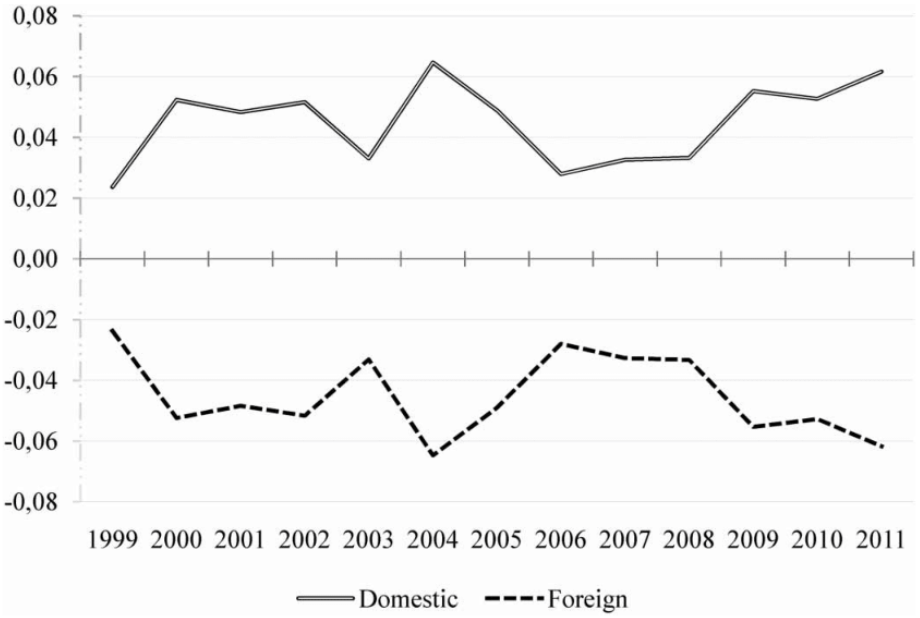

Figure 8. RMEs by origin.

necessary to deepen this analysis by also separating the touristic segments and the study areas.

Figure 9 shows how throughout the period analysed the cultural segment has shown itself to be favourable for deseasonalisation (with an RME equal to −0.10 in the last year analysed). The opposite has happened with the sun and sand segment, which has not shown itself favourable in any of the years analysed (with an RME of 0.12 in 2011); hence, it is not a target segment for deseasonalising the coast. On the other hand, the grouping of other segments has shown itself as a favourable group up to 2009. Yet, in the last year analysed, these travellers were not considered preferable (−0.02).

The analysis of tourist segments reveals important differences. The cultural segment, besides being the most favourable for deseasonalising the coast, is the segment that has decreased the most the RME since the first up to the last year analysed by specifically 0.07 points. On the contrast, the sun and sand segment has increased 0.07 points the RME; therefore, besides not being a favourable segment for deseasonalising, everyday, it is increasingly becoming so.

Sorting out tourists by origin and segments helps further fine-tune the search for really favourable travellers that can adjust seasonality. Figure 10 represents the calculated RME for both domestic and foreign travellers classified into tourist segments.

First, it can be seen that domestic-sun-sand travellers are the only ones who have positive RME throughout the period analysed, so, they are classified as unfavourable. Meanwhile, foreign-sun-sand travellers during the period analysed are considered as the least favourable. Domestic-cultural travellers are the ones that demonstrate a more stable behaviour in the RME negative area; clearly, this group is the most favourable. Nevertheless, the RME of foreign-cultural has evolved by reducing it to the current values of the domestic ones.

Therefore, cultural travellers, both domestic and foreign, are the most favourable for deseasonalising the Andalusian coastline. On the other hand, foreign-sun-sand travellers are classified as least favourable. Meanwhile, domestic-sun-sand travellers are considered

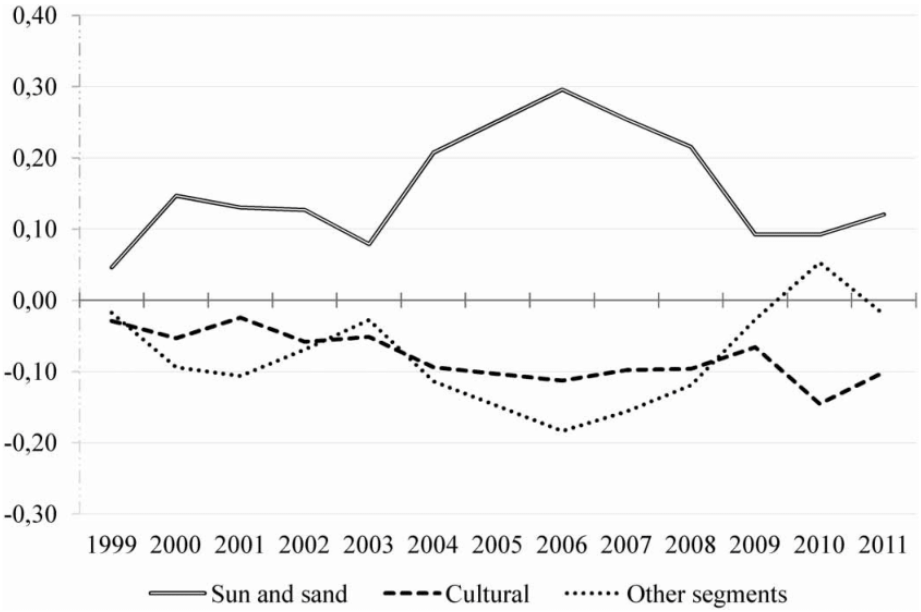

Figure 9. RMEs by segments.

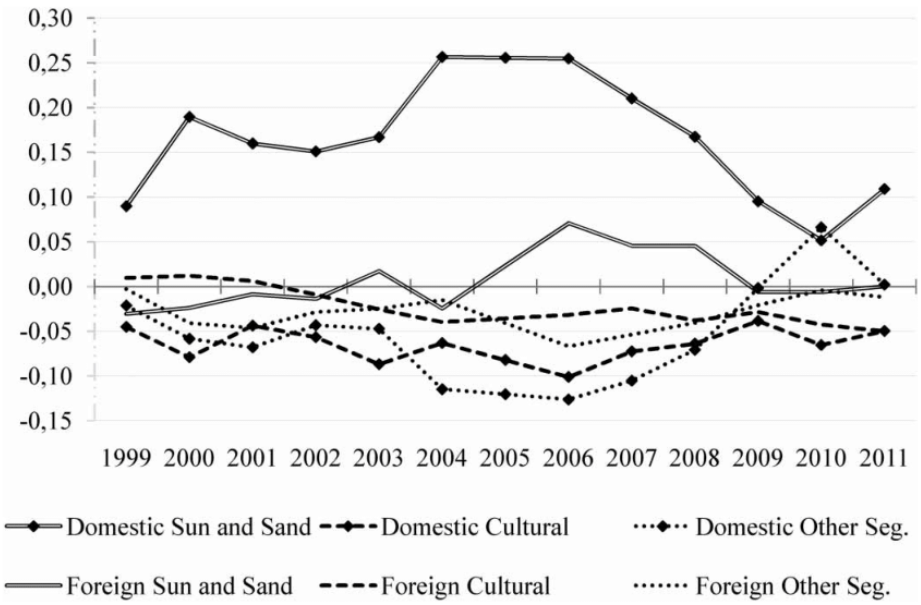

Figure 10. RMEs by origin and by segments.

as unfavourable. Finally, the grouping of other segments would be classified as little favourable.

Figure 11 shows the RME calculated by origin and segments for each of the study areas; it helps find out if the travellers considered as favourable in the Andalusian coastline, repeats itself in all the study areas, or on the contrary, there is difference between the travellers considered favourable in each of them.

In all the study areas, domestic-cultural travellers are shown as being more favourable for reducing the effects of seasonal concentration, which is highlighted by the Costa de Almería (with an REM of −0.08), followed by the Costa de la Luz de Cádiz (−0.06)

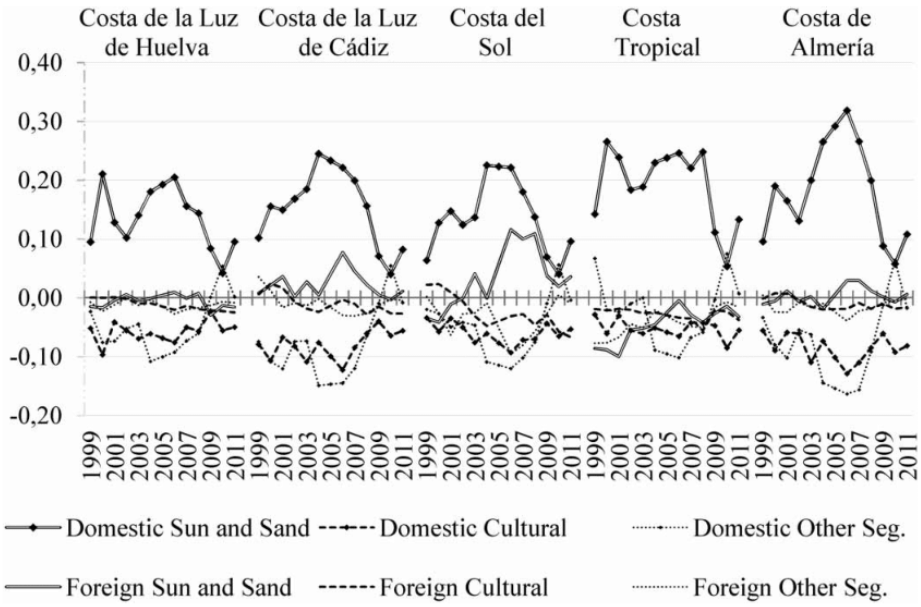

Figure 11. RMEs by origin, by segments and by areas.

and the rest of the study areas (−0.05). Oppositely, domestic-sun-sand travellers are considered the least favourable, as they have been shown as unfavourable throughout the period analysed and in all study areas; for example, the Costa Tropical (with an RME of 0.13), followed by the Costa de Almería (0.11), the Costa de la Luz de Huelva and the Costa del Sol (0.10) and finally, the Costa de la Luz de Cádiz (0.08).

As for foreign travellers, a homogenous grouping of favourable travellers cannot be established on all the study areas as in the case of domestic travellers. Therefore, we find some notable differences. For example, foreign-cultural travellers in the Costa de la Luz de Huelva and in the Costa de Almería are not considered very favourable, whereas, in the rest of the study areas, they are considered as favourable, especially in the Costa del Sol; it is precisely there where the greatest decrease in the RME has taken place, from the beginning to the end of the period analysed with an RME of −0.07 in 2011.

For the most part, foreign-sun-sand travellers have shown a greater variation between the study areas. In the Costa Tropical, they are favourable with an RME of 0.03 in 2011, while in the Costa del Sol they are unfavourable, and in the rest of the study areas, they are considered not very favourable.

Discussion

The results obtained in this study on seasonal concentration on the Andalusian coastline reveal the importance of using a sufficient and adequate level of disaggregation for this matter. The inclusion of a segment according to the visitors' purpose, the separation of tourists by origin and by study areas, reveals important features that can remained masked when the given information for a destination as a whole or only by distinguishing tourists by origin is studied.

First, the generally accepted one-peak seasonal scheme for Mediterranean coastal destinations clearly occurs in all the study areas only for domestic sun and sand tourists. In the remaining cases, there are two-peak schemes and even other more irregular schemes especially for foreign sun and sand tourists.

On the other hand, the fact that the foreign tourists group has a less seasonal behaviour has generally given rise to tourism planning instruments. Previous studies (Fernández-Morales & Mayorga-Toledano, 2008) of seasonal concentration reduction, consider this group as favourable. However, the methodology used in this study shows that although all foreign travellers are considered as favourable for reducing seasonality, they are not favourable in the same magnitude when the type of traveller they are (sun and sand or cultural) is taken into account. In addition, in the domestic travellers group, which is usually considered unfavourable for reducing seasonality, we can find a segment of domestic-cultural tourists that demonstrates characteristics that can make them favourable for reducing seasonality.

In Spain, tourism planning instruments aimed at reducing seasonality are usually established by higher grounds, either the national or regional government, which leaves local tourism administrators very little room for making decision on how to diversify tourism in their territories. All of these instruments try to deal with the challenges of reducing seasonality in coastal destinations, and on establishing various general measures. Among some of the proposed measures, several projects such as 'open beaches all year', 'weekends and long weekends' or 'Christmas in Andalusia' can be cited. Furthermore, among these instruments, product diversification is not only contemplated as an objective and means for increasing the competitiveness of the tourism sector, but also for reducing seasonality by following the same product mix variation proposed by authors like Allcock (1994), Andriotis (2005), Baum and Hagen (1999) and Calantone and Johar (1984).

Nevertheless, the planning instruments previously mentioned do not employ quantitative tools with a sufficient degree of disaggregation; for this reason, what this paper proposes could be very useful. With the analysis of the evolution of the RMEs throughout the period analysed, and taking into consideration the last year (2011) above all, tourism policy designed to alleviate seasonal concentration could be tailored from a more specialised approach. As it has been previously stated, given the heterogeneity of both domestic and foreign travellers,it has been highlighted that the cultural segment is the most favourable to seasonally adjust, especially domestic-cultural travellers. Whereas foreign-cultural travellers do not seem to have the same seasonal adjustment affect on all study areas since they showed little relevance in two areas of the Andalusian coastline.

Conclusions

The methodology presented in this paper is proposed as a control and monitoring measure that can be used by tourist managers and administrators in destinations with a high seasonal concentration. By analysing the evolution of RME during a period for which sufficiently disaggregated data exist, especially the last year, tourism policies aimed at reducing seasonal concentration can be tailored.

Overall, it has been verified that seasonal concentration, measured with the Gini index, has been experiencing (during the 13 years studied) an upward trend throughout all the five areas that make up the Andalusian coastline even though, seasonal concentration is most notable in two of these areas (Costa de la Luz de Huelva and Costa de la Luz de Cádiz); thus, indicating that either insufficient measures have been implemented or that the measures implemented have been ineffective in reducing seasonal concentration in any of the two areas.

Likewise, it has been shown that seasonal patterns, and the consistent degree of seasonal concentration observed on the segments analysed, differs significantly when they are studied in disaggregation. Hence, the use of an appropriate level of disaggregation is of fundamental importance for the establishment of counter-seasonal policies.

Among the main results obtained, it is observed that when a simple disaggregation of travellers in the destination is used, foreign travellers are the favourable ones for reducing seasonality since they show a greater magnitude of RME. This diagnosis is significantly modified by using a complete division that introduces the sun and sand segment, the cultural one and the grouping of other segments. Thus, foreign travellers are only considered favourable for their deseasonalising effect within the cultural segment during the last years since they have a similar relative effect like the domestic-cultural travellers; the importance to bet for cultural tourism as an instrument for deseasonalisation in the Andalusian coastline is hence confirmed. This affirmation on the impact cultural tourism has on the reduction of seasonality, an affirmation systematically repeated in all the media, lacked rigorous quantitative studies that ratified it for the Andalusian coastline.

Having identified cultural tourism as a favourable segment for the deseasonalisation of the Andalusian coastline, it is important to highlight and increase the added value of coastal cities such as Málaga, located on the Costa del Sol, which also experiences cultural visits. Following this line of thought, the other historical cities located near the coast, Huelva, Cádiz and Almería, are encouraged to supplement their offers with cultural tourism, and thus foreseeably achieving the deseasonalisation of their demand.

Moreover, many of the measures against seasonality, as proposed in the various applicable planning instruments for the Andalusian coastline, are diverse. They generally try, either through marketing activities or through the direct support of certain tourists segments, to reduce seasonality. However, these planning instruments do not include the development of analytical tools that allows one to determine with sufficient detail which are those segments with the RME to reduce seasonality. For this reason, the methodology proposed in this study, both from the application of RME as a quantitative measure of the degree of seasonality as well as the triple disaggregation, by area, nationality and segment, can be a valuable tool for the design and implementation of planning instruments in the fight against seasonality on the Andalusian coastline.

Finally, it should be noted that in this study, the primary focus has been in the specific contribution of cultural tourism, and its capacity to reduce seasonality. Nonetheless, it should be pointed out that within the grouping of 'other segments', there are numerous kinds of motivations given by travellers with which new sortings of other specific tourists segments favourable of reducing seasonality can be obtained, since as it has been demonstrated in this work, this category is considered somewhat favourable for the reduction of seasonality on the Andalusian coastline.

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Supplemental data

Supplemental data for this article can be accessed at http://dx.doi/10.1080/13683500.2013.861810.

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Supplementary material:

Table 1: Number of tourists staying in hotels on the Andalusian coastline by origin, by segments and by areas

Area/ Origin/ Segment	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Costa de la Luz de Huelva													
Domestic													
Sun and Sand	80258	101438	105568	102461	118339	182341	180966	254047	349871	404716	422811	328437	343791
Cultural	30472	43855	41295	49478	58017	62066	112090	196550	162736	180472	154027	162583	176259
Other Segments	136638	107279	113587	135000	132891	181953	226718	194407	185424	135192	133229	215591	193368
Foreign													
Sun and Sand	25750	29610	38680	45359	51556	60102	51670	72511	91751	104122	105468	89283	84165
Cultural	8374	10061	10491	15454	14283	17834	36430	53716	40282	47219	41015	46555	45960
Other Segments	28205	21663	16483	33720	34268	25948	33780	39290	33772	32401	23147	41779	27893
Costa de la Luz de Cádiz													
Domestic													
Sun and Sand	208206	270407	278287	252825	303207	393049	327609	483757	697713	794754	806012	572314	546110
Cultural	85538	126641	118112	133006	158755	144598	222167	416945	355467	365464	304087	294908	297230
Other Segments	366796	301711	319173	357236	358753	419640	462454	420655	409191	276199	257665	369211	315312
Foreign													
Sun and Sand	156206	185277	230776	200276	243371	288324	201370	272919	350549	332987	326674	259526	294928
Cultural	50606	65083	63073	68794	66308	87092	145198	197568	155909	152168	123313	137604	161312
Other Segments	170927	135823	99346	149331	159100	124446	139791	146646	132316	105951	71091	122033	97687
Costa del Sol													
Domestic													
Sun and Sand	336433	460301	488749	423037	516468	591261	553834	728947	958691	1158454	1100415	843758	851318
Cultural	134320	208408	206358	222402	271236	220730	363431	659212	502335	554637	431281	446891	480144
Other Segments	585707	500786	557629	594108	612150	641333	750397	669118	579918	424360	358190	544283	502506
Foreign													
Sun and Sand	701583	881408	1005446	845197	955273	997478	759147	941882	1231280	1293912	1160973	917704	1113998
Cultural	228553	303858	272601	290568	262702	307618	544821	713177	557061	599687	445768	495119	626736
Other Segments	765685	644541	438724	633345	633912	432659	526035	546919	479833	419965	258185	438383	372360
Costa Tropical													
Domestic													
Sun and Sand	31145	41479	42532	44502	56198	65789	64994	79003	94164	97512	117142	94041	96744
Cultural	11134	16838	17021	21647	25889	21272	38653	64704	44978	44338	44968	48426	51783
Other Segments	51333	41098	46343	59828	61736	63720	78871	64344	51408	33489	37506	62251	55720
Foreign													
Sun and Sand	18178	21890	22343	20715	25748	24875	20238	29998	33161	30675	25580	18639	24234
Cultural	5891	7579	5957	7060	7167	7534	14751	22599	15055	14881	9765	10057	13850
Other Segments	19731	16231	9946	15714	17058	10858	14422	16658	12800	10556	5815	8985	8247
Costa de Almería													
Domestic													
Sun and Sand	171392	198116	203435	199661	259520	353748	272012	340436	464746	557312	551757	446045	431322
Cultural	65066	85273	85389	100205	130313	125955	177313	292963	238118	254817	210132	230225	232562
Other Segments	113829	93069	68354	88415	77428	58087	69645	58280	46783	36884	22130	33710	27116
Foreign													
Sun and Sand	103382	128104	157696	117593	117965	134527	99302	102183	124024	116194	102024	70804	81435
Cultural	33449	44437	43356	40234	31903	40847	71557	75335	55213	53180	38254	37887	44239
Other Segments	390806	286619	265490	338715	312697	362430	384965	340352	301359	223524	186882	310265	254052

Chapter 3

Understanding the Seasonal Concentration of Tourist Arrivals: The Case of the South of Spain

Abstract: The objectives of this chapter are: (i) to present a methodology for analysing seasonal concentration in tourism, designed as a control and monitoring measure which tourism planners and managers may use in destinations with a high seasonal concentration (by estimating the Gini index, applying an additive decomposition over tourism segments and estimating relative marginal effects over the annual indexes of the tourism segments); and (ii) to apply this methodology to the analysis of seasonal concentration in Andalusia over the period 1999–2013 to two tourism data sets, travellers visiting the coastal areas in Andalusia and passengers arriving in Andalusia.

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11 Understanding the Seasonal Concentration of Tourist Arrivals: The Case of the South of Spain

José David Cisneros-Martínez * and Antonio Fernández-Morales

Universidad de Málaga, Málaga, Spain

11.1 Introduction

Seasonality is a phenomenon that affects many economical activities, including tourism. Regions or destinations where the tourism industry represents a significant part of their economies are indeed more affected by seasonal fluctuations. In Andalusia, the southern region of Spain, tourism is a very important economic industry, with 12.8% of the share in the regional gross domestic product (GDP) for 2013. Employment figures for 2013 indicate that there are 320,000 tourism-related jobs, which is 13% of the total regional employment. Moreover, it has been estimated that 22.4 million tourists visited Andalusia in 2013, of which 59% chose the Andalusian coastline, thus; the 'sun and beach' was the predominant product (Consejería de Turismo, Comercio y Deporte [CTCYD], 2013).

Thus, the entire Andalusian region must deal with the effects of seasonality. Both local and regional administration, as well as tourism business owners, are currently confronting this problem by implementing remedial measures to reduce seasonal concentration with the relentless pursuit of new formulas for product diversification. This can be corroborated by the recent observed coordination between public administration and the private sector to address this problem. Yet, for coordination to work efficiently, it needs to have both the knowledge as well as the adequate tools to measure seasonality.

The objectives of this chapter are: (i) to present a methodology for analysing seasonal concentration in tourism, designed as a control and monitoring measure which tourism planners and managers may use in destinations with a high seasonal concentration (by estimating the Gini index, applying an additive decomposition over tourism segments and estimating relative marginal effects over the annual indexes of the tourism segments); and (ii) to apply this methodology to the analysis

*E-mail: joscismar@uma.es

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of seasonal concentration in Andalusia over the period 1999–2013 to two tourism data sets, travellers visiting the coastal areas in Andalusia and passengers arriving in Andalusia.

11.2 Literature Review

There has been an almost general acceptance that seasonality is inevitably linked with tourism activity, which until recently somewhat inhibited the serious and extensive research agenda in this field (Allcock, 1994), especially regarding measurement techniques (Koenig-Lewis and Bischoff, 2005; De Cantis *et al.*, 2011). Moore (1989) defined seasonality as the displacements produced in a given period, during a specific time of the year and each occurring similarly. In addition, Butler and Mao (1997) identify two dimensions of seasonality: natural (including climate, weather, etc.) and institutional (mainly holiday and leisure calendar). The effects of tourism seasonality are related to these aspects, and for this reason, tourism managers have difficulty in establishing appropriate policies to reduce their impact.

The main problems caused by the effects of seasonality are the underuse of tourism facilities during the low season and, vice versa, their maximum occupancy to full capacity during the high season (Baum and Hagen, 1999; Pegg *et al.*, 2012). This fact is explained by the concentration of touristic flows during certain periods of the year, which represents a temporary mismatch between the supply and demand of tourism. This has negative consequences which result in an instability that causes various problems that business owners and tourism managers have to contend with, such as unstable employment, limits on the profitability of investments, reduction in business revenue, a mismatch in load capacity, fluctuation of prices, environmental degradation and various sociocultural effects among visitors and residents in a given destination (Butler, 2001).

Traditional measurement tools, such as seasonal variation and concentration indexes, including the Gini index (without a marginal decomposition), are focused on reproducing representative models of seasonality, reaching general conclusions about the level of seasonal concentration. However, these traditional tools do not allow one to know what type of tourist is truly favourable for the seasonal adjustment of a destination (Cisneros-Martínez and Fernández-Morales, 2013). Therefore, when tourism managers implement measures to reduce seasonality, they find it difficult to identify whether there is any type of tourist that can contribute significantly to the reduction of seasonality at a destination, and these (potential) tourists pass unnoticed due to the lack of a methodology that could identify them.

11.3 Methodology

The methodology used in this study is proposed as a control and monitoring measurement, which tourism managers may use in destinations with a high seasonal concentration. Specifically, it has been applied to tourist arrivals in Andalusia with the main purpose of checking quantitatively whether certain tourist segments can help reduce tourism seasonality. The additive decomposition of the Gini index provides

information about the contribution of each tourist segment to the total seasonal concentration. Furthermore, by obtaining the measures of the relative marginal effects (RMEs), it is possible to identify to what extent a particular tourist segment can contribute to the reduction of seasonal concentration in the destination analysed. Likewise, by analysing the evolution of RMEs throughout the period of study, especially in the last year analysed, tourism managers could tailor tourism policies designed to alleviate seasonal concentration annually, anticipating each year how it will contribute to an increase of a type of tourist in the reduction of the overall Gini index that had previously been used to measure the degree of seasonal concentration.

The Gini index is a measure that has traditionally been used to measure the concentration of wealth in a particular country or area, but also in measuring the seasonal concentration of tourism (Sutcliffe and Sinclair, 1980; Lundtorp, 200 selló Nadal *et al.*, 2004; Tsitouras, 2004; Fernández-Morales and Mayorga Toledano, 2008; Cuccia and Rizzo, 2011; De Cantis *et al.*, 2011; Halpern, 2011; Martín Martín *et al.*, 2014). Furthermore, the additive decomposition of the Gini index was first used in tourism research to measure the concentration of hotel demand on the Costa del Sol (Fernández-Morales and Mayorga-Toledano, 2008). Later, it was also used to investigate the seasonal concentration demand of Spanish airport passengers (Halpern, 2011).

We use the additive decomposition proposed by Lerman and Yitzhaki (1985). This decomposition, as pointed out by Fernández-Morales and Mayorga-Toledano (2008), facilitates the estimation of the marginal effects produced by a given variation in some of the components analysed in the overall Gini index. For a monthly series with K additive components $Y = X_1 + X_2 + \cdots + X_K$, the RME quantifies, in relative terms, how much the overall Gini index increases or decreases when a small relative increase e^k (equally distributed throughout the year) occurs in component k. It can be calculated as follows:

$$RME_k \frac{\partial G}{\partial e^k} \frac{1}{G} = S_k \left(\frac{\Gamma_{k,Y} G_k}{G} - 1 \right)$$

where G_k is the annual Gini index of k, S_k is the annual participation of X_k in the annual value of Y, and $\Gamma_{k,Y}$ represents the Gini correlation between X_k and Y, $Cov\ X_k$, $F(Y)/Cov\ X_k$, $F(X_k)$ (Yitzhaki and Schechtman, 2013). This decomposition can be a very useful tool for tourism managers who establish measures to reduce seasonality (Cisneros-Martínez and Fernández-Morales, 2013). In addition, seasonal factors are also estimated to enhance the exploratory analysis, providing the seasonal patterns of the analysed series, prior to analysing the Gini indexes and their decompositions (De Cantis *et al.*, 2011).

11.4 Results

The first application of our methodology in this study consists of analysing the impact of seasonality on the Andalusian coastline. The main tourism destinations in Andalusia are on the coast, which traditionally is visited by the majority of tourists.

Our study draws a distinction between the five different coasts, and the Andalusian coastal line is divided into: Costa de la Luz de Huelva, Costa de la Luz de Cádiz, Costa del Sol, Costa Tropical and Costa de Almería.

Travellers staying in hotels were chosen as the unit of measurement and, during the first stage, were distinguished between domestic and international. The data sources are the monthly series of the Hotel Occupancy Survey 'Encuesta de Ocupación Hotelera' published by the Spanish National Statistics Institute from January 1999 to December 2013 (Instituto Nacional de Estadística [INE], 2013b). This choice is motivated by the predominance of the hotel as the most relevant type of demand for tourist accommodation on the Andalusian coastline. In 2013, 84.7% of travellers that lodged in a regulated accommodation, as recorded by the INE (hotels, camping grounds and apartments for tourists) for this coastal destination, stayed in hotels (INE, 2013a,b).

The degree of seasonal concentration in all of Andalusia's coastal tourism showed a slightly increasing pattern for the observed period, reaching a Gini index in 2013 of $G_D = 0.24$ for domestic travellers, $G_I = 0.22$ for international travellers and $G_T = 0.21$ in total (Gini indexes in 1999 were $G_D = 0.20$, $G_I = 0.19$ and $G_T = 0.19$, respectively). These estimations are consistent with a previous work, Cisneros-Martínez and Fernández-Morales (2013), where it was also noted that international travellers showed a less concentrated seasonal pattern with data up to 2011. These findings indicate that the regional and local policies against seasonality have not been fully effective, at least in the coastal tourism sector.

The five coastal areas in Andalusia show a variable level of seasonal concentration. The lowest Gini indexes in 2013 correspond to the Costa del Sol ($G_D = 0.24$, $G_I = 0.22$, $G_T = 0.21$), which includes most of the mature and well-known destinations like Torremolinos, Marbella or Fuengirola, consolidated since the 1960s. Conversely, the highest ones are found in Costa de la Luz de Huelva ($G_D = 0.42$, $G_I = 0.41$, $G_T = 0.41$), which is a newer coastal destination. The other three areas, Costa de la Luz de Cádiz ($G_D = 0.31$, $G_I = 0.29$, $G_T = 0.30$), Costa Tropical ($G_D = 0.31$, $G_I = 0.25$, $G_T = 0.29$) and Costa de Almería ($G_D = 0.33$, $G_I = 0.32$, $G_T = 0.33$), remain in an intermediate position. It is worth noting that the estimated Gini indexes in the five coastal areas in 2013 are in all cases higher than the 1999 indexes.

An implication from the previous analysis could be that domestic travellers exhibit a more seasonally concentrated pattern than international travellers, and thus the international segment should be the focus of counter-seasonal policies. In fact, the estimation of the RME in 2013 for international travellers is $RME_I = -0.03$ ($RME_D = +0.03$ for domestic travellers). If one distinguishes by areas, in all the cases the RME is negative for international travellers, ranging from –0.08 in Costa Tropical to –0.01 in Costa de Almería. However, a recent study suggested that a more detailed segmentation could yield better results (Cisneros-Martínez and Fernández-Morales, 2013). Therefore, we also grouped travellers into segments according to their main travel motivation: sun and beach segment (weather and beach); cultural segment (popular festivals and folklore, and visiting monuments) and other segments (prices, nature and rural tourism, visiting family and friends, sports, etc.). Statistical data provided by the Turismo Andaluz Company (Sistema de Análisis y Estadísticas del Turismo en Andalucía, SAETA), which depends on regional government, were used for the segmentation.

To get accurate results, we used a double segmentation, both by travel motivation and origin. A first look into the seasonal factors of the six segments (Fig. 11.1) reveals remarkable differences between them. On the one hand, both domestic and international travellers are not homogeneous groups with respect to their seasonal patterns, especially in the domestic case. Among domestic travellers, those indicating sun and beach as their motivation exhibited a pronounced one-peak profile, highly concentrated in July and August, in Andalusia and in the five coastal areas (particularly intense in Costa Tropical). This profile contrasts with those corresponding to the cultural and other segments. There are also differences between the three international segments.

On the other hand, a single segmentation only of travel motivation does not seem to suffice because there are also notable differences within each of the three motivation segments, mainly between the international and the domestic sun and beach segments. Although the sun and beach segment traditionally concentrates in the summer months, international travellers in this segment present a longer season and are less concentrated in July and August than domestic ones. In addition, cultural and other segments also show different patterns depending on the traveller's origin, which is slightly flatter in the international case.

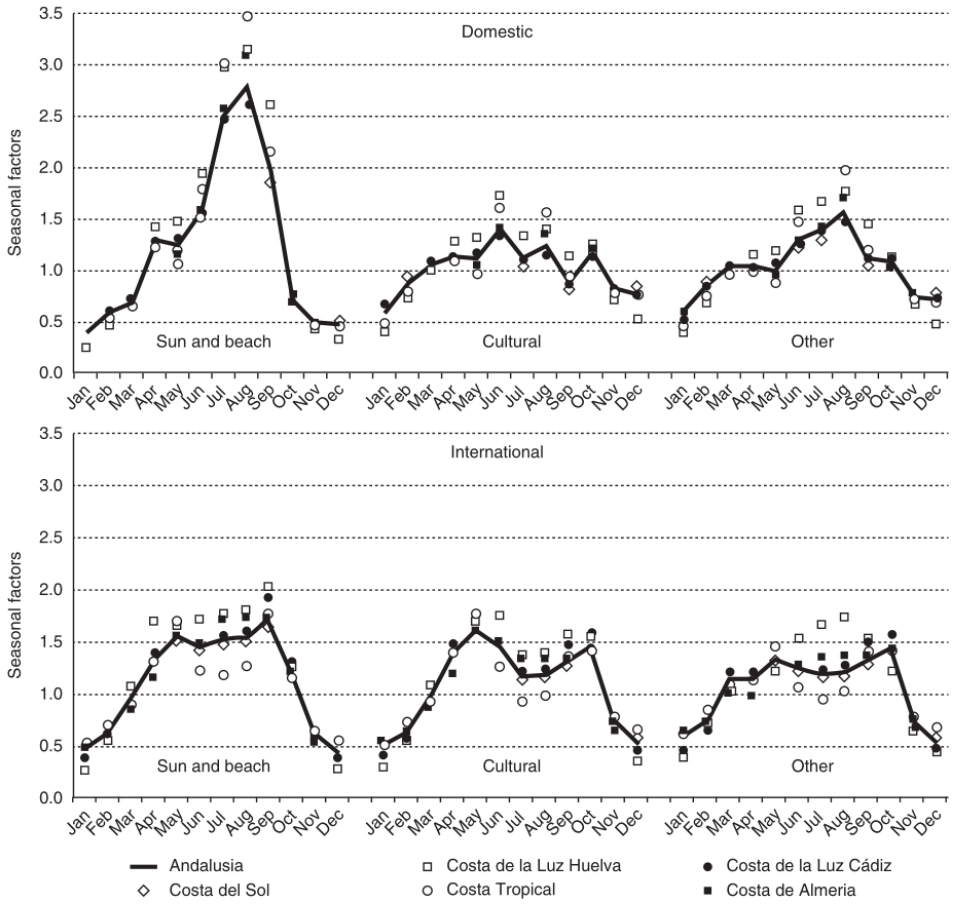

Fig. 11.1. Seasonal factors by origin, travel motivation and coastal area.

Gini indexes for the six segments have been estimated, and they show a general increasing trend for all the cases in the period 1999–2013, except in cultural segments, which experienced a slight decrease throughout the period in the international case and a relatively stable trend (with some oscillations) in the case of domestic travellers. Overall, in Andalusia and in the five coastal areas, the highest Gini indexes are found in the sun and beach segments, always greater in the domestic than in the international case. In Andalusia in 2013, the highest seasonal concentration corresponds to domestic sun and beach travellers, $G_{D-S\ and\ B} = 0.32$, followed by international sun and beach ones, $G_{I-S\ and\ B} = 0.26$. The same occurs in the rest of the areas, but at different levels; the lowest value being that of Costa del Sol ($G_{D-S\ and\ B} = 0.32$ and $G_{I-S\ and\ B} = 0.26$) and the highest ones that of Costa de la Luz de Huelva ($G_{D-S\ and\ B} = 0.48$ and $G_{I-S\ and\ B} = 0.43$).

Conversely, although domestic travellers (considered as a whole group) show a high level of seasonal concentration, as mentioned above, the segment of domestic travellers with a cultural motivation has the lowest Gini index when the double segmentation is applied in Andalusia ($G_{D-C} = 0.15$ in 2013), in the five coastal areas (from $G_{D-C} = 0.15$ in the Costa del Sol to $G_{D-C} = 0.33$ in the Costa de la Luz de Huelva), and practically throughout the complete observed period. This outcome confirms that segmentations that are too broad may obscure important features related to seasonal concentration as a result of aggregating different seasonal patterns into a group whose monthly distribution may be dominated by one predominant segment.

The additive decomposition of the Gini indexes performed (as explained in the previous section) to the double segmentation permits the estimation of the relative marginal effects over the Gini index of Andalusia or to the corresponding coastal area. Figure 11.2 shows the estimated RMEs in 2013, the last year of the observed period. In Andalusia, both the domestic and the international cultural segments are the ones that have the most significant effect against seasonal concentration, with negative marginal effects 'represented as solid circles' ($RME_{D-C} = -0.04$, $RME_{I-C} = -0.05$). The domestic cultural segment showed negative RMEs throughout the whole observed period, being even more important than the international cultural segment in some years, even though its share is smaller.

In contrast, the domestic sun and beach segment is the only one with a positive RME – represented with a dashed circle – for 2013 in Andalusia ($RME_{D-S\ and\ B} = 0.10$). Therefore, a potential increase in the share of this segment would have the significant effect of a greater seasonal concentration, as measured by the Gini index. This is due to the fact that this is the segment with the highest Gini index, as well as with the highest share. In addition, only the domestic sun and beach segment shows positive RMEs all over the observed period in Andalusia, reaching values of over 0.20 from 2004 to 2007.

Distinguishing by coastal areas, a common feature observed throughout the period studied is that the domestic sun and beach segment shows the highest RME. In 2013, it ranged from 0.06 in Costa de la Luz de Huelva to 0.12 in Costa Tropical. Thus, its potential impact to aggravate seasonal concentration is much higher in Costa Tropical. In contrast, the international sun and beach segment plays a different role in some coastal areas. While in 2013 it shows positive RMEs in Costa de Almería, Costa de la Luz de Cádiz and Costa del Sol, negative RMEs, although

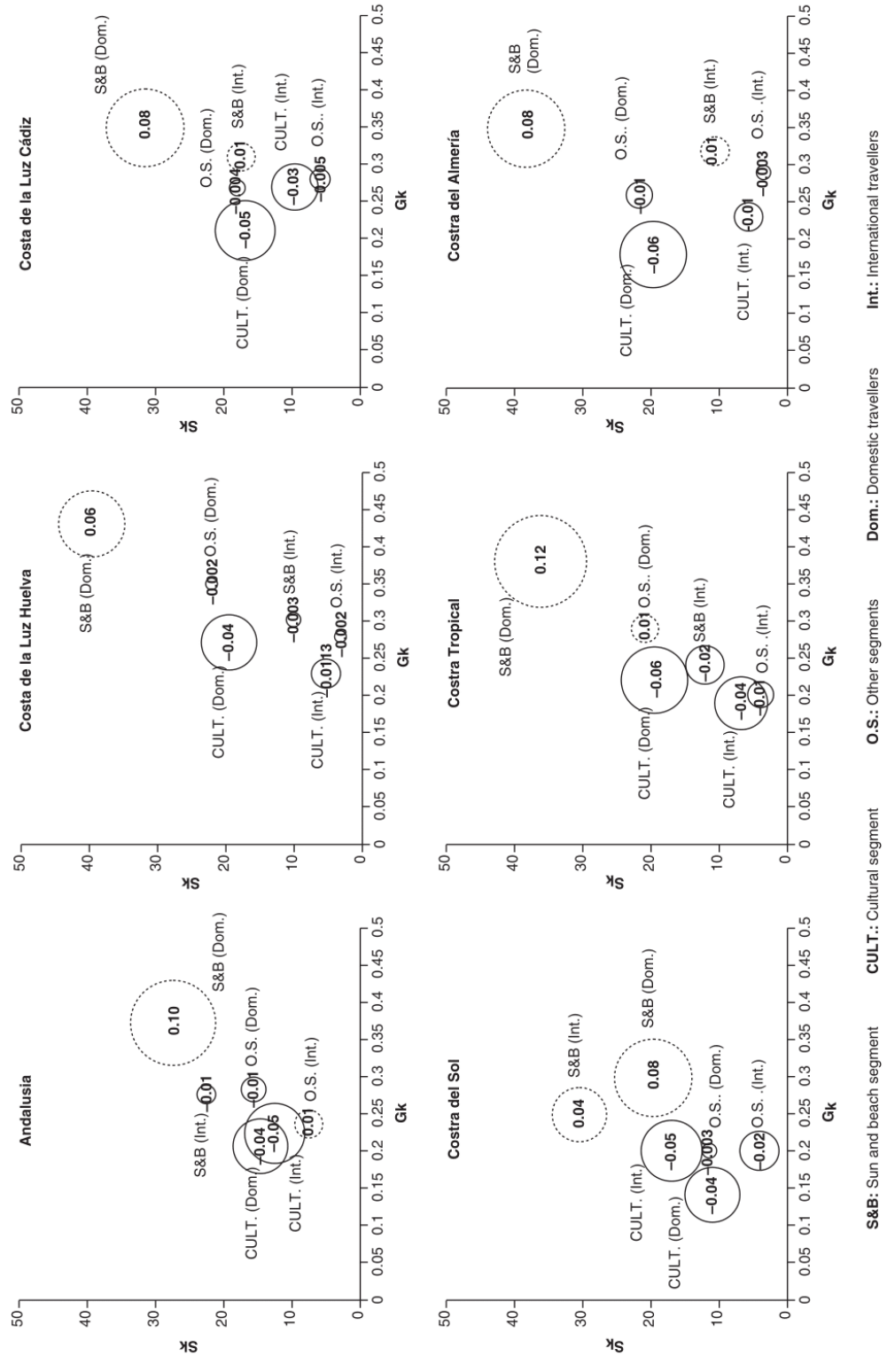

Fig. 11.2. Relative marginal effects by segment, Gini and share (%), 2013.

relatively small, are found in Costa Tropical and Costa de la Luz de Huelva (in this particular area, we see it throughout the whole period observed).

The domestic cultural segment shows negative RMEs in the five coastal areas for the entire period (with values from –0.04 to –0.06 in 2013), of which the highest negative figures for four of them were in 2013. Even though this segment is not the one with the smallest Gini index, in some areas (Costa Tropical and Costa de la Luz de Huelva), its high level of share counteracts its seasonal marginal effect. Therefore, this is the central segment to focus on when attempting to tackle seasonality in all the coastal areas of our study. Moreover, the share of the domestic cultural segment in the coastal areas hardly exceeds 20%, leaving enough room to encourage a greater development of this segment.

There are notable differences by area in the counter-seasonal role of the international cultural segment. Three areas (Costa del Sol, Costa Tropical and Costa de la Luz de Cádiz), show negative RMEs greater (in absolute value) than –0.03 in 2013, indicating that promoting this sector could be an effective policy to tackle seasonal concentration in these coasts. However, in Costa de la Luz de Huelva and Costa de Almería, the estimated RMEs are relatively small ($RME_{I-C} = -0.01$); thus indicating that in these areas the counter-seasonal effects are limited. The estimated marginal effects over seasonal concentration of the other segments are of little magnitude in all cases, but almost always negative (in 2013, only domestic other segments in Costa Tropical shows a positive RME).

Finally, it is important to note that, in addition to a sufficiently detailed segmentation, the peculiarities of each of the coastal areas demands a customized analysis to reveal some potential effects that are specific to those areas, such as the significant pro seasonal effect of the international sun and beach segment in the Costa del Sol, or the limited counter-seasonal effect of the international cultural segment in Costa de la Luz de Huelva and in Costa de Almería.

The second application of our methodology consists of analysing the seasonal concentration of passengers arriving at Andalusian airports by distinguishing domestic and international passengers. The statistical sources are the monthly series of the Spanish Airports and Air Navigation Company from January 1999 to December 2013 (Aeropuertos Españoles and Navegación Aérea, 2013). In this case, we focused our attention on the specific segment of airport passengers. This is especially relevant for the international component of visitors to Andalusia, since 81% of international tourists visiting the coastline of Andalusia use the airplane as their means of transport, whereas only 16% of domestic tourists chose this mode of transport (CTCYD, 2013). However, we have maintained the domestic segment in the analysis to keep the decomposition consistency, and to find out if this segment has specific seasonal characteristics.

Throughout the analysed period, the observed level of passenger seasonal concentration in Andalusia showed a relatively stable behaviour until 2007 (with Gini indexes between 0.12 and 0.14), which was followed by an increasing trend, reaching a Gini index of $G_T = 0.17$ in 2013. The same pattern is observed in the international segment, which is the major segment (71% in 2013), but with higher seasonal concentration indexes (between 0.17 and 0.19 until 2007, reaching $G_I = 0.21$ in 2013). These estimated Gini indexes are in the same range as those corresponding to the international segment of travellers visiting the Andalusian coastline, as analysed

above and by in Cisneros-Martínez and Fernández-Morales (2013). In contrast, the domestic segment shows a very low level of seasonal concentration, with Gini indexes varying from 0.04 to 0.09 (G_D = 0.06 in 2013). This is due to the fact that within the domestic visitors to Andalusia, those who come by airplane are a minority, with a well-differentiated seasonal distribution compared with the entire domestic segment.

By distinguishing by airports, first, we find that the evolution of the Gini index in Málaga Airport is very similar to that of Andalusia, as this is the main airport in the region, absorbing 69% of the regional arrivals in 2013. The second airport in relative terms is Sevilla (18% of the regional arrivals in 2013). In this airport, the levels of seasonal concentration are lower than in Málaga overall, but a greater concentration is also observed in the international segment. The remaining three small airports, Jerez, Almería and Granada (with shares of 5.5%, 4.9% and 2.4% in 2013), show higher levels of seasonal concentration and less stable patterns in the evolution of Gini indexes, due to their smaller dimension. A common feature observed in the five airports is that the national segment shows, in general, a low level of seasonal concentration.

To get a deeper insight, the seasonal factors have been estimated for both the domestic and the international segments in the five airports, and in the whole region (Fig. 11.3). The seasonal pattern of the domestic passengers segment, which explains its low Gini indexes, is clearly different from that unimodal one of the domestic sun and beach and domestic other segments of visitors to the coasts in Fig. 11.1. Therefore, this segment should be a good possible target for counter-seasonal policies. International passengers, however, exhibit distributions more concentrated in the summer, especially in smaller airports.

The results of the additive decomposition of the Gini indexes for the series of passengers according to origin, domestic and international revealed that in all the airports, the domestic segment yielded negative RMEs throughout the entire period analysed. In the larger airports, Málaga and Sevilla, the estimated relative marginal effects have been in the range of (–0.07, –0.15) in Sevilla and (–0.07, –0.14) in Málaga, with values in 2013 equal to RME_D = –0.08 and RME_D = –0.11, respectively. This result confirms the previous suggestion that domestic visitors choosing flying as their mode of transport should have a counter-seasonal effect in these two airports. Furthermore, in two of the smaller airports, Jerez and Almería, the RMEs are even higher, with estimations of RME_D = –0.43 in Almería Airport and RME_D = –0.38 in Jerez Airport for 2013.

Finally, we have performed the additive decomposition of the Gini index in the main airports (Málaga and Sevilla) and in all Andalusian airports as a whole in 2013, with a segmentation of international passengers by country (or group of countries in the case of the Baltic countries) of origin 'considering the main four origins in relative terms in each case' (Fig. 11.4). In Málaga Airport, we find that within the international passengers, the segment coming from the Baltic countries exhibit a negative RME (with a Gini index below 0.20), thus being a possible objective for counter-seasonal policies. In contrast, the highest RME among the international segment is found within passengers from the UK.

Regarding Sevilla Airport, there is also one international origin with a negative RME: Italy. However, these origins with negative RMEs should be considered locally, since from a regional point of view (considering the whole region of Andalusia),

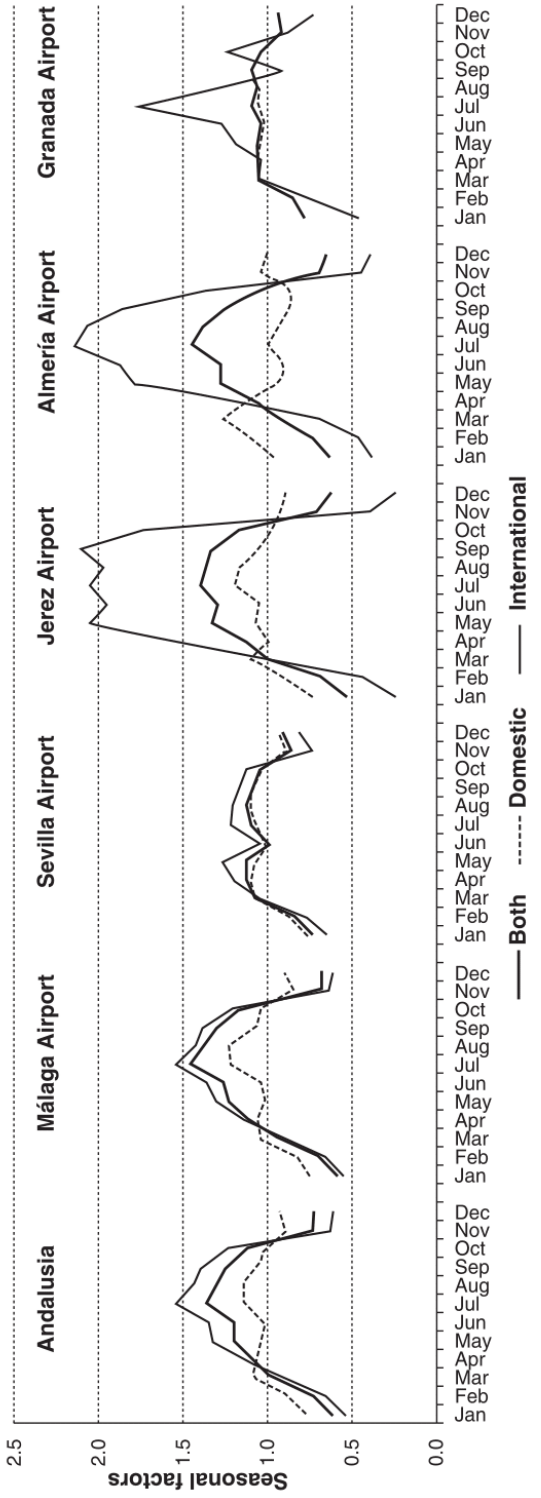

Fig. 11.3. Seasonal factors by airport and origin.

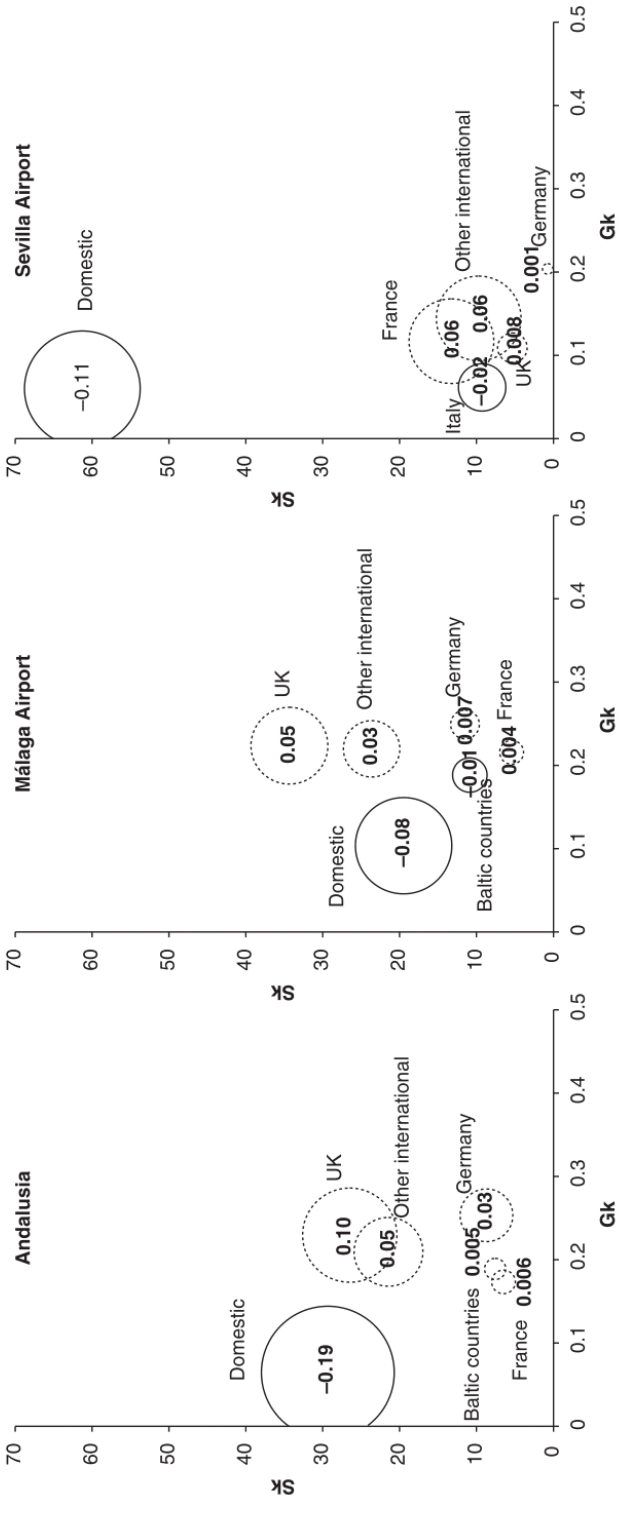

Fig. 11.4. Relative marginal effects by origin, Gini index and share (%) in the principal airports.

their RMEs are not negative. From a regional point of view, i.e. aggregating the figures of the five airports, the differences in the RMEs are more notable. The domestic RME, $RME_D = -0.19$, is clearly greater than what is estimated in larger airports, and conversely, the positive RME of the main origin, the UK (0.10), doubles the estimated figures for Málaga Airport (0.05).

11.5 Conclusion

The analysis of tourism seasonality, and particularly the levels of seasonal concentration in regions like Andalusia, where the tourism industry shares a significant portion of the employment and GDP, is of undoubted relevance. Yet adequate and efficient analytical tools are needed, as well as thorough data sets, to support coherent and successful policies against seasonality. The additive decomposition of the Gini index, and the estimation of the relative marginal effects over the indexes, have been found to be a very useful technique in this research by allowing one to identify segments of travellers or passengers with potential counter-seasonal effects.

Some of the outcomes of this study indicate that seasonal patterns and the consequent degree of seasonal concentration in the considered segments differ significantly when they are studied with a higher level of segmentation. Therefore, an adequate level of segmentation is essential to the approach taken with policies against seasonality. The use of a double segmentation by origin and travel motivation in the coastal areas has revealed very interesting results by allowing segments with interesting characteristics not visible in simpler segmentations to be identified. In particular, domestic travellers who visit the Andalusian coastal areas (considered as a whole segment) are pro seasonal, but within this group, the domestic cultural segment is counter-seasonal throughout the five coastal areas analysed, and even more so than the international cultural segment.

In addition, the analysis of the passengers' series also yielded some useful results, such as the potential counter-seasonal features of the domestic visitors who choose this mode of transport in all the airports studied and the identification of some countries of origin in Málaga and Sevilla Airports. However, a possible further line of research in this field with potentially useful results could be the use of a double segmentation by origin and type of airline company (traditional or low cost). Finally, the observed increasing trend of seasonal concentration indexes in many of the coastal areas and airports of Andalusia indicate that the counter-seasonal policies adopted in recent times have not been effective enough. Thus, more research is still needed in this area to inform policy makers and managers.

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Chapter 4

Seasonal Inequalities in Visitor Distribution in Argentina's Tourism Regions

Abstract: This paper aims to contribute to the scarce literature on tourism seasonality in Argentina, complementing the quantitative tools previously used for measuring seasonality with the use of the Gini index. There are significant inequalities regarding the seasonal concentration by regions, both in levels and recent evolutions. The strategies against seasonality that are afoot in Argentina are also briefly discussed. This study raises new questions that are presented as future lines of research, such as making a more accurate disaggregation within national and international visitors to find out their impact on the level of overall concentration.

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e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

Dr. Antonio Fernández-Morales
Universidad de Málaga. Facultad de Ciencias Económicas y Empresariales.
Departamento de Economía Aplicada (Estadística y Econometría)

José David Cisneros-Martínez
Universidad de Málaga. Facultad de Turismo.
Departamento de Economía Aplicada (Estadística y Econometría)

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Keywords: Seasonality, Argentina, Gini

Dr. Antonio Fernández-Morales
Universidad de Málaga. Facultad de Ciencias Económicas y Empresariales.
Departamento de Economía Aplicada (Estadística y Econometría)
Email: afdez@uma.es

José David Cisneros-Martínez* (Corresponding author)
Universidad de Málaga. Facultad de Turismo.
Departamento de Economía Aplicada (Estadística y Econometría)
Email: joscismar@uma.es

Dr. Antonio Fernández-Morales is a University Professor of Statistics in graduate and postgraduate level at the University of Málaga. Author of several scientific papers published in research journals, including Annals of Tourism Research, Tourism Management, and Current Issues in Tourism; and of two textbooks in Spanish about Statistical techniques for Tourism Analysis. His main research interests in the field of tourism are seasonality analysis and multivariate techniques applied to tourism analysis.

José David Cisneros-Martínez is a Postgraduate in Tourism and a PhD Tourism Student at the University of Málaga. Research fellow at University of Málaga. Author of papers and studies published in research journals and international conferences in tourism such as: Current Issues in Tourism, CHME QMU Edimburgo 2013, TMS Algarve 2013 and 7th World Conference for Graduate Research Estambul 2014. Research visiting at the Universidad Nacional de San Martín (Argentina) and the University of Nottingham (United Kingdom).

e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

Introduction

Argentina received 19 million visitors in 2013 and their level of seasonality is not very high compared to others more specialized destinations. However, there are important inequalities among its tourist regions. In this country, tourism is considered a strategic sector. Nationwide, federal plans for tourism elaborated by Argentina's Tourism Ministry (MINTUR) such as MINTUR (2005, 2011, 2012, 2014) established some measures against seasonality, and there are even laws such as the Bank Holidays Act that have been elaborated in order to reduce the effects of seasonality.

Specific studies on tourism seasonality in Argentina are scarce; worth highlighting is the work of Carruitero (2010), who makes use of time series methods to evaluate the seasonality caused by tourism in the country. Furthermore, in MINTUR (2005, 2011), seasonal factors for overnight stays in hotel establishments are calculated with data from the Hotel Occupancy Survey.

This paper aims to enrich the quantitative framework previously used in Argentina by using the Gini index, which provides a synthetic measure of the annual degree of seasonal concentration. In addition, the strategies against seasonality that are afoot in Argentina are briefly described.

Literature review

Most studies based on the measuring of tourism seasonality are focused on estimating seasonal factors in a time series either by using proportional deviates and moving averages, or by applying other time series methods. Several studies have used this approach in the hotel sector (Boffa & Succurro, 2012; Espinet, Fluvia, Rigal-I-Torrent & Salo, 2012; Capó Parrilla, Riera Font & Rosselló Nadal, 2007; Koenig-Lewis & Bischoff, 2004). Likewise, there are

e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

other studies that focus on comparing seasonality measurements (De Cantis, Ferrante & Vaccina, 2011; Koenig-Lewis & Bischoff, 2003, 2005; Kulendran & Wong, 2005; Lundtorp, 2001).

As several authors have argued, a complementary approach consists of estimating annual concentration indices such as, the Gini and Theil indices, or the coefficient of variation, which provides throughout the year a single measure of the seasonal concentration level (Fernández-Morales, 2003; Lundtorp, 2001; Rosselló Nadal, Riera Font, and Sansó Rosselló; Wanhill, 1980).

In recent years, the Gini index has been one of the most commonly used measures in the study of the degree of annual seasonal concentration in tourist series (Candela & Castellani, 2009; Cisneros-Martínez & Fernández-Morales, 2013; Cuccia & Rizzo, 2011; De Cantis *et al*., 2011; Fernández-Morales & Mayorga-Toledano, 2008; Fernández-Morales & Martín-Carrasco, 2015; Halpern, 2011; Larcher & Nepal, 2013; López & López, 2007; Martín Martín, Jiménez Aguilera, & Molina Moreno, 2014).

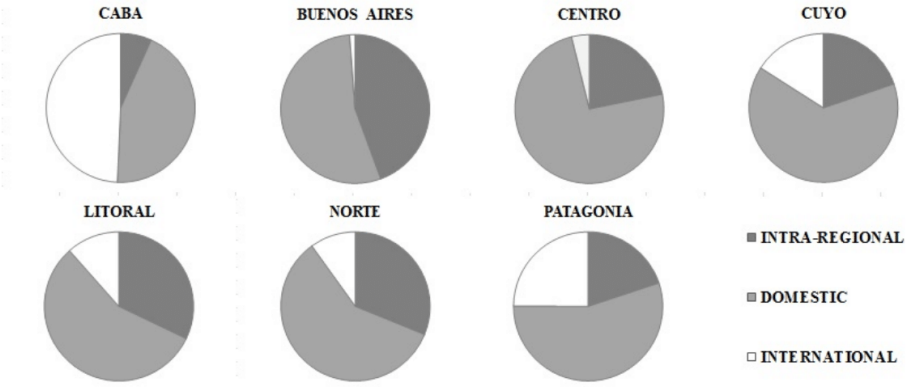
The Gini index provides useful information on the degree of annual seasonal concentration demand. Furthermore, this index is a measure that shows greater stability (Lundtorp, 2001), takes into account the skewness of the distribution, and is less influenced by extreme values if compared with other concentration measures (Wanhill, 1980; Yacoumis, 1980). Moreover, as Fernández-Morales (2003) stated, unlike monthly or quarterly factors which do not provide a synthetic measure of the annual level of seasonality, an annual single measure of the extent of this phenomenon may permit the identification of those years in which seasonality has increased or decreased as well as providing information about whether counter-seasonal policies have been effective or not.

e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

Current measures against seasonality in Argentina

With the National Tourism Act that went into effect in 2005, tourism was declared as an essential activity to the country's development and a priority within state policies. As **Figure 1** shows, there is a clear predominance of domestic visitors in the six Argentinian regions defined by MINTUR (2005) — Buenos Aires, Centro, Cuyo, Litoral, Norte, and Patagonia — and especially by those who come from the region itself (intra-regional visitors). The only exception is the city of Buenos Aires (CABA), which has been separated from the region of Buenos Aires for its specific characteristics and its relative importance.

Figure 1. Regional distribution of visitors by origin (2013)



Thus, one of the strategies to combat domestic tourism seasonality has been the regulation of national holiday dates in order to foresee labor breaks and displacements three-years in advance, and thus, reduce the negative effects of seasonality by generating a better temporal distribution of tourist flow. The Federal Tourism Council, responsible for the regulation of long weekends in the country, aims to reduce the negative effects of seasonality. Moreover, the Bank Holidays Act also aims to promote tourism in the country at different times of the year which helps reduce tourism seasonality.

Events, either business meetings or festivals, are an excellent tool for evening out seasonal demands. Thus, another tool against seasonality established by the MINTUR is that

e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

of event management which consists of strengthening the professionalization of management, recruitment and the organization of all kinds of events in Argentina's destinations to enhance its economic development (MINTUR, 2014).

Finally, a third line against seasonality is the design and consolidation of tourism products that attract tourists during the off seasons in each of the different regions. Some of these products with significant potential to reduce seasonality are "Rural Tourism", "Touristic Villages", "Ecotourism", "Sport Fishing" and "Tourism Meetings" in the region of Buenos Aires; "Wine Routes" and "The Dinosaurs Route" in the Cuyo region, or "Spa" and "Bird Watching" in Patagonia.

Research Methodology

In this paper, we analyze the distribution of visitors staying in different types of formal accommodations in Argentina's tourism regions. Monthly series covering the period 2005-2013 come from the Hotel Occupancy Survey by the National Statistics and Census Institute, INDEC (2013) and MINTUR (2013).

Seasonal factors, which have been estimated by the multiplicative method, provide an indication of the monthly distribution along the year of a variable. Generally, it is assumed that the high season is comprised of the months with a factor over 1 (denoting a value greater to what is expected by the trend-cycle components), while the rest of the year corresponds to the low season. In contrast, the Gini index provides a synthetic measure of the annual degree of seasonal concentration, which is not available from the seasonal factors (De Cantis, Ferrante & Vaccina, 2011; Cuccia & Rizzo, 2011). Yearly Gini indexes were estimated following the methodology in Cisneros-Martínez & Fernández-Morales (2013). The Gini index indicates a greater degree of concentration as it approaches 1. On the contrary, it equals 0 when the variable shows an egalitarian distribution (the same number of visitors every month).

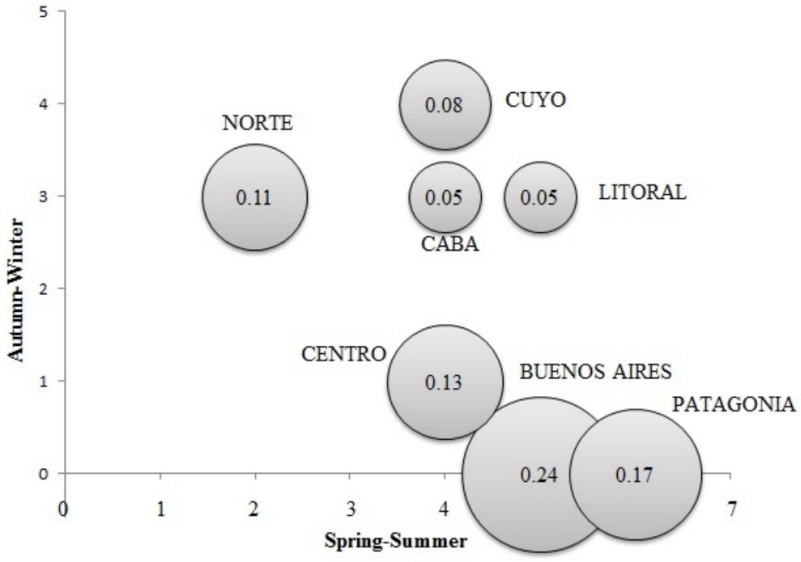
e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

Results and Discussion

According to the estimated seasonal factors, the general seasonal pattern in Argentina consists of a high season in spring and summer, from October to March, and a low season from April to September. July also shows a factor greater than one, indicating what could be a secondary season in winter. The Gini index showed an average of 0.08 over the period, which is not a very high value.

Yet, by using a regional breakdown for the seven tourism regions, a more heterogeneous set of seasonal distributions of accommodation demand is found. To facilitate the analysis, **Figure 2** shows the mean Gini indexes over the period for all the regions, plotted by the length of the Spring-Summer and Autumn-Winter seasons (in number of months). There are several distinctive seasonal patterns. Patagonia and the region of Buenos Aires show a clear unimodal seasonal pattern, with a long high spring-summer season, which also present the highest Gini indexes. The Centro region could also be considered within this group, although it shows a peak in one winter month (July).

Figure 2. Regional Gini index (2005-2013 average) by length of seasons.



e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

A second group, CABA, Cuyo and Litoral, with the lowest levels of seasonal concentration (Gini indexes below 0.1), exhibits a completely different seasonal pattern. It is mainly bimodal, with two seasons characterized by a very low degree of concentration.

Finally, the Norte region has also a bimodal pattern, but with the shortest Spring-Summer season (consisting of January and October).

The tourism product mix is one of the main explanations for the seasonal inequalities in the regional tourism demands in the Argentinian regions. The Buenos Aires region is mainly visited for sun and sea activities, and also, but with less importance, for rural and sport tourism, or local festivals. Patagonia's products includes the glaciers, snow tourism, cruises, rural and adventure tourism, or nature tourism and bird watching. The Centro offers its main attractions in the city of Córdoba and the Sierras, with an important Jesuit heritage (UNESCO World Heritage listed), nature and active tourism and local festivals.

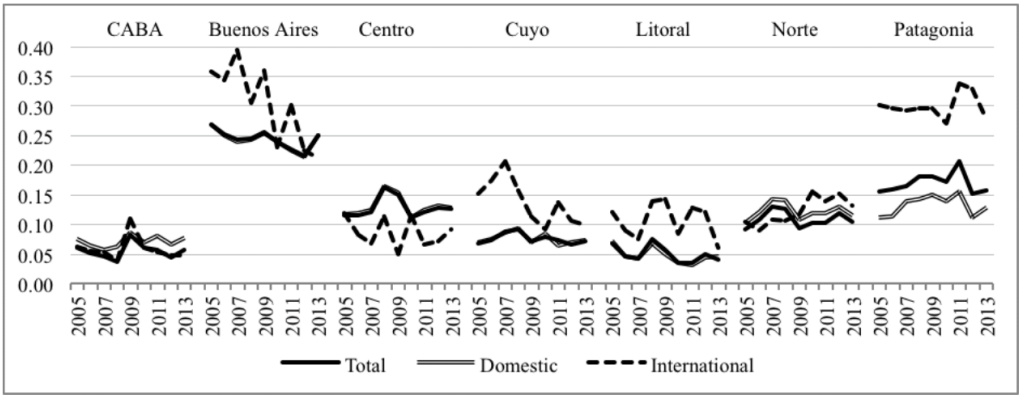
The regions with low seasonal concentration offer a diversified supply that includes products like wine tourism, the dinosaurs, the Andes and the National 40 routes (Cuyo); and the Iguazú waterfalls, thermal tourism, fishing, carnival and rural activities (Litoral); and national parks and historic cities (Norte).

Finally, CABA is a metropolitan city with the typical plethora of tourism motivations for this type of destination, including urban, cultural, business, conference, etc., which explains the well balanced distribution of visitors along the year (MINTUR, 2011).

There are also significant differences in the evolution of the level of seasonal concentration, (**Figure 3**). Only Buenos Aires and Litoral showed a steady decrease in their Gini indexes across the period. The remaining regions showed a more erratic pattern, indicating a limited success of the counter seasonal policies.

e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

Figure 3. Regional Gini indexes by origin



Furthermore, international demand shows significantly more concentrated seasonal patterns in several regions, especially in Patagonia and the Buenos Aires regions, suggesting that a deeper insight into the composition of domestic and international segments is needed to explain the observed evolution of the seasonal concentration levels.

Conclusions

There are not only significant inequalities in the seasonal patterns of tourism demands by regions in Argentina, but also regarding seasonal concentration, both in level and in recent evolution. Policies against seasonality have had a variable effectiveness according to the regions' distinctive features, depending, among other factors, on the weight that domestic tourism has on the total tourism demand in each region.

Thus, one of the main implications derived from this study for designing policies aimed at combating seasonality is the need to take into account the seasonal concentration of a touristic demand by region, as well as by origin and volume. An excessively aggregated analysis could conceal the distinctive seasonal features of specific regional markets, which prevents a really effective counter-seasonal strategy. In this sense, a useful set of measures guiding the design of such policies may prove to be useful if the Gini index, complemented by seasonal factors as well, were applied to an adequately disaggregated data series.

e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
http://ertr.tamu.edu

Furthermore, this study also raises new questions that constitute future lines of research, such as making a more accurate disaggregation within domestic visitors (by region) and international ones (by countries or continents) to find out a better explanation of the impact of the various segments analyzed by origin on the level of overall concentration.

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e-Review of Tourism Research (eRTR), Vol. 12, No. 1/2, 2015
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Chapter 5

Concentración estacional de la demanda hotelera en Argentina `Seasonal concentration of the hotel demand in Argentina´

Abstract: In this paper, the seasonal concentration of hotel demand in Argentina and its tourist regions are analysed. The methodology, which includes the additive decomposition of the Gini index and the calculation of the relative marginal effects, is proposed as a useful tool for both tourism managers and hoteliers interested in reducing seasonal concentration, since it facilitates the identification of the less seasonal travellers. The results of this study indicate that, given the heterogeneity between regions in terms of seasonality, it is necessary, at least, to disaggregate the resident travellers by region of origin and the non-residents by groups of countries of residence. Furthermore, in some regions we should include into the most favourable origins for deseasonalisation, most of which are found within the non-resident ones, the travellers who come from the region itself, which remain unnoticed when the residents total is analysed without disaggregation.

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Concentración estacional de la demanda hotelera en Argentina

Seasonal concentration of the hotel demand in Argentina

José David Cisneros-Martínez[1]
Antonio Fernández-Morales
Universidad de Málaga

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PALABRAS CLAVE: Argentina, Indice de Gini, Metodología, Efecto relativo marginal, Estacionalidad

KEYWORDS: Argentina, Gini index, Methodology, Relative marginal effect, Seasonality

Clasificación JEL: L83, R19, R22

RESUMEN

En este trabajo se analiza la concentración estacional de la demanda hotelera en Argentina y sus regiones turísticas. La metodología empleada, que incluye la descomposición aditiva del índice de Gini y el cálculo de efectos relativos marginales, se propone como una herramienta útil para los gestores del turismo interesados en reducir la estacionalidad, ya que facilita la identificación de los viajeros menos estacionales. Los resultados del estudio indican que, dada la heterogeneidad entre regiones en cuanto a estacionalidad, es necesario desagregar a los viajeros residentes según región de procedencia y a los no residentes según conjunto de países de residencia.

ABSTRACT

Introduction

There are barely any studies that examine the presence of seasonality in Argentina tourism demand, and in them, only time series methods are used to evaluate the seasonality tourism causes in the country. Also, in the tourism planning instruments of Argentina, the calculation of seasonal factors for overnight stays in hotel establishments is applied with data obtained from the Hotel Occupancy Survey by using a simple disaggregation which distinguishes between domestic and international travelers in the tourist regions of the country.

The most common quantitative tools for analyzing seasonality, such as the indices of seasonal factors or the Gini index (without disaggregating) focus on representative models on seasonality,

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which reach general conclusions about the level of concentration of tourism demand. However, these techniques do not always allow us to know exactly what type of tourist is truly favorable for reducing seasonality in a given destination. Therefore, this paper aims to complement the quantitative tools mentioned above with the additive decomposition of the Gini index, and by obtaining the Relative Marginal Effect (RME) on the index to identify the most favorable travelers for the reduction of seasonality. By applying this decomposition in the tourist regions of Argentina (with a sufficient level of disaggregation to reveal nuances that with aggregated information can be diluted) the objective is to provide additional information to tourism managers in terms of which travelers they should direct their catchment policies, as long as their objective is to reduce seasonality.

Methodology

The incidence of seasonality of the hotel demand in Argentina and its tourist regions is analyzed in this work using the monthly variable "Travelers staying in hotel establishments" from the Hotel Occupancy Survey elaborated by the Ministry of Tourism and the National Institute of Statistics and Census of Argentina. The investigation period covers the years 2005-2013.

In a first descriptive stage, the estimated seasonal indices using the multiplicative method to delimit seasonal patterns have been used. To facilitate the analysis, peak season has been considered as the one which is comprised of the months with values higher than 1, and the remaining months are categorized as low season. In addition, the months have been grouped by seasons: summer (January, February and March), autumn (April, May and June), winter (July, August and September), and spring (October, November and December). It should be noted that Argentina is a country located in the southern hemisphere, and therefore, the seasons are temporarily reversed with respect to Spain.

As a measure of the annual seasonal concentration, we used the Gini index, which quantifies the degree of the concentration of travel demand between the months of a given year. The Gini index varies between 0 and 1, and the extent to which it is closer to 1 indicates a higher seasonal concentration in the observed year (higher annual seasonal concentration), whereas a value closer to 0 determines a more equal distribution in the time (lower annual seasonal concentration). Furthermore, the annual Gini index has been decomposed. This decomposition provides the estimated RME which produces a variation in some of the components on the overall Gini index. Thus, this RME represents variation in the overall Gini index when the number of travelers from a given origin is increased by 1%, keeping constant the monthly distribution of them and the number and monthly distribution of the remaining travelers. Also, it should be noted that the sum of the ERM must be equal to 0.

Main results

Considering the total number of travelers in Argentina, according to the estimated seasonal indices, the peak season takes place between the months of October and March, coinciding with spring and summer; the low season is during April and September as well as in the month of July. Domestic and international travelers differ mainly in July (low season for international travelers), and in November and December (low season for domestic ones). The rebound of domestic travelers in July is mainly due to the school holiday period. When the total of travelers in Argentina are disaggregated into domestic and international travelers, the former are disaggregated according to their region of origin and the latter according to their countries of residence, very similar seasons are observed. Thus, it was considered more appropriate to apply this disaggregation in the tourist regions of Argentina since they had features of greater interest not discernible in an analysis of the whole country.

In Argentina, the seasonal concentration is usually not high when compared to destinations more specialized in a single tourism product; nevertheless, this does not mean that it is a factor that should not be analyzed in order to reduce it as much as possible. Throughout the analyzed period, the total number of travelers exhibited a low level of concentration, with an average of 0.08 in the Gini index, and with a few variations. This level of concentration is almost identical to that shown by domestic travelers, and this is because the hotel demand in the regions of Argentina is dominated by them. However, the international travelers present a slightly higher level of concentration, with an average of the period of 0.11, i.e., a medium level of concentration.

Among the tourist regions of Argentina, however, major differences occur in concentration levels. To analyze the results the average of the Gini indices calculated in the period analyzed was considered more appropriate as the annual variation observed in all the years was scarce. The region of Buenos Aires is the only one that has a high concentration average concentration (0.24). The regions with a medium concentration are Patagonia (0.17), Centro (0.13) and Norte (0.11); and with a low concentration, the regions of Cuyo (0.08), Litoral (0.05) and CABA (0.05).

Obtaining the RME can be a very useful tool for establishing a classification in terms of preference to attract a type of traveler whose seasonal pattern is prone to reducing the seasonal concentration. With the analysis of the evolution of the RME throughout the period observed, one can foresee each year how the increase of a certain type of traveler can contribute to the reduction of the overall Gini index, which has previously been used to measure the level of seasonal concentration. Regarding to this, for destinations analyzed in this work, it has been specified as favorable those travelers whose RME are negative, and on the other hand, unfavorable those with positive RME.

In Argentina, domestic travelers have been more favorable for reducing seasonality throughout most of the period analyzed except for the years 2008 and 2013 in which the reverse situation occurred. However, it is more convenient to have a detailed disaggregation due to the significant differences between seasonal patterns, especially in concentration levels by origins. Thus, the most favorable travelers for reducing the seasonal concentration according to the results of 2013 are the travelers from neighboring countries (with a RME value of -0.07), the rest of America (-0.02), and to a lesser extent, those from the Centro and Litoral regions (-0.02), Cuyo and Patagonia (-0.01). The remaining travelers would not be favorable for reducing the seasonal concentration, e.g., those from Buenos Aires region (0.09) that throughout the period analyzed had an RME above 0.6. Travelers from Europe and the rest of the world also show positive RME throughout the period. When distinguishing by region, the international travelers, on the whole, are the most favorable for reducing seasonality in all tourist regions in 2013 (as well as in the whole country) except in the region of Patagonia. This effect is more pronounced in CABA (-0.13), Litoral (-0.11), and Norte (-0.08). However, only in Centro and Norte it stayed steadily throughout the period analyzed.

Conclusions

This paper aims to provide a methodology, the additive decomposition of the Gini index and obtaining the RME, which serves as a useful tool for reducing the seasonal concentration of the hotel demand in Argentina since it helps identify less seasonal travelers. By applying this methodology, the effectiveness of policies aimed at combating seasonality can be improved since with the information obtained these policies may be directed towards demand segments less prone to seasonality.

The methodology applied in this paper is proposed as a controlling and monitoring measure which can be used by tourism managers and hoteliers of destinations with high seasonal concentration; they can analyze the evolution of RME throughout the period for which there are sufficient disaggregated data available, above all, the last year observed, and the tourism policies aimed at reducing the seasonal concentration can be adjusted.

Finally, it was found that it is much more effective to establish the classification of the travelers specified in this paper, given the heterogeneity of all the tourists regions in Argentina as well as in the group of domestic and international travelers. Furthermore, it was proven that the seasonal patterns and the consequent level of seasonal concentration observed in the travelers analyzed differ significantly when they were studied on a disaggregated basis, so it is essential to use an adequate level of disaggregation in the planning policies against seasonality.

1. INTRODUCCIÓN

La estacionalidad en el turismo es un problema que a largo plazo afecta a muchas actividades del sector y a los destinos turísticos de forma global. Por ello, no puede pasar desapercibida por los gestores turísticos que deben afrontarla, estableciendo las políticas oportunas orientadas a reducir al máximo el efecto estacional del turismo. Hacer frente a los efectos de la estacionalidad no es una tarea fácil ya que está relacionada con diversos factores sociales, laborales y climatológicos.

En el sector hotelero, el principal problema que originan los efectos de la estacionalidad es la infrautilización de los establecimientos hoteleros en temporada baja y la casi total ocupación de los mismos en temporada alta. Este hecho es explicado por la concentración de los flujos turísticos en ciertos períodos del año, que supone un desajuste temporal entre la oferta y la demanda hotelera. Los gestores del turismo y los empresarios hoteleros basan gran parte de sus esfuerzos en combatir los efectos de la estacionalidad. Algunos autores apuestan por la diversificación de productos turísticos que atraigan a un tipo de turista que reduzca la concentración estacional (Allcock, 1994; Andriotis, 2005; Baum y Hagen, 1999). Por su parte, Durieux Zucco (2013) señala que muchas ciudades adoptan en su planificación la realización de eventos para intentar minimizar los efectos de la estacionalidad.

En el caso particular de Argentina, también existe una preocupación por los efectos de la estacionalidad en el sector. En el plano institucional, los planes de acción de la actividad turística no suelen desarrollarse a escala regional sino que, a nivel nacional, los elabora el Ministerio de Turismo de la Nación Argentina (MINTUR). Éstas son las dos ediciones del Plan Federal Estratégico de Turismo Sustentable (PFETS), el Plan de Marketing Internacional ConectAR y el Plan de Marketing de Turismo Interno ConectAR, las cuales, establecen algunas medidas contra la estacionalidad (MINTUR, 2005, 2011, 2012, 2014). En algunas regiones localizadas en otros países, los instrumentos de planificación turística se establecen a escala regional e incluso a escala subregional para establecer medidas más localizadas y precisas; ejemplo de ello es la región de Andalucía en España (Merinero Rodríguez, Betanzos Martín y Dorado Rubín, 2013). No obstante, para evaluar la efectividad de medidas que reduzcan la estacionalidad es necesario disponer de herramientas cuantitativas que permitan la medición de los niveles de concentración estacional y su evolución, además de la participación en dicha concentración de ciertos tipos de turistas en el nivel observado.

Las herramientas cuantitativas más comunes para el análisis de la estacionalidad, como los índices de variación estacional (IVE) o el índice de Gini sin desagregar, se centran en reproducir modelos representativos de la estacionalidad, llegando a conclusiones generales sobre el nivel de concentración de los turistas. Sin embargo, dichas técnicas no siempre permiten conocer con exactitud qué tipo de turista es el

verdaderamente favorable para la desestacionalización de un destino. Por ello, en este artículo se propone complementar las herramientas cuantitativas mencionadas con la descomposición aditiva del índice de Gini y la obtención del Efecto Relativo Marginal (ERM) sobre este índice para tratar de identificar los viajeros más favorables para la reducción de la concentración estacional.

Con la aplicación de esta metodología en las regiones turísticas argentinas, con un nivel de desagregación suficiente para revelar matices que con información agregada pueden quedar diluidos, se pretende aportar información adicional a los gestores del turismo en cuanto a qué turistas deben dirigir sus políticas de captación, siempre y cuando su objetivo sea reducir la concentración estacional en un destino turístico.

2. REVISIÓN DE LA LITERATURA

En cuanto al concepto de estacionalidad en el ámbito del turismo, Allcock (1994) define la estacionalidad turística como la tendencia de los flujos turísticos a concentrarse en períodos relativamente cortos del año, y señala la aceptación generalizada de la estacionalidad como un rasgo inevitable dentro del sector que ha ido acompañada de una clara inhibición investigadora. Los estudios de BarOn (1976), y Sutcliffe y Sinclair (1980) serán destacados por futuros autores por ser algunos de los pocos que examinan los problemas a la hora de medir la estacionalidad. Por su parte, Butler (1994) realiza un examen de toda la literatura acerca de la estacionalidad y destaca que su estudio ha estado centrado en el análisis de los patrones de la demanda, la descripción de la estacionalidad en destinos específicos, los efectos negativos sobre el empleo y la inversión, y las políticas contra la estacionalidad y sus implicaciones.

En la década pasada, las nuevas definiciones de estacionalidad se acercan más a la realidad actual, en la que el problema de fondo de la estacionalidad es que afecta a casi todas las actividades turísticas y a los destinos turísticos en su conjunto, por lo que es vital la participación y acción por parte de los gestores y empresarios turísticos para intentar reducir al máximo sus efectos. Lanquar (2001) sostiene que la estacionalidad es una percepción constante de los responsables de marketing de los destinos turísticos, que buscan programas específicos para mantenerla dentro de unos límites. Higham y Hinch (2002), por su parte, la consideran una característica ampliamente extendida y conocida, pero también como una de las menos entendidas. Del mismo modo, Rosselló Nadal, Riera Font y Sansó Rosselló (2004) extienden el esfuerzo por reducir el fenómeno de la estacionalidad a los sectores tanto público como privado, debido a sus implicaciones en el empleo y la inversión.

En relación a la medición de la estacionalidad en el turismo, el enfoque más común se basa en la estimación de factores estacionales en las series temporales, bien mediante desviaciones respecto a las medias móviles o con otros métodos de series temporales (Fernández-Morales, 2003: 946). Existen numerosos trabajos que utilizan este enfoque centrados en el sector hotelero (Boffa y Succurro, 2012; Espinet, Fluvia, Rigal-I-Torrent y Salo, 2012; Capó Parrilla, Riera Font y Rosselló Nadal, 2007; Koenig-Lewis y Bischoff, 2004); o en la comparación de herramientas para la medición de la estacionalidad y la descripción de sus ventajas y desventajas (De Cantis, Ferrante y Vaccina, 2011; Koenig-Lewis y Bischoff, 2003, 2005; Kulendran y Wong, 2005; Lundtorp, 2001).

En Argentina, son pocos los trabajos que examinan la presencia de la estacionalidad en la demanda del turismo, destacando el trabajo de Carruitero (2010), en el que hace uso de métodos de series temporales para evaluar la estacionalidad producida por el turismo receptivo en el país; y más recientemente, el trabajo de Fernández-Morales y Cisneros-Martínez (2015), en el que se analiza la concentración estacional de la demanda turística en las regiones turísticas de Argentina haciendo uso del índice de Gini (sin descomponer). En los PFETS (MINTUR, 2005, 2011), con los datos obtenidos de la Encuesta de Ocupación Hotelera (EOH), se acude también al cálculo de factores estacionales para las pernoctaciones en establecimientos hoteleros y para-hoteleros utilizando una desagregación simple en la que se distinguen las pernoctaciones efectuadas por viajeros residentes y no residentes en las distintas regiones turísticas del país.

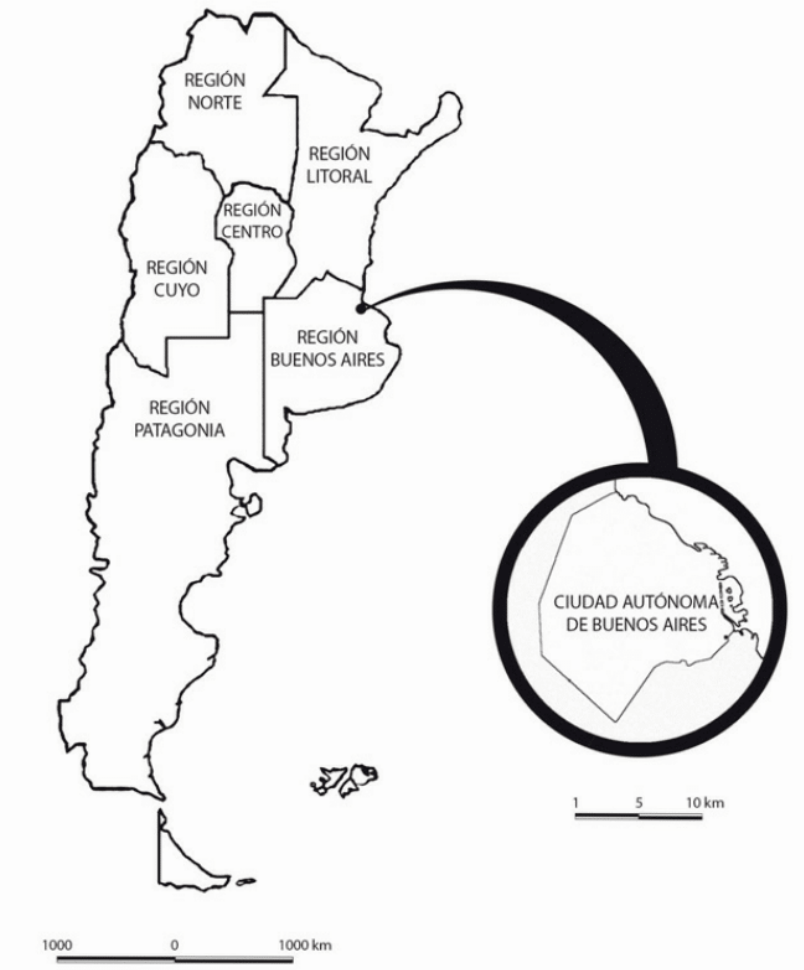
Por otro lado, como Fernández-Morales (2003), Lundtorp (2001) o Rosselló et al. (2004) reflejan en sus trabajos, un enfoque complementario consiste en la estimación de índices de concentración anual,como los índices de Gini y Theil o los coeficientes de variación, que proporcionan una medida única del nivel de concentración anual. El índice de Gini es el más utilizado en trabajos sobre la concentración estacional de series turísticas (Candela y Castellani, 2009; Cisneros-Martínez y Fernández-Morales, 2016; Cuccia y Rizzo, 2011; De Cantis et al., 2011; Fernández-Morales, 2014; Fernández-Morales y Martín-Carrasco, 2014; Grabler, 1997; Halpern, 2011; López y López, 2006, 2007; Lundtorp, 2001; Martín Martín, Jiménez-Aguilera y Molina-Moreno, 2014; Rosselló et al., 2004; Tsitouras, 2004; Wöber, 1997).

Por último, la técnica de la descomposición aditiva del índice de Gini, utilizada en este estudio, ofrece herramientas de interés para el análisis de la demanda turística. La primera aportación de esta técnica en el ámbito turístico, hasta donde sabemos, fue la llevada a cabo por Fernández-Morales y Mayorga-Toledano (2008), enfocada en la demanda hotelera. Posteriormente, esta descomposición ha sido empleada para analizar la concentración estacional de los pasajeros en aeropuertos españoles (Halpern, 2011), y más recientemente, para investigar la capacidad desestacionalizadora del tursimo cultural (Cisneros-Martínez y Fernández-Morales, 2015).

3. CONTEXTUALIZACIÓN TERRITORIAL Y TURÍSTICA DE ARGENTINA

En este trabajo se ha atendido a la clasificación territorial y turística que establece la EOH, principal fuente estadística utilizada. Así, se han agrupado las 23 provincias argentinas en las seis regiones turísticas definidas en la regionalización turística realizada por MINTUR (2005): Región Buenos Aires, Región Centro, Región Cuyo, Región Litoral, Región Norte y Región Patagonia, y se ha añadido la Ciudad Autónoma de Buenos Aires (CABA) como una región independiente debido a la elevada demanda de viajeros en este destino, quedando las siete regiones turísticas como se muestra en el mapa de la Figura 1.

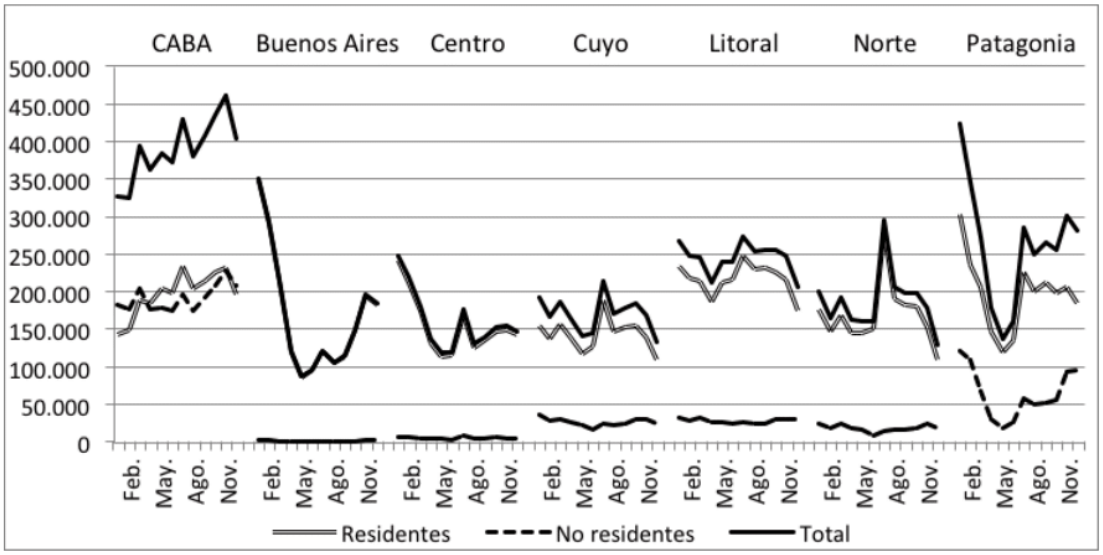
FIGURA 1
REGIONES TURÍSTICAS DE ARGENTINA



Fuente: Elaboración propia

La demanda hotelera de Argentina está compuesta principalmente por viajeros residentes. En el año 2013, según la EOH, Argentina recibió un total de 19 millones de viajeros que se alojaron en establecimientos hoteleros y para-hoteleros, de los cuales, el 79% eran argentinos. La mayor parte de los residentes procedían de la región Buenos Aires (36% del total de la demanda), y de la región Litoral (10%). Por su parte, la mayoría de los viajeros no residentes procedían de países limítrofes (10%) y de Europa (5%). La región más visitada fue CABA (25%), seguida de Patagonia (17%), Litoral (16%), Norte (12%) y Cuyo, Buenos Aires y Centro, con un 10% cada una.

FIGURA 2
NÚMERO DE VIAJEROS ALOJADOS EN ESTABLECIMIENTOS HOTELEROS Y PARA-HOTELEROS DE ARGENTINA EN 2013



Fuente: Elaboración propia a partir de datos de INDEC y MINTUR

Como se puede apreciar en la Figura 2 (mediante la cual, se puede obtener una visión general del comportamiento de la demanda hotelera en las regiones de Argentina), la predominancia de viajeros residentes se repite en todas las regiones turísticas, exceptuando a CABA, con sólo un 51% de viajeros residentes. Así, Buenos Aires y Centro presentan un 99% y un 96% de residentes, respectivamente, seguidas de las regiones Norte (90%), Litoral (88%), Cuyo (84%) y Patagonia (77%).

La demanda turística en Argentina es atraída por muchos productos turísticos, que varían según la región visitada. Como se menciona en MINTUR (2011) de manera detallada por regiones, se puede encontrar desde turismo de sol y playa, turismo de nieve, turismo rural, termal, ecoturismo, turismo de naturaleza y de aventura, hasta turismo cultural, fiestas tradicionales, deportivo o gastronómico.

Respecto a las medidas institucionales contra la estacionalidad turística, una de las estrategias utilizadas ha sido el ordenamiento de los días de fiesta nacionales con el objetivo de prever con una antelación de tres años la planificación de las pausas laborales y los desplazamientos, para reducir los efectos negativos de la estacionalidad, generando una mejor distribución temporal de los flujos de turistas. Otra de las herramientas contra la estacionalidad que establece el MINTUR es la gestión de eventos en los destinos argentinos para potenciar el desarrollo económico de los mismos (MINTUR, 2014).

Por otro lado, el MINTUR establece en su agenda un programa federal de turismo social con el que pretende generar una oferta turística adecuada que rompa con la estacionalidad de los destinos emergentes. Además, se establecen unos Productos Integradores Regionales (como por ejemplo, "turismo rural" en la región Buenos Aires o "caminos del vino" en Cuyo) en los Informes Estratégicos Regionales, que pueden ser de utilidad para paliar los efectos de la estacionalidad, ya que pueden realizarse en cualquier época del año (MINTUR, 2011).

En esta línea de medidas frente a la estacionalidad, sería de gran utilidad contar con herramientas analíticas, como las propuestas en este trabajo, que permitan discernir qué viajeros son los que pueden facilitar la descongestión estacional, mediante el estudio de sus patrones estacionales habituales. Los resultados obtenidos se podrían emplear para dirigir las captaciones de nuevos viajeros en general o dentro de los productos turísticos específicos con el objeto de mejorar la eficiencia desestacionalizadora de los mismos.

4. METODOLOGÍA

La incidencia de la estacionalidad en la demanda hotelera de Argentina y de sus regiones turísticas se analiza en este trabajo haciendo uso de la variable mensual "Viajeros alojados en establecimientos hoteleros y para-hoteleros" procedente de la EOH, elaborada por el MINTUR (2013) y el Instituto Nacional de Estadística y Censos (INDEC, 2013). El periodo investigado comprende desde 2005 a 2013. Por otra parte, la desagregación regional empleada es la descrita en la sección anterior, aunque para las regiones de procedencia de viajeros residentes se ha integrado a CABA en la provincia de Buenos Aires, dado que los viajeros procedentes de ambas regiones tienen un comportamiento estacional muy similar.

En una primera etapa descriptiva, se ha hecho uso de los Índices de Variación Estacional (IVE) estimados mediante el procedimiento multiplicativo para delimitar los patrones estacionales[2]. Para facilitar el análisis se ha considerado que la temporada

2 La estimación de los Índices de Variación Estacional se ha realizado usando el procedimiento de los ratios a la media móvil dentro del enfoque de la descomposición multiplicativa, una de las técnicas

alta es aquella comprendida por los meses con valores superiores a la unidad y la temporada baja incluye el resto de meses. Además, se han agrupado los meses por estaciones: verano (enero, febrero y marzo), otoño (abril, mayo y junio), invierno (julio, agosto y septiembre) y primavera (octubre, noviembre y diciembre). Cabe destacar que Argentina es un país localizado en el hemisferio Sur, y por lo tanto, las estaciones del año se encuentran invertidas temporalmente con respecto a las que habitualmente se observan en el hemisferio Norte.

Como medida de la concentración estacional anual, utilizamos el índice de Gini, que cuantifica el grado de concentración de la demanda de viajeros entre los meses de un año determinado. Así, permite la identificación de aquellos años en los que la estacionalidad ha aumentado o disminuido, y puede utilizarse como un instrumento que proporcione información de gran interés para evaluar la eficacia de las políticas contra la estacionalidad (Fernández-Morales, 2003: 946).

Siguiendo a Lerman y Yitzhaki (1985), para un conjunto anual de observaciones mensuales Y con función de distribución *F* (ponderada por el número de días de cada mes del año t), de media *Y*, el índice de Gini consiste en:

$$G = \frac{2}{\overline{Y}} \operatorname{cov}(Y, F) \tag{1}$$

G oscila entre 0 y 1, y en la medida en que se acera a 1 indica una mayor concentración temporal en el año observado (mayor concentración estacional anual), mientras que un valor próximo a 0 determina una distribución más equitativa en el tiempo (menor concentración estacional anual).

Para facilitar el análisis y la interpretación de los resultados, se ha establecido una clasificación del grado de concentración estacional específicamente para los destinos analizados este trabajo, considerando una concentración baja cuando los valores del índice de Gini están por debajo de 0,10, media cuando están entre 0,10 y 0,20, y alta para valores iguales o superiores a 0,20.

Además, para cada serie mensual *Y* con *K* componentes aditivos se ha descompuesto el índice de Gini anual (Lerman y Yitzaki, 1985) como:

más empleadas en el análisis clásico de series temporales (Makridakis, Weeelwright y Hyndman, 1988), según la implementación en el software econométrico EViews 8 (IHS, 2013). Asumiendo que la serie Yt se puede descomponer en el producto de cuatro componentes, tendencia, ciclo, estacional y residual, respectivamente, Yt=Tt· Ct· St· Rt, los componentes estacionales St se obtienen como ratios de cada valor de la serie respecto de la media móvil correspondiente y son promediados para obtener un índice de variación estacional por cada mes. Dichos índices representan la intensidad del fenómeno estacional en cada mes del año y se interpretan como la desviación proporcional, en tanto por uno, de la tendencia ciclo observada (Makridakis et al., 1988; Cuccia y Rizzo, 2011).

$$G = \sum_{k=1}^{K} C_k = \sum_{k=1}^{K} S_k R_k G_k \quad (2)$$

Donde G_k es el índice de Gini anual del componente Y_k, S_k es la participación anual de Y_k en el valor anual de Y, y R_k representa la correlación de Gini entre Y_k *e* Y *(*R_k = cov*(Yk, F)/(*Y_k*,* F_k*)*, siendo F_k la función de distribución de Y_k*)*.

Autores como Duro (2016) han señalado que la descomposición del índice de Gini de Lerman y Yitzaki (1985) presenta como inconveniente que no es la única posible que admite este índice. No obstante, es la que se ha utilizado con más frecuencia en la investigación sobre la estacionalidad turística por las ventajas que presenta y por la popularidad del índice de Gini como medida de concentración estacional.

Entre las ventajas de mayor interés que presenta esta descomposición, como apunta Fernández-Morales y Mayorga-Toledano (2008), se encuentra que facilita la estimación del efecto relativo marginal que produce una variación en alguno de los componentes sobre el índice de Gini total, que se obtiene como sigue:

$$\mathrm{ERM}_k = S_k \left(\frac{R_k G_k}{G} - 1 \right) \quad (3)$$

Así, el ERM representa el tanto por ciento de variación del índice de Gini total, cuando se aumenta en un 1% el número de viajeros de una procedencia determinada, manteniéndose constante la distribución mensual de los mismos, y el número y distribución mensual del resto de viajeros. La suma de los ERM debe ser igual a 0.

5. RESULTADOS

5.1. Patrones estacionales

Considerando el total de viajeros en Argentina, según los índices estacionales estimados (Cuadro 1), la temporada alta se establece entre los meses comprendidos entre octubre y marzo, coincidiendo con los meses de primavera y verano, y en el mes de julio; y la temporada baja entre abril y septiembre. El conjunto de residentes y el de no residentes difieren principalmente en julio (temporada baja para no residentes), y noviembre y diciembre (temporada baja para residentes). El repunte de residentes en julio se debe sobre todo al período vacacional escolar.

Desagregando al total de viajeros en Argentina por residentes según región de procedencia y no residentes según conjunto de países de residencia, se observan temporadas muy similares; por lo que se ha considerado más adecuado descender

a aplicar dicha desagregación en las diferentes regiones turísticas, ya que presentan peculiaridades de mayor interés no perceptibles en un análisis del conjunto del país (Figura 3).

En CABA no existe una temporada alta acentuada, ya que todos los viajeros se reparten de manera igualitaria a lo largo del año con una ligera concentración en invierno y en primavera, por el aumento de visitas de residentes de todas las regiones y de no residentes procedentes del resto de América y de países limítrofes. El resto de viajeros no residentes generan la temporada alta en primavera y en verano. Así, CABA es la región con menor estacionalidad, debido a la gran variedad de motivaciones de los viajeros que la visitan, tales como culturales, de negocio, etc.

En la región de Buenos Aires, la temporada alta coincide con los meses de primavera y verano, provocada tanto por residentes como por no residentes, de todas las procedencias. Esto es debido a la predominancia del turismo de sol y playa en esta región.

En la región Centro, la temporada alta coincide con los meses de verano, julio y octubre, para todos los orígenes, excepto los procedentes de la región Centro y del resto de América incluyendo también a todos los meses de invierno. La temporada alta estival es originada principalmente por los viajeros residentes, mientras que la demanda de viajeros no residentes es comparativamente más estable durante todo el año.

En la región Cuyo, son los meses de verano y de invierno y octubre donde se sitúa la temporada alta. Esto es debido en gran parte a los residentes (excepto los procedentes de Cuyo y Centro, y de Patagonia, más concentrados en invierno). Los no residentes presentan temporada alta en los meses de verano y primavera, y los procedentes de países limítrofes y resto de América también en julio. En esta región se está trabajando en los últimos años para posicionar el turismo del vino con ofertas complementarias en distintos momentos del año. Por su parte, la temporada alta invernal está relacionada con el aumento de la demanda del turismo de alta montaña, esquí y nieve.

CUADRO 1

ÍNDICES DE VARIACIÓN ESTACIONAL (2005-2013). RESIDENTES Y NO RESIDENTES SEGÚN REGIÓN DE DESTINO

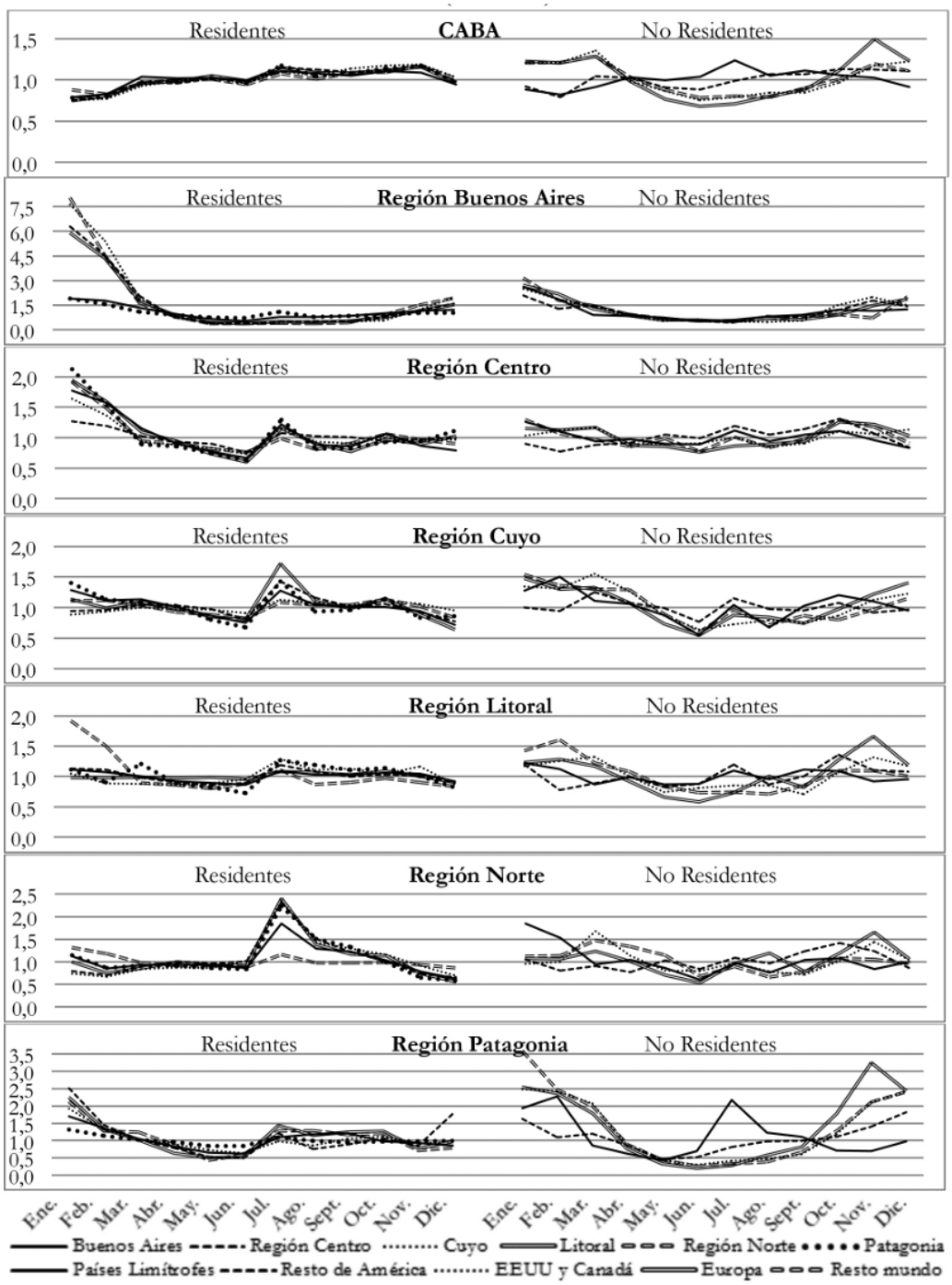
Región y origen	Ene.	Feb.	Mar.	Abr.	May.	Jun.	Jul.	Ago.	Sept.	Oct.	Nov.	Dic.
Argentina	**1,34**	**1,20**	**1,06**	0,92	0,81	0,75	**1,08**	0,96	0,96	**1,03**	**1,05**	**1,00**
Residentes	**1,37**	**1,20**	**1,05**	0,92	0,83	0,77	**1,13**	0,99	0,98	**1,02**	0,98	0,91
No residentes	**1,28**	**1,21**	**1,13**	0,92	0,75	0,71	0,93	0,86	0,91	**1,08**	**1,28**	**1,17**
CABA	0,90	0,89	**1,04**	0,99	0,95	0,92	**1,05**	**1,00**	**1,03**	**1,10**	**1,16**	**1,01**
Residentes	0,78	0,81	**1,00**	0,98	**1,02**	0,98	**1,12**	**1,08**	**1,08**	**1,13**	**1,15**	0,96
No residentes	**1,01**	0,96	**1,08**	**1,00**	0,90	0,87	0,99	0,94	0,99	**1,07**	**1,16**	**1,06**
Región Buenos Aires	**2,17**	**1,89**	**1,34**	0,92	0,63	0,52	0,75	0,73	0,79	0,99	**1,14**	**1,24**
Residentes	**2,17**	**1,90**	**1,34**	0,93	0,63	0,52	0,75	0,73	0,79	0,98	**1,13**	**1,23**
No residentes	**2,53**	**1,80**	**1,26**	0,84	0,63	0,54	0,51	0,68	0,70	1,12	**1,44**	**1,57**
Región Centro	1,64	**1,42**	**1,06**	0,91	0,81	0,70	**1,14**	0,92	0,89	**1,01**	0,92	0,91
Residentes	**1,66**	**1,44**	**1,07**	0,91	0,80	0,69	**1,15**	0,92	0,89	**1,00**	0,91	0,91
No residentes	**1,17**	**1,07**	**1,02**	0,91	0,90	0,86	1,05	0,93	**1,00**	**1,17**	**1,06**	0,93
Región Cuyo	1,15	1,10	**1,10**	**1,00**	0,88	0,75	1,23	**1,02**	**1,00**	**1,05**	0,98	0,84
Residentes	**1,12**	**1,05**	**1,08**	0,99	0,90	0,79	1,28	**1,07**	1,02	**1,05**	0,96	0,79
No residentes	**1,31**	**1,37**	**1,22**	**1,09**	0,84	0,57	0,98	0,76	0,90	**1,07**	**1,10**	**1,11**
Región litoral	1,16	1,07	1,01	0,94	0,92	0,89	**1,06**	**1,01**	0,99	**1,06**	**1,01**	**0,91**
Residentes	**1,14**	**1,06**	**1,00**	0,94	0,94	0,90	**1,09**	**1,03**	**1,00**	**1,05**	0,99	0,89
No residentes	**1,30**	**1,20**	**1,09**	0,97	0,79	0,75	0,87	0,90	0,90	**1,13**	**1,20**	**1,06**
Región Norte	**1,13**	0,95	0,94	0,94	0,89	0,85	**1,59**	**1,17**	**1,09**	**1,04**	0,90	0,73
Residentes	**1,13**	0,93	0,91	0,94	0,91	0,89	**1,69**	**1,21**	**1,13**	**1,03**	0,83	0,70
No residentes	**1,20**	**1,14**	**1,19**	**1,03**	0,77	0,59	0,95	0,98	0,85	**1,16**	**1,40**	**1,03**
Región Patagonia	**1,78**	**1,48**	**1,11**	0,79	0,57	0,56	**1,00**	0,95	**1,00**	**1,04**	**1,17**	**1,17**
Residentes	**1,69**	**1,30**	**1,04**	0,86	0,68	0,66	**1,08**	**1,08**	**1,11**	**1,01**	0,93	0,95
No residentes	**2,14**	**2,03**	**1,35**	0,68	0,36	0,37	0,87	0,72	0,80	**1,16**	**1,82**	**1,76**

Temporada alta (negrita): IVE ≥ 1; Temporada baja (normal): IVE < 1

Fuente: Elaboración propia

FIGURA 3

ÍNDICES DE VARIACIÓN ESTACIONAL (2005-2013). VIAJEROS SEGÚN PROCEDENCIA



Fuente: Elaboración propia

La región Litoral tiene la temporada alta más amplia de todas las regiones, aunque no muy acentuada, en los meses de verano, invierno y primavera, excepto diciembre. En esta temporada coinciden casi todos los orígenes de residentes, excepto Cuyo y Litoral, que no participan en los meses de verano, y Norte en los meses de invierno y primavera. Los no residentes, por su parte, presentan la temporada alta en verano y en primavera, excepto los procedentes de países limítrofes, concentrados mayoritariamente en verano e invierno. La temporada alta que se observa es producida por el turismo de balnearios y termas y por el Carnaval. Por su parte, la amplitud y la poca magnitud de la temporada alta puede estar relacionada con el termalismo y la pesca deportiva.

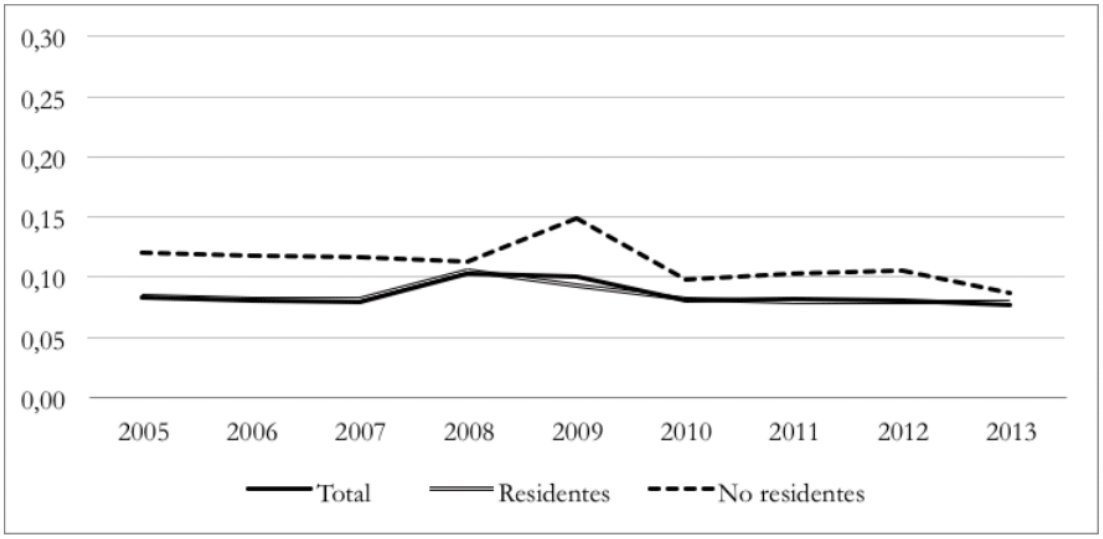
En la región Norte, la temporada alta se da en los meses invierno y en enero. Los residentes coinciden en los mismos meses, excepto los procedentes de Centro y Cuyo, que no presentan una concentración alta en enero, y los procedentes de la región Norte, que en invierno sólo participan en la temporada alta en el mes de julio y en los meses de verano. La temporada alta de los no residentes se establece en los meses de verano y en abril, a excepción de los procedentes del resto de América que en verano sólo participan en la temporada alta en el mes de enero.

Patagonia, por último, tiene una de las temporadas altas más acentuada de Argentina debido a los factores climáticos, aunque existen algunos tipos de oferta que generan algunas fluctuaciones, como el avistamiento de ballenas a partir del mes de octubre, el turismo estudiantil, de nieve y de esquí. Aquí son los no residentes los que generan la temporada alta en los mismos meses que el total de viajeros, concretamente en los meses de verano y de primavera, a excepción de los procedentes de países limítrofes, cuya temporada alta coincide en los mismos meses que los viajeros residentes (alta en los meses de verano e invierno).

5.2. Concentración estacional

En Argentina en conjunto, se puede afirmar que la concentración estacional de la demanda hotelera no es usualmente elevada, comparando con otros destinos más especializados en un solo producto turístico, aunque no por ello sea un factor que no deba ser analizado para intentar reducirlo al máximo. A lo largo del período analizado, el número total de viajeros ha producido un grado de concentración bajo, con un promedio de 0,08 en el índice de Gini y con pocas variaciones. Este grado de concentración es casi idéntico al mostrado por los viajeros residentes, y esto es debido a que la demanda hotelera en las regiones de Argentina está dominada en mayor medida por residentes. Sin embargo, los no residentes presentan un nivel de concentración ligeramente superior, con un 0,11 de promedio del periodo, es decir, un nivel de concentración medio. (Figura 4).

FIGURA 4
ÍNDICE DE GINI. VIAJEROS RESIDENTES Y NO RESIDENTES EN ARGENTINA



Fuente: Elaboración propia

Entre las regiones turísticas de Argentina, en cambio, se produce diferencias mayores en el grado de concentración. Para analizar los resultados, se ha considerado oportuno basarse en el promedio de los índices de Gini calculados en el periodo analizado (Cuadro 2), ya que las variaciones anuales observadas en todos los años analizados son escasas. La región de Buenos Aires es la única que tiene un promedio de concentración alta (0,24). Con una concentración media se sitúan las regiones Patagonia (0,17), Centro (0,13) y Norte (0,11), y con una concentración baja las regiones Cuyo (0,08), Litoral (0,05) y CABA (0,05).

Una primera desagregación por origen entre viajeros residentes y no residentes, ofrece algunas matizaciones de interés, especialmente entre no residentes. Los índices de Gini promedio de los no residentes en todas las regiones (excepto Centro) son superiores a los totales regionales.

Sin embargo, para obtener una apreciación más acertada se ha optado por realizar una mayor segmentación, distinguiendo a los residentes por región de procedencia y a los no residentes por conjunto de países de residencia.

CABA es la región donde menor concentración estacional se observa. Los viajeros residentes procedentes de todas las regiones muestran una concentración estacional baja, excepto los procedentes de la región de Buenos Aires, con un nivel ligeramente más alto (0,11). Por su parte, los viajeros no residentes también producen el nivel de concentración más bajo de todas las regiones.

Por el contrario, la región de Buenos Aires es donde se produce la mayor

concentración estacional, independientemente de la región o país de procedencia, alcanzando algunos niveles que doblan el umbral fijado para una concentración alta.

CUADRO 2

PROMEDIO DE ÍNDICE DE GINI DEL PERÍODO ANALIZADO (2005-2013) EN LAS REGIONES TURÍSTICAS DE ARGENTINA

Procedencia/ Destino	CABA	Buenos Aires	Centro	Cuyo	Litoral	Norte	Patagonia
Total	*0,05*	**0,24**	0,13	*0,08*	*0,05*	0,11	0,17
Residentes	*0,07*	**0,24**	0,13	*0,08*	*0,05*	0,12	0,13
Región Buenos Aires	*0,06*	**0,22**	0,16	0,10	*0,07*	0,15	0,15
Región Centro	*0,08*	**0,54**	*0,08*	*0,09*	*0,09*	**0,21**	**0,27**
Región Cuyo	*0,09*	**0,57**	0,13	*0,06*	0,12	**0,21**	0,16
Región Litoral	*0,08*	**0,52**	0,18	0,14	*0,06*	**0,21**	0,23
Región Norte	*0,06*	**0,58**	0,17	*0,09*	0,17	*0,08*	**0,24**
Región Patagonia	*0,08*	0,18	**0,20**	0,14	0,17	**0,22**	*0,08*
No Residentes	*0,06*	**0,30**	*0,09*	0,14	0,11	0,12	**0,30**
Países limítrofes	*0,09*	**0,29**	0,11	0,16	0,10	0,18	**0,30**
Resto de América	*0,07*	**0,32**	0,14	0,12	0,14	0,19	0,21
EEUU y Canadá	0,11	**0,37**	0,11	0,18	0,16	0,15	**0,37**
Europa	0,14	**0,33**	0,13	0,18	0,19	0,16	**0,41**
Resto del mundo	0,11	**0,38**	**0,21**	0,17	0,16	0,17	**0,28**

Concentración alta (negrita): G ≥ 0,20; Concentración media (normal): 0,10 ≤ G < 0,20; Concentración baja (cursiva): G < 0,10

Fuente: Elaboración propia

Patagonia es la segunda región en cuanto a nivel de concentración estacional, sobre todo por los viajeros no residentes, que en todos los casos presentan concentración alta.

Centro y Cuyo son las regiones donde predomina un nivel de concentración media en los viajeros procedentes de casi todas las procedencias, con la excepción de los procedentes de Centro (0,08) en la región Centro y los procedentes de Cuyo (0,06) y Centro en la región Cuyo (0,09), con concentración baja.

En la región Norte, la mayor concentración es provocada por los viajeros residentes, sobre todo por los procedentes de las regiones Patagonia (0,22) y Centro, Cuyo y Litoral (0,21) con valores de concentración alta. Por su parte, los propios residentes en la región Norte son los que muestran una concentración menor (0,08). Los viajeros no residentes procedentes de todos los países presentan una concentración media.

5.3. Efectos Relativos Marginales

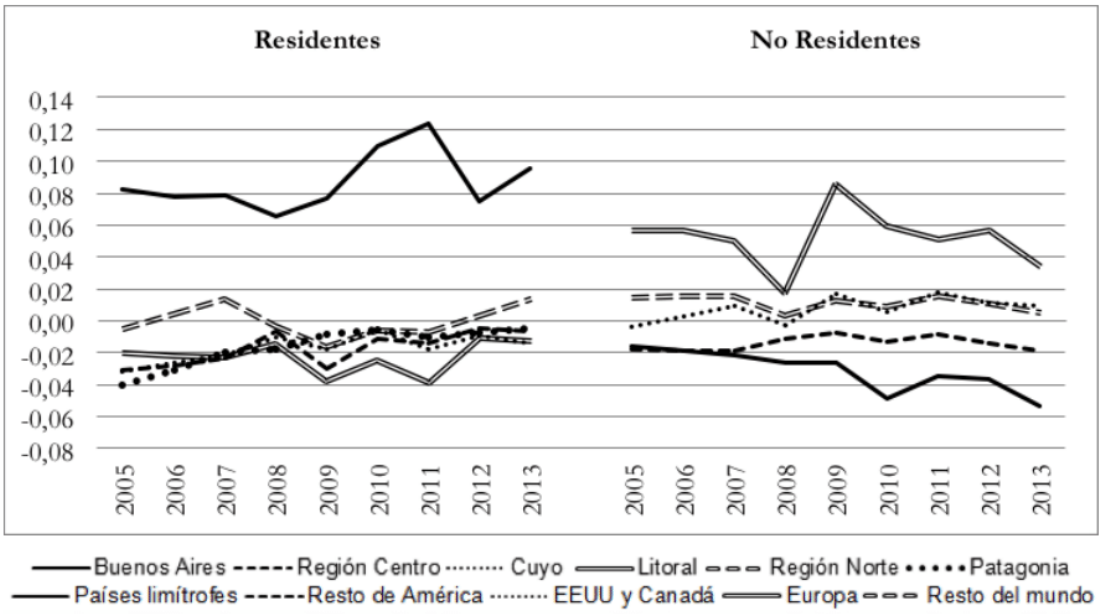
La obtención de los ERM puede ser un instrumento muy útil para establecer una clasificación en cuanto a la preferencia por captar a un tipo de viajero cuyo patrón estacional se manifieste tendente a reducir la concentración estacional del destino. Con el análisis de la evolución de los ERM a lo largo del período observado y, sobre todo, del último año, en este caso 2013, podrían ajustarse las políticas turísticas orientadas a paliar la concentración estacional con una periodicidad anual, previendo cada año cómo puede contribuir un aumento de un tipo de viajero determinado a la reducción del índice de Gini total, que previamente ha sido utilizado para la medición del grado de concentración estacional. De esta forma, para los destinos analizados en este trabajo, se ha especificado como viajeros preferentes aquellos cuyos ERM sean negativos, y por el contrario, no preferentes los que presenten ERM positivos.

En Argentina en conjunto, los viajeros residentes se han mostrado más favorables para reducir la concentración estacional a lo largo de casi todo el período analizado, a excepción de los años 2008 y 2013 en los que se dio la situación inversa. Sin embargo, es más conveniente acudir a una desagregación mayor, debido a las notables diferencias encontradas en las secciones anteriores entre los patrones estacionales y sobre todo en niveles de concentración según procedencias.

Así, los viajeros más favorables para reducir la concentración estacional según los resultados de 2013 son los procedentes de los países limítrofes (-0,07), del resto de América (-0,02), y en menor medida, de las regiones Centro y Litoral (-0,02), y Cuyo y Patagonia (-0,01). El resto de viajeros no serían favorables para reducir la concentración estacional, destacando los procedentes de la región Buenos Aires (0,09), que durante todo el período analizado presentan ERM superiores a 0,6. Los procedentes de Europa y resto del mundo también muestran ERM positivos en todo el periodo. (Figura 5).

Distinguiendo por regiones, en el año 2013, los viajeros no residentes, en conjunto, son los más favorables para desestacionalizar todas las regiones turísticas (así como el total nacional), a excepción de la región de Patagonia. Este efecto es más acentuado en CABA (-0,13), Litoral (-0,11) y Norte (-0,08). No obstante, sólo en Centro y Norte se ha mantenido durante todo el periodo. (Figura 6).

FIGURA 5
EFECTOS RELATIVOS MARGINALES. VIAJEROS RESIDENTES Y NO RESIDENTES SEGÚN PROCEDENCIA

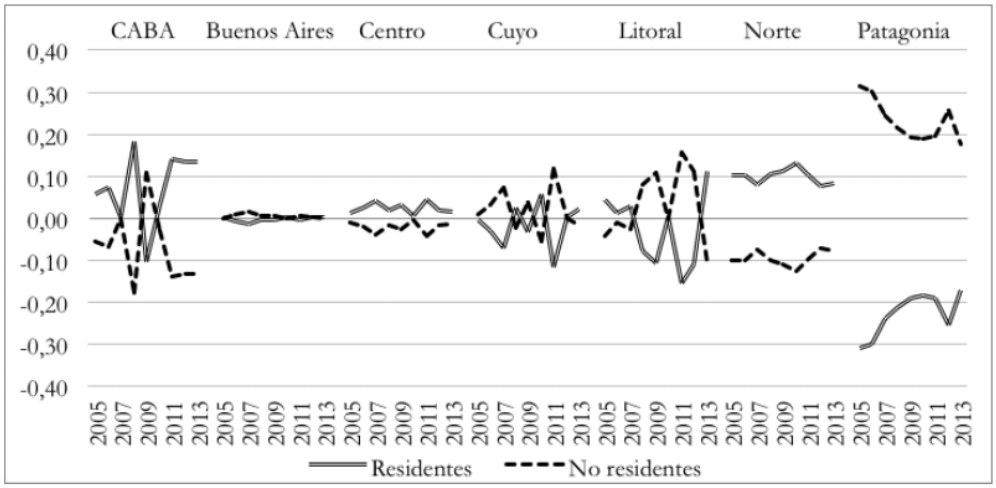


Fuente: Elaboración propia

Sin embargo, una desagregación territorial mayor por orígenes, residentes según región de procedencia y no residentes según conjunto de países de residencia, permite desvelar información de gran interés que no se aprecia con la simple distinción entre residentes y no residentes. Como por ejemplo, detectar procedencias específicas con ERM negativos, favorables para la desestacionalización, dentro de un origen genérico, residentes o no residentes, no favorable, o discriminar mejor dentro del grupo favorable los orígenes específicos de mayor potencial desestacionalizador. Para ello, empleamos los datos obtenidos para el último año, los más útiles desde la perspectiva de la gestión (Cuadro 3).

Entre los resultados más destacables en esta línea podemos destacar que en cinco de las seis regiones en las que el conjunto de residentes presenta ERM positivo (Buenos Aires, Centro, Cuyo, Litoral y Norte), se encuentra que el origen específico de la propia región, un subconjunto de los residentes, presenta ERM negativo y de magnitud muy elevada, convirtiéndose así en objetivo de primer orden para las políticas desestacionalizadoras.

FIGURA 6
EFECTOS RELATIVOS MARGINALES. VIAJEROS RESIDENTES Y NO RESIDENTES POR REGIÓN DE DESTINO



Fuente: Elaboración propia

CUADRO 3
EFECTOS RELATIVOS MARGINALES (ERM). ÚLTIMO AÑO ANALIZADO (2013)

Procedencia/ Destino	CABA	Buenos Aires	Centro	Cuyo	Litoral	Norte	Patagonia	Argentina*	
Residentes	0,13	0,00	0,02	0,02	0,11	0,08	**-0,17**	0,03	(77.1%)
Región Buenos Aires	0,02	**-0,08**	0,07	0,06	0,10	0,08	**-0,10**	0,09	(40.0%)
Región Centro	0,01	0,02	**-0,11**	**-0,01**	0,06	0,04	0,01	**-0,02**	(6.9%)
Región Cuyo	0,02	0,03	**-0,00**	**-0,14**	0,02	0,01	0,01	**-0,01**	(5.3%)
Región Litoral	0,03	0,03	0,08	0,05	**-0,12**	0,05	0,01	**-0,02**	(11.4%)
Región Norte	0,01	0,01	**-0,01**	**-0,00**	0,03	**-0,10**	**-0,00**	0,01	(7.0%)
Región Patagonia	0,02	**-0,02**	0,01	0,04	0,02	0,01	**-0,11**	**-0,01**	(6.4%)
No Residentes	**-0,13**	**-0,00**	**-0,02**	**-0,02**	**-0,11**	**-0,08**	0,17	**-0,03**	(22.9%)
Países limítrofes	0,04	**-0,01**	**-0,01**	0,01	**-0,03**	**-0,01**	0,00	**-0,07**	(10.8%)
Resto de América	0,03	**-0,00**	**-0,01**	**-0,00**	**-0,01**	**-0,01**	**-0,00**	**-0,02**	(2.3%)
EEUU y Canadá	**-0,08**	**-0,00**	**-0,01**	**-0,01**	**-0,03**	**-0,01**	0,03	0,01	(2.5%)
Europa	**-0,05**	**-0,00**	**-0,01**	**-0,00**	**-0,02**	**-0,05**	0,10	0,03	(5.2%)
Resto del mundo	**-0,05**	0,00	0,00	**-0,00**	**-0,02**	**-0,01**	0,04	0,01	(2.1%)

Favorables (negrita): ERM ≤ - 0; No Favorables (normal): ERM > 0
* Entre paréntesis el peso relativo de cada origen en porcentaje
Fuente: Elaboración propia

En cuanto a la detección de los orígenes más favorables dentro de un conjunto más amplio ya favorable, tenemos el claro ejemplo del destino Patagonia, donde entre los residentes, los orígenes región Buenos Aires y Patagonia presentan ERM negativos muy significativos, en tanto que el resto de orígenes de residentes apenas se separan de 0. En la misma línea, en el destino CABA, dentro de los no residentes, EEUU y Canadá es el origen de mayor impacto desestacionalizador, seguido de Europa y resto del mundo.

6. CONCLUSIONES

Este artículo tiene el objetivo de proporcionar una metodología (que incluye tanto la descomposición aditiva del índice de Gini, como el cálculo de los ERM) que sirva como una herramienta útil para el diseño y evaluación de estrategias y acciones tendentes a reducir la concentración estacional de demanda hotelera en Argentina, ya que ayuda a identificar a los viajeros menos estacionales. Mediante la aplicación de esta metodología, se pretende contribuir a la mejorar la eficacia de las políticas dirigidas a combatir la estacionalidad, pues con la información obtenida, dichas políticas pueden ser orientadas hacia segmentos de demanda menos propensos a la estacionalidad.

La metodología planteada en este artículo se propone como una medida de control y seguimiento a utilizar por los gestores turísticos y empresarios hoteleros de destinos con una alta concentración estacional, con la que, analizando la evolución de los ERM a lo largo del período de los que se dispongan datos suficientemente desagregados y, sobre todo, del último año, podrían ajustarse las políticas turísticas orientadas a reducir la concentración estacional.

Se ha constatado que dada la heterogeneidad de las regiones turísticas de Argentina y del grupo de visitantes residentes y no residentes, es mucho más efectivo realizar la clasificación de los mismos especificada en este artículo. Además, se ha comprobado que los patrones estacionales y el consecuente grado de concentración estacional observado en los viajeros analizados, difiere significativamente cuando se estudian desagregadamente, por lo que es de fundamental importancia utilizar como referencia para el planteamiento de las políticas desestacionalizadoras un nivel de desagregación adecuado.

Entre los principales resultados obtenidos, se observa que con el uso de una desagregación simple en Argentina, viajeros residentes y no residentes, los primeros han sido los preferentes para desestacionalizar en la mayor parte del período analizado por mostrar ERM negativos. Resultado que se repite en las regiones Norte, Centro y CABA. No obstante, en el último año analizado el resultado es el inverso en el conjunto nacional y en seis de las siete regiones. Este diagnóstico se modifica y

enriquece notablemente empleando una segmentación más completa, clasificando a los residentes por región de procedencia y a los no residentes por conjunto de países de residencia. Así, en 2013 el segmento más favorable en seis de las siete regiones contempladas es el origen de la propia región, al que hay que añadir la mayoría de los orígenes no residentes aunque con ERM negativos de magnitud variable, destacando en este sentido, la relación existente entre el comportamiento menos estacional de los viajeros no residentes con la mayor proximidad de sus países de residencia.

Por otra parte, sería conveniente la elaboración de instrumentos de planificación turística a escala regional ya que la incorporación de la dimensión territorial contribuye, entre otras ventajas, a reducir la estacionalidad (Blancas Peral, Guerrero Casas y Lozano Oyola, 2009). Además, las medidas frente a la estacionalidad propuestas en los planes de acción del turismo (MINTUR, 2005, 2011, 2012, 2014) aplicables en Argentina son muy escasas y no incluyen el desarrollo de instrumentos de análisis que permitan determinar con suficiente detalle cuáles son los viajeros que pueden contribuir en mayor medida en la reducción de la estacionaildad. Por ello, la propuesta metodológica de este trabajo, tanto desde el punto de vista de la aplicación de los ERM como medida cuantitativa del efecto desestacionalizador, como la desagregación regiones turísticas y el origen de los viajeros según su región o conjunto de países de procedencia, pueden constituir una valiosa ayuda para el diseño y ejecución de los planes de actuación frente a la estacionalidad Argentina.

Finalmente, cabe señalar que en este artículo se han analizado los ERM sin profundizar en otros componentes de la descomposición del índice de Gini. Esto es debido a que al realizar un análisis rmulti-destino, la evaluación de estos componentes escaparía de las limitaciones y objetivos de este trabajo. Por ello, como nuevas líneas de investigación se sugiere el análisis en profundidad de todos los componentes de la descomposición del índice de Gini considerando de manera independiente una región de Argentina con suficiente interés estratégico; y/o llevar a cabo otras desagregaciones diferentes al origen del viajero como por ejemplo la categoría hotelera, siendo posible por la disponibilidad de datos en las fuentes consultadas. Esta desagregación permitiría revelar otras variables con influencia significativa en los ERM.

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Chapter 6

Seasonal concentration of tourism demand: Decomposition analysis and marketing implications

Abstract: In this paper, the seasonality of tourism in the United Kingdom focused on English regions is analyzed in relation to tourists' place of origin and main travel motivation. The method used is the decomposition of the Gini index, which provides relative marginal effects that facilitate the identification of market segments open to counter-seasonal marketing efforts. This method has been combined with a graphical multivariate technique (biplot) which facilitates the grouping of those segments according to the characteristics of their seasonality. Seasonal patterns associated with particular segments of the market differ significantly when studied on a disaggregated basis. Therefore, an adequate level of disaggregation is essential in the design of counter-seasonal policies. Regional tourism managers could use the methodology proposed as a control and monitoring measure, since they could regularly adjust their tourism policies in order to minimize seasonality effects, specifically by targeting the types of tourists less prone to seasonality.

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Seasonal concentration of tourism demand: Decomposition analysis and marketing implications

Antonio Fernández-Morales [a], José David Cisneros-Martínez [b, *], Scott McCabe [c]

[a] Universidad de Málaga, Facultad de Ciencias Económicas y Empresariales, Departamento de Economía Aplicada (Estadística y Econometría), Calle El Ejido, 6, 29071 Málaga, Spain
[b] Universidad de Málaga, Facultad de Turismo, Departamento de Economía Aplicada (Estadística y Econometría), Calle León Tolstoi, 4, 29071 Málaga, Spain
[c] Nottingham University Business School, Jubilee Campus, Wollaton Road, Nottingham NG8 1BB, UK

HIGHLIGHTS

- We analyze the seasonality of tourism demand in the UK and the English regions.
- The method used is the decomposition of the Gini index combined with biplots.
- A disaggregation of tourism demand is essential to design counter-seasonal policies.
- The methodology proposed identifies the types of tourists less prone to seasonality.
- We provide an instrument to evaluate the effectiveness of the marketing strategies.

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ABSTRACT

This paper analyzes seasonality in the United Kingdom, specifically the English regions in relation to tourists' place of origin and main travel motivation. The method used is a decomposition of the Gini index, which provides relative marginal effects that facilitate the identification of market segments open to counter-seasonal marketing efforts. This method has been combined with a graphical multivariate technique (biplot), which groups segments according to their seasonality characteristics. Seasonal patterns associated with particular segments differ significantly when studied on a disaggregated basis. Therefore, an adequate level of disaggregation is essential in the design of counter-seasonal strategies. Although this study focuses on British destinations, this methodology could be used as a control and monitoring measure in the regional analysis of any destination, facilitating regular adjustment of regional tourism marketing campaigns to minimize seasonality effects, specifically by targeting the types of tourists less prone to seasonality.

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1. Introduction

Seasonality is defined as an imbalance between supply and demand in a given tourist destination over the course of the year (Butler, 1994). Seasonal fluctuations are pervasive in the tourism system due to climactic and socio-structural cycles of both destinations and markets. Thus, the factors that lead to seasonality are a seemingly intractable and perennial management issue, identified recently as "one of the most protracted problems facing managers in the tourism sector" (Coshall, Charlesworth, & Page, 2015, p.1604). Research on seasonality has attempted to model seasonal variations, has looked at how destinations adjust to and manage seasonality, and has investigated the policy and marketing implications of seasonality, as well as the strategies and measures used to overcome seasonality, such as extending the season.

There have, though, been few detailed analyses of trends in European Union market demand, although data does exist on the demand perspective (Eurostat, 2015). Due to rises in global mobility over the last two decades, and an embedding of the culture and practice of travel and tourism as a global human activity, tourism

* Corresponding author.
E-mail addresses: afdez@uma.es (A. Fernández-Morales), joscismar@uma.es (J.D. Cisneros-Martínez), scott.mccabe@nottingham.ac.uk (S. McCabe).

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markets are becoming increasingly diverse and complex, particularly in the advanced economies. Moreover, there are few analyses of seasonality from a marketing perspective. There is therefore a need for a better understanding of the patterns of demand across international and national markets, in order to identify those markets that are more resilient to seasonality and the best focus for marketing efforts. Demand could be managed more effectively across peak as well as off-peak seasons if there were a clearer understanding of the concentrations of demand. In particular, different types of tourists may be less prone to seasonality; for instance, information on seasonal concentration in relation to tourists' motivation would provide important marketing information to destination marketers and could provide additional insights about the effectiveness of specific marketing activities, complementing direct evaluation.

Existing studies have mapped seasonal concentrations. The main aim of this paper is to disaggregate such concentrations. The study uses a novel data visualization technique to add value to the application of the Gini index, which has been widely used for the analysis of tourism demand. It can reveal nuances in demand patterns that tend to be lost when the Gini method is applied to aggregate information (Cisneros-Martínez & Fernández-Morales, 2015; Fernández-Morales & Mayorga-Toledano, 2008; Halpern, 2011). The case context for this analysis is the United Kingdom, and in particular, England and its regions, however, this regional analysis could be applied in any other international destination as long as sufficiently disaggregated data are available. In the present study, international tourism and domestic (to the nine English regions) demand on the part of UK tourists (English, Welsh, and Scottish) are disaggregated by tourists' place of origin and their main motivation for travel.

Tourism is one of the most important industries in the UK. A record number of overseas tourists (32.8 million) visited the UK in 2013, spending £21.0 billion, also a record figure (Visit Britain, 2014a). Based on its direct, indirect and induced GDP impact, travel and tourism generated 6.9% of the United Kingdom's GDP in 2013 (World Travel & Tourism Council [WTTC], 2013). In England, as in many European destinations, there is concern, however, about the effects of seasonality in the tourist sector. At the institutional level, tackling seasonality has long been recognized as an issue and it is mentioned in the strategic framework of Visit England (VE) as a high-level objective (Visit England, 2014): VE recognizes seasonality as a problem for the industry and policy is directed towards encouraging efforts to mitigate seasonality as part of the growth strategy for tourism. Specific measures include programs in the low seasons to promote a range of tourism products that are less prone to seasonality issues (Visit England, 2014).

To date, there have been few studies of seasonality and its measurement in the UK. None has focused on England and its regions specifically, and no published studies analyze the seasonal behavior of national and international tourists jointly. Koenig-Lewis and Bischoff (2003) examined the seasonality of domestic tourism in the UK, focusing on Wales and classifying tourists by UK nation of origin and by travel motivation. Koenig-Lewis and Bischoff complemented the Gini index with other techniques, such as the coefficient of variation, seasonal ratio, seasonal plot, coefficient of variability, seasonal factors, amplitude ratio, peak season's share, amplitude ratio and similarity index. Coshall et al. (2015) conducted a regional analysis of the seasonality of international tourism demand in the Scottish regions using the Gini index and the amplitude ratio, where international tourists were classified by travel motivation, using quarterly data. However, in the present study it has been possible to work with monthly data (by the data availability), leading to a more fine-grained analysis. Furthermore, in this study we go a step further in including both national and international tourism demand. Recently, Connell, Page, and Meyer (2015) analyzed both the ability of events put on in the low season to reduce seasonality in Scotland and how individual businesses respond to seasonality effects in time and space; they were able to show the relationship between attractions and events with seasonality at a regional scale. That analysis was conducted with multivariate tests using correspondence analysis, multivariate cluster and MANOVA. The present analysis complements this analysis with the widely used Gini index together with a novel data visualization technique.

2. Seasonality in the tourism industry

In the field of tourism, seasonality is defined as the tendency of tourist flows to be concentrated in relatively short periods of the year (Allcock, 1994). Some authors suggest that seasonality is an intrinsic feature of the tourism sector (e.g. Baum & Lundtorp, 2001). It is a widely known feature (Higham & Hinch, 2002), one of the most vexing policy issues in tourism management, and one which has garnered a deal of cross-disciplinary attention in the literature (Baum & Lundtorp, 2001). Generally, the seasonality effects are described in the literature as negative effects, including: labor instability and unemployment (Ashworth & Thomas, 1999; Ball, 1988); income instability, causing difficulties for returns on investment (Butler, 2001; Jang, 2004; Manning & Powers, 1984); and inefficient use of resources and facilities (Sutcliffe & Sinclair, 1980). On the other hand, seasonality does have some potential benefits, in that in can allow managers to take advantage of lulls in demand to undertake maintenance and repair of the facilities (Grant, Human, & Le Pelley, 1997), to tap into available labor markets at specific times (Mourdoukoutas, 1988) and to promote ecological and socio-cultural recovery during the low season (Butler, 1994; Higham & Hinch, 2002). Nonetheless, there are few tourism destinations that are not affected adversely in some way or another by the effects of seasonality; indeed, these effects are felt on all aspects of the supply side of tourism, such as the labor market, finance and investment in tourism businesses, all aspects of operations management and planning, as well as marketing. Therefore, most destinations would benefit from a more even distribution of demand that optimizes the utilization of resources and causes the minimum negative impacts associated with seasonal fluctuations of demand.

In the first study undertaken on seasonality in tourism (BarOn, 1975), a distinction between natural factors (principally weather) and institutional factors (including culture) was made. Subsequent research has in general terms confirmed these causes and examined different aspects in more detail (Allcock, 1994; Baum & Hagen, 1999; Butler & Mao, 1997; Butler, 1994; Calantone & Johar, 1984; Commons & Page, 2001; Connell et al., 2015; Higham & Hinch, 2002). Koenig-Lewis and Bischoff (2005) present a comprehensive review of the research on seasonality and its causes. Further exemplary reviews have outlined the main causes and consequences, debates and issues in seasonality research (Baum & Lundtorp, 2001; Boffa & Succurro, 2012; Butler & Mao, 1997; Cannas, 2012; Espinet, Fluvia, & Rigall-I-Torrent, 2012; Getz & Nilsson, 2004; Jang, 2004; Kulendran & Wong, 2005). Coshall et al. (2015) categorized studies on seasonality according to whether they investigated the types and causes of seasonality, their impacts and policy implications, or the range of public and private sector interventions that have been made in attempting to mitigate seasonality. Whilst the existing literature most often focuses on the causes of seasonality, such as climactic factors, availability of tourism products, accessibility and marketing mix, Coshall et al. (2015) sought to shift the focus onto the spatial effects of seasonality. Using Scotland as a case context, they challenged the simple distinctions between notions of core and periphery.

Studies of seasonality have been rich and varied in terms of disciplinary perspectives. They have analyzed demand patterns in geographical or economic terms (Lim & McAleer, 2001; Lundtorp, Rassing, & Wanhill, 1999; Koenig-Lewis & Bischoff, 2003, 2004; Rosselló Nadal, Riera Font, & Sansó Rosselló, 2004), looked at spatial variations in demand, and used forecasting and econometric methods to measure the impact of seasonality (e.g. Sutcliffe & Sinclair, 1980). Cisneros-Martínez and Fernández-Morales (2015) argue that the approach most commonly used to measure seasonality in tourism is based on the estimation of seasonal factors in a time series, either by deviations from moving averages or with other time series methods. This approach has been used in several studies where seasonality in tourism has been analyzed in a given destination (Cuccia & Rizzo, 2011; Donatos & Zairis, 1991; Nieto González, Amate Fortes, & Nieto González, 2000; Pegg, Patterson, & Vila Gariddo, 2012; Sutcliffe & Sinclair, 1980; Yacoumis, 1980). Furthermore, as Duro (2016), Fernández-Morales (2003), Lundtorp (2001), Rosselló Nadal et al. (2004) and Wanhill (1980) note in their studies, a complementary approach is to estimate indexes which provide a measure of the annual concentration level, such as the Gini index, the Theil index and the coefficients of variation.

However, tourism is a set of interrelated industries and markets that cannot be treated as an isolated sector (Sinclair, 1998). Although measures that address seasonality may derive from either a public policy or a marketing perspective, such as price adjustments either to stimulate demand in low season or to reduce demand in the peak season, there is less evidence on the effects of these programs and fewer studies that have explicitly sought to assess demand from the marketing perspective. In this regard, the additive decomposition of the Gini index used in this study, and previously in the field of tourism (Cisneros-Martínez & Fernández-Morales, 2016, 2015; Duro, 2016; Fernández-Morales & Mayorga-Toledano, 2008; Halpern, 2011), allows the researcher to classify different market segments in relation to their contribution to annual seasonal concentration and their openness to marketing efforts aimed at reducing seasonality. Such information is of the utmost importance, since it can help marketers direct marketing efforts towards those tourists less likely to want to visit a destination only during the peak time of year.

In this paper, we apply in-depth the additive decomposition by demand segments of the Gini index. This seasonal concentration index can also be decomposed by seasons (Duro, 2016; Fernández-Morales, 2003). However, in this study, only the decomposition of the annual Gini index by segments of demand is performed. Unlike other studies that have used this technique (Duro, 2016; Fernández-Morales & Mayorga-Toledano, 2008), in this paper it has been applied to two demand characteristics: by market origin (with several disaggregations) and by motivation. Another novelty of this work is the application of the decomposition to the matrix of inter-regional tourism flows in a country for the first time. On the other hand, a data visualization technique (the biplot) is introduced as a tool of analysis for the results of the decomposition components. This multivariate graphical technique facilitates the interpretation of the estimated components and the classification of the segments.

3. Data sources and methodology

3.1. Data sources

At the country level, for the analysis of seasonal concentration in the UK, both domestic and international tourism demand figures have been utilized. For domestic tourists, monthly data (number of trips made by UK residents) from the United Kingdom Tourism Survey (UKTS) from 2007 to 2013 were obtained. In January 2011, the survey was renamed the Great Britain Tourism Survey (GBTS),[1] which counts only the number of trips made by residents of Great Britain (i.e. excluding trips made by residents of Northern Ireland, since these were then recorded by the Northern Ireland Statistics and Research Agency [NISRA]). In this study, it has not been possible to count the trips made by residents in Northern Ireland for 2011, 2012 and 2013 because the NISRA uses quarterly data to represent the results of their tourism surveys (NISRA, 2014), unlike the GBTS which uses monthly data (Visit Britain, 2014b) and therefore, because they are based on different frequencies, these surveys are not directly comparable. For this reason, the results should be interpreted with caution since from 2011 to 2013 they are based only on residents of Great Britain.

In addition, monthly data from the International Passenger Survey (IPS)[2] from 2007 to 2013 have been used for the identification of international tourists. The results of IPS are primarily used, among others, to provide information about international tourism. This survey collects information about the number of trips made by international tourists visiting the UK. For a more detailed analysis of international tourists, we have selected one of the classifications established by the IPS, grouping tourists by origin as follow:

- EU15 (all countries that joined the European Union before January 1st, 2004): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Irish Republic, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden.
- Other EU (all countries that joined the European Union from 1st January 2004 onwards): Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.
- Rest Europe (European countries not included in EU15 and Other EU): Gibraltar, Iceland, Norway, Russia, Switzerland and Turkey and others.
- North America: Canada and USA.
- Other countries: Australia, Caribbean Island, China (Hong Kong), Egypt, India, Israel, Japan, Mexico, New Zealand, Other Africa, Other Asia, Other Central & South America, Pakistan, South Africa, Sri Lanka, Thailand, Tunisia, United Arab Emirates, other China, other North America, other Middle East and others.

Finally, in order to disaggregate international tourists further, to enable us to identify which markets are 'favorable', we have taken the quarterly data from Travelpac[3] for 2013, which consist of a series of files derived from the IPS recording specific details of country of origin.

The selection of the surveys mentioned (UKTS/GBTS and IPS/

[1] This monthly survey covers overnight trips taken for any purpose, including holidays, business, or visiting friends and relatives. The current survey methodology started in May 2005. The UKTS (GBTS from January 2011) comprises: 100,000 face-to-face interviews per annum, conducted in-home. A weekly sample size of around 2000 adults aged 16 or over – representative of the UK (GB from 2011) population in relation to various demographic characteristics including gender, age group, socio-economic group, and geographical location (Visit England, 2013).

[2] This survey collects information about passengers entering and leaving the UK, and has been running continuously since 1961. Survey data is collected on the IPS via face-to-face interviews with passengers passing through ports and on routes into and out of the UK. The IPS methodology involves conducting between 700,000 and 800,000 interviews a year, of which over 250,000 are used to produce estimates of Overseas Travel and Tourism patterns (Office for National Statistics [ONS], 2015).

[3] Travelpac is a simplified version of the IPS database containing 14 of the most widely used categorical and continuous variables. The categorical variables give counts of trips falling into various categories, and include the ones used in this study (the year, the quarter and the country of residence for overseas residents). In addition, there are four continuous variables as the visits, the one selected for this study (ONS, 2010).

Travelpac) is due to several reasons. First, they are the only surveys available that allow the identification of the domestic and international tourism demand in the UK. Second, all of these surveys use the visits as unit of measure, which are counted as number of trips, being therefore, comparable. Moreover, these surveys use monthly data except Travelpac, which uses quarterly data. For this reason, although the results obtained from this quarterly variable are not directly comparable to those obtained from the IPS monthly data, because they are presented in different frequencies, many conclusions can be drawn about the level of seasonal concentration produced by foreign tourists by countries of origin. Finally, it is also important to note that there has been no methodological change in any of the surveys used during the years analyzed in this study (ONS, 2010; ONS, 2015; Visit England, 2013).

On the other hand, at the national level, 'seasonal concentration' of tourists who visited the regions of England is analyzed by national origin for those resident in either Scotland or Wales and by regional origin for those resident in England (East, East Midlands, London, North East, North West, South East, South West, West Midlands, and Yorkshire and Humberside) (Fig. 1).

For this analysis at a national level, the monthly data from GBTS have been used, that as mentioned since 2011 began to count just the trips made by residents in Britain. For this reason, this analysis has included both British domestic tourists as well as English intra-regional tourists visiting the regions of England, for the period available (between 2011 and 2013).

Fig. 1. Map of UK showing the nine regions of England.

3.2. Methodology

Numerous studies have compared seasonality measures, describing their advantages and disadvantages (De Cantis, Ferrante, & Vaccina, 2011; Duro, 2016; Koenig-Lewis & Bischoff, 2005, 2003; Kulendran & Wong, 2005; Lundtorp, 2001). The traditional quantitative tools focus on generating representative models of seasonality so that general conclusions about the level of concentration of tourism demand can be ascertained. However, these techniques do not allow researchers to identify what type of tourist is less prone to seasonality. In this paper we have used the additive decomposition of the Gini index developed by Lerman and Yitzhaki (1985). This decomposition identifies for each segment of the tourist market (k) a Relative Marginal Effect (RME_k) over the Gini index (G). Furthermore, the decomposition used allows us to obtain the Gini index of each tourist market segment (G_k), each segment's share of overall demand (S_k) and the Gini correlation of these segments with the overall demand (Γ_k).

There are other available decompositions by sources of concentration indices, like the Theil index and the Coefficient of Variation decompositions that are analyzed with recent Spanish tourism data by Duro (2016). We chose the Gini decomposition mainly because it is the most commonly used in the analysis of tourism seasonality and also facilitates the identification of segments with favorable impact for reducing seasonality via the estimation of RME.

Since its first application in the field of tourism by Wanhill (1980), the Gini index (without a marginal decomposition) has been applied extensively to analyze seasonal concentration of demand; such as in the recent works of Coshall et al. (2015), Fernández-Morales and Cisneros-Martínez (2015), Fernández-Morales and Martín-Carrasco (2015), Lacher and Nepal (2013), and Martín Martín, Jiménez Aguilera, and Molina Moreno (2014). The Gini index facilitates the analysis of the degree of annual seasonal concentration of a tourist series, for example whether monthly values are significantly concentrated in a few months (higher values) or whether the seasonal pattern is distributed more equitably between the months of the year (low values). There are many different approaches to the calculation of the Gini index. In our work we use the covariance approach (see Appendix for technical details). According to this approach the Gini index of each individual annual data set Y, with distribution function $F(Y)$ and mean μ_Y, is calculated by means of

$$G_Y = \frac{2Cov(Y, F(Y))}{\mu_Y}$$

For a set of 12-monthly data, the Gini index is bounded in the interval (0, 11/12), being an indicator of the seasonal concentration of the variable in a year. Small values of G_Y within its range indicate a low level of seasonal concentration, while the greater the values of G_Y, the more substantial the seasonal concentration.

However, similar to alternative measures such as the coefficient of seasonal variation or the Theil index, the Gini index does not take into account the natural chronological order of the months (De Cantis et al., 2011). For this reason, different seasonal patterns may result in the same value of the index; therefore, it is appropriate to complement the interpretation with the analysis of seasonal patterns.

The seasonal patterns were estimated using the multiplicative decomposition of the different series, using the X11 method performed with the software program E-views 8. The seasonal factors obtained for each month, F_i, $i = 1, 2, \ldots, 12$, are represented by what proportion, on average, the values of the series in each month i is above or below the trend-cycle of the series (Koenig-Lewis &

Bischoff, 2003). However, in the present study, in the case of the data concerning tourists' regional (UK) or national origins, due to the short length of these series, the seasonal pattern was approached by averaging the monthly shares in the annual total. To facilitate the understanding of the results, 'high season' is used to denote months with F_i values above 1, and 'low season' to denote the remaining months, i.e. those with values between 0 and 1. This is because 1 corresponds to the average of seasonal factors across a year.

In order to analyze the impact of different market segments over the general level of seasonal concentration, the marginal decomposition of the Gini index has been used. In the field of economic inequality, this decomposition is known as the decomposition by income sources or by factor components (Giorgi, 2011); it is fully applied here in the field of tourism for the first time, as far as the authors are aware.

In our case, we are interested in the decomposition of the Gini index of an annual set of demand data, *Y*, that can be additively decomposed into *K* market segments ($Y = X_1 + X_2 + \ldots + X_K$). Therefore, as stated in the appendix, the Gini index of *Y*, G_Y, can be expressed as

$$G_Y = \sum_{k=1}^{K} S_k \Gamma_{kY} G_k$$

This result implies that the contribution of each segment *k* to the overall seasonal concentration measured by the Gini index. G_Y has three components: the Gini index of segment *k*, G_k, the market share of segment *k*, S_k, and the Gini correlation between segment *k* and the total demand, Γ_k. (for simplicity we replaced the notation Γ_{kY} used in the Appendix for Γ_k in the text).

Therefore, G_Y is not the simple average of the Gini indexes of the segments weighted by their market shares, but also affected by their Gini correlations with *Y*. Therefore, as Γ_k may take negative values (when the distribution along the year of segment k is divergent from that of Y) some segments can contribute to a reduction in the overall level of seasonal concentration. So, in order to get a complete analysis of seasonal concentration of segmented markets using the Gini index, it is necessary to complement the analysis with the Gini correlations as well as with the market shares and the Gini indexes of each segment.

In addition, it would also be very useful to obtain the marginal effect of a change in any of the components of the series over the total Gini index. Following Lerman and Yitzhaki (1985), the Relative Marginal Effect, RME_k, of a small proportional increment (uniformly distributed across the year) of component *k*, e_k, over the total Gini index, G_y, is obtained as

$$RME_k = \frac{S_k \Gamma_k G_k}{G_Y} - S_k$$

Thus, the RME_k of segment *k* is an indicator of its potential impact on the level of seasonal concentration, since it measures the relative increment or decrement of the overall Gini index associated to the prospective growth of that segment. Importantly, segments (here termed 'favorable tourists') with negative RME_k will be those open to efforts that counteract seasonality, as they tend to reduce the overall Gini index.

In order to facilitate the analysis, we classified the level of concentration as follows: concentration is high when G_k values are above 0.25, medium when they are between 0.15 and 0.25, and low when they are below 0.15. 'Favorable tourists' are those in segments with RME_k exceeding −0.02 (in absolute magnitude), and conversely 'unfavorable tourists' are those with RME_k 0.02 or greater. Finally, those who are in the intermediate values will be considered as somewhat favorable.

The level S_k has been classified with the interval [0.10, 0.20] for a medium level of participation. The values below this range will be considered as a low level of share and higher values as a high level. Similarly, for the classification of the level of Γ_k, the interval [0.0, 0.50] has been set for consideration of a medium Gini correlation.

Finally, a multivariate graphical technique, the biplot, has been used to enrich the study of the Gini decomposition. The biplot projects in a two-dimensional space both the observations and the variables in a set, maintaining the approximate distance between the observations (Rencher & Christensen, 2012). The observations are represented by dots, while arrows represent the variables. The angles between arrows approximate the Gini correlation between them and the length of each arrow is an indication of the variance. In our study, biplots are used to show in a graphical representation the variables G_k, S_k, Γ_k, and RME_k for each of the *k* components for a destination. All the variables were standardized, resulting in arrows of the same length. The biplots helped in the identification of market segments with similar characteristics and also facilitated the interpretation of the relationships between the three additive components of the Gini index and their influence on RME_k.

4. Results

4.1. Seasonal concentration of tourism in the UK

The seasonal concentration produced by tourists visiting the UK is not very high compared with other international destinations but it is nonetheless desirable to minimize its negative effects. The evolution of the number of trips made by domestic and international tourists visiting the UK in the period 2007–2013 is shown in Fig. 2. This evolution is characterized by its consistency, despite the global economic crisis that began in 2008. By analyzing both domestic and international tourists, it is noted that international tourists exerted less seasonal behavior throughout the period analyzed and indeed were 'favorable tourists' in all the years observed.

With some fluctuations in G_K of domestic and international demand, the domestic demand retains higher values ;in all the years observed, i.e. with a seasonal concentration greater than that shown by international demand (Fig. 2a). Furthermore, with negative RME_k in all the years analyzed, international tourists are favorable for reducing seasonality in the UK (Fig. 2b). Fig. 2d shows that international demand is characterized by a less pronounced seasonal pattern than the domestic market in both summer and winter. A possible explanation of this interesting result, may be found in the higher proportion of visitors to London in the international market (above 40% in the last 10 years) than the domestic (less than 20% in recent years), since London has a less seasonal destination product than the rest of the country. Moreover, international tourism represented no more than 22% of total demand in any of the years observed, which suggests that there is considerable scope to promote this important segment (Fig. 2c).

4.2. Analyzing the UK international tourism demand

Once international tourists were identified in the previous subsection as favorable for reducing seasonal concentration, we applied the methodology with a greater disaggregation by regional origin, since not all international origins have the same seasonal pattern (Fig. 3).

The classification of international tourism demand by groups of countries of origin shows that the evolution of all regions has remained stable. Furthermore, in Fig. 3c, it is observed that international tourism demand in the UK has been dominated by EU15

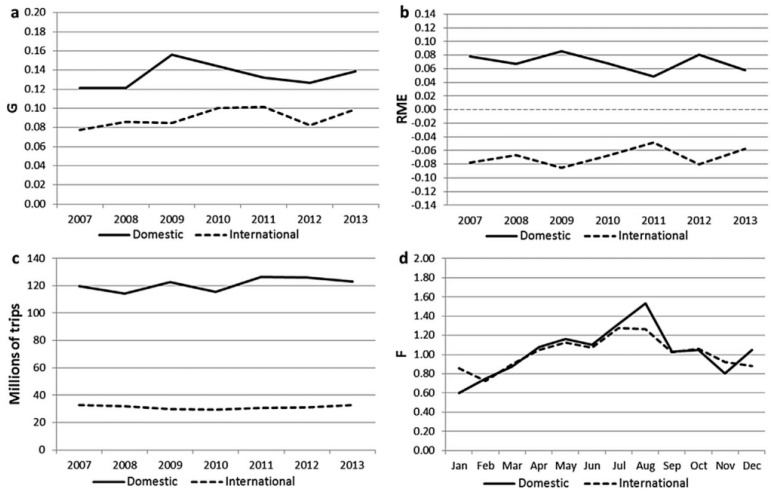

Fig. 2. Domestic and international tourism demand: Gini index, *RME*, absolute values (annual data) and seasonal factors.

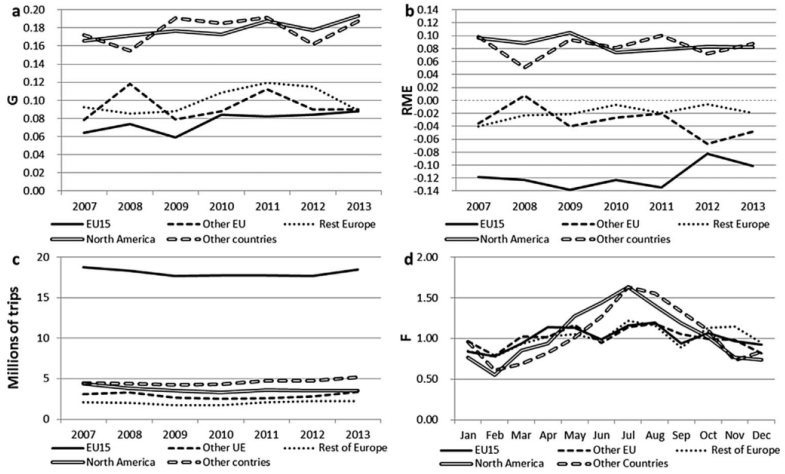

Fig. 3. International tourism demand by region of origin: Gini index, RME, absolute values (annual data) and seasonal factors.

countries, representing an average of 58% of the total, followed by Other countries (15%), North America (12%), Other EU (9%) and Rest of Europe (6%).

Regarding the level of concentration, it can be seen that, generally, the greater proximity to the UK of the sending countries, the lower the G_k, i.e. the lower the seasonal concentration exerted in the UK (Fig. 3a). Thereby, the international tourist group least prone to seasonality during the entire period analyzed are the Europeans, in particular the EU15 group, with the lowest G_k values, and negative RME_k values in all the years observed (−0.10 in 2013). To a lesser extent, the group of Other EU (−0.05 in 2013) and Europe Rest (−0.02 in 2013) also are considered favorable. On the contrary, with positive RME_k, the groups from North America and Other Countries are not favorable in any of the years analyzed (Fig. 3b). It is noted that tourists from North America and Other countries have a very strong seasonal pattern in the summer months, especially in July and August, with *F* above 1.40 (Fig. 3d).

Additionally, the data extracted from the Travelpac quarterly variable for 2013, although not directly comparable with the IPS, allows conclusions to be drawn about the level of seasonal concentration produced by foreign tourists by countries of origin. This allows us to discern with greater accuracy differences within market segments, through a higher level of disaggregation. The Gini index (reflecting annual seasonal concentration) is plotted for tourists' country of origin in Fig. 4. While the European market as a whole presented a low level of seasonal concentration overall in

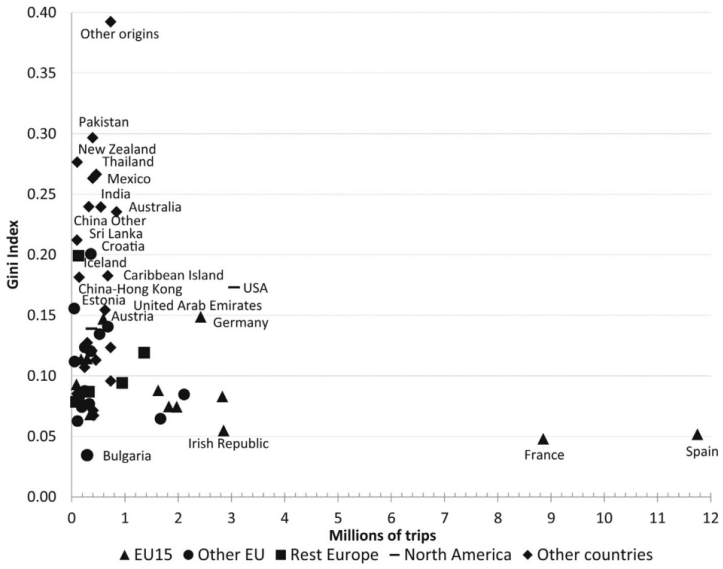

Fig. 4. Gini index by country of origin (2013).

2013 (0.09), not all European countries exhibited the same patterns (and most of which have a low market share): Austria, Germany, Estonia, Croatia and Iceland presented a medium level of concentration (G_k in the range 0.15–0.25), with Germany the only country producing over one million of trips, while Bulgaria, Irish Republic, France and Spain Gini index values below 0.05 (classified as a low seasonal concentration). France and Spain, with 8.9 and 11.8 million of trips respectively, are markets that are highlighted because they present lower levels of concentration and greater market share, so the magnitude of the concentration effect is of great significance on the overall level of concentration of the international market. On the other hand, although jointly the group "Other countries" manifested a medium level of concentration in 2013 (0.19), some markets including: Thailand, Mexico, New Zealand, Pakistan and Other origins, manifest values corresponding to a high concentration, although with a low market share (G_k above 0.25).

Once the countries of origin that present less seasonal concentration had been identified, the multivariate analysis, (biplot) was performed (Fig. 5). The first dimension (horizontal axis) in the biplot is closely related to the variable RME_k (its vector is practically horizontal), thus indicating that the more to the right in the plot a point is, the higher RME_k, approximately, and conversely a point more to the left corresponds to the countries of origin with higher negative RME_k. In contrast, the second dimension (vertical axis) is related to the variable S_k, allowing a similar interpretation of the vertical position of markets by its share. Another interesting feature that can be observed in the biplot is that the element of the Gini decomposition most correlated with the RME is the element G_k, the estimated Gini index of each origin, since its vector has the most acute angle with the RME values.

In addition, the position of each destination in the graph is an approximation of its location in the original multivariate space, according to its observed value of RME and the three elements of the Gini decomposition. Thus, the analysis of the relative location and grouping of the origins in the biplot facilitates the analysis of their relevant characteristics from the point of view of the Gini decomposition.

Firstly, among the more favorable markets in the UK, (i.e. with the highest negative RME_k), France stands out, followed by the Irish Republic, Netherlands and Spain, forming a group on the left. These markets combine low Gini indexes (G_k below 0.075) and relatively high S_k values; that is, each represents more than 5% of the overall demand, with France at 12%. The combination of a low Gini index and a share big enough to generate a substantial negative RME constitutes a possible target for counter-seasonal measures, as these are developed markets and contribute to a reduction in the general seasonal concentration pattern. A second group with similar characteristics, although less pronounced (in particular, higher Gini indexes, and lower shares, below 4%), comprises Italy, Belgium and Denmark. Poland is a special case, because its main features are like this last group, but its seasonal concentration occurs in a very different pattern, with a very low Γ_k, which generates a significant negative RME, although its share is very low (less than 0.5%). One explanation for this is the high level of VFR tourism amongst Polish visitors to the UK.

There are also two groups of country of origin in the low part of the biplot with negative RME_k, both of them characterized by negative Gini correlations, Γ_k. This implies that the demand of these origins is concentrated in different months than the overall demand pattern. In addition, the group including Greece, Latvia, Luxembourg, Romania and Bulgaria also exhibits Gini indexes lower than 0.1. Therefore these countries of origin exhibit a low concentration of demand across the year, in a seasonal pattern scarcely correlated with the general pattern. In contrast, the second group presents a more concentrated seasonal spread, with Gini indexes greater than 0.1, but concentrated in months where the general demand is lower (negative Γ_k), thus generating a kind of seasonal compensation effect. This group includes Malta, Tunisia, Croatia, Cyprus, Estonia and Iceland. Therefore, these two groups of markets represent a remarkable combination of seasonal

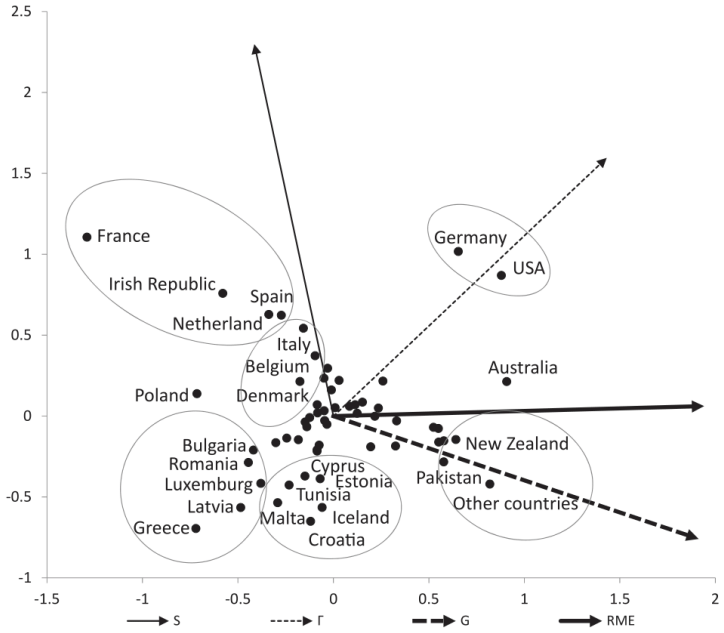

Fig. 5. Biplot by country of origin (2013).

characteristics that offer a particularly good opportunity to reduce overall seasonal concentration. However, because all these countries exhibit very small shares of the overall demand (the lowest value is for Greece, at slightly under −0.5%), their negative RME_k values are reduced compared with other markets. Nonetheless, this could be seen as a chance to focus on these countries in case the reduced shares were an indication of the possibility for market expansion. For these countries, marketing strategies to increase market share would be sufficient to reduce the seasonal effects, As for the countries of origin with positive RME_k, two distinct groups are highlighted in the biplot: firstly, Germany and the USA, with the highest Γ_k and with high S_k and G_k values; and secondly, New Zealand, Pakistan and the markets grouped under "Other countries", with a reduced S_k value, but also with the highest Gini indexes, combined with Γ_k close to 1. Australia is in an intermediate position between these two groups. The main difference between these markets is the relative share of overall demand, but in general all contribute to a greater seasonal concentration when their demand grows, especially in the case of the more important, such as Germany and the USA. To counter their pro-seasonal effect, strategies that redistribute demand from these countries origins across the year could be designed (Koenig-Lewis & Bischoff, 2005). For this, tourism marketers could use (among other instruments) programs to promote low season activities during peak season by designing loyalty programs with benefits, discounts and other incentives that encourage demand to the destination in the low season (Council of Tourism, Commerce and Sport of Andalusia, 2015). Furthermore, it would be important to identify segments within those markets that might increase demand in the low season (Baum & Hagen, 1999).

4.3. Analyzing the concentration of the UK tourism demand by motivation

The method for analyzing motivations draws on the classifications used in the data sources: holiday, business or VFR for domestic demand, with an additional 'miscellaneous'[4] category for international demand. It should be noted that holiday motivation for domestic demand could have been disaggregated according to the duration of the trip (1–3 nights; 4–7 nights; nights 4+, 8+ nights). However, these data were not available in the datasets for both national and international demand, and so we chose for consistency not to disaggregate this aspect. In general, the demand composition classified by motivational segments remained constant in all the years observed (Fig. 6). The holiday segment in the domestic tourism demand in the UK was largest, followed by VFR and business, the last having the smallest share of demand, which confirms earlier findings in England (Koenig-Lewis & Bischoff, 2003) and Scotland (Coshall et al., 2015). In England the composition of the motivational demand, which has not changed substantially since 2009, is 39% for holiday segment, 29% for VFR and 24% for business in 2013. A significant difference is that the share of the business segment in the international tourism demand in England is more than twice that of Scotland.

Overall, most demand came from the holiday segment, 47% of domestic demand and 37% of the international (Fig. 6c). Additionally, it is the segment that has a more pronounced seasonal pattern

[4] Visits for miscellaneous purposes include travel to attend sporting events, for shopping, health, religious or other purposes, together with visits for more than one purpose when none predominates (e.g. visits both on business and on holiday). Overseas visitors staying overnight in the UK in route to other destinations are also included in the miscellaneous purposes category. (ONS, 2010).

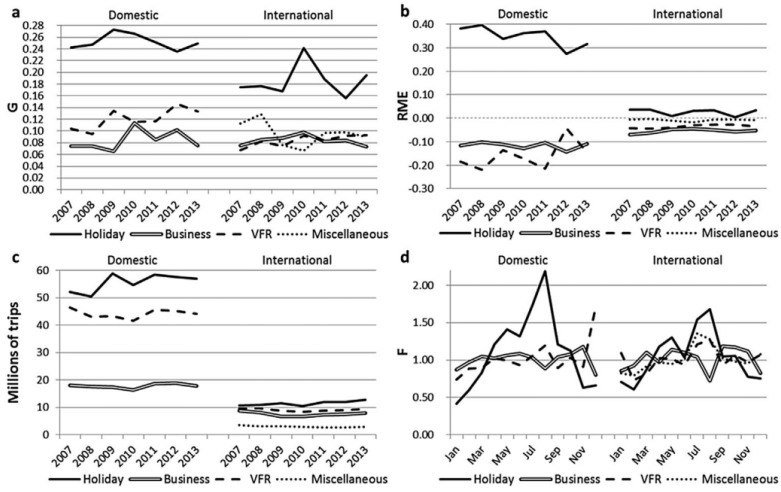

Fig. 6. Domestic and international tourism demand by motivation: Gini index, RME, absolute values (annual data) and seasonal factors.

with a high concentration in the summer months (Fig. 6d), especially in the month of August (F_8 domestic = 2.19; F_8 international = 1.68). The VFR segment represented an average of 35% of the total domestic demand and 29% of the international, highlighting the significant rebound of domestic demand in December, with a F_{12} value of 1.72 due to Christmas. The business segment was the least significant, with 18% of the total domestic demand and 24% of the international. The business segment was the most stable in terms of seasonality in the UK overall, with F_i close to 1 in every month of the year, with the exceptions of the decline in domestic and international demand in the months of August (F_8 domestic = 0.89; F_8 international = 0.73) and December (F_{12} domestic = 0.80; F_{12} international = 0.82).

The holiday segment presented the largest seasonal concentration, in both domestic and international demand (Fig. 6a), and was also the least open to reducing seasonality in the UK, with RME_k positive throughout the period (Fig. 6b). The other two segments produced a low level of concentration, with Gini index values below 0.15. The business segment exerted the least seasonal concentration, with lower Gini indexes throughout the period in the case of the domestic demand and in recent years in the international market. Similarly, the domestic business segment had the most balanced annual pattern in England, with an average Gini coefficient of 0.09 between 1994 and 1999 (Koenig-Lewis & Bischoff, 2003).

With the marginal decomposition used in this work, we can deduce that domestic business tourists (with lower RME_k) are slightly more 'favorable' than international ones and the business segment, in turn, is the most 'favorable' segment of the international market. VFR tourism has the ability to compensate for the seasonality of other types of tourism (Asiedu, 2008; Backer, 2007; Coshall et al., 2015) and is also more resilient during periods of economic austerity (King, 1996). In the UK, the domestic VFR segment throughout the period was the most favorable for reducing seasonality, with the lowest RME_k values of all segments. However, although the VFR international segment was also considered favorable, with negative RME_k values, it was less so than the business segment. Finally, the miscellaneous segment, which has been analyzed only in international demand, is considered a less 'favorable' segment, with RME_k in the interval (−0.02, 0.02). In general, these results remained stable throughout the period analyzed. However, there was a distortion in the evolution of Gini indexes in 2012. This was caused by the London Olympic Games, when the VFR domestic segment was considered less favorable, with higher RME_k values, and the holiday segment was less seasonal, with G_k lower than usual during the period.

Going into more detail on the most recent data, and considering that in 2013 the analysis omitted Northern Ireland (see above), the values of the variables G_k, S_k, Γ_k and RME_k for each segment have been used to construct another two-dimensional biplot, represented in Fig. 7. This indicates that in general the distribution of the variables over the two dimensions is not wholly different from the biplot by market origin presented earlier. The first dimension remains closely related to the *RME*, although the vertical is now positively related to share (S_k) and negatively to the Gini correlation (Γ_k). The position of the motivational segments indicates, firstly, that the domestic holiday segment has clearly different characteristics. It shows the greatest positive *RME* (located on the right of the plot), and thus a segment with an undeniable pro seasonal effect. This segment also has the highest Gini coefficient G_k, and the highest share S_k.

The remaining segments are located in two groups. The one comprising the international and domestic business segments and the domestic VFR is characterized by the lowest Gini correlations (Γ_k) and relatively high shares (S_k). Therefore, these segments, especially business, exhibit a favorable combination of a seasonal pattern scarcely related to the general one and a considerable weight in the total number of tourists, enough to generate a significant negative marginal effect. These segments are, therefore, the more interesting from the point of view of the design of counter-seasonal policies, as their RME_k values are the highest negative ones.

The second group, located lower in the biplot, includes the international segments (VFR, holiday and miscellaneous). The main difference between these segments and the ones in the group above is that they exhibit higher Gini correlations than the whole

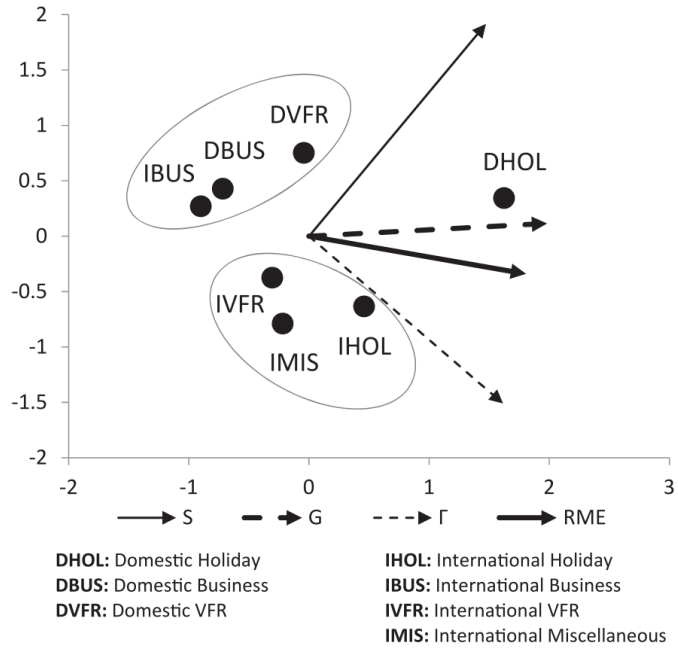

Fig. 7. Biplot by motivational segments.

(well above 0.5) as they are more in the direction of the Γ_k arrow, indicating that their seasonal concentration is not too different from the general pattern. This fact, along with their smaller shares, prevents the generation of important negative marginal effects, being positive in the case of the international holiday segment.

4.4. Analyzing regional tourism demand in England

To carry out this analysis, tourism demand has been disaggregated both by British nation of residence and English region of origin. The procedure has been implemented by calculating the average of the Gini indexes obtained in the years 2011, 2012 and 2013, since the variations of these results in these three years were minimal (Table 1). Tourists resident in Britain who visit England present a relatively low level of concentration, similar to that exercised when they travel within Great Britain as a whole. Thus, considering the total tourism demand, the level of overall seasonal concentration of England is the same as that of Britain (0.13). However, considering the British nation of residence, we note that the Scots and the Welsh exert a medium level of concentration in England, 0.17 and 0.18 respectively.

Analyzing the English regions as independent destinations, differences in the concentration levels exerted by residents of Britain within each region can be identified. The highest seasonal concentration in some regions of England (East Midlands, North East, North West, and Yorkshire and Humberside) is observed amongst Welsh tourists, which in turn, exhibit a high level of concentration in all regions, reaching values of G_k above 0.40 in the North East, Yorkshire and Humberside, East and East Midland regions. A similar trend is observed amongst the Scots, who also exhibit a high concentration in all regions except the North West (0.21).

Table 1
Average Gini index 2011–2013.

Tourist destination	British nation of residence or English region of origin of tourists											
	Scotland	Wales	East	East Midlands	London	North East	North West	South East	South West	West Midlands	Yorks/H'Side	Overall Gini index
East	**0.36**	**0.42**	0.22	0.24	0.22	**0.44**	**0.27**	0.25	0.25	**0.34**	**0.29**	0.16
East Midlands	**0.40**	**0.41**	0.24	0.21	**0.32**	**0.35**	0.23	**0.26**	**0.28**	**0.25**	0.23	*0.14*
London	**0.31**	**0.27**	0.21	0.21	**0.31**[a]	**0.27**	0.17	0.15	0.15	0.16	0.19	*0.08*
North East	**0.32**	**0.70**	**0.34**	**0.34**	**0.47**	0.25	**0.28**	**0.30**	**0.39**	**0.47**	0.23	*0.14*
North West	0.21	**0.33**	0.24	0.19	0.20	**0.27**	0.17	0.20	0.19	0.18	0.15	*0.12*
South East	**0.37**	**0.30**	0.20	0.22	0.20	**0.35**	**0.28**	*0.14*	0.19	0.23	0.23	0.15
South West	**0.40**	**0.29**	**0.29**	**0.28**	**0.26**	**0.42**	**0.33**	0.24	0.19	**0.30**	**0.31**	0.21
West Midlands	**0.39**	**0.33**	0.24	**0.29**	**0.27**	**0.39**	0.20	0.19	0.22	**0.27**	0.23	*0.13*
Yorks/H'Side	**0.35**	**0.50**	0.24	0.22	**0.29**	0.24	0.20	0.25	**0.31**	0.25	0.18	*0.12*
England	0.17	0.18	*0.14*	0.15	0.16	0.17	0.16	*0.14*	*0.13*	*0.14*	*0.13*	*0.13*
GB	0.16	0.19	*0.14*	0.15	0.16	0.16	0.18	*0.14*	*0.13*	0.16	*0.14*	*0.13*

High (bold): G > 0.25; Medium (regular): 0.15 ≤ G ≤ 0.25; Low (italic): G < 0.15.
[a] Example: Londoners 'visiting' London: Intra-regional visitors who exert a high level of concentration in London (0.31).

It is worth mentioning that the seasonal patterns of region-to-region demand, in almost all cases, shows more irregular profiles than those of destination regions. The latter, being the result of summing up the demand of all their markets of origin, exhibits smoother monthly distributions that result in smaller Gini indexes (last column of Table 1) than those corresponding to region-to-region Gini indexes (inner cells of Table 1). As explained in the appendix, the Gini index of the sum of several segments can be smaller than the Gini index of each segment (as in Table 1), when these segments compensate for irregularities yielding a smoother total concentration. This consequence of disaggregating the demand into several origins is also observed when comparing with the total demand by origin (last two rows of Table 1).

With regard to inter-regional demand, it can be noted that in all regions, all residents who come from the region itself (intra-regional visitors) present a medium level of concentration, except London (0.31) and the West Midlands (0.27), where they exert a high level, perhaps attributable to being the only regions without a coastline. For their part, the regions whose demand by regional origin has the highest concentration levels are North East and South West, where tourists from seven of the nine regions demonstrate a high level of concentration. By contrast, the regions receiving fewer seasonal inter-regional tourists are London, with a medium level of concentration exhibited by all inter-regional tourists who visit this region, except Londoners themselves (0.31) and residents from the North East (0.27), who both produce a high level. For its part, Yorkshire and Humberside is the only region in which no inter-regional tourists exert a high level of concentration, except tourists coming from South West (0.31) and London (0.29).

The level of seasonal concentration produced by all British tourists who visit the different regions of England is relatively low, ranging from a G value of 0.08 in London to a value of 0.21 in South West (last column of Table 1). Finally, it should be pointed out that these results are obtained combining the G_k of the regions of origin of tourists. For example, even though London has the lowest overall level of concentration ($G = 0.08$), some visitors to the region (e.g. those from Scotland) nevertheless have a medium/high seasonal behavior. Similarly, although most of the inter-regional demands for the North East and South West regions appear to be highly seasonal (with G_k values above 0.25), the overall level of concentration of these regions is medium, with an overall Gini index of 0.14 and 0.21 respectively.

For a more complete analysis, the seasonal patterns of each destination region have been plotted in Fig. 8 These patterns have been obtained by a simple approximation of seasonal factors with the average of the monthly shares in the three years available. It is observed that the seasonal patterns in all regional destinations are similar to the overall pattern for England, with a peak in August and a secondary peak in December in almost all regions. However, there are notable differences. On the one hand, London is less seasonal, its F_8 being the lowest value of all regions and during the winter months with values close to unity. At the other extreme, the South West is the region showing a sharper profile, with the highest F_8 and the lowest F_i in winter of all regions. These seasonal patterns correspond to the estimated Gini indexes. On the other hand, the North East is distinguished by the highest March value of all regions and the lowest F_{12}, after the South West region. The reasons for this pattern in the North East are unclear. They may relate to specific spring-time campaigns or events for example.

Additionally, the regions have been grouped according to the similarities in seasonal patterns. On the one hand, the group formed by East Midlands, North West and Yorkshire and Humberside, besides having very similar seasonal patterns throughout the year, possess very similar G_k average values for this period, of 0.13, 0.12 and 0.13 respectively. On the other hand, the East, South East and West Midlands regions form another group that, despite being less homogeneous, also show similarities, with distinctively high F_{12} values and a high G_k average, for example 0.16 in the East and 0.15 in the South East.

In order to identify which British tourists are most 'favorable' for reducing seasonality in relation to tourism in the English regions, the *RME* values for 2013 have been calculated (Table 2). The RME_k values vary widely across the regions. Thus, the Welsh are considered favorable only in the North West (−0.05) and West Midlands (−0.04); and the Scots in North East (−0.11).

All regional and national tourists who visit England and Great Britain as a whole are considered not very favorable markets to reduce seasonality, with RME_k within the interval (−0.02, 0.02). Analyzing the regions of England as independent destinations we find that there is essentially no proximity factor to the seasonal behavior of domestic tourists, unlike the international tourism demand pattern. In this regard, the southern regions are the only ones in which the intra-regional visitors are considered favorable for reducing seasonality, with RME_k values of −0.06 in South East and −0.02 in South West. In South East, besides intra-regional visitors, only those from the adjacent region the East (−0.02) are considered 'favorable'. Otherwise, in the other regions, the favorable tourists come from both near and far regions; for instance, for the North East region the favorable ones come from the neighboring regions of Yorkshire and Humberside (−0.11) and North West (−0.06), and from the non-contiguous region of West Midlands (−0.04), and as another example, for the East region the favorable tourists come from contiguous regions as East Midland (−0.06) and London (−0.05) as well as from South West (−0.05) which is a non-contiguous region.

Having identified domestic tourists as the least seasonal market segment visiting the regions of England, to facilitate the interpretation of the RME_k, a biplot with the same dimensions as those used in the analysis of international demand UK is presented (Fig. 9).

The biplots show, firstly, that variables S_k and G_k are in this case

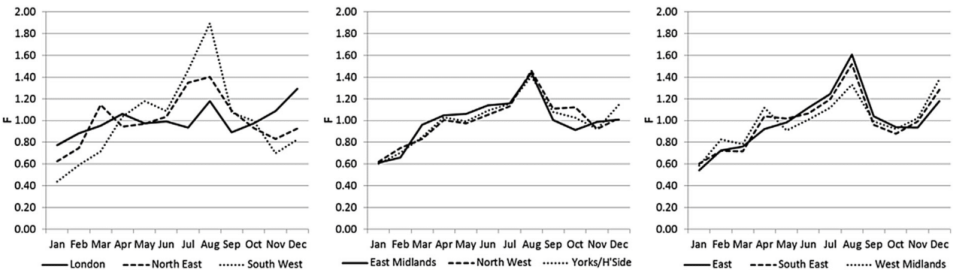

Fig. 8. Regional seasonal factors.

Table 2
RME values in 2013.

Tourist destination	British nation of residence or English region of origin of tourists										
	Scotland	Wales	East	East Midlands	London	North East	North West	South East	South West	West Midlands	Yorks/H'Side
East	0.02	**0.00**	0.02	***−0.06***	***−0.05***	**−0.01**	**0.00**	0.04	***−0.05***	0.02	0.07
East Midlands	0.03	**0.01**	***−0.02***	0.10	**0.00**	0.03	0.04	***−0.04***	***−0.11***	***−0.09***	0.05
London	0.04	0.03	***−0.03***	**0.00**	0.03[a]	**0.00**	**0.01**	***−0.15***	0.10	0.02	***−0.06***
North East	***−0.11***	**0.01**	**0.00**	**0.01**	**−0.01**	0.23	***−0.06***	0.09	**−0.01**	***−0.04***	***−0.11***
North West	**0.01**	***−0.05***	0.04	0.02	***−0.02***	0.07	**0.00**	***−0.04***	0.05	***−0.09***	**0.00**
South East	**−0.01**	0.03	***−0.02***	**0.00**	**0.00**	**0.01**	**0.01**	***−0.06***	0.03	**0.01**	**−0.01**
South West	**−0.01**	**0.01**	**0.00**	**−0.01**	***−0.04***	**0.00**	**0.01**	**0.01**	***−0.02***	0.03	**0.01**
West Midlands	***−0.02***	***−0.04***	**−0.01**	0.02	0.07	**0.01**	***−0.05***	***−0.06***	0.02	0.06	**0.00**
Yorks/H'Side	0.04	**−0.01**	***−0.09***	***−0.02***	0.02	0.02	***−0.08***	***−0.03***	0.04	***−0.02***	0.13
England	**0.00**	**0.01**	**0.00**	**0.00**	**−0.01**	**0.00**	***−0.02***	**0.00**	0.03	***−0.02***	0.02
GB	**0.00**	0.02	**−0.01**	**0.00**	**−0.01**	**0.00**	**−0.01**	**−0.01**	0.02	**−0.01**	**0.01**

Favorables (bold italic): RME ≤ -0.02; Little favorables (bold): $-0.02 <$ RME < 0.2; Unfavorable (regular): RME ≥ 0.02.
[a] Example: Londoners 'visiting' London: Intra-regional visitors unfavorable for reducing seasonality in London (0.3).

in almost opposite directions, indicating that, in general, the inter-regional origins with high Gini indexes exhibit small shares and that, conversely, the origins with the greatest shares, which in most cases correspond to the same destination region, present low seasonal concentrations measured with the Gini index. In addition, the variable Γ_k is the most concordant with RME_k, with the most acute angle between them.

Regarding the spread of the points in the direction of the RME_k,

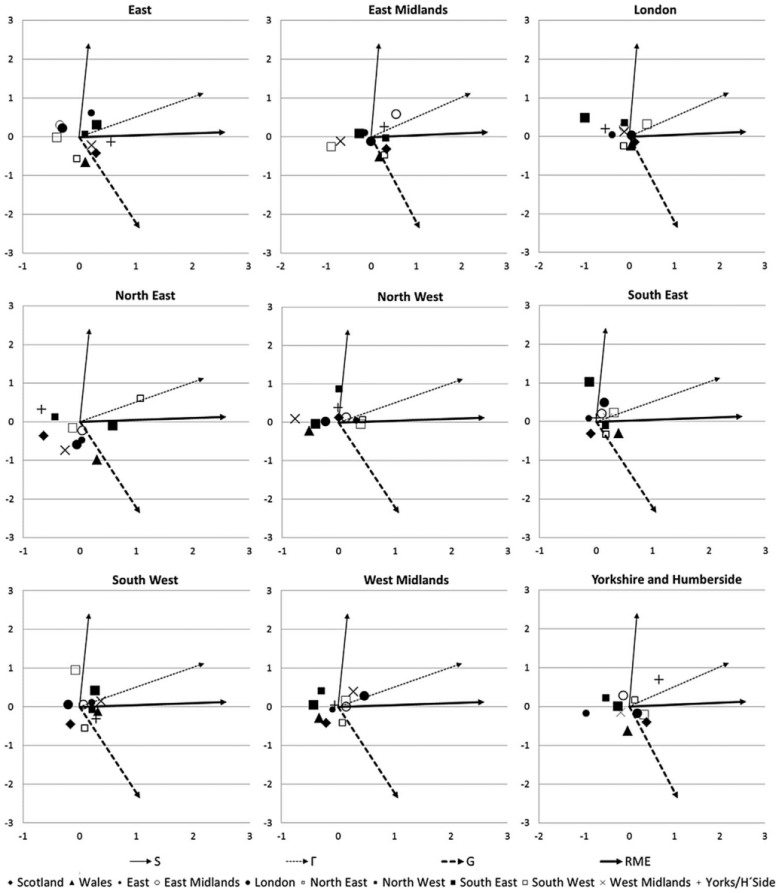

Fig. 9. Biplot by regions.

we can distinguish basically between two configurations: the narrower type (i.e. the narrowest range of RME_k), found in the South East and South West regions; and the wider type, in North East, East Midlands, North West, Yorkshire/Humberside and London. East and West Midlands exhibit an intermediate pattern, but more similar to the narrow type.

In the former, the range of *RME* values is smaller and, as a consequence, in these regions the magnitude of the counter-seasonal effect of the markets of origin with negative *RME* is less pronounced than in the regions belonging to the second type, which exhibit greater negative RME_k values. So, it is in the regions of the latter type where the identification of markets with the highest RME_k values offers the most interesting opportunities for destination marketers. In general, there are two broad groups or types of origins with substantial negative RME_k values in these regions: (1) those with a small or medium Gini index and medium or high share (above 0.1), and (2) origins that exhibit a high seasonal concentration, but in different months than the general pattern in the region (with medium or small Gini correlation), producing a counter-seasonal effect.

An example of this duality is found in the North East region. Visitors from Yorkshire and Humberside, and North West form a group of the first type characterized by medium Gini indexes, 0.19 and 0.21, and shares of 0.17 and 0.11 (positioned in the positive side of the vertical axis). The low seasonal concentration of these visitors contributes to alleviation of the overall seasonality effects in the region. But, in addition, visitors from Scotland and the West Midlands form another group of origins that can also be target markets for reducing overall seasonality. In this second group, although they show an important seasonal concentration, with Gini indexes of 0.39 and 0.31 (they are located in the negative side of the vertical axis), it occurs in different months from the overall pattern (manifested by negative Gini correlations, $\Gamma_k = -0.04$ for both regions of origin), also contributing to a reduction of seasonality in the region.

However, this distinction is not so clear in all the regions. In some cases, like the North West, these two types of origins with negative RME_k, almost overlap, and we find that visitors from the West Midlands show simultaneously a low Gini index (a characteristic of the first type mentioned) and a negative Gini correlation (more distinctive of the second type), a combination that for this region yields the highest negative RME_k, thus being a key target market region for counter-seasonal marketing efforts.

In other regions, the origins with the highest negative RME_k are mainly included in only one type. In the East Midlands, for example, these origins are the South West and West Midlands that belong to the second type with high concentration and negative Gini correlation. In contrast, in London, the outstanding regions of origin are included in the first type, with medium Gini index and shares greater than 0.1.

The intra-regional demand stands out in the direction of S_k in the biplots of all the regions (except London), due to a high share, with S_k values between 0.2 and 0.33, which are also the highest values in each of these regions. This feature accentuates its potential impact, reducing or increasing seasonal concentration. In the regions where the intra-regional demand exhibits a negative RME_k (South East and South West), maintaining or increasing this demand will tend to reduce overall seasonality. However, in four regions the RME_k values for the intra-regional demand were the highest recorded (North East, East Midlands, Yorkshire and Humberside) or the second highest (West Midlands). Although in these four regions the overall Gini index is not very high (in the range 0.12–0.14), the development of a greater intra-regional demand would tend to increase seasonal concentration. It would therefore be advisable in these regions to design strategies aimed at changing the distribution of intra-regional demand across the year. A wide range of measures has been proposed to this end; events and festivals are seemingly the most popular (Koenig-Lewis & Bischoff, 2005). In addition, the provision of counter-seasonal tourism products designed for specific segments such as senior citizens, business travelers, conference travelers and short-break holiday-makers has been suggested (Baum & Hagen, 1999; McEnnif, 1992).

Finally, the seasonal concentration of the English regions according to the main travel motivations of British tourists visiting England has also been evaluated (Table 3). The main results are that VFR segments present a medium level of concentration (G_k) and are considered favorable, with negative RME_k values in all regions, especially in the South East, West Midlands, Yorkshire and Humberside and London, with an average RME_k below −0.15. In addition, these segments' share of the overall demand is relatively low, with S_k values below 0.3 and their Gini correlations (Γ_k) are also low, even with negative values in the case of Yorkshire and Humberside (−0.29), South West (−0.17) and London (−0.02). This is evidence of possibilities for reducing seasonality by means of increasing these segments' presence in the overall demand.

Business tourists, also present a medium level of concentration, except in London, where they exert a low level ($G_k = 0.13$), are also favorable for reducing seasonality in most regions, with negative RME_k values, especially in the South West (−0.15), East Midlands (−0.38) and North East (−0.53). For their part, in the West Midlands, and Yorkshire and Humberside, business tourists are considered somewhat favorable, with average RME_k values of −0.01 and 0.00 respectively, while they are not favorable in London, with a positive RME_k of 0.20. The North East stands out as the only region with negative Γ_k in its business segment, so the counter-seasonal effect of this segment in this region is the highest.

In contrast, holiday tourists have a medium/high level of concentration in all regions, except in London, where they present a low concentration (0.11), and therefore are not considered favorable in any of the regions, especially the North East, East Midlands, South East and South West, with RME_k values greater than 0.25. This statement is confirmed by their high S_k values and their elevated level of Gini correlation, Γ_k, in all regions, with values close to unity.

5. Marketing implications

Connell et al. (2015) point out that seasonality is a complex phenomenon which creates challenges to marketers who seek to reduce the factors and combat the effects. Despite recent advances in tourism marketing the implications of seasonality are still in need of more and deeper research. Specially, Pike and Page (2014) remark the lack of research on destination marketing organizations' performance related to destination marketing effects on seasonality.

In an era of sustainability, it is accepted that the objectives of destination marketing are not solely concerned with attracting more visitors, but also with proactively managing demand to help contribute to regional development strategies (Buhalis, 2000), including the reduction of seasonal concentration or managing demand in the peak seasons. Pike (2008) recognizes a critical role of destination marketing organizations in creating strategy to optimize supply and demand for tourism resource use, and claims that reducing seasonality is a key plank of such strategies.

Therefore, in order to target segments more effectively it is essential that destination marketers have adequate information and assessment tools to understand the degree of fit between segments and the achievement of strategies to manage seasonality. In this regard, our study reveals that it is essential to use a sufficient disaggregation to define appropriate strategies. For example,

Table 3
G_k, RME_k, S_k and Γ_k in 2013 by motivation for travel in England.

	Holiday				Business				VFR			
	G	*RME*	*S*	*Γ*	*G*	*RME*	*S*	*Γ*	*G*	*RME*	*S*	*Γ*
East	**0.29**	0.18	**0.42**	**0.90**	0.19	***−0.08***	**0.44**	**0.79**	0.15	***−0.10***	0.14	0.30
East Midlands	**0.29**	0.41	**0.47**	**0.99**	0.18	***−0.38***	**0.40**	0.04	**0.27**	***−0.03***	0.13	0.43
London	*0.11*	0.09	**0.32**	**0.91**	*0.13*	0.20	**0.39**	**0.87**	*0.11*	***−0.29***	0.28	*−0.02*
North East	**0.30**	0.58	**0.46**	**0.91**	0.16	***−0.53***	**0.41**	*−0.23*	0.25	***−0.05***	0.13	0.30
North West	0.17	0.18	**0.53**	**0.84**	0.16	***−0.08***	**0.33**	**0.51**	0.21	***−0.10***	0.14	0.15
South East	**0.33**	0.26	**0.39**	**0.85**	0.17	***−0.10***	**0.46**	**0.75**	*0.14*	***−0.15***	0.15	0.02
South West	**0.34**	0.27	**0.57**	**0.97**	0.18	***−0.15***	**0.33**	**0.67**	0.17	***−0.11***	0.10	*−0.17*
West Midland	0.21	0.19	**0.36**	**0.94**	0.16	**−0.01**	**0.44**	**0.77**	*0.14*	***−0.17***	0.20	0.11
Yorks/H'Side	0.24	0.18	**0.51**	**0.78**	0.19	**0.00**	**0.36**	**0.74**	0.18	***−0.18***	0.13	*−0.29*
England	0.24	0.28	**0.46**	**0.87**	*0.13*	***−0.11***	**0.39**	**0.72**	*0.07*	***−0.17***	0.15	*−0.17*
GB	0.25	0.32	**0.48**	**0.94**	*0.08*	***−0.15***	0.15	0.04	*0.13*	***−0.17***	**0.37**	**0.58**

High (bold): G > 0.25; Medium (regular): 0.15 ≤ G ≤ 0.25; Low (italic): G < 0.15 Favorable (bold italic): RME ≤ − 0,2; Somewhat favorable (bold): − 0,2 < RME < 0.2; Unfavorable: RME ≥ 0.2 High (bold): S > 0.20; Medium (regular): 0.10 ≤ S_k ≤ 0.20; Low (italic): S < 0.10 High (bold): Γ > 0.50; Medium (regular): 0.0 ≤ Γ ≤ 0.50; Low (italic): Γ < 0,0.

although international tourism demand as a whole exhibits a lowermost seasonal concentration than the domestic tourism demand, if the international one is disaggregated by country of origin, very important differences are found. Markets with relative importance as German or USA have a pro seasonal effect, so these markets need seasonal redistribution policies, while for other markets such as French or Spanish, it is suffice with policies for increment of demand since they show an anti-seasonal effect.

In addition to more traditional economic criteria like market dimension, growth and profitability or costs of targeting, environmental, social, and cultural dimensions are needed, as Kastenholz (2004) highlighted in a study of rural tourism in Portugal, where the degree of seasonal spread has been included among the set of indicators. Different market segments in a destination often have dissimilar seasonal patterns, even sub segments within a broad market segment. Thus, destination marketers should identify each of their seasonal patterns in order to match compatible segments (Buhalis, 2000) that allow the maximization of revenue, as well as contributing to local and regional strategic objectives.

In this study, for example, it has been found that by the regional disaggregation of the concentration indices, as a segment of tourism domestic (business) is less prone to seasonality at the national level or aggregate while in a particular region (London) it has the opposite effect. In addition, the matching of seasonal patterns is not a simple task, which demands the availability of indicators and techniques like the ones proposed in this paper. Thanks to disaggregated analysis both by region of origin and by region of destination it has been found how is possible that in destinations such as London or the East Midlands, the combination of regional origins with high seasonal concentration is compensated by achieving a much lower level of overall seasonal concentration in these destinations.

A range of marketing strategies have been identified in the literature. Seasonal price variation and the diversification of both the visitor attractions and tourism products are common approaches (Espinet et al., 2012; Jang, 2004). Although lower prices in the low season may still yield higher profits by increasing demand, they may reduce a destination's perceived quality (Espinet et al., 2012). In recent years, some destinations have opted for the development of low-season events to complement existing tourism products in order to counter the effects of seasonality (Durieux Zucco, do Amaral Moretti, & Cesar Lenzi, 2013) and there have been empirical evaluations of this strategy (Getz, 2010; Sinclair, 1998). Similarly, cultural tourism has been identified as an effective strategy to reduce the seasonality of some mature destinations (e.g. Cisneros-Martínez & Fernández-Morales, 2015). Finally, as is detailed in the work of Koenig-Lewis and Bischoff (2005), the spatial redistribution of demand in high season has also been successfully used to reduce seasonality.

It is possible to design effective marketing strategies to combat seasonality if we have more detailed knowledge of those market segments that are less prone to seasonality. Thus, allowing not only marketing efforts (campaigns) to be directed towards those segments exhibiting less seasonal behavior, but also to explore segment combinations that yield better revenue and/or a more efficient use of resources by means of a more equilibrated total demand along the year. These marketing efforts can encompass: (1) diversification of tourism products and visitor attractions, (2) changes in seasonal prices, (3) spatial redistribution of demand and (4) segmentation and targeting policies (see Fig. 10). These strategies correspond to the traditional four P's that support the still dominant paradigm of destination marketing (Pike & Page, 2014), but different stakeholders have different control over them. Particularly, for destination marketers, promotion tools are their main instruments, due to their scarce control over the other three. But it is precisely here where the concentration analysis demonstrates its principal utility for segmenting and targeting markets. For example, the international market segmentation in this paper revealed some European markets with very attractive seasonal distributions that reduce the overall seasonal concentration, either by a low seasonality or for being concentrated in months with lower tourist influx in the UK. Additionally, the results of the seasonal concentration analysis constitute the basis for targeting policies and promotion aimed to reduce seasonality, which can also be a valuable aid when designing any of the strategies under (1), (2) and (3).

Moreover, the periodic application of the methodology proposed in this paper could serve as a control instrument in the short and medium term to evaluate the effectiveness of marketing strategies. This point is especially significant due to the trend in some traditional markets of a modification of patterns of demand, as it would enable an assessment of the emergence of new potential markets and segments (Mariani, Buhalis, Longhi, & Vituoladiti, 2014).

Implications for branding are also of interest. Since destination image may vary between regional markets or segments (Pike & Page, 2014), careful attention should be paid to brand positioning among segments according to their seasonal preferences. The perceived destination image is a crucial element that should guide destination marketing organizations activity (Mariani et al., 2014). Destinations need to deliver a consistent brand image (Cox & Wray, 2011), avoiding the delivery of confusing messages about the core

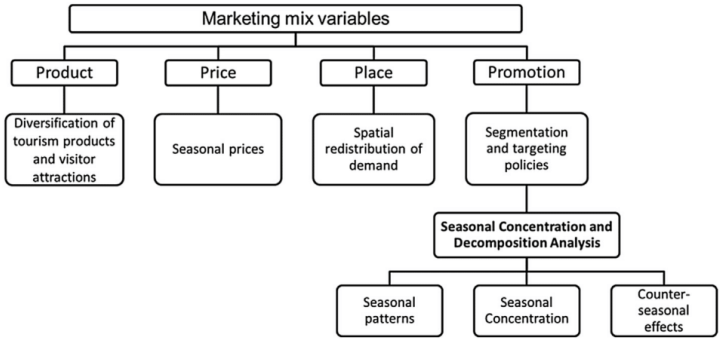

Fig. 10. Implications for tourism marketing.

image of the destination (Buhalis, 2000; Cox & Wray, 2011).

6. Conclusions

Tourism is a highly important industry to the UK but it is subject to problems arising from its inherent seasonality. In this paper it was found that although seasonal concentration is not as high as in other countries, when this phenomenon is analyzed using a disaggregation of tourism demand by origin (nationally and internationally) and motivation for travel, significant differences between markets are observed. Furthermore, from the point of view of policymaking for sustainable tourism, the methodology used to assess the degree of seasonal concentration has allowed the identification of segments that can be considered most apposite to marketing efforts aimed at reducing seasonality.

Research to date suggests that the seasonality phenomenon is due to both demand and supply factors. In the tourism sector it is evidenced by the changing profile of its demand and its relatively static supply (Connell et al., 2015). Thus, tourist seasonality is generated by the demand side. Our analysis shows that there are demand variables on which tourism managers can act if we are able to identify the segments that are less subject to factors that cause seasonality. In this sense, the importance of the method applied in this study consists not only in the detection of the segments or markets of origin that could contribute to a reduction in the seasonal concentration level in the destinations analyzed, by means of the identification of the highest negative RME_k values, but also in estimating and interpreting the elements of the Gini decomposition. These should be of great benefit in designing specific counter-seasonal policies, since they make it possible to differentiate between types of markets (e.g. tourists' country or region of origin) that differently affect a destination's seasonal concentration. For this, a sufficient level of disaggregation of the tourism demand is needed to reveal nuances that are lost in aggregated data.

Combining the analytical decomposition of the Gini index with a graphical multivariate technique like the biplot, applied here, enhances the analysis, since it eases the identification of segments with similar characteristics from the point of view of their effects on seasonal concentration. This study provides insights which can be of significant value to destination marketing organizations in helping to identify which market segments to target in strategies designed to combat seasonality.

Thus, from a methodological point of view, the main contributions of this paper are found in the application of the decomposition by segments of the Gini index as a measure of annual seasonal concentration, by fully analyzing all of its elements and providing a graphical multivariate technique to detect groups of demand segments. This decomposition technique has been applied recently in tourism research (Fernández-Morales & Mayorga-Toledano, 2008; and; Duro, 2016), yet it is enriched in this article by using several segmentation criteria and adding the multivariate biplots as a tool for identifying sets of demand segments. Moreover, it is applied for the first time to a regional matrix of tourism flows.

The results of this study, applying this methodology for the first time to UK data, allow us to draw conclusions that have interest from the managerial point of view, and policy or marketing implications. For example, in the UK and in general terms, domestic demand is more seasonally concentrated than international demand. The percentage of total demand that international demand represents did not exceed 22% in any of the years observed, which suggests there remains considerable scope to enhance this important segment. Additionally, we found market segments with low concentration and segments with high concentration in months of low demand. Both types generate a reduction in seasonal concentration but in different ways, and thus require different counter-seasonal strategies. In particular, the effects of the former could endure over the long term, while the effects of the latter depend on the magnitude of the compensation required for the other market segments.

During the period analyzed, international demand for UK destinations was dominated by tourists from European countries. Among them, generally, the closer the countries of origin, the less seasonally concentrated they were, although not all European country markets presented the same concentration if a finer distinction was made. For example, markets such as Greece, Latvia, Luxembourg, Romania, Bulgaria, Malta, Tunisia, Croatia, Cyprus, Estonia and Iceland, with negative RME_k values but with small S_k and high negative Γ_k values, have interesting possibilities for counter-seasonal strategies because their seasonal patterns are poorly related to the overall pattern.

As for tourists' motivation for travel, the motivational segments with higher negative RME_k values are the VFR and business markets, especially in the domestic tourism demand. Most demand in the UK is represented by the holiday segment, which is also more seasonal in nature than other motivations (business and VFR), as expected. It has a high concentration in the summer months and is the least favorable market segment in terms of targeting strategies to reducing seasonality. As mentioned in Subsection 4.3., the holiday segment within the domestic demand has not been disaggregated according to the duration of the trip. Therefore, this represents a future line of research in which the short and long stay holiday markets could be differentiated.

As for the regional analysis, the methodology applied in this study contributes to the literature by providing a useful tool to

regional tourism managers interested in quantifying the levels of seasonality between and within the regions of a given destination. Applying the analysis to the level of the English regions, although there were similarities between the distribution and seasonal pattern of demand between regions, there were important differences in the degree of concentration. The highest concentration was in the South West, with a Gini index average over 2011–2013 of 0.21, whereas the lowest was in London, at 0.08. Furthermore, these differences were accentuated when decomposing by tourists' region of origin.

The hypothesis by Butler (1998) that the closest markets are more attractive holiday destinations, as tourists will be more likely to want short additional holidays or breaks at such places, was not supported by the intra-regional analysis of England. The proximity factor was found to have no direct relationship to the seasonal behavior of tourists. In the South East, intra-regional tourists and tourists from the adjacent region (London) were less seasonal than other inter-regional tourists; in the East, the least seasonal tourists were those from non-contiguous regions (North West and West Midlands); and in the other regions, demand was from regions both near and far.

Furthermore, the combination of regional demand with a variable level of concentration may result in a lower total concentration of a regional destination if such demand is concentrated in different months. Therefore, taking London as an example, the tourism demand patterns from the English regions exert medium and high seasonal behavior, despite London's position as having the lowest overall level of seasonal concentration. Similarly, although most of the inter-regional demand visiting North East and South West manifests a high seasonal pattern, the overall level of concentration of these regions is medium.

With respect to the analysis of the regions in relation to tourists' motivation for travel, in general terms the results obtained for England as a whole remain. However, there were some notable exceptions, such as the case of London, where the business segment had an important positive RME_k, which was offset by the counter-seasonal effect of VFR, with a magnitude much higher than in other regions.

From these results it can be concluded that this methodology should be of great interest to tourism managers, especially from the regional perspective, helping them to understand the disaggregation and particularly seasonal concentration in each region of demand and its marginal relative effects to guide their marketing strategies. The methodological approach and empirical findings could be of interest in future research in several ways. On the one hand, this methodology provides interesting insights that could be integrated in segmentation studies, which rarely take into consideration seasonal aspects. On the other hand, the increasing availability of data of this type and information systems could provide tourism planners with a basis for the design of counter-seasonal programs and events.

Finally, we note some limitations of the analysis that have prevented us reaching an even more detailed disaggregation of results. In particular, it was not possible to 'cross-disaggregate' the information in terms of country of origin and motivation for travel. Obtaining the data required for this from the relevant agencies would be highly desirable, since it could overcome those limitations and it would be a line of future research of great interest for researchers who study the seasonality of the tourist industry in the UK.

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Appendix. Gini index decomposition

There are many available methods for representing and calculating the Gini index (Yitzhaki, 1998), being the covariance-based approach the most appropriate one for the decomposition by sources or segments Yitzhaki & Schechtman, 2013, p. 17).

According to this method, for a set of 12-monthly data $Y = (y_1, y_2, \ldots, y_{12})$, where y_1 corresponds to the observed value in January, y_2 in February, …, y_{12} in December, with mean $\mu_Y = (y_1 + y_2 + \ldots + y_{12})/12$, the Gini mean difference Δ_Y –which is the absolute measure of variability originally proposed by Corrado Gini in 1912– can be obtained as (Yitzhaki, 1998):

$$\Delta_Y = 4Cov(Y, F(Y)). \tag{A.1}$$

This method makes use of the covariance between Y and $F(Y)$:

$$Cov(Y, F(Y)) = \sum_{i=1}^{12}\left(y_{(i)} - \mu_Y\right)\left(F\left(y_{(i)}\right) - \mu_F\right)\Big/12, \tag{A.2}$$

where $F(y)$ stands for the empirical distribution function of Y, *i.e.*, the cumulative relative frequency of each y_i, after ranking them in ascending order $(y_{(1)} \le y_{(2)} \le \ldots \le y_{(12)})$, and μ_F for the mean of F(y).

The Gini index G_Y –the concentration ratio based on the Gini mean difference that is extensively used to measure relative inequality and concentration– is a normalization of Δ_Y, dividing (A.1) by twice the mean μ_Y, to get a bounded measure in (0,1). G_Y can be calculated as

$$G_Y = \frac{\Delta_Y}{2\,\mu_Y} = \frac{2Cov(Y, F(Y))}{\mu_Y}. \tag{A.3}$$

For discrete variables, as is our case, G_Y is restricted to the interval $(0, (n-1)/n)$. For example, for a set of 12-monthly data, the range of G_Y is (0, 11/12). The lower extreme value $G_Y = 0$ corresponds, in general, to a case where all the values of Y are equal, known as the egalitarian case. When analyzing the seasonal concentration of the monthly distribution of a variable, this extreme case implies a perfectly proportional distribution of the variable along the year, without seasonal concentration. Conversely, the other extreme case corresponds to a variable that is so concentrated that shows null values except but one, that is, the variable is concentrated in one month only, showing zero-values in the remaining months. An analogue reasoning can be deduced for a set of quarterly data $(n = 4)$.

The covariance approach allows the additive decomposition of the Gini index of a linear combination of variables. According to Yitzhaki and Schechtman (2013), the Gini mean difference of variable Y ($Y = \sum_{k=1}^{K}\beta_k X_k$), which is a linear combination of K variables X_k, $k = 1, 2, \ldots, K$, with respective means $\mu_1, \mu_2, \ldots, \mu_K$, can be expressed as

$$\Delta_Y = \sum_{k=1}^{K}\beta_k \Gamma_{kY}\Delta_k \tag{A.4}$$

where Δ_k is the Gini mean difference of X_k, and Γ_{kY} stands for the Gini correlation between X_k and Y:

$$\Gamma_{kY} = \frac{Cov(X_k, F(Y))}{Cov(X_k, F(X_k))} \tag{A.5}$$

The Gini correlation Γ_{kY} is a measure of association, with some similarities with Pearson's correlation and Spearman's rank

correlation coefficients. It considers the values of the variables (like the Pearson's correlation), as well as their ranks (like the Spearman's correlation) into its measurement. It also takes values in the interval $(-1, 1)$ and equals 0 when the two variables are statistically independent (for a detailed description of the Gini correlation properties, see Yitzhaki & Schechtman, 2013, p. 41).

Using (A.3) and (A.4) the Gini index of Y can be decomposed by means of

$$G_Y = \sum_{k=1}^{K} \beta_k S_k \Gamma_{kY} G_k \tag{A.6}$$

where $S_k = \frac{\mu_k}{\mu_Y}$ represents the share of component X_k into the total Y.

If variable Y is the sum of K variables ($\beta_1 = \beta_2 = \ldots = \beta_K = 1$ in (A.6)), like the cases we study in this paper, where monthly demand is decomposed into K segments, then G_Y reduces to

$$G_Y = \sum_{k=1}^{K} S_k \Gamma_{kY} G_k. \tag{A.7}$$

This result was first proposed by Lerman and Yitzhaki (1984) and states that the contribution of variable X_k to the overall Gini index, G_Y, depends on three elements, its own Gini index, G_k, the share of X_k into Y, and the Gini correlation between X_k and Y (which can be negative).

An interesting implication of this decomposition is that the overall Gini index of a variable Y, G_Y, can be lower than the Gini coefficients G_k of all its components. A simplistic example can illustrate this result.

Example. Let the monthly demand in a year of a tourism destination, Y, be composed by two segments: (i) the main demand segment, X_1, with a peak season in Jun–Aug, a low season without visitors in December–February and a shoulder season elsewhere, with monthly distribution of 10^4 visitors (0,0,1,1,1,1.2,1.2,1.2,1,1,1,0); and (ii) a complementary demand segment, X_2, exclusively in December–March, with monthly distribution of 10^4 visitors (0.4,0.4,0.4,0,0,0,0,0,0,0,0.4). Their corresponding Gini indexes are $G_1 = 0.2813$ and $G_2 = 0.6667$. Gini index of Y can be calculated applying (A.2) to $Y = X_1 + X_2 =$ (0.4,0.4,1.4,1,1,1.2,1.2,1.2,1,1,1,0.4), yielding $G_Y = 0.1845$, but also using (A.7), previously obtaining the three elements in the right member of the equation for X_1 and X_2. In this example G_Y is lower than both G_1 and G_2. This result indicates that segment X_2, which accounts for 14% of total demand ($S_2 = 0.1429$), though showing a very high level of seasonal concentration, has an important counter seasonal effect. This is due to the fact that its high concentration occurs in months when X_1 shows very low demand, thus having the effect of increasing the demand in the low season and also prolonging the high season with one month. Using (A.5) it is found that $\Gamma_{1Y} = 0.9630$ and $\Gamma_{2Y} = -0.5$, thus indicating that X_2 shows a monthly pattern negatively correlated to that of Y, while the seasonal pattern of X_1 is very similar to it, partly explained by the high market share of X_1, $S_1 = 0.8571$.

Decomposition in (A.7) allows the calculation of marginal effects of changes in each segment k over G_Y. Lerman and Yitzhaki (1985) obtain the partial derivative of G_Y with respect to a small percentage change e in segment
k, e_k, (proportionally distributed):

$$\frac{\partial G_Y}{\partial e_k} = S_k \Gamma_k G_k - S_k G_k \tag{A.8}$$

Thus, the relative marginal effect of a proportional change e_k on the overall Gini index (RME_k) is obtained, dividing (A.8) by G_Y, by means of

$$RME_k = \frac{\frac{\partial G_Y}{\partial e_k}}{G_Y} = \frac{S_k \Gamma_k G_k}{G_Y} - S_k \tag{A.9}$$

This last result from Lerman and Yitzhaki (1985) helps to evaluate which potential demand segments' increments in our study could reduce the Gini index in relative terms (those with negative RME_k) and their relative magnitude. Lerman and Yitzhaki (1985) also deduced that $\sum_{k=1}^{K} RME_k = 0$.

Example (cont.). The relative marginal effect of segment X_2, is easily obtained applying (A.9) to the results previously obtained, yielding $RME_2 = -0.401$. This result is negative (due to the negative sign of Γ_{2Y}), indicating the significant counter seasonal effect that a proportional increment in X_2 would have reducing the Gini index of Y. Consequently, $RME_1 = 0.401$, since the sum of relative marginal effects is 0.

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Antonio Fernández-Morales is Professor at University of Málaga in the Department of Statistics and Econometrics. His research has been published in journals such as Annals of Tourism Research, Tourism Management, and Current Issues in Tourism; and is author of several textbooks in Spanish about Statistical Methods for Tourism Analysis. His main research interests in the field of tourism are seasonality analysis and multivariate techniques applied to tourism analysis.

José David Cisneros-Martínez is Researcher and PhD in Tourism from the University of Málaga. He is postgraduate in Tourism by the University of Málaga (Spain); and has conducted research stays at the University of Nottingham (United Kingdom), and the Universidad Nacional de San Martín (Buenos Aires). Author of papers focusing on tourism seasonality published in research journals, such as Current Issues in tourism or e-Review of Tourism Research; and has attended and presented research papers to several international conferences in tourism, such as CHME QMU Edimburgo 2013, TMS Algarve 2013, and 7th World Conference for Graduate Research Estambul 2014.

Scott McCabe is Professor of Marketing and Tourism at Nottingham University Business School where he has worked for eight years. His research interests are focused on tourist experience, marketing and consumer behavior particularly on issues around social equity and 'social tourism'. He is the author of Marketing Communications in Tourism and Hospitality, Editor of the Routledge Handbook of Tourism Marketing and co-editor of Social Tourism in Europe. He has published widely on subjects ranging from the theoretical links between tourist experience and everyday life, definitions of a tourist, marketing communications, re-enactment events, and holiday talk. Scott is interested in language and discourse, and this has led to a number of articles on identity and place linked to tourist experience.

Chapter 7

Conclusions

This final chapter presents the thesis conclusions by beginning with a brief summary of all the conclusions of the contributions that compose it, followed by an overall conclusion of the results obtained through the applied methodology.

In Chapter 2 seasonal concentration in the Andalusian coastline was analysed. The main results obtained show that, using a simple disaggregation by the nationality of tourists in the destination as a whole, international tourists make up the favourable segment for deseasonalisation, as they demonstrate negative relative marginal effects of greater magnitude. This diagnosis is modified significantly using a more comprehensive segmentation, which introduces motivational segments (sun and sand, cultural and other segments). In doing so, international tourists only remain favourable, in terms of their deseasonalising effect, only within the cultural segment for last years analysed; they had a relative marginal effect similar to the domestic-cultural segment. Thus, the importance of making cultural tourism a deseasonalising instrument on the Andalusian coastline.

As a supplement, in Chapter 3 seasonal concentration in the Andalusian coastline was analysed by using as a unit of measurement the passengers entering through Andalusian airports. The analysis main results highlighted the potential to reduce seasonality by paying attention to domestic passengers, and by identifying the countries of origin of less seasonal passengers entering through the main Andalusian airports. Based on the results obtained in this chapter, one can conclude that, in recent year, policies adopted to combat seasonality have not been sufficiently effective since the results show a growing trend in the concentration indices of most the coastal areas and airports in Andalusia.

In the fourth and fifth chapters, seasonality in Argentina´s touristic regions is analysed. Chapter 4 demonstrates that in each of the regions the policies against seasonality have had different effectiveness, due among other factors, to the volume that domestic tourism has on the overall tourism demand in each region. One of the main conclusions of this chapter is the need to take into account tourism demand by region visited, by the origin of tourists, and by the volume of demand in the design of policies against seasonality in order to achieve a greater level of effectiveness with them. In Chapter 5, it was shown that the diagnosis carried out in the previous chapter was significantly modified by using a more comprehensive segmentation in which domestic and international tourists were classified according to either their region or country of residence. Furthermore, similar to the analysis done in the Andalusian coastline, it was found that seasonal patterns and the consequent degree of seasonal concentration observed in the tourists analysed, significantly differ when studied with disaggregated data. For this reason, it is essential to use an appropriate level of disaggregation in the planning of deseasonalising policies.

The seasonal concentration of the United Kingdom and England, were analysed in Chapter 6, showing not a very high level of seasonal concentration in comparison to other countries. As in the destinations analysed in the previous chapters, with the application of the methodology used in this thesis, the less seasonal segments of tourism demand have been identified by using a sufficient level of disaggregation. In this chapter, the combination of the additive decomposition of the Gini with the biblot provides information that can be of great value to those responsible for the marketing of a destination since it can help them identify the demand segments they should be directing the strategies designed to combat seasonality. Again, it appears that the seasonal patterns of different tourist segments that make up the demand differ significantly when studied in a disaggregated way. Thus, we can conclude that the application of the methodology is of great interest for tourism managers in the UK, especially from a regional perspective; it could help them understand the disaggregation and seasonal concentration of each region and their relative marginal effects so they can direct their marketing strategies.

The methodology proposed is truly useful since it provides the interesting results, which, have been exposing on the partial conclusions of the chapters included in this thesis. This thesis has investigated how the different destinations analysed have managed seasonality. Furthermore, the policies designed to fight seasonality, along with the strategies undertaken to reduce its effects, have been analysed from a marketing perspective. One can conclude that, based on the results obtained, there is a need to perform a more comprehensive analysis when analysing the seasonal concentration in a given destination by identifying the less seasonal segments in the tourism demand. An adequate level of the disaggregation of tourism demand (as the ones used in this thesis) is needed with which one can provide a better understanding of seasonal concentration in relation to tourists´ country of origin or their main travelling purpose. These types of disaggregations provide relevant information to tourism managers about tourists with a less seasonal behaviour. With this information, the effectiveness of policies against seasonality can be increased since the catchment policies can be directed towards those tourists identified as less seasonal, and consequently, seasonality is reduced.

Appendix

Resumen en español

El estudio de la estacionalidad, tradicionalmente se ha centrado en el análisis de los patrones de la demanda, la descripción de este fenómeno en destinos turísticos, los efectos negativos sobre el empleo y la inversión, y las políticas contra la estacionalidad y sus implicaciones. Sin embargo, en años recientes, algunos trabajos han empezado a centrarse en el planteamiento y propuesta de nuevas técnicas para la medición de la estacionalidad.

A la hora de aplicar medidas desestacionalizadoras, a los gestores de destinos turísticos les resulta complicado identificar qué tipo de turistas contribuyen a la desestacionalización, ya que estos turistas potenciales pueden estar pasando desapercibido por no disponer de una metodología que los identifique. Teniendo en cuenta esta deficiencia, en esta tesis se ha querido conseguir un enfoque de medición que proporcione información acerca del tipo de turista objetivo para reducir la concentración estacional en los destinos analizados. Para ello, la metodología que se emplea en esta tesis, que incluye la descomposición aditiva del índice de Gini, proporciona información acerca de la contribución de cada segmento de demanda a la concentración estacional total de un destino. Mediante el empleo de dicha descomposición, el componente estacional puede ser expresado a través de unos efectos relativos marginales que permiten identificar a aquellos turistas que se manifiesten más favorables para reducir la estacionalidad. De manera complementaria, se han estimado los factores estacionales mediante el método multiplicativo que sirven para mejorar el análisis ya que proporcionan los patrones estacionales de los segmentos de demanda analizados. Además, según el destino analizado, se han utilizado clasificaciones complejas atendiendo al origen del turista, su principal motivación de viaje y la región visitada dentro de cada uno de los destinos analizados, las cuales, han permitido discernir con mayor precisión dentro de clasificaciones poco homogéneas.

Existen estudios previos en los que se ha utilizado el índice de Gini (sin desagregar) para el análisis de la concentración estacional anual ejercida por la demanda turística en ciertos destinos en los que ciertos patrones de la demanda han pasado desapercibidos. En este sentido, un nivel suficiente de desagregación de la demanda turística puede revelar matices que se pierden con datos agregados. Por este motivo, esta tesis pretende desagregar las concentraciones estacionales mediante la desagregación del índice de Gini, y así conseguir que los gestores de destinos turísticos puedan actuar con mayor precisión en ciertas variables de la demanda mediante políticas de marketing.

Con la aplicación de la metodología propuesta en los destinos turísticos analizados, en los que se ha empleado un nivel de desagregación suficiente, se pretende aportar información adicional a los gestores del turismo en cuanto a qué turistas deben dirigir sus políticas de captación, siempre y cuando su objetivo sea reducir la concentración estacional en estos destinos. De hecho, se ha comprobado que los patrones estacionales y el consecuente grado de concentración estacional observado en los turistas analizados difieren significativamente cuando se estudian con datos desagregados, por lo que es de fundamental importancia utilizar como referencia para el planteamiento de las políticas desestacionalizadoras un nivel de desagregación adecuado.

Como se ha indicado en el capítulo introductorio, esta tesis ha sido elaborada por compendio de publicaciones científicas en los que se han analizado la concentración estacional de tres destinos y sus regiones. Concretamente, los destinos estudiados en los diferentes capítulos de esta tesis son el litoral de Andalucía, Argentina y el Reino Unido.

En el Capítulo 2 se realiza un análisis de la concentración estacional en el litoral andaluz. Para este capítulo, se ha tenido en consideración las particulares características del turismo en este destino. Desde su origen como destino turístico, este destino se ha visto impulsado por el factor climático en la mayor parte del litoral andaluz. De esta forma, el clima puede considerarse la marca del litoral andaluz, un recurso que hace posible el desarrollo de las actividades turísticas y que satisface las necesidades de la demanda, siendo en muchos casos, el principal motivo de desplazamiento. El clima ejerce una influencia muy significativa en la concentración estacional turística y, en consecuencia, en la rentabilidad económica que este destino obtiene del sector turístico. Esto es debido a la especialización del turismo de sol y playa y a la escasa diversificación de otros productos turísticos que no dependan única y exclusivamente del factor clima, como podría ser el turismo cultural. Además, se entiende que una buena previsión y un conocimiento pormenorizado del clima en este destino puede ayudar a adaptar las actividades turísticas al mismo, consiguiéndose reducir los efectos ocasionados por la estacionalidad turística. En este sentido, se hace hincapié en la importancia de la diversificación de productos, ya que en caso de una predicción fallida de las condiciones climáticas en destino, el turista in situ podrá reorientar su estancia al tener más alternativas para realizar otras actividades turísticas no condicionadas por el clima.

Tradicionalmente, la demanda exclusiva del turismo de sol y playa se ha concentrado en los meses de verano en este litoral, presentando una marcada estacionalidad por las características climatológicas de este tipo de turismo y por las condiciones laborales en cuanto a vacaciones retribuidas de los turistas. Sin embargo, esta afirmación ha ido perdiendo contundencia en los últimos tiempos, en los que se está consiguiendo una mayor ocupación hotelera en los meses inmediatamente anterior y posterior a los meses tradicionales. Este hecho puede ser explicado por la tendencia de los visitantes actuales a fraccionar sus vacaciones, y también por el hecho de querer prescindir del colapso producido en los principales meses de verano en los que se produce una sobrecarga turística con la consecuente pérdida de calidad ofrecida por parte de los empresarios del turismo.

La predominancia del turismo de sol y playa es la causante de la persistencia de la estacionalidad en este destino. Sin embargo, existe una evolución ascendente y correctora de este rasgo gracias a la apuesta por la incorporación de otros productos turísticos complementarios. El turismo cultural suele ser considerado como una herramienta desestacionalizadora, pero sin embargo, en algunos planes de gestión de Andalucía no lo consideran económicamente rentable cuando se desarrolla en el ámbito litoral. Por ello, en estos planes se suele optar por otro tipo de productos turísticos emergentes como el de salud y belleza o el de golf para diversificar la oferta en este litoral. Si en el litoral de Andalucía, el turismo cultural no es rentable en términos económicos, en este capítulo se ha investigado su rentabilidad en cuanto a la reducción de la estacionalidad.

Andalucía se caracteriza por poseer una inmensa variedad y diversidad de recursos culturales que constituyen un patrimonio de gran potencialidad turística. A nivel global, el turismo cultural, se está considerando cada vez más como un producto turístico

emergente y desestacionalizador debido tanto a las nuevas motivaciones de los turistas que buscan la diferencia y la diversidad que aumentan su interés por los elementos culturales como al fraccionamiento de las vacaciones, que se traducen en el incremento de viajes de corta duración. Estos factores propician el desarrollo del turismo cultural. Esta situación global puede ser extrapolada a Andalucía, gracias al abundante y diverso patrimonio cultural del que dispone esta región, tanto material como inmaterial.

Con el objetivo de comprobar si el turismo cultural es apropiado para desestacionalizar el litoral de Andalucía, se ha procedido a la identificación del segmento cultural. Para ello, la demanda turística ha sido desagregada en diferentes segmentos turísticos: según motivo principal del viaje, que distingue al turista de sol y playa del cultural y de otros segmentos; según procedencia del turista, que diferencia a los turistas residentes en España y de los residentes en el extranjero; y según la costa visitada: Costa de la Luz de Huelva, Costa de la Luz de Cádiz, Costa del Sol, Costa Tropical and Costa de Almería. La unidad de medida de la demanda turística utilizada en este capítulo es el número de viajeros alojados en establecimientos hoteleros de este litoral debido a la predominancia del hotel como el tipo de alojamiento más demandado por los turistas en este destino.

En general, todas las costas del litoral andaluz deben hacer frente a los efectos de la estacionalidad. Las administraciones locales y autonómicas, así como los empresarios del turismo, actualmente están afrontando este problema con la aplicación de medidas correctoras que reduzcan la concentración estacional con la búsqueda de nuevas fórmulas de diversificación de productos. Esto puede ser corroborado por las recientes coordinaciones entre las administraciones públicas y el sector privado para afrontar este problema. Para que esta coordinación sea eficiente, se deben tener a disposición los conocimientos y herramientas adecuadas para la medición de la estacionalidad. Los resultados obtenidos en este capítulo revelan la importancia de emplear un nivel de desagregación adecuado y suficiente para esta materia. La inclusión de una segmentación por motivo de la visita y la desagregación por origen del turista y por costas analizadas desvela importantes características que pueden quedar enmascaradas cuando se estudia la información agregada para el destino en su conjunto.

Los instrumentos de planificación que contienen medidas orientadas a reducir la estacionalidad suelen establecerse en España en niveles territoriales superiores, (nacional o regional), quedando los gestores turísticos locales limitados a tomar decisiones que diversifiquen la actividad turística en sus territorios. Los más significativos que se encontraban vigentes cuando este estudio fue realizado fueron: el Plan del Turismo Español Horizonte 2020 - Plan de Turismo Español 2008-2012, de nivel nacional y el Plan General de Turismo Sostenible de Andalucía 2008-2011, el Plan Director de Marketing de Andalucía 2009-2011 y el Plan de Acción de Playas, Playas de Andalucía 2007-2011 de nivel regional. En todos ellos se contempla el reto de reducir la estacionalidad en los destinos litorales y proponen diversas medidas de carácter genérico. Entre las medidas propuestas se pueden citar los proyectos “playas abiertas todo el año”, “fin de semanas y puentes” o “navidades en Andalucía”, los cuales, tienen el objetivo de atraer mediante ofertas y propuestas específicas la demanda en temporada baja, y diversas acciones de comunicación directa y marketing para promocionar el destino en su conjunto en temporada media y baja. También se contempla como objetivo la diversificación del producto turístico sol y playa para aumentar la competitividad del sector al mismo tiempo que se contribuye a la reducción de la estacionalidad, en la línea de la variación del product mix que proponen diversos autores en la literatura.

En los instrumentos de planificación turística de Andalucía, se consideran a los turistas extranjeros menos estacionales que los nacionales, afirmación que se ratifica con los resultados obtenidos en este capítulo. No obstante, con la metodología empleada, se observa que aunque todos los turistas extranjeros son considerados favorables para reducir la estacionalidad, no lo son en la misma magnitud según la tipología de los turistas. Por su parte, dentro del grupo de los turistas nacionales, habitualmente considerados no favorables para el mencionado objetivo, se encuentra que el segmento de nacionales culturales que presentan características que los convierten en favorables para reducir la estacionalidad. No obstante, los instrumentos de planificación mencionados no emplean herramientas cuantitativas con suficiente grado de desagregación. En este sentido, le metodología empleada en esta tesis ha sido de gran utilidad. Con el análisis de la evolución de los efectos relativos marginales a lo largo del período observado y, sobre todo, del último año analizado, en este caso el año 2011, podrían ajustarse las políticas turísticas orientadas a paliar la concentración estacional con enfoques mucho más especializados.

Entre los principales resultados obtenidos, se ha constatado que dada la heterogeneidad de los grupos de turistas nacionales e internacionales, es mucho más efectivo concentrarse, dentro de cada grupo, en los segmentos especificados en este capítulo. Se ha detectado que el segmento cultural es el preferente para desestacionalizar, especialmente los turistas nacionales. En cambio, los turistas extranjeros culturales no presentan el mismo impacto desestacionalizador en todas las costas del litoral de Andalucía, siendo poco relevante en dos de ellas. En general se ha verificado que la concentración estacional ha experimentado una evolución ascendente en los 13 años estudiados y en todas las costas que componen el litoral andaluz, aunque más notable en dos de ellas (Costa de la Luz de Huelva y Costa de la Luz de Cádiz), lo que evidencia que no se han implementado medidas suficientes o las implementadas no han sido efectivas para reducir la concentración estacional en ninguna de ellas. Asimismo, se ha comprobado que los patrones estacionales y el consecuente grado de concentración estacional observado en los segmentos analizados difieren significativamente cuando se estudian desagregadamente. De hecho, se ha verificado que si bien usando una desagregación simple de los turistas por nacionalidad en el destino en su totalidad, los turista extranjeros son los más favorables para desestacionalizar ya que muestran los efectos relativos marginales negativos de mayor magnitud; este diagnóstico se modifica notablemente empleando una segmentación más completa que introduzca los segmentos sol y playa, cultural y otros. Así, los turistas extranjeros sólo se mantienen como favorables en cuanto a su efecto desestacionalizador dentro del segmento cultural en los últimos años, con un efecto relativo marginal similar al de los turistas nacionales culturales. De esta manera, se constata la importancia de la apuesta por el turismo cultural como instrumento desestacionalizador en el litoral de Andalucía. Esta afirmación sobre el impacto en la reducción de la estacionalidad del turismo cultural carecía de estudios cuantitativos rigurosos que la ratificasen en este litoral.

En líneas generales, los turistas culturales han sido identificados como los más favorables para desestacionalizar el litoral andaluz, y por ello, se propone la apuesta por el turismo cultural para descongestionar este litoral. Los turistas culturales en muchas ocasiones buscan la complementariedad al turismo de sol y playa con actividades que no suelen precisar de un recorrido exhaustivo de los monumentos, sino más bien quieren experimentar el contacto con la población local, su gastronomía, etc. Dentro del turismo cultural se enmarca el turismo de ciudades históricas, que tradicionalmente ha

ido a contracorriente del turismo de sol playa, y han hecho uso del mismo aquellos turistas que huyen de las aglomeraciones de los destinos litorales, prefiriendo visitar una ciudad histórica en un entorno de tranquilidad. La realidad actual es otra, ya que los turistas actuales de sol y playa exigen cada vez más actividades culturales complementarias que se encuadren dentro de su estancia. Por ello, sería conveniente que como en el caso de la ciudad de Málaga, el resto de ciudades históricas del litoral andaluz que se encuadren cercanas al litoral como son Huelva, Cádiz y Almería propusieran un producto turístico complementario en el que parte del recorrido de las vacaciones añadan una visita al centro histórico de la ciudad.

Las medidas frente a la estacionalidad propuestas en los diversos instrumentos de planificación aplicables al litoral andaluz son muy diversas y en general tratan de apoyar mediante actuaciones de marketing o de apoyo directo a segmentos específicos que contribuyan a la desestacionalización. No obstante, estos planes no incluyen el desarrollo de instrumentos de análisis que permitan determinar con suficiente detalle cuáles son esos segmentos y la magnitud relativa de su efecto desestacionalizador. Por ello, la propuesta metodológica de este trabajo, tanto desde el punto de vista del cálculo de los efectos relativos marginales como medida cuantitativa del efecto desestacionalizador, como la triple desagregación por zona, nacionalidad y segmento, pueden constituir una valiosa ayuda para el diseño y ejecución de los planes de gestión frente a la estacionalidad en el litoral andaluz.

Finalmente, hay que señalar que en este capítulo, se ha incidido especialmente en la contribución específica de la capacidad desestacionalizadora del turismo cultural. No obstante, ha de tenerse en cuenta que dentro de la agrupación de "otros segmentos" se incluyen numerosas motivaciones de muy diversa índole, de las cuales se podrían obtener con nuevas desagregaciones, otros segmentos turísticos más específicos que pudiesen contribuir a reducir la estacionalidad ya que como han ofrecido los resultados del presente análisis, dicha agrupación se considera algo favorable para reducir la estacionalidad en el litoral de Andalucía.

De los resultados obtenidos aquí, se realiza una actualización de los mismos en el Capítulo 3, hasta el año 2013, utilizando de nuevo a los viajeros alojados en establecimientos hoteleros como unidad de medida. De los resultados de esta actualización, se desprende que las políticas contra la estacionalidad no han sido muy efectivas en los años recientes en el litoral de Andalucía. Los viajeros nacionales se muestran más estacionales que los internacionales, y por ello, las políticas de captación deberían ir dirigidas al segmento internacional siempre y cuando el objetivo sea reducir la concentración estacional. De manera complementaria, para analizar la concentración estacional del litoral de Andalucía y con el fin de establecer comparaciones, se utiliza como unidad a los pasajeros entrados por aeropuertos andaluces. En este caso, se ha realizado una segmentación de pasajeros por aeropuertos y según procedencia nacional o internacional. Esta decisión se ha tomado debido a que el 81% de los turistas internacionales que visitan el litoral andaluz utilizan el avión como medio de transporte. Aunque solo el 16% de los turistas nacionales utilizan este medio de transporte, se ha mantenido el segmento nacional en el análisis para mantener consistencia en la descomposición aplicada, y para analizar si este segmento tiene características estacionales específicas.

Los índices de Gini estimados correspondientes a los pasajeros internacionales se encuentran dentro del mismo rango que los estimados en el capítulo anterior en el que se utilizó al viajero alojado en hoteles como unidad de medida. Por el contrario, los pasajeros nacionales muestran un nivel extremadamente bajo de concentración

estacional, lo que difiere significativamente cuando se analizó el segmento nacional utilizando a los viajeros. Esto es debido a que los pasajeros nacionales que utilizan el avión como medio de transporte es una minoría muy diferenciada a la participación del segmento nacional de viajeros. Distinguiendo por aeropuertos, el patrón estacional y la evolución de los índices de Gini en el aeropuerto de Málaga es muy similar al obtenido en el total de aeropuertos de Andalucía. Esto es debido a que el aeropuerto de Málaga absorbe el 69% de todas las llegadas de la región.

Para obtener una visión más exhaustiva, los factores estacionales se han estimado en los cinco aeropuertos de Andalucía, diferenciando entre pasajeros nacionales e internacionales. El patrón estacional de los pasajeros nacionales se diferencia claramente de los viajeros nacionales agrupados en el segmento sol y playa y otros segmentos analizados en el capítulo anterior. Por ello, el segmento de pasajeros nacionales debería ser un posible objetivo para dirigir las políticas de captación orientadas a reducir la estacionalidad. Por su parte, los pasajeros internacionales, manifiestan un mayor nivel de concentración en los meses de verano, especialmente en los aeropuertos pequeños. Por último, se ha aplicado la descomposición aditiva del índice de Gini en los principales aeropuertos andaluces, Málaga y Sevilla, y en todos los aeropuertos andaluces en su conjunto en 2013 con una segmentación de los pasajeros internacionales por país de origen, considerando los cuatro principales orígenes en cada caso.

Algunos de los resultados de este capítulo indican que los patrones estacionales y el consiguiente grado de concentración estacional de los segmentos considerados difieren significativamente cuando se estudian con un mayor nivel de segmentación. Por lo tanto, un nivel adecuado de segmentación es esencial para el enfoque de las políticas contra la estacionalidad. El uso de una doble segmentación por origen y por motivación del viaje en las costas analizadas ha revelado resultados muy interesantes, permitiendo identificar segmentos con características que no son visibles en las segmentaciones más simples. Además, el análisis de los pasajeros también produjo algunos resultados útiles, tales como el potencial efecto desestacionalizador de los pasajeros nacionales, y la identificación de algunos países de origen en los aeropuertos de Málaga y Sevilla. Finalmente, la tendencia creciente observada de los índices de concentración de temporada en muchas de las zonas costeras y aeropuertos de Andalucía indican que las políticas contra la estacionalidad adoptadas en los últimos años no han sido lo suficientemente eficaces. Por lo tanto, todavía se necesita más investigación para proporcionar una información más concisa a los responsables políticos y a los gestores del turismo acerca del fenómeno de la estacionalidad en Andalucía.

En el Capítulo 4, se analiza la distribución de los viajeros en los diferentes tipos de alojamientos reglados en las regiones turísticas de la Argentina analizando los factores estacionales estimados y los índices de Gini (sin descomposición marginal), distinguiendo entre demanda nacional e internacional. Además, se ha utilizado la clasificación territorial y turística que establece la Encuesta de Ocupación Hotelera que elabora el Ministerio de Turismo junto con el Instituto Nacional de Estadísticas y Censos de Argentina, y que es la principal fuente estadística utilizada en este capítulo. Así, se ha agrupado las 23 provincias argentinas en las seis regiones turísticas definidas en la regionalización turística realizada por el Ministerio de Turismo de Argentina: Buenos Aires, Centro, Cuyo, Litoral, Norte y Patagonia, y se ha añadido la ciudad de Buenos Aires como una región independiente debido a la elevada demanda de viajeros en este destino.

El grado de concentración de la demanda turística de Argentina no es muy elevado en comparación con otros destinos internacionales, pero aun así, existen desigualdades entre las regiones en cuanto al grado de concentración estacional. A nivel nacional, los planes federales de turismo establecen medidas contra la estacionalidad, y además, existen leyes como la Ley de festivos que se han elaborado con el fin de contrarrestar los efectos de la estacionalidad, ya que como en España, el turismo es considerado sector estratégico en Argentina.

Los estudios específicos sobre la estacionalidad del turismo en Argentina son muy escasos. El Ministerio de Turismo de este país utiliza tan solo el cálculo de los factores estacionales para analizar el fenómeno de la estacionalidad con los datos obtenidos de la Encuesta de Ocupación Hotelera de este país. La incidencia de la estacionalidad en la demanda hotelera de Argentina y de sus regiones turísticas se analiza en este capítulo haciendo uso de la variable mensual "Viajeros alojados en establecimientos hoteleros y para-hoteleros" procedente de la Encuesta de Ocupación Hotelera. Por otra parte, la desagregación regional empleada es la descrita anteriormente, aunque para las regiones de procedencia de viajeros nacionales se ha integrado a la ciudad de Buenos Aires en región de Buenos Aires, dado que los viajeros procedentes de ambas regiones tienen un comportamiento estacional muy similar.

El estudio presentado en este capítulo tiene el objetivo de enriquecer el marco cuantitativo que utiliza el Ministerio de Turismo de Argentina con el empleo del índice de Gini, que proporciona una medida sintética del grado anual de concentración estacional. Además, se describe brevemente, las estrategias contra la estacionalidad que están desarrollándose en la actualidad en Argentina. Entre los principales resultados obtenidos se han encontrado que existen desigualdades significativas, tanto en los patrones estacionales de las diferentes demandas como en los niveles de concentración estacional. Por ello, una de las principales implicaciones derivadas de este capítulo para el diseño de políticas dirigidas a combatir la estacionalidad, es tener en cuenta la concentración de la demanda turística por región visitada, por origen y por volumen.

Un análisis excesivamente agregado puede ocultar las características estacionales específicas de los distintos mercados regionales, lo que impide confeccionar estrategias efectivas contra la estacionalidad. En este sentido, si se aplica el índice de Gini complementado con los factores estacionales a las series turísticas adecuadamente desagregadas, se obtiene información de gran utilidad que puede aportar efectividad a la hora de elaborar las políticas contra la estacionalidad. Las políticas para combatir la estacionalidad tienen una efectividad variable dependiendo entre otros factores, del peso que la demanda nacional tiene en la demanda turística total de cada región. En este capítulo se plantean, además, nuevas preguntas que se proyectan como futuras líneas de investigación, como hacer un desglose más preciso dentro de visitantes nacionales (por región) e internacionales (por países o continentes) para encontrar una mejor explicación de los efectos de los distintos segmentos analizados por origen en el nivel de concentración global, investigación que se ha llevado a cabo en el próximo capítulo.

En el Capítulo 5, se analiza la concentración estacional de la demanda hotelera en las regiones turísticas de Argentina empleando la descomposición aditiva del índice de Gini que facilita la identificación de los viajeros menos estacionales. Los resultados del capítulo indican que, dada la heterogeneidad entre regiones en cuanto a estacionalidad, es necesario desagregar al menos a los viajeros nacionales según región de procedencia y a los internacionales según conjunto de países de residencia. Con la utilización de este nivel de desagregación se obtiene que la mayoría de los orígenes internacionales se muestran favorables para la desestacionalización. En cuanto a los viajeros nacionales,

los residentes en la propia región son los más favorables para reducir la estacionalidad en algunas regiones, información que estaba pasando desapercibida cuando el total de residentes fueron analizados sin la desagregación mencionada.

En Argentina, existe una preocupación por los efectos de la estacionalidad en el sector turístico. Sin embargo, son pocos los trabajos que examinan la presencia de la estacionalidad en la demanda turística de Argentina, y en ellos, sólo se hace uso de métodos de series temporales para evaluar la estacionalidad producida por el turismo receptivo en el país. En el ámbito institucional, los planes de acción de la actividad turística a nivel nacional los elabora el Ministerio de Turismo de Argentina, los cuales son las dos ediciones del Plan Federal Estratégico de Turismo Sustentable: el Plan de Marketing Internacional ConectAR y el Plan de Marketing de Turismo Interno ConectAR. En ambos planes se establecen algunas medidas contra la estacionalidad. Sin embargo, estos planes recurren al cálculo tradicional de los factores estacionales para las pernoctaciones en establecimientos hoteleros y para-hoteleros utilizando una desagregación simple en la que se distinguen las pernoctaciones efectuadas por viajeros nacionales e internacionales en las distintas regiones turísticas del país. Debido a todo lo anterior, para evaluar la efectividad de dichas medidas es necesario disponer de herramientas cuantitativas que permitan la medición de los niveles de concentración estacional y su evolución, además de la participación en dicha concentración de ciertos tipos de turistas en el nivel observado.

Respecto a las medidas institucionales contra la estacionalidad turística, una de las estrategias utilizadas en Argentina ha sido el ordenamiento de los días de fiesta nacionales con el objetivo de prever con una antelación de tres años la planificación de las pausas laborales y los desplazamientos, para reducir los efectos negativos de la estacionalidad y para generar una mejor distribución temporal de los flujos de turistas. Otras de las herramientas contra la estacionalidad establecidas por el Ministerio de Turismo que se pueden destacar son la gestión de eventos en los destinos argentinos para potenciar el desarrollo económico de los mismos y la creación de un programa federal de turismo social que se desarrolle en temporada baja. Además, se establecen unos Productos Integradores Regionales en los Informes Estratégicos Regionales, que pueden ser de utilidad para paliar los efectos de la estacionalidad, ya que pueden desarrollarse en cualquier época del año. En esta línea de medidas frente a la estacionalidad, sería de gran utilidad contar con herramientas analíticas, como las propuestas en esta tesis, que permitan discernir qué viajeros son los que pueden facilitar la reducción de la concentración estacional, mediante el estudio de sus patrones estacionales habituales.

Entre los principales resultados obtenidos, se observa que con el uso de una desagregación simple de la demanda hotelera de Argentina en la que los viajeros nacionales e internacionales han sido diferenciados, los nacionales han sido identificados como los favorables para desestacionalizar en la mayor parte del período analizado por mostrar efectos relativos marginales negativos. Estos resultados se repiten en las regiones Norte y Centro y en la ciudad de Buenos Aires. No obstante, en el último año analizado el resultado es el inverso en el segemento nacional en seis de las siete regiones. Este diagnóstico se modifica y enriquece notablemente empleando una segmentación más completa con la clasificación de los viajeros nacionales por región de procedencia y a los internacionales por conjunto de países de residencia. Así, en 2013, el segmento más favorable en seis de las siete regiones analizadas es el origen de la propia región junto con mayoría de los orígenes internacionales, los cuales, han mostrado efectos relativos marginales negativos de magnitud variable, destacando en

este sentido, la relación existente entre el comportamiento menos estacional de los viajeros internacionales con la mayor proximidad de sus países de residencia.

Por otra parte, las medidas frente a la estacionalidad propuestas en los planes de acción del turismo, elaborados por el Ministerio de Turismo de la Nación de Argentina, son muy escasas y no incluyen el desarrollo de instrumentos de análisis que permitan determinar con suficiente detalle cuáles son los viajeros que pueden contribuir en mayor medida en la reducción de la estacionalidad. Por ello, la propuesta metodológica de esta tesis, tanto desde el punto de vista de la aplicación de los efectos relativos marginales como medida cuantitativa del efecto desestacionalizador, como la desagregación de la demanda hotelera de Argentina empleada en este capítulo, pueden constituir una valiosa ayuda para el diseño y ejecución de los planes de actuación frente a la estacionalidad en este país.

En Capítulo 6 se ha analizado la estacionalidad de la demanda turística en el Reino Unido, y en la nación de Inglaterra y sus regiones. De nuevo, para estos destinos, se ha clasificado a la demanda turística en relación al origen y la motivación principal de los turistas. Hasta la fecha, han sido muy pocos los estudios sobre la estacionalidad y su medición en el Reino Unido, y ninguno de ellos, se ha centrado en la nación de Inglaterra. Del mismo modo, no existen estudios que analicen el comportamiento de los turistas nacionales e internacionales de forma conjunta en el Reino Unido. El turismo es una de sus industrias más importantes de este país, y como muchos destinos internacionales, reconocen institucionalmente la estacionalidad como un problema para el sector turístico. En el Reino Unido, como parte de la estrategia de crecimiento del turismo, se establecen programas turísticos en temporada baja para promover una serie de programas turísticos menos estacionales, clasificándose tanto por región como por temporada.

Para la realización de este análisis, se ha utilizado como unidad de medida el número de viajes realizados por los turistas nacionales e internacionales. Las fuentes estadísticas utilizadas han sido la encuesta mensual United Kingdom Tourism Survey para la identificación del turismo nacional, denominada Great Britain Tourism Survey desde enero de 2011, y la encuesta mensual International Passenger Survey para la identificación de los turistas internacionales clasificados por conjuntos de países de procedencia. Además, con el fin de desagregar a los turistas internacionales por país de origen, se han utilizados los datos trimestrales de Travelpac del año 2013, elaborara a partir de la International Passenger Survey.

La concentración estacional ejercida por el total de turistas que visitan el Reino Unido no es muy alta en comparación con otros destinos internacionales, pero no por ello deja de ser un fenómeno cuyos efectos han de intentarse reducir al máximo debido a los beneficios sociales y económicos que se producen en un destino turístico. Gracias al análisis conjunto de turistas nacionales e internacionales se puede apreciar que los internacionales tienen un menor comportamiento estacional a lo largo de todo el periodo analizado y que además son considerados turistas favorables en todos los años observados. En cuanto al nivel de concentración que ejercen los turistas internacionales se puede afirmar que generalmente, a mayor cercanía de los países emisores, menor es el índice de Gini y por tanto, menor concentración estacional ejercen en el Reino Unido. Asimismo, los turistas internacionales que se manifiestan más favorables para reducir la estacionalidad a lo largo de todo el periodo analizado fueron las agrupaciones europeas, destacando la agrupación EU15 con efectos relativos marginales negativos en todos los años observados. Si bien globalmente los turistas europeos se manifiestan con una concentración baja, con la desagregación de los turistas internacionales por país de

origen empleada en este capítulo se puede discernir con mayor precisión y observar que no todos los turistas europeos ejercen una concentración baja ya que los turistas procedentes de Austria, Alemania, Estonia, Croacia e Islandia de manifiestan con valores de concentración media. Por el contrario, se aprecia que los turistas procedentes de Bulgaria, España, Francia e Irlanda ejercen una concentración considerablemente baja.

En el análisis de la concentración estacional turismo doméstico en Inglaterra, se han analizado las regiones de esta nación como destinos independientes con el objetivo de identificar las diferencias en los niveles de concentración que ejercen los residentes en Gran Bretaña dentro de cada una de las mismas. La mayor concentración estacional ejercida en todas las regiones de Inglaterra es provocada por los turistas procedentes de Gales sobre todo en las regiones North East, Yorkshire and Humberside, East and East Midland. Lo mismo ocurre con los procedentes de Escocia que también producen una alta concentración en todas las regiones excepto en North West. En cuanto a las demandas interregionales, se observa como en casi todas las regiones los propios residentes de la propia región (turistas interregionales) ejercen un nivel de concentración medio, a excepción de Londres y West Midland donde se manifiestan con una concentración alta, precisamente son las únicas regiones sin costa. Las regiones cuyas demandas de procedencia regional tienen los niveles de concentración más altos son North East y South West en las que turistas procedentes de siete de las nueve regiones se manifiestan con un nivel de concentración alto. Por el contrario, la regiones que reciben turistas inter-regionales menos estacionales son Londres, con un nivel de concentración medio ejercido por todos los turistas residentes que la visitan, a excepción de los residentes en la propia región y de los residentes en North East que ejercen un nivel alto. Por su parte, Yorkshire and Humberside es la única región en la que ningún turista inter-regional se manifiesta con un nivel de concentración alto, a excepción de los residentes en Londres. Con los resultados obtenidos, se constata que, a nivel regional, el factor proximidad no tiene relación con el comportamiento menos estacional de los turistas ya que solo en el caso de la región South East son menos estacionales los turistas procedentes de la propia región y de la región adyacente de East. En el resto de regiones, los turistas que se consideran favorables para reducir la estacionalidad proceden tanto de regiones cercanas como lejanas.

En este capítulo, también se ha analizado la concentración estacional según la motivación principal del viaje de los turistas que visitan el Reino Unido y las regiones de Inglaterra. En el caso del Reino Unido, las motivaciones del viaje han sido clasificadas por vacaciones, negocios y visita a amigos y familiares para la demanda nacional, y añadiendo la categoría “varios” en la internacional, de acuerdo con las fuentes empleadas. Asimismo, en el análisis regional de Inglaterra, se ha evaluado la concentración estacional en cada región dependiendo de las motivaciones de los turistas residentes en Gran Bretaña que visitan Inglaterra de acuerdo a la misma clasificación de motivaciones empleada en el análisis de la demanda nacional del Reino Unido.

En los capítulos anteriores, como ya se ha comentado, se ha utilizado la descomposición aditiva del índice de Gini para la obtención un efecto relativo marginal sobre el índice de Gin para cada uno de los segmentos de demanda analizados. De la descomposición realizada en este capítulo, se extraen otros componentes que no fueron analizados en los capítulos previos debido a la similitud de los resultados obtenidos de los segmentos de demanda analizados. Concretamente, dichos componentes son la participación de cada segmento a la demanda total y el coeficiente de correlación del índice de Gini de los segmentos analizados con la demanda total; que por sus

diferencias en los resultados, sí han sido analizados en este capítulo. Para enriquecer la descomposición del índice de Gini y representar sus componentes, se ha empleado una técnica gráfica multivalente, el biplot, con el objetivo de identificar a los segmentos de demanda con características similares e interpretar las variaciones entre los componentes de la desagregación del índice de Gini y su influencia en el efecto relativo marginal.

La importancia de la metodología aplicada en este capítulo, no solo consiste en la detección de los segmentos de demanda que pueden contribuir a la reducción de la concentración estacional con la identificación de los efectos relativos marginales más bajos, sino también en la estimación e interpretación de los componentes de la desagregación del índice de Gini. Estos componentes pueden ser muy valiosos para el diseño de políticas contra la estacionalidad, ya que permiten diferenciar entre los segmentos de demanda que afectan de manera diferente a la concentración estacional de los destinos analizados.

Finalmente, se puede concluir que los resultados obtenidos en esta tesis plantean la necesidad de realizar un análisis más exhaustivo de los patrones de la demanda turística para analizar la estacionalidad de los destinos turísticos. Para ello, la aplicación de la metodología propuesta en esta tesis es de gran utilidad ya que hace posible la identificación de los segmentos menos estacionales de la demanda turística. Como se ha comprobado en los destinos analizados en esta tesis, un nivel de desagregación adecuado de la demanda turística proporciona una mejor comprensión de los niveles de concentración estacional que ejercen los segmentos de demanda en la concentración estacional total del destino que se pretenda analizar. De este modo, aumenta la efectividad de las políticas contra la estacionalidad al dirigir las políticas de captación hacia los turistas identificados como menos estacionales.