

# Seasonal concentration of tourism on the Andalusian coastline

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## ABSTRACT

Seasonality is a phenomenon that affects many economical activities but undoubtedly, it affects tourism more naturally. Moore (1989) defined seasonality as the displacements produced in a given period, during a specific time of the year, and each occurring similarly. The effects of tourism seasonality are related to several social, labour and weather factors, for this reason, tourism managers have difficulties in establishing appropriate policies to reduce their impact.

The main problems caused by the effects of seasonality are the under-use of tourism facilities during low season, and vice versa, their maximum occupancy at full capacity during the high season. This fact is explained by the concentration of touristic flow during certain periods of the year, which represents a temporary mismatch between the supply and demand of tourism. This has negative consequences that 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, a mismatch in load capacity, fluctuation of prices, environmental degradation, and various socio-cultural effects among visitors and residents in a given destination.

The entire Andalusian coastline must deal with the effects of seasonality. Both local and regional administrations 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 the 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 right tools to measure seasonality.

The widespread acceptance of seasonality as an inevitable trait within the tourist sector has been accompanied by a clear lack of research (Allcock, 1994). Traditional tools, such as seasonal variation indexes or the undecomposed Gini index, are focused on reproducing representative models of seasonality, reaching general conclusions about the nationality of the most favourable tourists for reducing seasonality. However, these traditional tools do not allow one to know what type of tourist is truly favourable for the seasonal adjustment of a destination. Therefore, when tourism managers implement measures to reduce seasonality, they find it difficult to identify whether there is any type of tourists 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.

The methodology used in this thesis is proposed as a control and monitoring measure which tourism managers may use in destinations with a high seasonal concentration. Specifically, it has been applied in the Andalusian coastline, characterised by its high seasonality in the summer months, with the main purpose of quantitatively checking whether certain tourist segments can help reduce tourism seasonality. The additive decomposition of the Gini index will provide information about the contribution of each tourist segment to the total seasonal concentration. Furthermore, by obtaining the measures of the relative marginal effects (RME) it is possible to identify to what extent a particular tourist segment can contribute in the reduction of seasonal concentration on the Andalusian coastline. Likewise, 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 (Cuccia & Rizzo, 2011; De Cantis, Ferrante & Vaccina, 2011; Fernández-Morales & Mayorga Toledano, 2008; Halpern, 2011; Lundtorp, 2001; Martín Martín, Jiménez Aguilera, & Molina Moreno, 2014; Rosselló Nadal, Riera Font & Sansó Rosselló, 2004; Sutcliffe & Sinclair, 1980; Tsitouras, 2004; Yacoumis, 1980). Furthermore, the additive decomposition of the Gini index was first used in the area of tourism research to measure the concentration of hotel demand on the Costa del Sol (Fernández-Morales & Mayorga Toledano, 2008). Later, it was used to investigate the seasonal concentration demand of Spanish airports passengers. (Halpern, 2011).

We use the additive decomposition proposed by Lerman and Yitzaki's (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  $Y = Y^1 + Y^2 + \dots + Y^K$ , the relative marginal effect (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:

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

where  $G_k$  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. This decomposition can be a very useful tool for tourism managers who establish measures to reduce seasonality (Cisneros-Martínez & Fernández-Morales, 2013).

In a first application, the impact of seasonality on the Andalusian coastline was analysed using the travellers staying in hotels of different categories in all the coasts of Andalusia as unit of measurement, distinguishing between domestic and foreigners. These data came from the monthly variables between January 1999 and December 2011 of the Hotel Occupancy Survey 'Encuesta de Ocupación Hotelera' provided by the (National Statistics Institute 'Instituto Nacional de Estadística' [INE], 2011). This choice was motivated by the predominance of the hotel as the most relevant type of demand for tourist accommodation on the Andalusian coastline. In 2011, 85,7% of tourists who visited this coastline destination, stayed in hotels (INE, 2011). Furthermore, to identify cultural tourists, we raised the hypothesis that these travellers could be grouped into tourist segments according to their main travel motivation: 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.). These data were provided by the headquarters of the public company Turismo Andaluz (Sistema de Análisis y Estadísticas del Turismo en Andalucía, 2011).

During the first application of the methodology, which is the first part of this thesis, it was found that seasonal patterns and the consequent degree of seasonal concentration in the analysed segments differed significantly when they were studied with a higher level of disaggregation, showing that using an adequate level of disaggregation is essential to the approach taken with policies against seasonality. Specifically, tourists were classified by origin (domestic and foreign), by tourist segment (sun and sand, cultural and other segments) and by coastal area visited. As a result, 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 (Cisneros-Martínez & Fernández-Morales, 2013).

In a second application, which we are investigating at present and will also be an integral part of this thesis, we are studying the impact of seasonality in the Andalusian coastline, but in this case, we are analysing the passengers arriving at Andalusian airport and we are distinguishing domestic and foreigners passengers. These data come from the available monthly series provided by the (Spanish Airports and Air Navigation 'Spanish Airports Air Navigation' [AENA], 2013). The selection of the passenger as a unit of measure of seasonal concentration has been considered appropriate since 81% of foreign and 16.1% of domestic tourists visiting Andalucía in 2012, used the plane as a mode of transport. Moreover, it has been estimated that in 2012 about 13.1 million tourists visited the Andalusian coastline, constituting 60% of the tourists visiting Andalucía (Consejería de Turismo, Comercio y Deporte [CTCYD], 2012).

In this second application, we are also analysing whether the low-cost airlines can contribute to the reduction of seasonal concentration on the Andalusian coastline. For the identification of the low cost-airlines, we have adopted the criteria provided by the Annual Reports of Low Cost Airlines 'Informes Anuales de Compañías de Bajo Coste' developed since 2003 by the (Institute of Tourism Studies 'Instituto de Estudios Turísticos' [IET], 2013). In 2012, 76.7% of passengers visiting Andalucía used low-cost airlines; while, 78% of foreign tourists visiting the coast of Andalusia used a plane as a means of transport (CTCYD, 2012). Therefore, we consider the passengers who use low-cost airlines as an important segment of tourists to analyse the impact they have on seasonal concentration on this coastline. This work also uses an appropriate level of disaggregation, classifying passengers by origin (domestic and foreign), by type of airline used (traditional and low-cost) and by airport used.

The expected results of this thesis can contribute to a deeper understanding of seasonality on the Andalusian coastline. It will also provide tourism managers with additional information about what type of tourists they should direct their catchment policies, as long as their purpose is to reduce the seasonality in a tourist destination.

## Grants

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