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Seasonal concentration of tourism demand: Decomposition analysis and marketing implications

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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.

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

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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.