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Seasonal Inequalities in Visitor Distribution in Argentina's Tourism Regions

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.

Keywords: Seasonality, Argentina, Gini

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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

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).

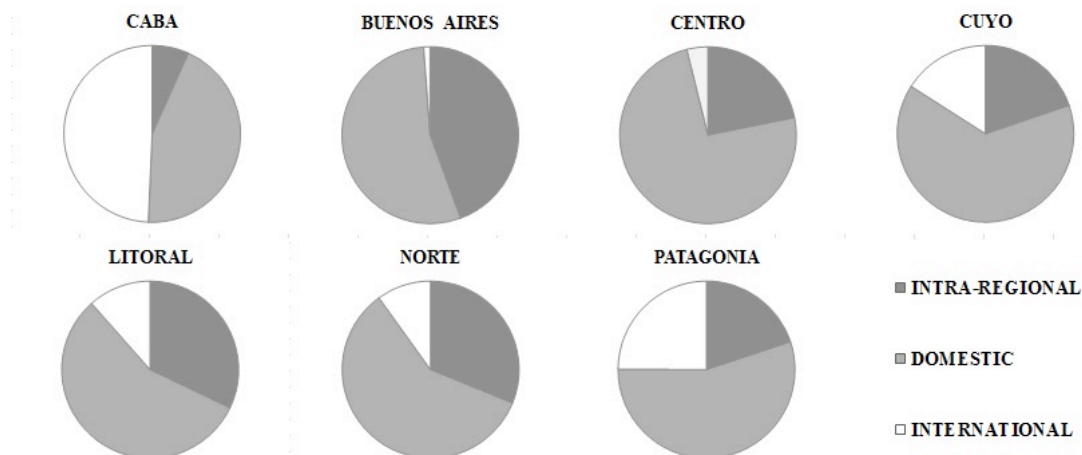
In recent years, the Gini index has been one of the most commonly used measures in the study of the degree of annual seasonal concentration in tourist series (Candela & Castellani, 2009; Cisneros-Martínez & Fernández-Morales, 2013; Cuccia & Rizzo, 2011; De Cantis *et al.*, 2011; Fernández-Morales & Mayorga-Toledano, 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.

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

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).

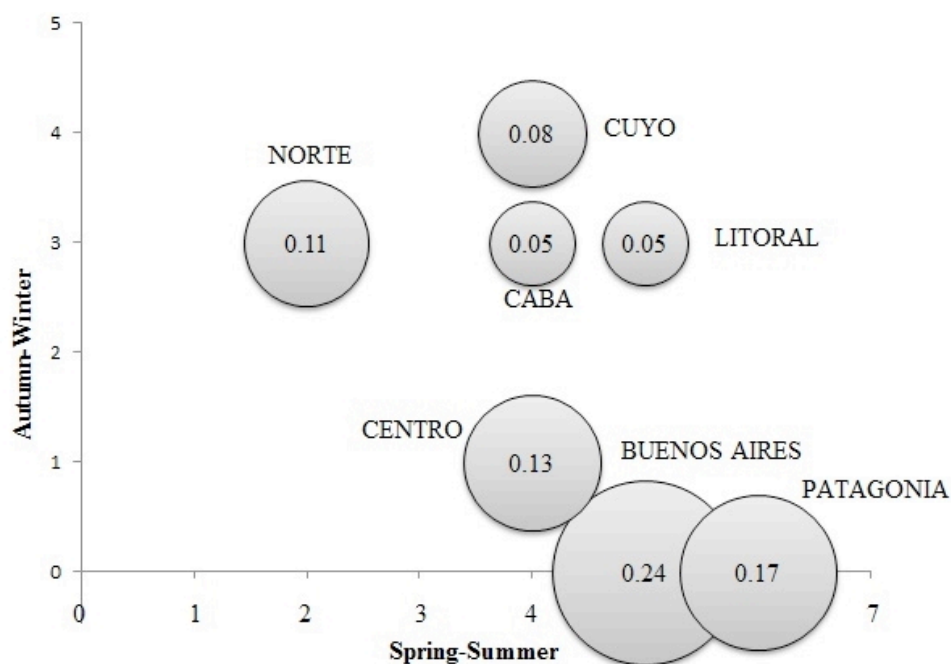
Seasonal factors, which have been estimated by the multiplicative method, provide an indication of the monthly distribution along the year of a variable. Generally, it is assumed that the high season is comprised of the months with a factor over 1 (denoting a value greater to what is expected by the 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).

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.



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).

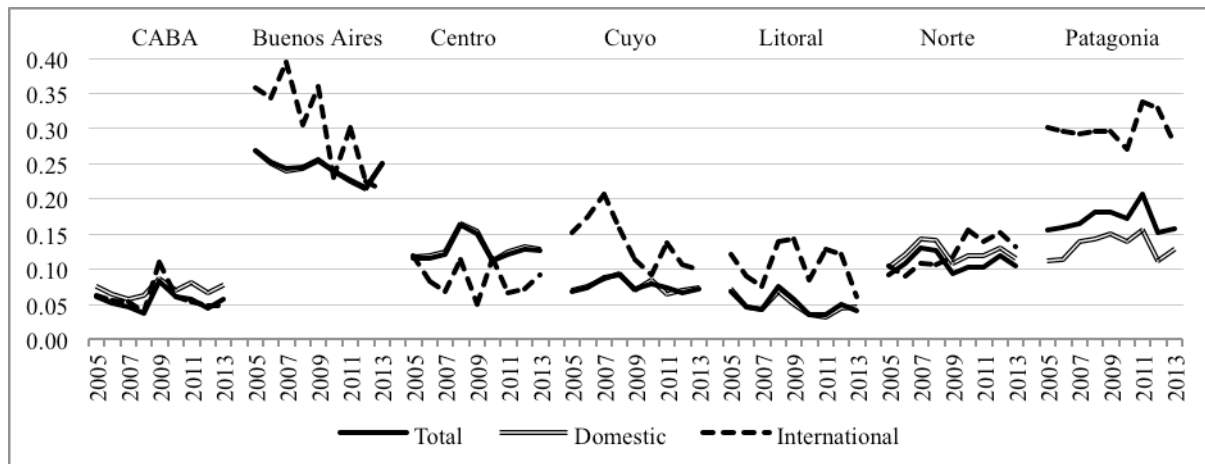
The tourism product mix is one of the main explanations for the seasonal inequalities in the regional tourism demands in the Argentinian regions. The Buenos Aires region is mainly visited for sun and sea activities, and also, but with less importance, for rural and sport tourism, or local festivals. 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.

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.

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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References

- Boffa, F., & Succurro, M. (2012). The impact of search cost reduction on seasonality. *Annals of Tourism Research*, 39(2), 1176-1198.
- Candela, G., & Castellani, M. (2008). Stagionalità e destagionalizzazione. En A. Celant, & M.A. Ferri (Eds.) *L'Italia. Il declino economico e la forza del turismo. Fattori di vulnerabilità e potenziale competitivo di un settore strategico* (pp. 251-259). Roma: Marchesi Grafiche Editoriali.
- Capó Parrilla, J., Riera Font, A., & Rosselló Nadal, J. (2007). Accommodation determinants of seasonal patterns. *Annals of Tourism Research*, 34(2), 422-436.
- Carruitero, P. B. (2010). Estacionalidad del turismo receptivo en Argentina. *Notas en Turismo y Economía* 2, 46-82.
- Cisneros-Martínez, J.D., & Fernández-Morales, A. (2013). Cultural tourism as tourist segment for reducing seasonality in a coastal area: the case study of Andalusia. *Current Issues in Tourism*. Online advance publication. doi: 10.1080/13683500.2013.861810
- Cuccia, T., & Rizzo, I. (2011). Tourism seasonality in cultural destinations: Empirical evidence from Sicily. *Tourism Management*, 32(3), 589-595.
- De Cantis, S., Ferrante, M., & Vaccina, F. (2011). Seasonal pattern and amplitude - a logical framework to analyse seasonality in tourism: An application to bed occupancy in Sicilian hotels. *Tourism Economics*, 17(3), 655-675.
- Espinet, J., Fluvia, M., Rigall-I-Torrent, R., & Salo, A. (2012). Hotel characteristics and seasonality in prices: An analysis using Spanish tour operators' brochures. *Tourism Economics*, 18(4), 749-767.
- Fernández-Morales, A. (2003). Decomposing seasonal concentration. *Annals of Tourism Research*, 30(4), 942-956.
- Fernández-Morales, A., & Martín-Carrasco, Y. (2015). Concentración e impacto estacional del turismo de cruceros en Málaga. *Revista de Estudios Regionales*, 101, 43-70.

Fernández-Morales, A., & Mayorga-Toledano, M. C. (2008). Seasonal concentration of the hotel demand in Costa del Sol: A decomposition by nationalities. *Tourism Management*, 29(5), 940-949.

Halpern, N. (2011). Measuring seasonal demand for Spanish airports: Implications for counter-seasonal strategies. *Research in Transportation Business & Management*, 1(1), 47-54.

INDEC (2013). *Encuesta de Ocupación Hotelera 2005-2013*. Ciudad Autónoma de Buenos Aires: Instituto Nacional de Estadística y Censos. Retrieved from: <http://www.indec.mecon.ar/>

Koenig-Lewis, N., & Bischoff, E. E. (2003). Seasonality of tourism in Wales: A comparative analysis. *Tourism Economics*, 9, 229-254.

Koenig-Lewis, N., & Bischoff, E. E. (2004). Analyzing seasonality in Welsh room occupancy data. *Annals of Tourism Research*, 31(2), 374-392.

Koenig-Lewis, N., & Bischoff, E. E. (2005). Seasonality research: The state of the art. *International Journal of Tourism Research*, 7(4-5), 201-219.

Kulendran, N., & Wong, K. K. F. (2005). Modeling seasonality in tourism forecasting. *Journal of Travel Research*, 44(2), 163-170.

Lacher, R. G., & Nepal, S.K. (2013). The changing distribution of global tourism: Evidence from Gini coefficients and Markov matrixes. *Tourism Analysis*, 18(2), 133-144.

López Bonilla, J. M., & López Bonilla, L. M. (2007). Variabilidad estacional del mercado turístico en Andalucía. *Estudios y Perspectivas en Turismo*, 16(2), 150-172.

Lundtorp, S. (2001). Measuring tourism seasonality. En T. Baum, & S. Lundtorp (Eds.), *Seasonality in tourism* (pp. 23-50). Oxford: Pergamon.

Martín Martín, J. M., Jiménez Aguilera, J. D. & Molina Moreno, V. (2014). Impacts of seasonality on environmental sustainability in the tourism sector based on destination type: an application to Spain's Andalusia region. *Tourism Economics*, 20(1),

MINTUR. (2014). *Plan de Marketing de Turismo Interno ConectAR 2014-2016*. Ciudad Autónoma de Buenos Aires: Ministerio de Turismo de la Nación Argentina. Retrieved from: <http://www.repotur.gov.ar/handle/123456789/4110>

MINTUR. (2005). *Plan Federal Estratégico de Turismo Sustentable 2006-2011*. Ciudad Autónoma de Buenos Aires: Ministerio de Turismo de la Nación Argentina. Retrieved from: <http://desarrolloturistico.gob.ar/subsecretaria/plan-federal-estrategico-de-turismo-sustentable>

MINTUR. (2011). *Plan Federal Estratégico de Turismo Sustentable 2012-2020*. Ciudad Autónoma de Buenos Aires: Ministerio de Turismo de la Nación Argentina. Retrieved from: <http://desarrolloturistico.gob.ar/subsecretaria/plan-federal-estrategico-de-turismo-sustentable>

MINTUR. (2012). *Plan de Marketing Internacional ConectAR 2012-2015*. Ciudad Autónoma de Buenos Aires: Ministerio de Turismo de la Nación Argentina. Retrieved from: <http://conectar.argentina.travel/>

MINTUR. (2013). *Encuesta de Ocupación Hotelera 2005-2013*. Ciudad Autónoma de Buenos Aires: Ministerio de Turismo de la Nación Argentina, Ciudad Autónoma de Buenos Aires. Retrieved from: <http://desarrolloturistico.gob.ar/estadistica/eoh>

Rosselló Nadal, J., Riera Font, A. & Sansó Rosselló, A. (2004). The economic determinants of seasonal patterns. *Annals of Tourism Research*, 31(3), 697-711.

Wanhill, S. R. C. (1980). Tackling seasonality: A technical note. *International Journal of Tourism Management*, 1(4), 243-245.

Yacoumis, J. (1980). Tackling seasonality: The case of Sri Lanka. *International Journal of Tourism Management*, 1(4), 84-98.