A SIMPLE TEST FOR THE PRESENCE OF SEASONALITY IN TOURISM IN MACEDONIA

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Abstract: Tourism development is often interrupted by seasonality, which is noted as one of the most influencing factor for limiting continuous enlargement. Therefore, many tourism-oriented countries try to overcome seasonality in the line of prolonging tourist season as a precondition for creating sustainable and competitive tourism development. In this respect, the paper makes an attempt to introduce a simple test for examining the presence of seasonality in tourism in Macedonia. In order to meet the main aim, the research is fully covered by quantitative approach by employing the Gini coefficient, as one of the most applied indicators for measuring tourism seasonality. The data set covers a sample dealing with the number of tourist arrivals for the period 2005-2012. The research results point to low-level seasonality patterns and indicate importance of its follow-up. The findings confirm that tourism flow distribution or concentration is not significant to tourism development in Macedonia. So, the high peaks in July and August have not sufficient capacity and strength for serious influence with an in-depth manner. Generally, both, the academics and the practitioners s well, may find the results of the research useful since it disentangles the belief of having strong and notable high season during summer months. Additionally, this study may serve as a starting point for urging measures for enhancing the up-to-date modest tourism development in Macedonia.
Key words: Seasonality; Tourism: Gini coefficient; Macedonia.

INTRODUCTION

Regardless the level of economic development, each country is interested in tourism due to its various positive impacts. Generally, tourism contributes to economic growth and development, promoting international understanding and peace, improving living standard, stimulating local trade and industry development, protection of cultural heritage etc.[1]. In this line, seasonality is noted as one of the most influencing factor for limiting continuous development. So, one may

[1] For more details see: Goeldner, Charles, Brent Ritchie and, Robert McIntosh. (2000). *Tourism: Principles, Practices, Philosophies*. John Wiley & Sons.

understand it as a phenomena that provokes incomplete and unbalanced usage of means necessary for economic development.[2]

This research attempts to answer the main investigation question for examining the seasonal patterns in tourism in Macedonia. In order to explore this statement, the paper is structured in several parts. After the introductory part, there is a section that gives a brief overview on literature that argues the seasonality issue. Section two introduces the dilemma of having seasonality or just a high tourism demand in Macedonia. The research design encompassing the methodology and research frame are posed in Section three. Section four presents the main research findings and discussion, while the conclusion remarks are noted in last part of the paper. Finally, the research disentangles the belief of having strong and constant high season during summer months. Moreover, in a scientific manner, it argues that the modest results in tourism development in Macedonia must not be addressed to seasonality.

1. LITERATURE REVIEW

Seasonality in tourism has been a subject of interest among researchers and academicians thus provoking continuous debates and argumentations.[3] Yet, they all generally agree that seasonality is occurred due to temporary imbalance in tourism flows caused by three types of factors:

(1) Nature (sunny days, snow falls, insolation etc.);

(2) Institutional factor (religious and pilgrimage travel, workers' holidays, students' ferries, festival events etc.); and

(3) Other factors (social pressure, personal preferences, inertness etc.).

Moreover, it is noted that this type of systematic variations may be present during the year, semester, but also in the frames of a month or a week, even in a single day.[4] Each of them may have positive or negative influence on tourism development.

If having negative consequences over tourism development, the researches pose the fact that

[2]For more details see: BarOn, Raphael Raymond V. (1973). Seasonality in tourism – part II. *International Tourism Quarterly* 1: 51-67.

[3]Additional insights regarding seasonality may be found in: BarOn (1993 and 1999), Baum (1999), Chung (2009), Higham and Hinch (2002), Jang (2004), Lundtorp (2001) and Yacoumis (1980).

[4]Different types of systematic variations concerning seasonality are introduced by: Holloway (1994) and Lundberg et al, (1995).

seasonality may not be controlled.[5] In this respect, they all refer to damaging influences in:

(a) Employment (part-time employment, social instability and insecurity etc.);

(b) Investments (high risks over law occupancy rate); and

(c) Environment (pollution, overcrowding, xenophobia, criminal activity etc.).

Thankfully to various methods for detecting seasonality, one may identify and introduce measures and activities in order to cope and overcome negative impacts on tourism. As the most commonly applied methods, the academicians note: extension of the season by introducing new tourist products immune to seasonality; application of positive pricing policy; developing business tourism, etc.[6]

On the other side, there is a large body of literature that elaborates an approach that seasonality provokes positive effects as well, particularly in terms of sociology and ecology. Namely, after devastating high season, long and quiet period is more than welcomed especially for recovering the sources, and the local population as well.[7]

2. SEASONALITY OR JUST A HIGH DEMAND IN MACEDONIAN TOURISM?

The issue of investigating the presence of seasonality in tourism demand in Macedonia, is not highly explored, with certain exceptions as noted by Petrevska (2013). Therefore, we share the opinion for added value of this study, as a rare applicative research for the case of Macedonia. So far, one may note in the textbooks the underlined characteristic of tourism in terms of seasonality. This sections intends to pose some clarifications in order to differentiate seasonality from high demand.

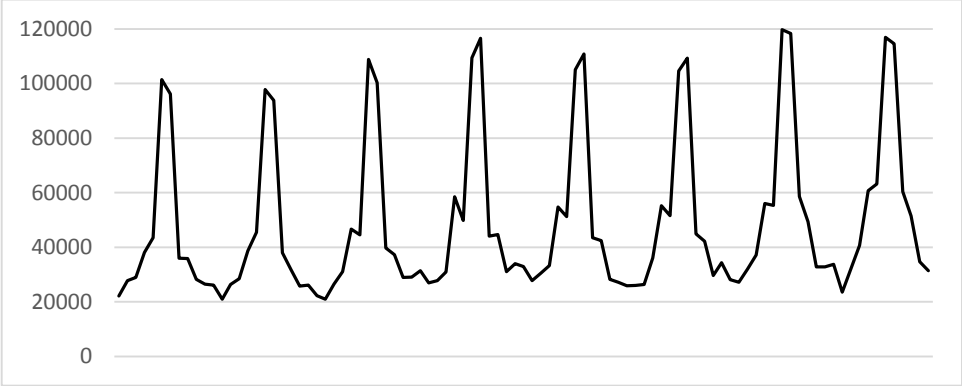

Figure 1. Tourist arrivals in Macedonia, monthly data for 2005-2012

[5]The uncontrolled effects of seasonality is addressed by: Allcock (1989), Edgell (1990), Laws (1991), Snepenger et al, (1990) and Szivas et al, (2003).

[6]For more details see: Nadal et al, (2004), Sutcliffe and Sinclair (1980), Wanhill (1980) and Witt et al, (1991).

[7]For more details see: Butler (1994), Drakatos (1987), Grant et al, (1997) and Hartmann (1986).

Figure 1 presents the number of tourists by months in Macedonia during the period 2005-2012. One may visually conclude that Quarter 3 (comprised of summer months: July, August and September) encompasses the largest quantum of tourists and travelers, thus representing the highest peak-point i.e. the high season. Concerning Macedonia, this may be explained with the fact that in Quarter 3 tourism demand is the highest due to presence of multiple factors. Namely, in these months, the usage of holidays and ferries is the highest (institutional factor), there is hot and sunny weather particularly in lake resorts (natural factor) and there is a manifestation of personal preferences and attitudes of tourists and travelers (other factors). Although at first glance this may seem as a strong seasonality pattern, yet the in-depth analysis in addition points to opposite conclusion.

3. METHODOLOGY

Based on the research question noted in the introductory part, the study attempts to gain in-depth knowledge regarding seasonal patterns of tourism in Macedonia. The research is mainly covered by quantitative approach in order to meet the set objectives. In this respect, the analysis of seasonal concentration of tourism demand in Macedonia is done by computing the Gini coefficient (G). The main variable applied in this research is the number of tourists on monthly basis during the period 2005-2012. Calculations are based on standard equations for G on yearly basis.

The Gini coefficient is first developed and introduced in 1912, and since then it is one of the most commonly applied indicators for measuring inequality caused by temporary disorders. Moreover, the Gini coefficient is often calculated as appropriate measure for expressing seasonality in tourism.[8] In this respect, some different approaches are noted by Xu (2003) for calculating the Gini coefficient. Its value spreads between 0 and 1, whereas bigger G represents bigger inequality i.e. seasonality in tourism, and vice versa. In this research, the Gini coefficient on yearly basis is calculated upon standard equation (Eq. 1).

$$G = 2/n \sum^{n}_{i=1} (x_i - y_i) = 2/n[(x_1 - y_1)+ (x_2 -y_2)+\ldots+((x_n - y_n)] = 2/n[\sum^{n}_{i=1} x_i - \sum^{n}_{i=1} y_i] \quad (1)$$

Whereas:

n denotes number of months;

x_i denotes rank of the months (1/12, 2/12, ..., 12/12); and

y_i denotes cumulative relative frequency of tourist arrivals in rank by ascending order.

[8]The Gini coefficient is applied by many researchers. In this occasion, we refer to several: Arnold (2008), Bigovic (2012), Black (2002), Fernández-Moralez (2003), Lim and McAleer (2008) and Nadal et al (2004).

4. RESULTS, ANALYSIS AND DISCUSSION

As noted in the methodological framework, the main aim is to calculate the G for tourism demand in Macedonia for the sample period. For that purpose, some previous calculation must be undertaken. In this line, Table 1 presents calculations of the rank of fractiles i.e. months in a year. In addition, due to their consistency, the obtained data are applied in further calculations, particularly in computing the G values.

Table 1. Calculations of fractiles' rank

x_i
1/12 = 0.08
2/12 = 0.17
3/12 = 0.25
4/12 = 0.33
5/12 = 0.42
6/12 = 0.50
7/12 = 0.58
8/12 = 0.67
9/12 = 0.75
10/12 = 0.83
11/12 = 0.92
12/12 = 1.00
Total = 6.50

Since the fractiles' rank are computed, the calculations proceed by obtaining further data. So, Table 2 presents cumulative relative frequency of tourist arrivals by ascending order on yearly basis (y_i). Additionally, this table presents the difference between number of fractiles and the cumulative relative frequency in rank ($\Sigma x_i - \Sigma y_i$).

The calculated values for G for the sample period are presented in Table 3. It is noticeable similarities in the value during the past eight years. So, the values of the Gini coefficient, the values spreads between 0.2705 and 0.2993. The average value of G for the period 2005-2012 is 0.2821. The data show that seasonality in terms of intra-year monthly variations in tourist arrivals is constant during the sample period. Due to fact that research calculations referring Gini coefficient are far below the margin of 0.5, one may conclude presence of very modest seasonality in tourism. Namely, the low value of G shows that current distribution of tourism

demand for the sample period, has no meaning to Macedonia. So, the concentration in terms of tourist arrivals in Macedonia points to relative balance and equality. Thus, high peaks in July and August have not sufficient capacity and strength for serious influence with an in-depth manner.

Table 2. Computing data for G coefficient

Year	y_i	$\Sigma x_i - \Sigma y_i$
2005	4.818808	1.681192
2006	4.805113	1.694887
2007	4.704226	1.795774
2008	4.799811	1.700188
2009	4.844718	1.655282
2010	4.816294	1.683706
2011	4.790886	1.709114
2012	4.877296	1.622704

Table 3. Gini coefficient of tourism demand in Macedonia, 2005-2012

Year	Tourist arrivals	G
2005	509706	0.2802
2006	499473	0.2825
2007	536212	0.2993
2008	605320	0.2834
2009	587770	0.2759
2010	586241	0.2806
2011	647568	0.2849
2012	663633	0.2705
average 2005-2012	579490	0.2821

It is more than obvious that the calculations for G indicate data that do not support the values for confirming the fact of having strong seasonality in tourism in Macedonia. So, one may conclude the absence of such.

Additionally, it can be noted that all calculated values of G and are similar, almost identical and approximately constant with small neglectable variations (G has the lowest value in 2001 due to war conflict in Macedonia). This points to conclusion that during the entire sample

covering the period of past eight years, there was never any meaningful and strong seasonal patterns in tourism in Macedonia. So, the belief for having high tourism seasonality in Macedonia with significant characteristics, particularly in summer months, scientifically is proved to be groundless. Consequently, we disentangled the attitude of having strong high season during summer, but rather modest results in tourism development.

CONCLUSION

This paper aims to recall the importance of seasonality as one of the major and profound limits for tourism development. In this respect, a brief overview is presented on reasons for the most examined negative effects of tourism seasonality. Additionally, some approaches referring positive impacts due to seasonality have been noted. In the same time, the research attempts to clarify the difference between registered peaks in the third quarter in each year, and the presence of seasonality. Namely, statistical data regarding tourist arrivals really do present largest figures, but it must not be generalized and interpreted as strong and powerful seasonality in tourism flows. On the contrary, this only indicates that in quarter 3 exist cumulative influence of all factors that provoke extended concentration and increased demand. Such situation includes: acceptable and favorable weather conditions; extensive insolated days; usage of vacations and ferries; personal preferences for summer season etc.

Furthermore, the paper presents the findings upon the main aim of the empirical investigation. So, in order to investigate seasonality in tourism demand in Macedonia, the basic variable (G coefficient) is used in the calculation concerning tourist arrivals on monthly basis. The sample spreads from 2005 to 2012. The research outcomes gave a scientific clarification for having moderate seasonality patterns in tourism in Macedonia. Moreover, the findings point to fact that distribution i.e. concentration of tourism demand in terms of tourist arrivals, is humble and has no substantial meaning to Macedonia. So one may indicate that seasonality in tourism never had profound effects, but rather to talk about permanent modest tourism development.

Generally, this research found out that theoretical belief for existing seasonality with meaningful patterns, particularly in summer months, is groundless. Hence, this empirical analysis in a scientific manner rejects such attitude and disentangles the presence of having seasonal concentration in tourism in Macedonia with substantial influence. So, the up-to-date modest tourism results must not be addressed to seasonality as strong and limiting factor for tourism development in Macedonia, since there is no such. Although the use of simple technique can be helpful in some contexts, the research may be enhanced in future work by employing advanced methods.

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