EMPIRICAL EVIDENCE OF TOURISM PLANNING IN HILLY-MOUNTAIN AREAS

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Abstract: The paper notifies the importance of planning process in tourism development in order to ensure maximizing the benefits for all policy stakeholders, while minimizing negative effects. Due to inevitable relationship between tourism planning and forecasting, the latter must be implemented in the line of formulating adequate tourism development plan and policy. The paper aims to quantify potential tourism demand in hilly-mountain areas by providing medium-run estimations in terms of tourist arrivals. For the purpose of the research, the case of Macedonia is investigated. Furthermore, the paper is rich on stylized facts referring tourist participation within hilly-mountain areas. The outcomes point to conclusion of having strong potentials for enhancing the up-to-date modest tourism results in mountain resorts. Although, the applied methods are not capable of explaining the driving factors behind the research estimations, the values can serve as a base for creating comprehensive economic and tourism development policy. Finally, this empirical evidence contributes to enriching the poorly developed academic work within this scientific area in Macedonia.

Keywords: Tourism planning; Economic development; Forecasting; Hilly-mountain areas; Macedonia.

Introduction

Recently, tourism has emerged as one of the major industries in the world economy, by benefiting various and numerous sectors. So, each country is interested in developing tourism since it generates various, in the first line, positive impacts. It affects aggregated demand, domestic output, employment, influences the balance of payments and so forth. Simultaneously, tourism has major social impacts at regional and local levels, particularly in the areas where tourism activities take place. Hence, some regions were highly positively influenced by tourism impacts, like mainly coastal (Emilia-Romagna, Italy), mountainous (Valais, Switzerland), urban and historic (Ile-de-France, France) or regions with exceptional natural resources (Quebec, Canada and Arizona, USA). Additionally, regions with different profiles can also benefit from the growth of tourism. In this line, they can be rural, promoting green tourism, leisure and nature activities (Queensland, Australia), very remote, (Greenland, Denmark) or regions undergoing industrial restructuring (Nord-Pas-de-Calais, France). Hence, everyone identifies tourism as a source of economic growth and development, promoting global community and international understanding and peace, providing tourism and recreational facilities to local people, improving living standards, stimulating local commerce and industry, reinforcing the preservation of heritage and tradition (Goeldner et al, 2000). Consequently, the contribution of tourism industry to the global economic development is significantly important, as well as in state, regional and community planning. In the same line, it is necessary to implement a document for strategic tourism development, since it represents a strong mechanism for creating general policy of the overall economic development (Frechtling, 2001; Williams and Shaw, 1991). Additionally, defining the development priorities as a basic element of the development strategy is the biggest obstacle of each country (Gunn, 1993; Hall, 2005). In such cases, the governments should pay much attention particularly to the growth of number of tourists into a country. So, planning and estimating tourism demand becomes highly important. By applying a model that could validly predict the tourism demand, the government would be able to plan properly and effectively tourism

development in order to choose an appropriate strategy for its economic welfare. A reliable estimation is needed and as such, plays a major role in formulating and implementing appropriate medium to long term tourism strategy. Therefore, forecasting tourism demand is essential for efficient tourism planning.

The objective of this paper is to refer to the necessity of relating tourism planning to forecasting by exploring the hilly-mountain areas of Macedonia. In order to achieve that goal, the paper is structured in several sections. After the introductory part, Section one provides a snapshot on necessity of introducing tourism planning and forecasting. Section two presents a critical overview of the theoretical and empirical literature. 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 main conclusion and future challenges are noted at the end. Generally, this study makes an attempt to quantify the potentials of tourism demand in hilly-mountain areas by providing a medium-run estimation. Despite the strong potentials, the research conclusion points to extremely modest up-to-date results in Macedonian mountain resorts, thus urging a need for boosting tourism development in hilly-mountain areas. Finally, this empirical evidence contributes to enriching the poorly developed academic work within this scientific area in Macedonia.

1. Necessity of tourism planning and forecasting

As one of the most dynamic world industries, tourism is facing numerous challenges which affect its development. In order to cope with them, the planers and policy-makers apply the process of forecasting as the only way to furnish information, which permits them to reach decisions before the occurrence of certain events. In order to create a comprehensive tourism development plan as a base for formulating tourism policy, reliable estimates of future demand must be undertaken. However, that is not a trouble-free process due to numerous dissimilarities, which prevail to tourism industry. Therefore, the main aim in introducing forecasting process in tourism is to envisage success of the destination by ensuring that visitors are hosted in a way that maximizes the benefits to stakeholders with minimum negative effects, costs, and impacts. There is an obvious relationship between the concept of tourism planning and estimating tourism trends. Namely, estimation permits planners and policy-makers to reach decisions before the occurrence of the events. Without reliable estimates of future demand, it is difficult, if not impossible, to formulate adequate tourism development plan and policy (Vanhove, 1978). It should be noted that the main principles must always prevail, in order the tourism policy to ensure that visitors are hosted in a way that maximizes the benefits to stakeholders, while minimizing the negative effects, costs, and impacts associated with ensuring the success of the destination (Goeldner and Ritchie, 2006). However, all efforts in order to considerate and understand the interrelated nature of tourism industry require monitoring and evaluation when tourism policy issues are involved (Edgell et al, 2008). In this respect, tourism policy may be viewed as simple by those whose job it is to create and implement it (Wilkinson, 1997), but at the same time many case studies on planning provide indications that the policy-making issue is not a trouble-free process (Mason, 2003). Additionally, the factors, which can influence tourism demand, are normally to be found within the tourist-generating countries (Lickorish and Jenkins, 1997), but also may initiate from all sectors of the economy - individuals and households, private businesses and the public sector (Sinclair and Stabler, 1997).

Forecasting tourism demand has attracted a lot of attention by both, the academic literature and tourism practitioners (Song and Turner, 2006). It is more than obvious that the success of many businesses depends largely or totally on the state of tourism demand. More precisely, the demand is a key determinant of business profitability and its estimations constitute a very important element in the whole planning process. Forecasting tourism demand can be helpful

to economic planners in reducing the risk of decisions regarding the future (Frechtling, 2001). In the same line, it is important to the tourism manager and to those who depend on that manager, since more accurate estimations reduce the risks of decisions more than do less accurate ones. Hence, the accuracy is one of the most important forecast evaluation criterions (Witt and Witt, 1992). It is obvious that a wide range of techniques and procedures available for tourism policy analysis must be introduced in order fulfill tourism planning in adequate manner (Chowdhury and Kirkpatrick, 1994). Besides, forecasting can serve as a mean to deal with the alternative future although it may evolve in strikingly different ways (Coates and Jarratt, 1989). Anyway, anticipating tourism flows considers the historical facts as well as the scientific knowledge in order to create images of what may happen in future (Cornish, 1977) because only then, the forecasting process may allow the prediction of future.

2. Literature review

The issue referring tourism economic effects on country's development is highly explored. Namely, numerous researchers have been involved and a wide variety of techniques have been applied in quantifying tourism economic effects. Studies vary extensively in quality and accuracy, but mostly address the economic impact analysis (Babu et al, 2008; Crompton, 1993; Huybers, 2007; Lundberg et al, 1995; Ramos and Jimènez, 2008; Stabler et al, 2010). In this respect, the economic impact analysis traces the flows of spending associated with tourism activity in a region in order to identify changes in sales, tax revenues, income, and jobs due to tourism activity. The principal methods being applied are visitor spending surveys, analysis of secondary data, economic base models, input-output models and multipliers.

Regarding application of methods for forecasting tourism demand, there is a large body of literature. Namely, numerous researchers have been involved and a wide variety of techniques has been used. In principle, all methods are generally categorized in two-categories: qualitative and quantitative (Song and Li, 2008). The qualitative methods use pooled opinions of experts to organize the past information of the variable and often are recommended as methods which seldom generate better predictions (Hall, 2005). The quantitative methods organize past information about a phenomenon by mathematical rules and assume that at least some elements of past patterns will continue into the future (Makridakis et al, 1998).

Regardless the method, it is expected that the final model chosen for estimations will produce projections which are as precise as possible. However, it is not always the case due to lack of sufficient time series data, measurement errors, or even, unclear picture for the system of tourism demand (Song and Witt, 2000). So, certain evaluation criteria are used in order to select potential starting methods, as well as to identify an adequate model. However, no individual model consistently performs well in all situations (Witt and Song, 2002) meaning that no single forecasting model is the best for all situations under all circumstances (Makridakis et al, 1982). Therefore, solution is seen in proposing combination models since one cannot identify the true process exactly, but combining often results in a prediction accuracy which is higher than the one of the individual models (Lawerence et al, 1986; Makridakis, 1989; Makridakis and Winkler, 1983). Furthermore, the performance of the forecasting models varies according to the length of the forecasting horizons (Li et al, 2005). Forecasting domestic tourist flows is considerably easier than forecasting international tourist flows' over a one-year horizon (Witt et al, 1992).

Tourism demand can be expressed in a variety of way. Some explained it by consumer expenditure or receipts (Grouch, 1992; Li et al, 2004) as the only one applicable variable which can be directly translated into economic impact (Sheldon, 1993). Others employed tourist expenditure on particular tourism product categories, such as meal expenditure (Au and Law, 2002), sightseeing expenditure and expenditure (Au and Law, 2000). On the other hand, others

made their focus on tourist typologies, motivation, determinants of choice of activities and demand (Johnson and Thomas, 1992). Even more, tourism demand can be measured by visitors' use of a good or service (Frechtling, 2001), tourism revenues (Akal, 2004), tourism employment (Witt et al, 2004) and tourism import and export (Smeral, 2004). However, the tourist arrivals variable is the most popular measurement of tourism demand (Crouch, 1994). This variable further may be decomposed into holiday tourist arrivals, business tourist arrivals, tourist arrivals for visiting friends and relatives purposes (Turner and Witt, 2001a, 2001b; Kulendran and Wong, 2005), and tourist arrivals by air (Coshall, 2005; Rosselló, 2001).

3. Research methodology

In principle, tourism demand forecasting can be done in two ways: the first is to process quantitative data by strict mathematical rules, while the second is based on the pooled opinions of experts regarding the past and future of the events. This paper fully addresses only the quantitative methods that organize past information about a phenomenon by mathematical rules and assume that at least some elements of past patterns will continue into the future (Makridakis *et al.*, 1998). These rules take advantage of underlying patterns and relationships in the data of interest to the forecaster.

The paper is reach on secondary and primary sources based on desk-research, whereas different types of analyses are performed. Furthermore, the study is rich on stylized facts referring tourist participation within hilly-mountain areas. For the purpose of the research, a medium-run estimation in terms of tourist arrivals is provided. More precisely, we forecast tourism demand for the period 2013-2015 by introducing the Double Exponential Smoothing model (DES) which is actually an exponential smoothing of second order. This model is optimal for smoothing processes dealing with short time series with linear trend and no seasonality. It uses the same constant for smoothing the level and the trend of the series, which is actually its basic characteristics, but also its weakest point. Simultaneously, the model smoothes the oscillations in the series, enabling it to react on structural changes in the shortest possible time.

The equations for the DES model are:

Level: $\qquad L_t = \alpha A_t + (1 - \alpha)(L_{t-1} + b_{t-1})$ (1)

Trend: $\qquad b_t = \alpha (L_t - L_{t-1}) + (1 - \alpha)b_{t-1}$ (2)

Forecast: $\qquad F_{t+h} = L_t + hb_t$ (3)

It is commonly used that the constant has value of 0.2 or less. Despite the fact that the choice of the value of the constant is limited, it can be used in obtaining more accurate forecasting results. Given the fact that the quantitative analyses do not always disentangle key facts necessary for pointing out concluding remarks regarding particular issues, analysis based on qualitative approach are additionally introduced.

4. Analysis, results and discussion
4.1. Tourism statistics referring hilly-mountain areas

During the research, we were faced with obstacles regarding the official statistical data representing tourism demand in the hilly-mountain areas in Macedonia. Namely, according to official statistics the tourists are categorized by following types of tourist resorts: Skopje, spa resorts, mountain resorts, other tourist resorts and other resorts. So, this research encompasses only data referring mountain resorts thus covering the issue of hilly-mountain area.

The study emphasizes some facts at glance concerning tourism statistics in the hilly-mountain areas. Table 1 presents tourism demand in terms of tourist arrivals, for the period 2003-2012. One may note continuous up-ward trend which is interrupted in 2006-2007. Yet, in the last two years of the sample period (2011 and 2012), a slight decline is detected.

Table 1. *Tourist arrivals in hilly-mountain areas in Macedonia, 2003-2012*

Year	Total tourist arrivals	Tourist arrivals in mountain resorts
2003	483151	41592
2004	465015	42282
2005	509706	43371
2006	499473	40089
2007	536212	33215
2008	605320	43165
2009	587770	52484
2010	586241	71457
2011	647568	71309
2012	663633	68809
Ave.(2003-2012)	558409	50777
Std.	69589	14412

Source: State Statistical Office, various years, various publications

The symbolic participation of data referring tourist arrivals in mountain resorts is visually presented in Chart 1. It is noticeable, that during the sample period, that share is spreading in the diapason between 6% (the lowest, noted in 2007) and 12% (the highest, noted in 2010), marking an average participation of only 9%.
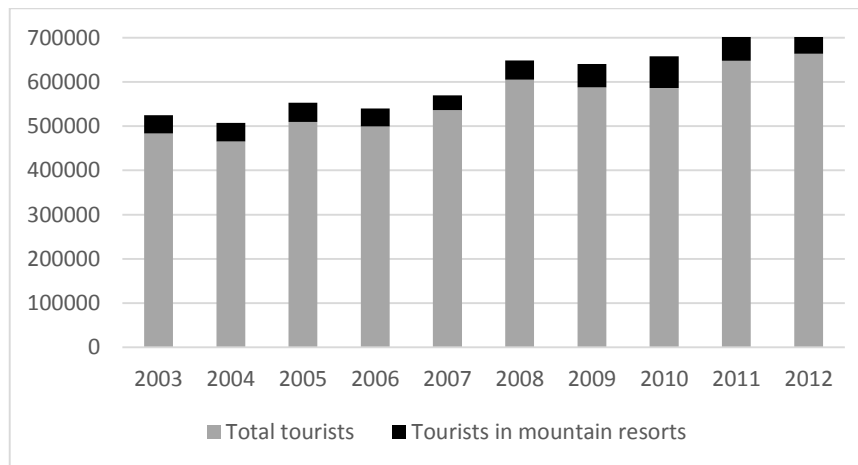

Chart 1. Share of tourists in mountain resorts in total tourists arrivals

In order to gain additional info in more in-depth manner, we proceed with stylized facts concerning type of tourists that visited mountain resorts in the sample period. In this respect, Chart 2 illustrates strong domination of domestic tourists over foreign ones. Namely, it is noticeable that during 2003-2012, the domestic tourists comprised between 76% (the lowest, noted in 2009) and 92% (the highest, noted in 2003), displaying an average participation of 82% of total tourist arrivals in mountain resorts. With regards to foreign tourists, the analysis indicate their participation of 8-24% in the period 2003-2012, by recording an average of only 18%. Despite the humble results concerning foreigners, one may note positive impulse in terms of their constant increase during the past decade.
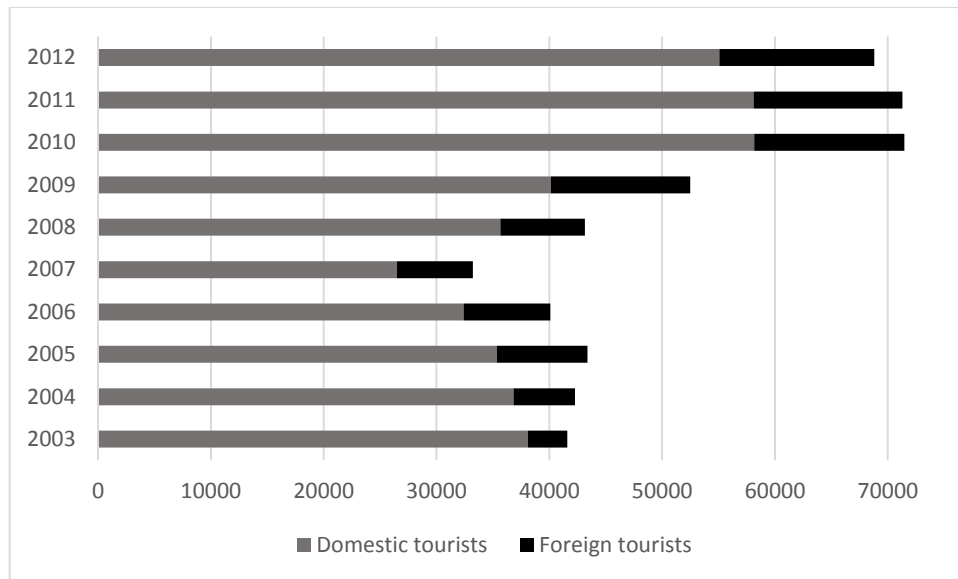
Chart 2. Domestic vs. Foreign tourists in mountain resorts

4.2. Forecasting tourism demand in hilly-mountain areas

Due to fact that the primary purpose of building a forecasting model is to clearly discern the future of a phenomenon, the most important criterion is how accurately a model does this, i.e. how closely the estimations provided by the model conform to the actual events being forecasted. This study disregards the evaluation of the proposed model, thus leaving it as additional topic for further research. Yet, the author indicates that the evaluation may be made by means of various standard indicators, as: Root Mean Squared Error, Mean Absolute Error, Mean Absolute Percentage Error, Theil Inequality Coefficient and similar.

As noted in the research methodological framework, this study introduces the DES method. This model may be used for forecasting tourism demand mainly because of its simplicity in the implementation. Chart 3 visually presents the advantage of the DES model, which lies in the ability to follow the original time series.
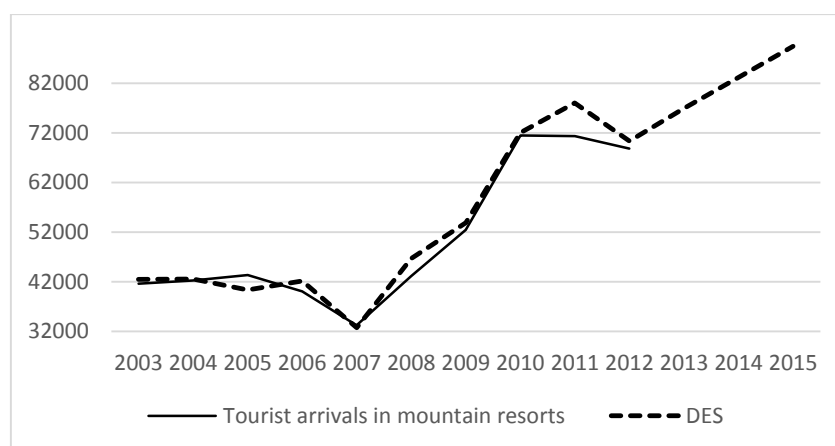

Chart 3. Forecasting tourism demand in hilly-mountain areas in Macedonia, 2013-2015

According to the DES model, the number of tourists in Macedonia in hilly-mountain areas for the period 2013–2015 is projected to be within the interval of 77000-90000 tourists. Based on

this model, the number of tourist arrivals in the following three years will be more than twice bigger compared to 2003 i.e. by 2015 Macedonia will note additional 47 000 tourists.

Table 2. *Forecasting Tourism Demand in hilly-mountain areas in Macedonia, 2013-2015*

Year	2013	2014	2015
DES	76928	83171	89415

Still, the biggest disadvantage of this model is the inappropriateness in forecasting time series with seasonality components, as tourism is. In such cases, other models of exponential smoothing are used: simple exponential smoothing, Holt-Winters multiple smoothing (with three parameters) etc.

Since each country is interested in increasing the number of tourists, particularly the foreigners, the study introduces another interesting finding. Speaking about the international tourist arrivals in the mountain resorts, the upward trend is expected to continue. Namely, by applying the linear trend, we can expect increasing of international tourist arrivals for almost five times compared to 2003, and for almost 28% bigger in comparison to 2012. When introducing the equation (4) for the projected linear trend, the number of foreign tourists in hilly-mountain areas in Macedonia by 2015 is expected to be 17513. Chart 4 gives an overview of the forecasted values.

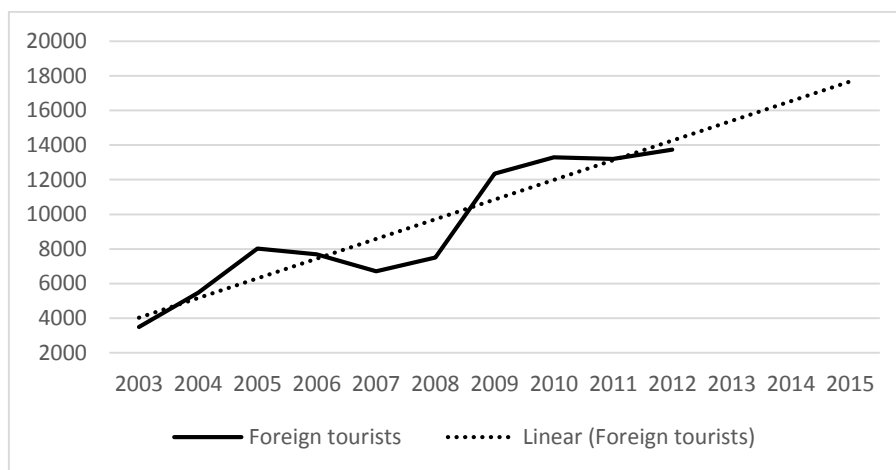$$y = 1136{,}6x + 2895 \tag{4}$$

Chart 4. Forecasting international tourism demand in hilly-mountain areas in Macedonia, 2013-2015

One should point out that the anticipated values for tourism statistics in terms of tourist arrivals in Macedonia for 2013-2015 must be taken in consideration with a large doze of precaution, since they do not indicate the reasons that affect the forecasted results. Yet, this research underlines the urgent need for implementing measures and activities in the line of enhancing tourism development in Macedonia, particularly in hilly-mountain areas.

Conclusion

Due to inevitable relationship between tourism planning and forecasting, the latter must be implemented in the line of formulating adequate tourism development plan. More important, forecasting tourism demand is a base for creating achievable tourism policy, creating adequate

regional development policy, formulating and implementing tourism strategy and so forth. Besides the stylized facts referring tourist participation within hilly-mountain areas, this research provides a medium-run estimation of tourism demand for hilly-mountain areas in Macedonia for the period 2013-2015. From the variety of quantitative methods, the paper addresses the possibility, but at the same time, the precondition of practical appliance of double exponential smoothing method. The outcomes point to conclusion of having strong potentials for enhancing the up-to-date modest tourism results in mountain resorts. Namely, according to the DES model, the number of tourist arrivals in the following three years is expected to be more than twice bigger compared to 2003. Consequently, one may expect to attract additional 47000 tourists in hilly-mountain areas by 2015 Macedonia. Concerning the foreign tourists, the study investigated that their participation will note constant increase. So, one may expect an increase of international tourist arrivals for almost five times compared to 2003, and for almost 28% bigger in comparison to 2012 by reaching 17513 foreign tourists in 2015.

With this research, the author made an attempt to quantify potential tourism demand in hilly-mountain areas in Macedonia. Moreover, the main intention was to underline the importance that the development of tourism in these areas can trigger general economic growth by creating a new dynamic. It can also contribute to better land use planning by countering rapid urbanization in developed countries and by attracting populations to new regions where tourism is developing. However, some guidelines for development must be laid down in order to preserve resources and many activities need to be introduced in the line of contributing to prosperity of hilly-mountain areas. In this respect, one of the major challenges consists of setting up mechanisms to improve competitiveness and quality of tourism development in hilly-mountain areas in terms of ensuring sustainable and balanced tourism development.

Additionally, the paper explains that the recommended model does not indicate the reasons that may affect the projected results, which on the other hand, have high influence on identifying measures and activities necessary for creating tourism policy.

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