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THE EFFICIENCY OF THE TOURISM INDUSRTY IN THE BALKANS

ЕФИКАСНОСТ ТУРИСТИЧКОГ СЕКТОРА НА БАЛКАНУ

Summary: *The countries in the Balkan region report an increase in the number of tourist arrivals and spending but the question that remains is if their overall tourism industry is efficient. Using the methodology data envelopment analysis, this paper analyzes the efficiency of the tourism industry in the Balkans at the macro level. Eleven countries in the Balkan region were included in the research, namely Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Macedonia, Montenegro, Romania, Serbia, Slovenia, and Turkey. The period of observation was six years (2010-2015). Two inputs and two outputs were selected. Visitor exports and domestic travel and tourism spending were inputs, while travel and tourism total contribution to GDP and employment were outputs. According to the obtained results, there was no country that was efficient in every year in every window, and it was found that the most efficient country in the whole observed period is Albania, while the least efficient country is Montenegro.*

Keywords: *Balkans, tourism industry, relative efficiency, DEA, Window analysis*

JEL classification: *C44, C61, Z32*

Резиме: *Земље у региону Балкана пријављују пораст броја туристичких посјета и туристичке потрошње, али се поставља питање да ли је њихов укупни туристички сектор ефикасан. Користећи методологију анализе обавијања података, у овом раду анализирамо ефикасност туристичког сектора на Балкану на макронивоу. Истраживање је обухватило једанаест земаља из региона Балкана, односно Албанију, Босну и Херцеговину, Бугарску, Хрватску, Грчку, Македонију, Црну Гору, Румунију, Србију, Словенију и Турску. Период посматрања трајао је шест година (2010-2015). Одабрана су два улаза и два излаза. Улазни подаци се односе на туристички извоз и домаћа туристичка путовања и туристичку потрошњу, док се излазни подаци односе на укупни допринос путовања и туризма БДП-а и запосленост. Према добијеним резултатима, није било земље која је ефикасна у свакој години у сваком прозору, а утврђено је да је најефикаснија земља у цијелом посматраном периоду била Албанија, док је најмање ефикасна земља била Црна Гора.*

Кључне ријечи: *Балкан, туризам, релативна ефикасност, ДЕА, Windows analysis*

ЈЕЛ класификација: *C44, C61, Z32*

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1. INTRODUCTION

"Regions are created not by space but by time and history" (Paul Bois).

The Balkans is one of the regions which has been the topic of much research by scientists from all around the world. What is it that makes it such an interesting region (Tomka 2014)? The answer lies in the fact that it has for millennia been the cultural connection between Central Europe and Asia Minor (Hudelson 2014, 34). The place where the Western civilization meets the Ottoman Empire, or as Nedelcheva (2013, 79) describes, a historical crossroad of the ancient cultures of Europe and Asia. The mix of those cultures results in a cultural, ethnic (Kiss 2015, 98), and religious diversity of the whole region. This diversity attracts tourists, and represents one of the main strengths that pull tourists towards the Balkans.

The Balkans is difficult to define geographically (Tamminen 2004). Generally, it consists of all the regions lying south of the northern slope of the Balkan Mountain Range (Hudelson 2014, 34). It is surrounded by the Mediterranean, the Adriatic, the Black, and the Aegean Seas, and the rivers Danube, Sava, and Kupa form the northern border (Akova and Demirkiran 2013). It is considered to include Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Kosovo, Montenegro, the Republic of Macedonia, Romania, Serbia, Slovenia, and the Thracian part of Turkey.

In this research the authors focus on the efficiency of the tourism industry in eleven of the twelve Balkans countries. Kosovo was excluded from the survey, since the authors did not collect sufficient data on the country. This corresponds with the research of Hudelson (2014), who was writing about the potential of wine tourism in the Balkans, and could not collect data for Kosovo as well, and with Kiss (2015), who analyzed the same eleven countries in the context of health tourism.

Efficiency is a fundamental point of development and the general concept (Onetiu and Predonu 2013, 648). The measurement of the efficiency in the tourism industry has been the area of a considerable amount of research in recent years, reflecting both the growing economic importance of tourism as a source of international revenue and domestic employment, and increasing competition in the global tourist markets around the world. However, this literature is limited to efficiency measurements of micro-units in the tourism industry (Hadad et al. 2012, 931), such as hotels (Barros 2005; Barros and Mascarenhas 2005; Sigala 2004) and travel agencies (Hadad et al. 2012, 931). Only rare works of research have dealt with the efficiency of the tourism industry at the macro level, such as those conducted by Hadad et al. (2012), and Cvetkoska and Barisic (2014).

In this paper we measure and analyze the relative efficiency of the entire tourism industry in the Balkans by using the non-parametric methodology data envelopment analysis (DEA). Introduced in 1978 by Charnes, Cooper and Rhodes (Charnes, Cooper and Rhodes 1978), it represents a data-oriented approach (Cook and Zhu 2008) for measuring the efficiency of homogenous entities which are known as decision-making units (DMUs). DMUs use the same inputs and produce the same outputs (Cvetkoska and Barisic 2014, 77). On the basis of the empirical data for the used inputs and produced outputs of the decision-making units, which comprise the sample of analysis, an empirical efficiency frontier has been constructed. According to Charnes et al. (1994, 5-6) the decision-making unit that lies at the extreme frontier is efficient, while the DMU that lies below this frontier is inefficient. The result of efficiency for the efficient DMU is 1 (100%), and if the result is different from the stated, this methodology identifies the sources of inefficiency and the level of inefficiency of the used inputs and outputs in order for the inefficient unit to improve its efficiency. When DEA is applied, the following should be taken into account : "*... the number of DMUs should be at least two to three times the total number of inputs plus outputs used in the models*" (Paradi, Vela and Yang 2004, 359). In our research the eleven Balkan countries were included in the analysis, two inputs and two outputs were selected, and data was collected for a period of 6 years (2010-2015). In order to increase the number of DMUs (countries) and to include a time dimension in the analysis, the DEA technique - Window analysis was used.

The paper is organized as follows. The tourism in the Balkans is described in Section 2, the methodology is explained in Section 3, while the data is presented in Section 4. The obtained results are presented and discussed in Section 5, and the conclusion is given in Section 6.

2. TOURISM IN THE BALKANS

The increasing importance of tourism in the economic structure of Balkan countries is undeniable. The current globalization (Loncar 2005), internationalization and regionalization represent challenges for present countries (Turek 1999), and emphasize the importance and the need for understanding long-term trends in tourism (Nanic, Barisic and Vukovic 2016, 666) and its efficiency. The ever increasing migrations through the Balkans consist of tourists, who contribute to economic development and, in some cases, to the recovery of economies of particular Balkan countries (Hudelson 2014, 34). However, in some Balkan countries like Romania, the tourism has mainly been focused on domestic markets, it has been state-funded and therefore the quality of facilities and services is not always at an international level (Kiss 2015, 97). On the other hand, among the 25 most famous tourist destinations in the world by the number of reported tourist arrivals in 2014, according to the United Nations World Tourism Organization's 2015 report, 3 of them are in the Balkan region: Turkey, Greece, and Croatia. Turkey is at the high 6th place with 39.8 million tourist arrivals, followed by Greece, which is at the 15th place (22.0 million), and Croatia at the 25th place (11.6 million tourist arrivals) (UNWTO 2015). The rest of the countries in the Balkans, even though they have significant cultural and natural assets (RCI 2012, 1), are not as popular tourist destinations compared to Turkey or Greece. World ranking shows that in 2014 Romania was the 37th country in the world by tourist arrivals, Bulgaria was the 41st, Albania the 60th, Slovenia the 75th, Montenegro the 94th, Serbia the 106th, Bosnia and Herzegovina the 127th, and the country with the fewest tourists in the Balkans was Macedonia, ranked at the 132nd place (Index Mundi 2016).

If we make a step further, it is evident that countries in the Balkans record an increase in the number of tourist arrivals and tourist spending year after year although they are not among the most appealing tourist destinations in the world. Forecasts are moving in the direction that the European continent, in which the Balkan countries are located, within the next 20 years, will be the most evident source of tourist demand for the development of international tourism on a global scale (Metodijeski and Temelkov 2014, 239). While each individual country has a lot to offer, the joint marketing of the Balkans as one destination enhances the competitiveness of the entire region. For many tourists, especially those from distant starting destinations, the ability to combine two or more countries into one itinerary based on specific interests or convenience plays a large factor in the ultimate purchase decision (RCI 2012, 1).

From ancient civilisations to this day, the Balkans has been a region of dynamic developments, diversity of lifestyles (Tomka 2014), rich historical heritage, authentic culture, and well-preserved nature. The image of an undiscovered part of Europe sprinkled with historical sites, stunning landscapes, and authentic communities, attracts tourists interested in exploration and off-the-beaten-path experiences (RCI 2012, 1), who want to feel excitement, flamboyance, and anything else but the everyday monotony. From the aspect of tourist demand, such an image is more than welcome (Tomka 2014), since it carries a dose of mysticism and attractiveness, which tourists recognize and are willing to experience.

3. METHODOLOGY

In order to measure the efficiency of the tourism industry in the Balkans we have used the output-oriented DEA Window analysis model with the variable returns to scale (VRS) assumption.

Thanassoulis (2001) points out that the meaning of the CRS (constant returns to scale) assumption is that the scale of activities of the decision-making unit does not affect its productivity. Variable returns to scale means that the rise in inputs does not lead to a proportional change in the outputs (Popovic 2006).

Regarding the orientation of the model, it can be: input-oriented, output-oriented, or non-oriented. When the purpose of the model is to minimize inputs in order to produce a given level of outputs it is known as input-oriented, and if the purpose of the model is to maximize outputs by using the given levels of inputs, then it is an output-oriented model (Cooper, Seiford and Tone 2007). When inputs are reduced and outputs are increased simultaneously in order for the DMU to be efficient, the model is known as non-oriented.

The Charnes-Cooper-Rhodes (CCR) model (Charnes, Cooper and Rhodes 1978) and the Banker-Charnes-Cooper (BCC) model (Banker, Charnes and Cooper 1984) are basic DEA models. The CCR model has been built on the assumption of constant, while the BCC on the assumption of variable returns to scale of activities.

What is used within this paper is Window analysis under VRS assumption, based on the BCC model. The envelopment form of the output-oriented BCC DEA model is given in (1)-(5), (Cooper, Seiford and Tone 2007, 93; Cvetkoska and Barisic 2014, 79):

$$(BCC\text{-}O_o) \qquad \max_{\eta_B,\lambda} \ \eta_B \tag{1}$$

$$\text{subject to} \qquad X\lambda \leq x_o \tag{2}$$

$$\eta_B y_o - Y\lambda \leq 0 \tag{3}$$

$$e\lambda = 1 \tag{4}$$

$$\lambda \geq 0 \tag{5}$$

where η_B is a scalar. The input data for DMUj (j=1,…,n) are $(x_{1j}, x_{2j}, \ldots, x_{mj})$, and the output data are $(y_{1j}, y_{2j}, \ldots, y_{sj})$; the data set is given by two matrices X and Y, where X is the input data matrix, and Y is the output data matrix, λ is a column vector and all its elements are non-negative, while e is a row vector and all its elements are equal to 1 (Cooper, Seiford and Tone 2007, 22, 91-92). See more about the BCC DEA model in (Banker, Charnes and Cooper 1984) and (Cooper, Seiford and Tone 2007, 90-94).

Cooper, Seiford and Tone (2007) point out that the result obtained by solving the Charnes-Cooper-Rhodes model is known as a global technical efficiency (TE), while the result that is obtained by solving the Banker-Charnes-Cooper model is known as local pure technical efficiency (PTE). They also point out that if the decisionmaking unit has a result of efficiency that is 100% according to both CCR and BCC model, then its productivity per scale of action is highest, but if the unit is 100% BCC-efficient and has a low CCR result, then it works efficient locally, not globally, which is also due to the size of the scale of the unit. They describe the scale efficiency (SE) as the ratio between two results (CCR and BCC) (for more details see Cooper, Seiford and Tone (2007, 152-154)), and by decomposing the technical efficiency of its constituent parts TE = PTE x SE, what can be identified are the sources of inefficiency, i.e. the inefficient operation is identified by PTE, and unfavorable conditions through SE, so that inefficiencies can occur because of inefficient operation or because of unfavorable conditions or because of both.

By using the DEA technique Window analysis, the changes in efficiency of the DMU over time can be observed. This DEA technique is explained below.

3.1. Window analysis

The name and basic concept of the DEA technique Window analysis is associated with Klopp (1985), and it focuses on the change of the efficiency of the decision-making unit in time. The name of this technique shows that the analysis is based on windows covering the various time periods and each DMU in a different time period is considered as a different DMU. On that basis, the performance of the observed decision-making unit is compared with its performance in other time periods and with the performance of other decision-making units that are included within a window (Popovic 2006).

The idea of this technique is the same DMU in the period i, i.e. the period j (for $i \neq j$) to be observed like two different DMUs, so if p presents the length of the window (i.e. a number of observed periods), then first to be observed are the data for the first p period, then the data for the period 1 are released and the data for the period p + 1 are added, so the next window is obtained, and the data for the first two periods are released and the data for periods p +1 and p + 2 are added, so the next window is obtained, and in this manner the window is "moving" until all of the periods of time within the analysis are passed (Neralic 1995).

The symbols and formulas that are used in the window analysis are (Cooper, Seiford and Tone 2007, 326-328): n = number of DMUs, k=number of periods, p=length of the window ($p \leq k$), p=k+1/2, w=number of windows (w = k – p + 1), the number of DMUs in each window is: np, the number of "different" DMUs is: npw.

By using the Window analysis the number of decision-making units can be increased and a time dimension can be included in the analysis, but a disadvantage is that in the first and the last period the decision-making units are not tested as frequently as others (Cooper, Seiford and Tone 2007).

4. DATA

The research focuses on eleven countries in the Balkan region, namely Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, R. Macedonia, Montenegro, Romania, Serbia, Slovenia, and Turkey. These countries are all competitors in the tourist market, willing to increase their market share and recognition.

The authors have selected two inputs: visitor exports (input 1), and domestic travel and tourism spending (input 2); and two outputs: travel and tourism total contribution to GDP (output 1), and travel and tourism total contribution to employment (output 2). The description of inputs and outputs is given in Table 1.

The data have been taken from the World Travel and Tourism Council for a period of six years (2010-2015) (WTTC, 2016). Statistics on input/output data for the observed period obtained using the software package DEA-Solver-LV (http://www.saitech-inc.com) is given in Appendix 1.

Table 1. Description of inputs and outputs

Inputs	Description
Visitor exports	Spending within the country by international tourists for both business and leisure trips, including spending on transport, but excluding international spending on education. This is consistent with total inbound tourism expenditure in Table 1 of the TSA: RMF 2008.
Domestic travel and tourism spending	Spending within a country by the country's residents for both business and leisure trips. Multi-use consumer durables are not included since they are not purchased solely for tourism purposes. This is consistent with total domestic tourism expenditure in Table 2 of the TSA: RMF 2008. Outbound spending by residents abroad is not included here, but is separately identified according to the TSA: RMF 2008.
Outputs	**Description**
Travel and tourism total contribution to GDP	Total contribution to GDP – GDP generated directly by the travel and tourism sector plus its indirect and induced impacts (see below). Direct contribution to GDP – GDP generated by industries that deal directly with tourists, including hotels, travel agents, airlines and other passenger transport services, as well as the activities of restaurant and leisure industries that deal directly with tourists. It is equivalent to total internal travel & tourism spending within a country less the purchases made by those industries (including imports). In terms of the UN's Tourism Satellite Account methodology it is consistent with the total GDP calculated in Table 6 of the TSA: RMF 2008.
Travel and tourism total contribution to employment	Total contribution to employment – the number of jobs generated directly in the travel and tourism sector plus the indirect and induced contributions (see below). Direct contribution to employment – the number of direct jobs within the travel & tourism industry. This is consistent with the total employment calculated in Table 7 of the TSA: RMF 2008.
	Indirect and induced impacts Indirect contribution – the contribution to GDP and jobs of the following three factors: • Capital investment – includes capital investment spending by all sectors directly involved in travel and tourism. This also constitutes investment spending by other industries on specific tourism assets, such as new visitor accommodation and passenger transport equipment, as well as restaurants and leisure facilities for specific tourism use. This is consistent with the total tourism gross fixed capital formation in Table 8 of the TSA: RMF 2008. • Government collective spending – general government spending in support of general tourism activity. This can include national as well as regional and local government spending. For example, it includes tourism promotion, visitor information services, administrative services and other public services. This is consistent with the total collective tourism consumption in Table 9 of TSA: RMF 2008. • Supply-chain effects – purchases of domestic goods and services directly by different sectors of the Travel & Tourism sector as inputs to their final tourism output. Induced contribution – the broader contribution to GDP and employment of spending by those who are directly or indirectly employed by travel & tourism.

Source: WTTC (2012)
TSA – Tourism Satellite Account

5. RESULTS

The sample of analysis consists of 11 Balkan countries (n=11), six years are considered (k=6), the length of the window is 3 years (p=3), and the number of windows is 4 (w=4). In each window there are 33 DMUs, and the number of “different” DMUs is 132.

Each of the windows covers 3 years and they are shown below:

window 1	2010	2011	2012			
window 2		2011	2012	2013		
window 3			2012	2013	2014	
window 4				2013	2014	2015

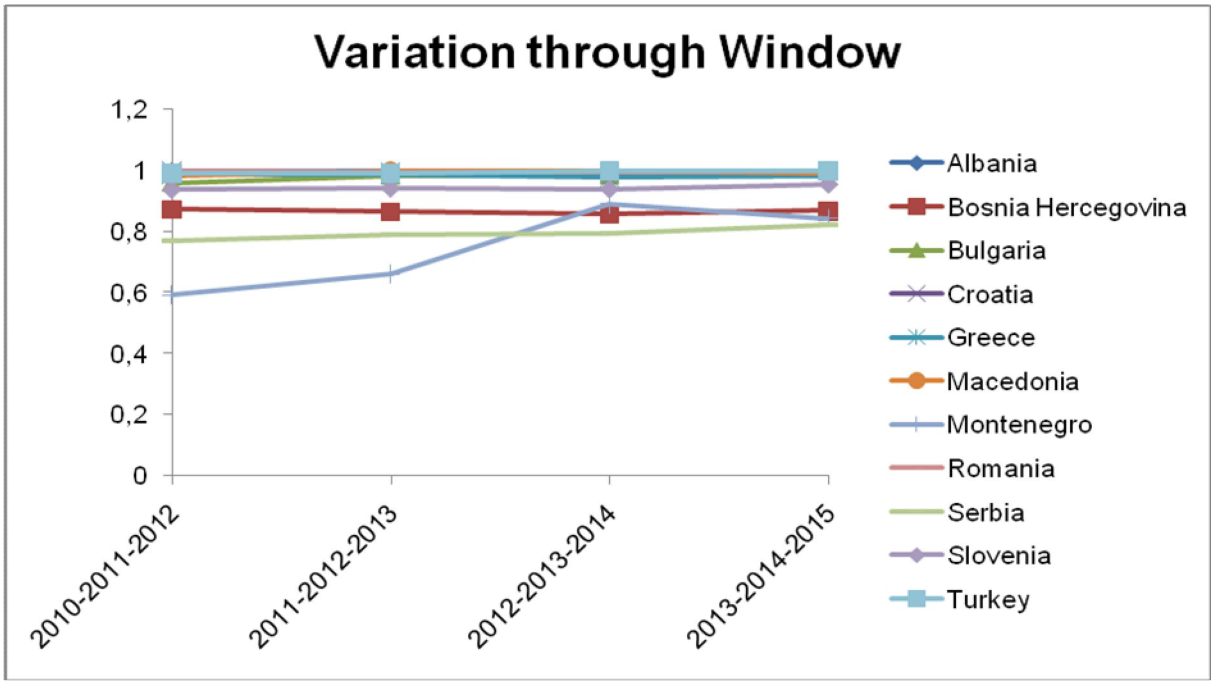
The relative efficiency results for each country in every year in every window, and the overall efficiency by windows and by years for the analyzed countries, are given in Appendix 2. The results of overall efficiency by windows for each country are calculated using the average of efficiency in 4 windows, while the results of overall efficiency by years for each country are calculated by using the average of annual efficiency.

According to the obtained results (overall efficiency by years) it can be seen that the most efficient countries in tourism are: Albania, Croatia, Romania, and Turkey, and that Croatia and Romania have the same result of overall efficiency by years (0.9968). That is partly consistent with the research of Hadad et al. (2012), who found that Croatia and Turkey are in the top 10 most efficient developing countries in the world. On the other hand, the least efficient countries in tourism are: Montenegro, Serbia, and Bosnia and Herzegovina. Montenegro was also the least efficient country in tourism in the research of Cvetkoska and Barisic (2014).

Figure 1 shows the row-wise averages of results for each country in the sample, while Figure 2 shows the column-wise averages of results for each country.

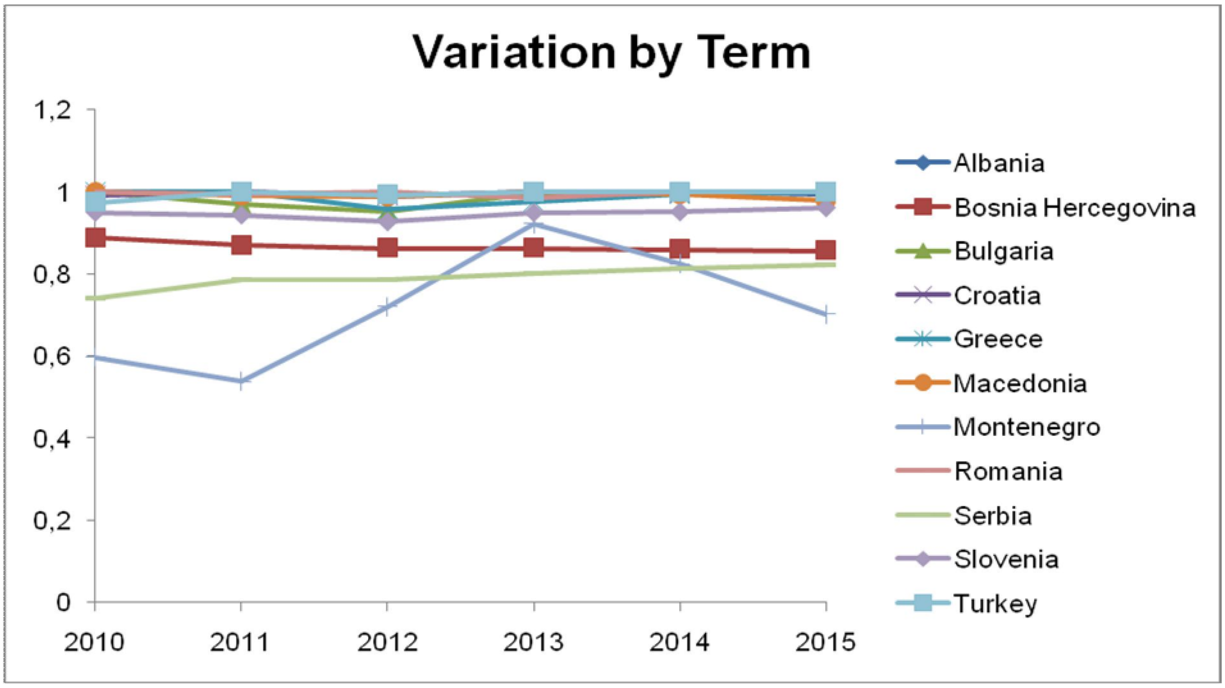
The average efficiency of the tourism industry in the Balkans is 0.9342. The highest average efficiency of the tourism industry in the Balkans was achieved in 2013, and the lowest in 2011. The previous research of Cvetkoska and Barisic (2014) also shows that in 2011, the tourism industry achieved the lowest efficiency results.

Figure 1. Variation through window



Source: Author’s calculation

Figure 2. Variation by term



Source: Author's calculation

6. CONCLUSION

The Balkans is a region full of a lengthy and rich history, gorgeous tourist destinations and friendly people, but political turbulence and instability, as well as lower economic growth and religious questions have an influence on the tourism development in the whole region. The question of tourism efficiency and productivity has been the area of a considerable amount of research in recent years (Hadad et al. 2012). Such interest is not surprising, given both the growing economic importance of tourism to GDP and employment by tourist arrivals, spending and export.

Data envelopment analysis is the leading non-parametric methodology for measuring the relative efficiency of decision-making units. From its beginning until now DEA has been applied in many areas, such as: agriculture, banking, education, energetics, health care, sports, tourism, etc. In this paper we have used the DEA technique Window analysis in order to analyze the efficiency of the tourism industry in the Balkans.

According to the obtained results it was determined that there was no country in the Balkans that had an efficient tourism industry in every year in every window. The most efficient country in the period of six years (from 2010 to 2015) was Albania, followed by Croatia, Romania, and Turkey, while the least efficient countries were Montenegro, Serbia, and Bosnia and Herzegovina. The overall efficiency of the tourism industry was the highest in 2013, while 2011 saw the lowest efficiency results achieved. Based on the presented results of overall efficiency (by years) it has been found that 7 out of 11 countries show efficiency results over 95%, while Montenegro and Serbia show efficiency results lower than 80%.

The limitation of this research is the fact that Kosovo is not part of the study. Additionally, inputs could be different, domestic travel and tourism spending could be replaced with international travel and tourism spending, or similar. Future research could be directed towards findings about why certain observed countries have an efficient tourism industry, while others don't, and how it is related with the overall economic development of the country.

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APPENDIX 1

Statistics on Input/Output Data

Time period 2010

	Input 1	Input 2	Output 1	Output 2
Max	20.579.800.000,00	22.829.100.000,00	59.486.500.000,00	1.700.400,00
Min	181.186.000,00	142.050.000,00	398.925.000,00	25.207,80
Average	4.771.117.181,82	4.007.754.545,45	12.028.569.909,09	385.512,48
SD	6.248.168.800,52	6.787.032.046,46	17.939.049.056,95	479.653,49

Time period 2011

	Input 1	Input 2	Output 1	Output 2
Max	24.312.900.000,00	25.646.300.000,00	72.668.200.000,00	1.990.170,00
Min	203.346.000,00	146.560.000,00	429.584.000,00	25.658,40
Average	5.227.825.909,09	4.150.163.545,45	13.071.175.909,09	403.564,93
SD	7.199.767.420,39	7.383.517.710,75	20.994.894.788,37	550.114,17

Time period 2012

	Input 1	Input 2	Output 1	Output 2
Max	25.388.700.000,00	27.145.200.000,00	72.961.200.000,00	1.949.550,00
Min	211.223.000,00	162.462.000,00	461.596.000,00	28.832,60
Average	5.278.555.636,36	4.201.059.272,73	12.709.958.454,55	387.708,32
SD	7.411.413.372,40	7.738.744.166,13	20.795.161.854,09	534.774,37

Time period 2013

	Input 1	Input 2	Output 1	Output 2
Max	28.215.700.000,00	28.023.900.000,00	79.867.500.000,00	2.048.990,00
Min	223.601.000,00	166.566.000,00	500.561.000,00	31.918,30
Average	5.767.673.545,45	4.317.283.000,00	13.643.763.000,00	403.184,10
SD	8.284.331.872,33	7.997.133.339,20	22.781.792.523,26	562.215,58

Time period 2014

	Input 1	Input 2	Output 1	Output 2
Max	31.875.100.000,00	28.817.800.000,00	85.811.700.000,00	2.130.480,00
Min	242.452.000,00	172.633.000,00	533.433.000,00	32.508,40
Average	6.312.447.727,27	4.416.428.636,36	14.516.361.909,09	418.465,01
SD	9.319.437.701,37	8.213.469.781,40	24.503.536.063,69	586.795,92

Time period 2015

	Input 1	Input 2	Output 1	Output 2
Max	35.487.700.000,00	29.403.500.000,00	91.552.100.000,00	2.192.780,00
Min	264.003.000,00	175.388.000,00	557.999.000,00	36.844,10
Average	6.717.241.000,00	4.472.354.818,18	15.169.351.727,27	427.090,94
SD	10.191.214.877,50	8.358.937.016,01	25.999.272.157,33	603.606,43

APPENDIX 2

Window analysis results

	Relative efficiency results						Overall efficiency	
Country	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**by windows**	**by years**
Albania	1.0000	1.0000	0.9853				0.9969	0.9973
		1.0000	0.9925	1.0000				
			0.9905	1.0000	1.0000			
				1.0000	1.0000	0.9942		
Bosnia Hercegovina	0.8880	0.8680	0.8610				0.8656	0.8671
		0.8720	0.8652	0.8585				
			0.8641	0.8574	0.8523			
				0.8746	0.8696	0.8569		
Bulgaria	1.0000	0.9479	0.9324				0.9821	0.9863
		0.9898	0.9637	1.0000				
			0.9577	0.9963	1.0000			
				0.9976	1.0000	1.0000		
Croatia	0.9924	1.0000	1.0000				0.9967	0.9968
		1.0000	0.9855	1.0000				
			0.9883	1.0000	1.0000			
				1.0000	0.9948	1.0000		
Greece	1.0000	1.0000	0.9558				0.9823	0.9878
		1.0000	0.9554	1.0000				
			0.9618	0.9712	1.0000			
				0.9578	0.9855	1.0000		
Macedonia	1.0000	0.9832	0.9618				0.9924	0.9917
		1.0000	0.9987	1.0000				
			1.0000	1.0000	0.9925			
				1.0000	0.9937	0.9787		
Montenegro	0.5970	0.5347	0.6425				0.7465	0.7177
		0.5412	0.6681	0.7698				
			0.8518	1.0000	0.8215			
				1.0000	0.8296	0.7019		
Romania	1.0000	0.9898	1.0000				0.9956	0.9968
		1.0000	1.0000	0.9786				
			1.0000	0.9786	1.0000			
				1.0000	1.0000	1.0000		
Serbia	0.7409	0.7863	0.7837				0.7943	0.7924
		0.7893	0.7868	0.7957				
			0.7858	0.7946	0.8062			
				0.8150	0.8244	0.8233		

Slovenia	0.9506	0.9407	0.9245				0.9444	0.9473
		0.9467	0.9308	0.9502				
			0.9265	0.9458	0.9487			
				0.9523	0.9543	0.9615		
Turkey	0.9744	1.0000	1.0000				0.9960	0.9945
		1.0000	0.9773	1.0000				
			1.0000	1.0000	1.0000			
				1.0000	1.0000	1.0000		