# CENTRAL AND EAST EUROPEAN COUNTRIES' TOURISM COMPETITIVENESS AS A FACTOR OF THEIR NATIONAL COMPETITIVENESS LEVEL

**Bojan KRSTIĆ**
*University of Nis, Faculty of Economics, Serbia*
*bojan.krstic@eknfak.ni.ac.rs*
**Sonja JOVANOVIC**
*University of Nis, Faculty of Economics, Serbia*
*sonja.jovanovic@eknfak.ni.ac.rs*
**Tanja STANISIC**
*University of Nis, Faculty of Mathematics and Science, Serbia*
*tanja.stanisic@gmail.com*

**Abstract**
*The purpose of this research is to analyze the contribution of travel and tourism competitiveness to the global competitiveness level of the Central and East Europe (CEE) countries. The aim is to identify the correlation between the achieved travel and tourism competitiveness level (measured by the Travel and Tourism Competitiveness Index) and national competitiveness level on the world list (measured by the Global Competitiveness Index) in the CEE countries. Structurally, the paper is composed of the following parts: competitiveness analysis of CEE countries according to the GCI and TTCI, examination of interdependence between the GCI and TTCI, and exploration of the pillar's impact, within the TTCI, on the GCI in CEE countries. Research results indicate that there is a strong correlation between the GCI and TTCI. The results of this study provide possible directions to development policy makers in CEE countries.*

**Key words:** *Tourism, Competitiveness, CEE countries.*

**JEL Classification:** *O57, L83, O52*

## I. INTRODUCTION

Successful tourist destination development heavily depends on the achieved level of competitiveness. The development of CEE countries in the future and the progress in the level of competitiveness should be based on all factors (pillars) that lead to tourism sector development. For that purpose, it is important to examine the achieved level of travel and tourism competitiveness in CEE countries and identify what is the influence of tourism development on the level of global competitiveness in CEE countries. The purpose of this analysis is to examine the interdependence between the GCI (Global Competitiveness Index) and TTCI (Travel and Tourism competitiveness Index), as well as, between the GCI and pillars within the TTCI.

The aim of this research is determining the influence of pillars within the TTCI on the value of GCI in CEE countries. In the direction of realizing the given task, the paper is structured in the following parts: In the first part, we specify tourism determinants as a factor of national economies. Research methodology and hypotheses are presented in the second part. The third part of the paper refers to the research results and discussions. The results of this study provide recommendations to development policy makers in CEE countries.

## II. CONCEPT OF TOURISM COMPETITIVENESS AND T&T COMPETITIVENESS ACCORDING TO WEF

There is an agreement in the literature that generally accepted definition of competitiveness does not exist.

"It is perhaps too broad and complex a concept, defying attempts to encapsulate it in universally applicable terms" (Crouch, Ritchie, 1999, p.140). Many authors have researched the concept of tourism competitiveness and destination competitiveness (Lin, Huang, 2009; Vodeb, 2012; Ritchie, Crouch, 2003; Crouch, 2007; Hassan, 2000; Mihalič, 2000). For tourism destinations, competitiveness is one of the key issues that is crucial for policymakers in defining strategy and decision-making in order to maintain or improve the competitive position of destinations (Tsai, Song et al., 2009; Armenski, Marković et al., 2011). Competitiveness in tourism is particularly important for "tourism-dependant countries, which heavily rely on the situation in tourism and travel industry" (Navickas, Malakauskaite, 2009, p.37). Competitiveness in tourism can be described as "the result of synergy between natural and human-created factors of tourist destination appeal" (Malakauskaite, Navickas, 2010).

One of the generally accepted definition of tourism competitiveness is the OECD definition: "Tourism competitiveness for a destination is about the

ability of place to optimize its attractiveness for residents and non-residents, to deliver quality, innovative, and attractive (e.g. providing good value for money) tourism services to consumers and to gain market shares on the domestic and global marketplaces, while ensuring that the available resources supporting tourism are used efficiently and in a sustainable way" (Dupeyras, MacCallum, 2013, p.7).

There are different perceptions of variables that determine the competitiveness of tourism destinations (Cooper, Fletcher et al., 2008). "They can be quantitative, such as visitor numbers, market share, tourist expenditure, employment, value added by the tourism industry, or qualitative measured variables, such as the richness of culture and heritage, quality of tourism services, etc." (Kulcsar, 2009, p.124). Then, the tourism competitiveness, as well as the competitiveness of a tourist destination "is defined taking into consideration a set of reference elements related to the major dimensions of the industry, such as the business environment, infrastructure, laws and regulations, and available resources" (Bălan, Balaure, Vegheş, 2009, p.979). The Centre for Strategy and Evaluation Services in the document titled "Enhancing the Competitiveness of Tourism in the EU" (2013), points out that innovation, and "ability to generate and apply new ideas can be seen as a critical characteristic, especially over time" in improving competitiveness of the tourism sector. Kozak and Rimmington (1999, p.282) point out that "every destination has its own competitiveness set, depending on the nature and structure of its tourism industry compared with alternative tourism products offered in the international arena".

However, one of the generally accepted approach for discovering the variables that determine competitiveness of the tourism sector is the methodology of the World Economic Forum - WEF (The Word Economic Forum (WEF): The Global Competitiveness Reports 2013 – 2014).

The methodology for measuring national and global competitiveness, according to the WEF, systematizes the key factors into 12 groups in order to quantify the level of the national economy competitiveness and rankings. These, so-called, competitiveness pillars are: basic factors (institutions, infrastructure, macroeconomic stability, health and primary education), the efficiency factors (higher education, goods market efficiency, labor market efficiency, financial market development, technological competence/capacity, market size) and innovation factors (business/business process sophistication, innovation). The Composite Global Competitiveness Index (GCI) represents the result of measuring many factors and variables.

The methodology for measuring the TandT competitiveness, by the WEF, systematizes the key determinants into 14 groups of pillars or factors. The TTCI consists of three subindices: A) TandT regulatory framework, B) TandT business environment and infrastructure, C) TandT human, cultural, and natural resources. The first subindex (A) within the TTCI is composed of 5 pillars: Policy rules and regulations, Environmental sustainability, Safety and security, Health and hygiene, and Prioritization of TandT. The second subindex (B) has five pillars: Air transport infrastructure, Ground transport infrastructure, Tourism infrastructure, ICF infrastructure, and Price competitiveness in the TandT industry. The third, subindex (C) consists of the following pillars: Human resources, Affinity for TandT, Natural resources, and Cultural resources. The TTCI is the unweighted average of the value of the aforementioned subindices.

The Policy rules and regulations pillar is very important for tourism sector attractiveness and development. Governments create policy, rules, regulations, and provide the conditions for foreign direct investment, property rights protection, the lowest cost of setting up a business, etc. The Environmental sustainability pillar focuses on the environmental regulations stringency created by the government in each country, which is important for the attractiveness of a country as a tourist destination. This pillar incorporates the extent to which governments prioritize the development of the tourism as a sector in the national economy, as well as environmental outputs ($CO_2$ emissions and percentage of endangered species). Safety and security is a very important factor of tourism sector competitiveness. Because of that, it is very important to measure and take into account the costliness of common crime and violence, protection from crime, the incidence of road traffic accidents in the country, etc. Health and hygiene is a key determinant of tourism competitiveness in one country, and this pillar incorporates the access to improved drinking water and sanitation quality, efficient health sector in a country, etc. The prioritization of tourism sector can be reflected as the extent to which the government prioritizes that sector. The priority given to tourism sector can be seen through the structure of the state budget, the number of projects with the aim of tourism development, the amount of the government investment in tourism, etc.

Quality air transport infrastructure is measured by the available seat kilometers, airport density, the number of departures, the number of operating airlines, etc. Ground transport infrastructure incorporates the quality of roads, railroads, and ports, as well as the extent to which the national transport network is efficient. Tourism infrastructure takes into account the accommodation infrastructure (the number of hotel rooms), the presence of major car rental companies in the country, and an indicator of the financial infrastructure for tourists (for example, the availability of automatic teller machines). ICT infrastructure (telephone lines, Internet, mobile telephony) is very

important for tourism development in each country. The lower costs increase a country's attractiveness for tourists, so, it is clear that the Price competitiveness in TandT industry is a very important determinant of its competitiveness.

Quality of human resources takes into account health, education and training levels in a country, and measures educational attainment rates (primary and secondary), overall quality of the country's educational system, private-sector involvement in upgrading human resources, including the availability of specialized training services, etc.

Affinity for TandT measures the extent to which a country and society are open to tourism and foreign visitors (national population's attitude toward foreign travelers; a measure of the extent to which business leaders are willing to recommend leisure travel in their countries to important business contacts; a measure of tourism openness; a measure of the extent to which businesses are focused on customer satisfaction). Natural resources provide a country a competitive advantage for tourism. They include the quality of the natural environment, environmental attractiveness measures, number of UNESCO natural World Heritage sites, the richness of the fauna in the country, and the percentage of nationally protected areas. Cultural resources include the number of UNESCO cultural World Heritage sites, sports stadium seat capacity, and the number of international fairs and exhibitions in the country, etc.

## III. INFORMATION BASIS, HYPOTHESES AND METHODS

Information basis for this research consists of the data contained in The Global Competitiveness Reports 2013– 2014 and The TravelandTourism Competitiveness Report 2013. The subject of this analysis is to examine the interdependence between the GCI and TTCI, as well as, between the GCI and 14 pillars within the TTCI. The aim of this research is determining the influence of the pillars within the TTCI on the value of the GCI in CEE countries.

In accordance with the defined purpose of the research, the authors tested the following hypotheses:

*$H_1$: There is a strong correlation between the GCI and the TTCI in CEE countries.*

*$H_2$: The achieved level of the TandT competitiveness in CEE countries has a significant influence on their achieved global competitiveness level.*

The following methods are used in this study: descriptive statistics, comparative, correlation and regression analysis. Comparative analysis is used to determine the relative position of each country in the group of CEE countries (by value of the GCI, TTCI and the pillars within the TTCI), compared to the average value of these indices and pillars for a group of CEE countries as a whole. Correlation analysis is used to examine the interdependence between the GCI and TTCI in CEE countries. The influence of the pillars within TTCI on the value of the GCI is measured by the regression analysis.

## IV. RESULTS AND DISCUSSIONS

In the purpose of carrying out the given task and testing hypotheses, the paper is structured in the following 4 sections.

### 1. Analysis of the CEE countries' competitiveness by GCI

Analysis of the CEE countries' competitiveness is based on the data about rank and score of the GCI presented by the WEF. Transforming the data, i.e. their ranking on the scale from 1 to 7 provides the comparison of the GCI among countries. The methodology of the GCI calculation indicates the equal participation of all subindices, as well as pillars included in subindices, in GCI. The overall GCI score is the unweighted mean of the 3 subindices, or, in other words, the unweighted mean of the 12 pillars.

Table 1 shows the position of CEE countries according to the GCI rank and score for 2013, as well as the average score.

**Table 1. The rank and the score of the GCI for CEE countries (2013)**

| Country | GCI score (from 1 to 7) | GCI overall rank | GCI rank on the list of isolated group of CEE countries |
|---|---|---|---|
| Albania | 3.85 | 95 | 12 |
| Bulgaria | 4.31 | 57 | 6 |
| Croatia | 4.13 | 75 | 9 |
| Czech R. | 4.43 | 46 | 3 |
| Estonia | 4.65 | 32 | 1 |
| Hungary | 4.25 | 63 | 8 |
| Latvia | 4.40 | 52 | 5 |
| Lithuania | 4.41 | 48 | 4 |
| Poland | 4.46 | 42 | 2 |
| Romania | 4.13 | 76 | 10 |
| Slovak R. | 4.10 | 78 | 11 |
| Slovenia | 4.25 | 62 | 7 |
| **Average** | **4.28** | - | - |

*Source: The Word Economic Forum (WEF): The Global Competitiveness Reports 2013 - 2014, http://www.weforum.org/reports/global-competitiveness-report-2013-2014*

The WEF analyzed and ranked 148 countries according to the GCI in 2013. Based on table 1, it can be concluded that Estonia has the largest score of the GCI (4.65), followed by Poland (4.46) and Czech Republic (4.43). The lowest score of the GCI is recorded in Albania, Slovak Republic, and Romania. The differences are more drastic if we observe ranks of

CEE countries on the world list of countries. The best positioned CEE country is Estonia on the 32nd place out of the 148 countries. The worst positioned CEE country in the world rankings by the GCI is Albania, on the 95th place.

Countries in which lower scores are recorded than the average GCI score for a CEE group of countries as a whole are: Albania, Hungary, Romania, Slovak Republic, and Slovenia. On the other side, Estonia, Poland, Czech Republic, Lithuania, and Latvia record higher score of the GCI than the average score for the investigated group of countries.

In recognition of the fact that the WEF ranks the total of 148 countries in 2013, it can be concluded that, Albania, Croatia, Romania, and Slovak Republic are located in the other half of the world list according to the GCI. Eight out of twelve CEE countries are positioned in the first half of the world list according to the GCI. Table 2 shows the rank and score of the subindices within the GCI, as well as the average score of these subindices.

**Table 2. The rank and the score of the subindices within the GCI for CEE countries (2013)**

| Country | Basic requirements subindex | | Efficiency enhancers subindex | | Innovation and sophistication factors subindex | |
|---|---|---|---|---|---|---|
| | Score | Overall rank | Score | Overall rank | Score | Overall rank |
| Albania | 4.24 | 94 | 3.68 | 100 | 3.68 | 119 |
| Bulgaria | 4.37 | 58 | 4.18 | 60 | 3.28 | 108 |
| Croatia | 4.69 | 61 | 4.05 | 68 | 3.46 | 80 |
| Czech R. | 4.80 | 55 | 4.51 | 37 | 4.07 | 36 |
| Estonia | 5.43 | 26 | 4.64 | 30 | 4.08 | 35 |
| Hungary | 4.61 | 65 | 4.28 | 53 | 3.60 | 71 |
| Latvia | 5.00 | 40 | 4.41 | 41 | 3.61 | 68 |
| Lithuania | 4.91 | 42 | 4.35 | 47 | 3.93 | 44 |
| Poland | 4.72 | 32 | 4.60 | 32 | 3.65 | 65 |
| Romania | 4.32 | 87 | 4.13 | 63 | 3.32 | 103 |
| Slovak R. | 4.60 | 67 | 4.27 | 56 | 3.49 | 77 |
| Slovenia | 5.06 | 37 | 4.14 | 62 | 3.88 | 49 |
| **Average** | **4.73** | - | **4.27** | - | **3.67** | - |

*Source: The Word Economic Forum (WEF): The Global Competitiveness Reports 2013-2014, http://www.weforum.org/reports/global-competitiveness-report-2013-2014*

In 2013, the results of descriptive statistics for CEE countries show that the minimum score of the GCI in CEE countries is 3.85, the maximum is 4.65, while the mean score is 4.28.

## 2. Analysis of CEE countries' TandT competitiveness by TTCI

Analysis of TandT competitiveness of CEE countries is based on the data about rank and score of the TTCI. The WEF analyses and ranks a total of 140 countries in 2013. Table 3 shows the position of the CEE countries, according to the rank and score of the TTCI.

Estonia records the highest score of the TTCI among CEE countries (4.82), immediately followed by the Czech Republic (4.78). Countries with the lowest score of the TTCI are Croatia (4.59) and Slovenia (4.58). The best-placed CEE country in the world rankings, Estonia, is located at 30th position out of 140 analysed countries, while the weakest positioned country, Albania, lags behind Estonia for 47 positions, situated in 77th place.

The CEE countries which record a lower value of the TTCI compared to the average value of TTCI are: Albania, Bulgaria, Latvia, Lithuania, Romania, and Slovak Republic. Considering the 140 countries analyzed by the WEF, it can be concluded that, with the exception of Albania, all CEE countries are located in the first half of the world list according to the TTCI.

The minimum score of the TTCI is 3.97, the maximum is 4.82, and the average score is 4.44.

**Table 3. Rank and score of the TTCI for CEE countries (2013)**

| Country | TTCI score (from 1 to 7) | TTCI overall rank | TTCI rank on the list of isolated group of CEE countries |
|---|---|---|---|
| Albania | 3.97 | 77 | 12 |
| Bulgaria | 4.38 | 50 | 9 |
| Croatia | 4.59 | 35 | 3 |
| Czech R. | 4.78 | 31 | 2 |
| Estonia | 4.82 | 30 | 1 |
| Hungary | 4.51 | 39 | 5 |
| Latvia | 4.43 | 48 | 7 |
| Lithuania | 4.39 | 49 | 8 |
| Poland | 4.47 | 42 | 6 |
| Romania | 4.04 | 68 | 11 |
| Slovak R. | 4.32 | 54 | 10 |
| Slovenia | 4.58 | 36 | 4 |
| **Average** | **4.44** | - | - |

*Source: The Travel and Tourism Competitiveness Report 2013, www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf*

Table 4 shows the rank and the score of the subindices within the TTCI for CEE countries in 2013, as well as the average values of the TTCI subindices.

**Table 4. The rank and the score of the subindices within the TTCI for CEE countries (2013)**

| Country | TandT regulatory framework subindex | | Business environment and infrastructure subindex | | TandT human, cultural and natural resources subindex | |
|---|---|---|---|---|---|---|
| | Score | Overall rank | Score | Overall rank | Score | Overall rank |
| Albania | 4.65 | 63 | 3.31 | 90 | 3.96 | 63 |
| Bulgaria | 4.79 | 58 | 4.24 | 45 | 4.10 | 53 |
| Croatia | 4.99 | 42 | 4.43 | 39 | 4.37 | 42 |
| Czech R. | 5.24 | 28 | 4.49 | 37 | 4.61 | 28 |
| Estonia | 5.55 | 10 | 4.72 | 30 | 4.19 | 51 |
| Hungary | 5.29 | 26 | 4.16 | 49 | 4.08 | 54 |
| Latvia | 5.08 | 35 | 4.40 | 40 | 3.81 | 77 |
| Lithuania | 4.99 | 41 | 4.19 | 48 | 3.98 | 61 |
| Poland | 4.92 | 49 | 3.94 | 58 | 4.56 | 32 |
| Romania | 4.61 | 66 | 3.67 | 68 | 3.85 | 73 |
| Slovak R. | 4.96 | 43 | 3.92 | 60 | 4.06 | 55 |
| Slovenia | 5.12 | 33 | 4.52 | 35 | 4.11 | 52 |
| **Average** | **5.01** | - | **4.16** | - | **4.14** | - |

*Source: The Travel and Tourism Competitiveness Report 2013, www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf*

Higher standard deviation is observed among the TTCI (0.25395) compared to the GCI (0.21065), which means that there is greater variability and heterogeneity of the analyzed CEE countries in terms of the tourism competitiveness in relation to the variability and heterogeneity of countries in terms of global competitiveness. This is confirmed also by calculation of the variation coefficient for the TTCI (5.719) and the GCI (4.920).

Through the cluster analysis of CEE countries according to the subindices of TTCI, the structure of clusters is determined as follows: Cluster 1: Albania and Romania; Cluster 2: Slovak Republic, Croatia, Lithuania, Poland, and Bulgaria; Cluster 3: Slovenia, Estonia, Hungary, Latvia and Czech Republic. As we can see, CEE countries are classified into 3 clusters, but such clasterisation cannot clearly identify the performance of determined homogeneous groups.

It has been found by the FCC (Table 5) that Cluster 3 consists of countries that have the highest values of the TTCI subindices. Cluster 2 is characterized by medium values of the TTCI subindices. In Cluster 1 there are countries with the lowest values of the TTCI subindices.

**Table 5. Final cluster centers (FCC)**

| Subindex within the TTCI | Cluster | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| TandT regulatory framework | 4.63 | 4.93 | 5.26 |
| Business environment and infrastructure | 3.49 | 4.14 | 4.46 |
| TandT human, cultural and natural resources | 3.91 | 4.21 | 4.16 |

In order to assess the achievements of CEE countries in each pillar, the scores of 14 pillars within the TTCI for 2013 are presented in Table 6 and Table 7. In order to understand the relative positions of countries according to each pillar, the best score of the CEE countries and their average value are also given in Table 6 and Table 7. The Health and hygiene (P4 pillar) recorded the highest average value (6.06), followed by P8 - Tourism infrastructure (5.32), then the P3 - Safety and Security (5.12) and the P2 - Environmental sustainability (5.00).

**Table 6. The score of the first seven pillars (P1-P7) within the TTCI for CEE countries (2013)**

| Country | P1 | P2 | P3 | P4 | P5 | P6 | P7 |
|---|---|---|---|---|---|---|---|
| Albania | 4.49* | 4.63* | 4.87* | 4.71* | 4.53 | 2.52* | 3.24* |
| Bulgaria | 4.15* | 4.50* | 4.34* | 6.72 | 4.25* | 2.64* | 3.14* |
| Croatia | 4.24* | 4.89* | 5.32 | 6.00 | 6.76 | 4.44 | 3.70 |
| Czech R. | 4.61 | 5.07 | 5.30 | 6.76 | 4.44 | 3.70 | 5.16 |
| Estonia | 5.03 | 5.41 | 5.62 | 6.17 | 5.51 | 3.08 | 4.84 |
| Hungary | 4.76 | 5.10 | 5.30 | 6.55 | 4.71 | 2.91 | 4.51 |
| Latvia | 4.63 | 5.32 | 5.07* | 6.00* | 4.36* | 3.85 | 4.34 |
| Lithuania | 4.42* | 5.24 | 4.94* | 6.22 | 4.13* | 2.58* | 5.22 |
| Poland | 4.35* | 5.00 | 5.23 | 5.98* | 4.04* | 2.69* | 3.69* |
| Romania | 4.33* | 4.67* | 4.89* | 5.36* | 3.77* | 2.59* | 2.87* |
| Slovak R. | 4.75 | 4.98* | 5.00* | 6.42 | 3.67* | 2.18* | 4.20 |
| Slovenia | 4.27* | 5.20 | 5.62 | 5.82* | 4.69 | 2.83 | 5.05 |
| The best score of the CEE countries | 5.03 Estonia | 5.41 Estonia | 5.62 Estonia | 6.76 Czech R. | 5.51 Estonia | 3.85 Latvia | 5.22 Lithuania |
| The average score of the CEE countries | 4.50 | 5.00 | 5.12 | 6.06 | 4.38 | 2.88 | 4.19 |

*Source: The Travel and Tourism Competitiveness Report 2013, http://www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf*
*Note: * indicates that the value is below the average score for a CEE group of countries.*

When we consider P1 pillar, to reach the average score of CEE countries, the following countries need to achieve some improvements: Albania, Bulgaria, Croatia, Hungary, Lithuania, Poland, Romania, and Slovenia. These countries have to make great efforts to catch up with the first-ranked Estonia regarding P1. Regarding P2 pillar, the analysis shows that Albania, Bulgaria, Croatia, Romania and Slovak Republic must make improvements in order to reach the average of the CEE countries. Estonia is the best ranked in the group of CEE countries according to the P2 pillar, while the worst ranked country is Bulgaria.

Countries with lower value of P3 pillar in comparison to its average score for the group of CEE countries are: Bulgaria, Albania, Latvia, Lithuania and Romania. The lowest value of pillar P3 is recorded in Bulgaria (3.37) and the highest in Estonia and Slovenia (5.62).

The countries which record the lower value of P4 pillar in relation to its average value are: Albania, Romania, Poland, Latvia and Croatia. The country with the highest value of P4 pillar is the Czech Republic (6.76). Bulgaria and Hungary are slightly behind Czech Republic. The lowest value of this pillar is recorded in Albania (4.71).

**Table 7. The score of the second seven pillars (P8-P14) within the TTCI for CEE countries (2013)**

| Country | P8 | P9 | P10 | P11 | P12 | P13 | 14 |
|---|---|---|---|---|---|---|---|
| Albania | 3.67* | 2.51* | 4.60 | 5.10 | 5.89 | 2.85* | 2.00* |
| Bulgaria | 6.72 | 3.94* | 4.77 | 4.89* | 4.62* | 3.41* | 3.47 |
| Croatia | 6.71 | 4.32 | 4.01* | 4.63* | 5.12 | 3.85 | 3.87 |
| Czech R. | 5.15* | 4.23 | 4.23* | 5.04 | 4.60* | 3.40* | 5.39 |
| Estonia | 6.08 | 4.77 | 4.83 | 5.20 | 5.22 | 3.81 | 2.54* |
| Hungary | 5.20* | 3.90* | 4.29* | 5.11 | 4.32* | 2.81* | 4.09 |
| Latvia | 5.03* | 4.12 | 4.65 | 5.05 | 4.24* | 3.59 | 2.36* |
| Lithuania | 4.30* | 4.21 | 4.64 | 4.94* | 4.54 | 3.44* | 3.01* |
| Poland | 4.71* | 3.98 | 4.61 | 5.09 | 4.09* | 3.70 | 5.35 |
| Romania | 5.07* | 3.42* | 4.41* | 4.73* | 4.11* | 3.25* | 3.31* |
| Slovak R. | 4.94* | 3.88* | 4.43* | 5.01 | 4.36* | 3.98 | 2.90* |
| Slovenia | 6.27 | 4.46 | 4.00* | 4.96* | 4.80 | 3.81 | 2.85* |
| The best score of the CEE countries | 6.72 Bulgaria | 4.77 Estonia | 4.83 Estonia | 5.20 Estonia | 5.22 Estonia | 3.98 Slovak R. | 5.39 Czech R. |
| The average score of the CEE countries | 5.32 | 3.98 | 4.45 | 4.98 | 4.66 | 3.49 | 3.43 |

*Source: The Travel and Tourism Competitiveness Report 2013, http://www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf*
*Note: * indicates that the value is below the average score for a CEE group of countries.*

Countries with lower value of P5 pillar in comparison to its average score for the group of CEE countries are: Slovak Republic, Romania, Poland, Lithuania, Bulgaria and Latvia. The lowest value of P5 pillar is recorded in Slovak Republic (3.67) and the highest in Estonia (5.51).

When we look at P6 - Air transport infrastructure pillar, below the average for the group of CEE countries are the following countries: Albania, Bulgaria, Lithuania, Poland, Romania, Slovak Republic, and Slovenia. Best country in the CEE group of countries in terms of air transport infrastructure is Latvia.

The countries which record the lower value of P7 pillar in relation to its average value are: Albania, Bulgaria, Romania, and Croatia. The country with the highest value of P7 pillar is Lithuania (5.22). The lowest value of this pillar is recorded in Bulgaria (4.71).

Regarding P8 pillar, the analysis shows that Albania, Lithuania, Poland, Romania and Slovak Republic must make improvements in order to reach the average of the CEE countries. Bulgaria and Croatia are the best ranked in the group of CEE countries, according to P8, while the worst ranked country is Albania.

In addition, Albania, Slovak Republic, Hungary, Romania and Bulgaria record lower scores of P9 pillar relative to its average score for the group of CEE countries. Estonia has the highest score of this pillar, while Albania is the worst positioned.

Countries which record a lower score in P10 pillar compared to the average score for the CEE countries are Croatia, Czech Republic, Hungary, Romania, Slovak Republic and Slovenia. Estonia marks the best result.

A lower score in P11 pillar compared to the average is recorded in Bulgaria, Slovenia, Lithuania, Romania and Croatia.

The lowest score in the P12 pillar compared to the average is recorded in Bulgaria, Czech Republic, Hungary, Latvia, Poland, Romania and Slovak Republic. Estonia is also the best positioned according to P11 and P12 pillars.

The need to improve P13 pillar exists in Albania, Romania, Czech Republic, Hungary, Lithuania and Bulgaria. Slovak Republic records the highest score of this pillar. Albania, Estonia, Latvia, Lithuania, Romania, Slovak Republic and Slovenia also have to work on improving the P14 pillar, while the highest score of this pillar is recorded in the Czech Republic.

## 3. Exploring the interdependence between GCI and TTCI in CEE countries

In order to examine the interdependence between competitiveness (measured by the GCI) and TandT competitiveness (measured by the TTCI) in CEE countries, the method of correlation analysis is applied (Table 8).

**Table 8. Pearson correlation coefficient between the GCI and the TTCI with pillars within the TTCI in CEE countries (2013)**

| Elements | | GCI | TCI |
|---|---|---|---|
| GCI | Pearson Correlation | 1 | 0.752(**) |
| | Sig. (2-tailed) | | 0.005 |
| TCI | Pearson Correlation | 0.752(**) | 1 |
| | Sig. (2-tailed) | 0.005 | |
| P1. Policy rules and regulations | Pearson Correlation | **0.338** | 0.342 |
| | Sig. (2-tailed) | 0.283 | 0.277 |
| P2.Environmental sustainability | Pearson Correlation | **0.662(*)** | 0.655(*) |
| | Sig. (2-tailed) | 0.019 | 0.021 |
| P3. Safety and security | Pearson Correlation | **0.355** | 0.652(*) |
| | Sig. (2-tailed) | 0.258 | 0.022 |
| P4. Health and hygiene | Pearson Correlation | **0.584(*)** | 0.673(*) |
| | Sig. (2-tailed) | 0.046 | 0.016 |

| Elements | | GCI | TCI |
|---|---|---|---|
| P5. Prioritization of T and T | Pearson Correlation | **0.398** | 0.590(*) |
| | Sig. (2-tailed) | 0.200 | 0.043 |
| P6. Air transport infrastructure | Pearson Correlation | **0.482** | 0.558 |
| | Sig. (2-tailed) | 0.113 | 0.059 |
| P 7. Ground transport infrastructure | Pearson Correlation | **0.532** | 0.734(**) |
| | Sig. (2-tailed) | 0.075 | 0.007 |
| P8. Tourism infrastructure | Pearson Correlation | **0.275** | 0.544 |
| | Sig. (2-tailed) | 0.387 | 0.068 |
| P9. ICT infrastructure | Pearson Correlation | **0.790(**)** | 0.885(**) |
| | Sig. (2-tailed) | 0.002 | 0.000 |
| P10. Price competitiveness in the TandT | Pearson Correlation | **0.349** | -0.192 |
| | Sig. (2-tailed) | 0.266 | 0.550 |
| P11. Human resources | Pearson Correlation | **0.369** | 0.235 |
| | Sig. (2-tailed) | 0.238 | 0.462 |
| P12. Affinity for TandT | Pearson Correlation | **-0.348** | -0.047 |
| | Sig. (2-tailed) | 0.268 | 0.885 |
| P13. Natural resources | Pearson Correlation | **0.371** | 0.466 |
| | Sig. (2-tailed) | 0.235 | 0.127 |
| P14. Cultural resources | Pearson Correlation | **0.314** | 0.406 |
| | Sig. (2-tailed) | 0.321 | 0.191 |

* Correlation is significant at the 0.01 level (2-tailed).
** Correlation is significant at the 0.05 level (2-tailed).

The determined value of the correlation coefficient between the GCI and the TTCI of 0.752 indicates a strong positive correlation (correlation is significant at the 0.01 level). This way, it can be concluded that the national competitiveness of CEE countries is based on the competitiveness of the TandT industry. Hypothesis $H_1$ is confirmed. Table 8 shows the correlation between the TTCI and pillars within the TTCI.

### 4. Analysis of influence of pillars within the TTCI on the GCI in CEE countries

The impact of the TTCI on the level of CEE countries' competitiveness measured by the GCI is tested by the regression analysis. The high positive influence of TTCI on the GCI in CEE countries is determined and the level of the regression coefficient is 0.624. Regression analysis confirms the impact of the competitiveness of the tourism sector of CEE countries on their competitiveness at the national level (hypothesis $H_2$ is confirmed). Also, the regression analysis is used in order to examine the influence of the pillars within the TTCI on the GCI. The results of the analysis are presented in Table 9. The negative value of the regression coefficient is recorded for P2 - Environmental sustainability, P3 - Safety and security, P5 - Prioritization of TandT and P6 - Air transport infrastructure.

**Table 9. The influence of pillar within the TTCI on the GCI in CEE countries (2013)**

| Pillars | Unstandardised Coefficients | | Standardized Coefficients |
|---|---|---|---|
| | B | Std. Error | Beta |
| P1. Policy rules and regulations | 0.454 | 0.000 | |
| P2. Environmental sustainability | -0.090 | 0.000 | -0.110 |
| P3. Safety and security | -0.550 | 0.000 | -0.744 |
| P4. Health and hygiene | 0.482 | 0.000 | 0.814 |
| P5. Prioritization of TandT | -0.057 | 0.000 | -0.156 |
| P6. Air transport infrastructure | -0.255 | 0.000 | -0.588 |
| P7. Ground transport infrastructure | 0.119 | 0.000 | 0.272 |
| P9. ICT infrastructure | 0.069 | 0.000 | 0.267 |
| P10. Price competitiveness in the TandT | 0.503 | 0.000 | 1.366 |
| P11. Human resources | 0.710 | 0.000 | 0.933 |
| P13. Natural resources | 0.218 | 0.000 | 0.170 |

*Dependent Variable: GCI, R Square = 1.000*
*Note: Regression analysis did not include all pillars within the TTCI. The reason for reducing the number of pillars was a rule that the number of variables in the regression model had to be less than the sample size. This analysis excluded the pillars with the lowest value of the correlation coefficient with the GCI (Affinity for TandT, Tourism Infrastructure, and Cultural Resources).*

Human resources as pillar P11 has the highest positive influence on the GCI among eleven analyzed pillars in the CEE countries (0.710). Pillars P1 - Policy rules and regulations (0.454), P4 - Health and hygiene (0.482) and P10 - Price competitiveness in the TandT industry (0.503) also have a significant positive influence. Positive, but still modest influence is recorded in the case of the following pillars: P7 - Ground transport infrastructure (0.119), P13- Natural resources (0.218) and P9 - ICT infrastructure (0.069).

### CONCLUSION

Tourism development of the CEE countries is placed on different levels, which confirms their different positions on the competitiveness world list as measured by the TTCI. By analyzing the CEE countries according to TTCI score in 2013, the order of the positions is as follows: Estonia (30), Czech Republic (31), Croatia (35), Slovenia (36), Hungary (39), Poland (42), Latvia (48), Lithuania (49), Bulgaria (50), Slovak Republic (54), Romania (68), and Albania (77).

Albania, Romania and Slovak Republic are the three countries in the CEE group, which are the lowest ranked countries by the GCI, followed by Croatia and Hungary. The weakest CEE countries in terms of the largest number of departures (by pillar within TTCI) from the average of CEE group are: Romania, Albania, Bulgaria, Lithuania, and Slovak Republic.

The strong correlation between the TTCI and GCI suggests that the analyzed countries should innovate tourism development strategies in order to increase the overall competitiveness. It is important to point out that increasement of the TTCI significantly contributes to the GCI. In other words, the increasement of the tourism competitiveness of the country enables increasement of its overall competitiveness. This fact is confirmed also by using regression analysis in order to determine the influence of TTCI on the GCI, as well as the influence pillars within the TTCI on the GCI. The pillar Human resources has the highest positive influence on the GCI in the CEE countries. Positive influence on the GCI is recorded also when it comes the following pillars: Health and hygiene, Price competitiveness in the TandT, Ground transport infrastructure, Natural resources and ICT infrastructure.

However, there are some pillars with a negative influence on the GCI (Safety and security, Air transport infrastructure, Prioritization of TandT and Environmental sustainability). We identified these areas as critical for improving tourism competitiveness of the CEE countries. The task of authoritative actors and creators of the TandT development policies of the CEE countries is to improve safety and security, which will result in greater comfort for tourists when deciding to these destinations. It is also necessary to improve air transport infrastructure and make it easier to connect tourists from different sides of the world with the CEE countries. There is also a need to ensure a responsible approach that will lead to environmental sustainability. The most important thing is understanding the importance of tourism and raising awareness about its role as some of the priority factor of improving the competitiveness of the CEE countries.

The research is limited to the heterogeneity of CEE countries. The analysis shows that the CEE countries are not homogeneous in terms of the GCI, as well as in terms of the TTCI. Higher degree of heterogeneity is noted in terms of the TTCI.

**ACKNOWLEDGEMENT**

This research realized within the Project No. 179066, financed by Ministry of education, science and technology development of the Republic of Serbia.

**REFERENCES**

1. Armenski, T., Marković, V., Davidović, N., Jovanović, T. (2011). *Integrated Model of Destination Competitiveness*, Geographica Pannonicam, 15(2), pp. 58-69.
2. Bălan, D., Balaure, V., Vegheş, C. (2009). *Travel and Tourism Competitiveness of the World's Top Tourism Destinations: An Exploratory Assessment,* Annales Universitatis Apulensis Series Oeconomica, 11(2), pp. 979-987.
3. Cooper, C., Fletcher, J., Fyall, A., Gilbert, D., Wanhill, S. (2008). *Tourism: Principles and Practice*, Pearson Education Limited, England.
4. Crouch, G. (2007). *Measuring Tourism Competitiveness: Research, Theory and the WEF Index*, Australian and New Zealand Marketing Academy (ANZMAC) Conference, 3-5 December 2007, pp. 76-77.
5. Crouch, G.I., Ritchie, J.R.B. (1999). *Tourism, Competitiveness and Societal Prosperity*, Journal of Business Research, 44, pp. 137-152.
6. Dupeyras, A., MacCallum, N. (2013). *Indicators for Measuring Competitiveness in Tourism: A Guidance Document*, OECD Tourism Papers, 2013/02, OECD Publishing.
7. Hassan, S.S. (2000). *Determinants of market competitiveness in an environmentally sustainable tourism industry*, Journal of Travel Research, 38(3), pp. 239-245.
8. Kozak, M., Rimmington, M. (1999). *Measuring tourist destination competitiveness: conceptual considerations and empirical findings*, Internationl Journal of Hospitality Management, 18, pp. 273-283.
9. Kulcsar, N. (2009). *Rural tourism in Hungary: The key of competitiveness*, Proceedings of FIKUSZ '09 Symposium for Young Researchers, Budapest Tech Keleti Károly Faculty of Economics, pp. 121-127.
10. Lin, C.T., Huang, Y.L. (2009). *Tourism Competitiveness Evaluation in Asian Countries Applying Grey Relational Analysis and Sensitivity Analysis*, Journal of Grey System, 21(3), pp. 269-278.
11. Malakauskaite, A., Navickas, V. (2010). *The Role of Clusters in the Formation Process of Tourism Sector Competitiveness: Conceptual Novelties*, Economics and Management, 15, pp. 149-154.
12. Mihalič, T. (2000). *Environmental management of a tourist destination: A factor of tourism competitiveness*, Tourism Management, 21(1), pp. 65–78.
13. Navickas, V., Malakauskaite, A. (2009). *The Possibilities for the Identification and Evaluation of Tourism Sector Competitiveness Factors*, Enginering Economics, 1(61), pp. 37-44.
14. Ritchie, J.R.B., Crouch, G.I. (2003). *The competitive destination: a sustainable tourism perspective*, CABI Publishing.
15. Tsai, H., Song, H., Wong, K.K.F. (2009) *Tourism and Hotel Competitiveness Research*, Journal of travel and tourism marketing, 26(5-6), pp. 522-546.
16. Vodeb, K. (2012). *Competition in Tourism in Terms of Changing Environment*, Procedia – Social and Behavioural Scienes, 44, pp. 273-278.
17. The Word Economic Forum (WEF) (2014). *The Global Competitiveness Reports 2013 - 2014*, http://www.weforum.org/reports/global-competitiveness-report-2013-2014, accessed January 15, 2014.
18. The Word Economic Forum (WEF) (2013). *The Travel and Tourism Competitiveness Report 2013*, http://www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf, accessed January 21, 2014.
19. Centre for Strategy and Evaluation Services (2013). *Enhancing the Competitiveness of Tourism in the EU: An Evaluation Approach to Establishing 20 Cases of Innovation and Good Practice*, http://ec.europa.eu/enterprise/dg/files/evaluation/cses-gp-tourism_en.pdf, accessed February 8, 2014.