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Evaluation of Tourism Competitiveness of Ukraine's Regions

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Abstract:

According to WEF, UNWTO, WTTC, World Travel & Tourism Market increased by 26,3% between 2010 through 2015 and now stands more than US\$ 7,2 trillion (9,8% of global GDP). The number of international tourists increased by 75% and the number of persons employed in tourism around the world increased to 284 million.

The objectives of this paper are: analysis of tourism competitiveness of Ukraine's regions on the basis of relevant index calculation in 2013-2015; ranking of regions; analysis of the dynamics of changes in index and rankings by region; evaluation of tourism competitiveness level of regions. As results of research the set of indicators was formed to reflect the tourism competitiveness from a regional perspective. The Travel & Tourism Competitiveness Index (TTCI) for 24 regions and Kyiv city in 2013-2015 was calculated and rating was constructed. It was established that 88% of regions have a positive trend in the index changing and there are only 3 regions with a negative one. The ranking leaders are Kyiv city (1st place), Lviv (2nd place) and Chernivetska (3rd place) regions. During 2013-2015, seven regions have worsened their positions in the overall rankings, losing from 1 to 9 positions; another nine regions on the contrary have risen in the rating by 1 to 9 positions; and other nine regions have saved their positions in ranking. It was established that 92–96% of regions have an intermediate level of tourism competitiveness in 2013-2015 and 4–8% of regions have an upper-intermediate. The results of the study show that tourist industry of Ukraine's regions has an intermediate level of the development (68% of regions have TTCI > 3,5 in 2015). It is proved by WEF calculation according to which TTCI of Ukraine is 3,83.

Keywords: tourism; competitiveness; index; evaluation; region; ranking

JEL Classification: C13; L83; O18

Introduction

Over the last 5 years the capacity of the world travel and tourism sector grew by 26.3% from US\$ 5.7 trillion in 2010 to US\$ 7.2 trillion in 2015 (http://www3.weforum.org/docs/TT15/WEF_Global_Travel&Tourism_Report_2015.pdf), which is 9.8% of the world GDP. In addition, the number of international tourist trips increased in 1.75 times from 674 million in 2010 to 1,186 billion in 2015 (The Data of the State Statistics Service of Ukraine (2013–2015)). The tourism industry provides jobs for more than 284 million people worldwide (<http://www3.weforum.org/docs/>

[TT15/WEF Global Travel&Tourism Report 2015.pdf](#)), *i.e.*, every 11th workplace directly or indirectly related to the sector of travel and tourism.

Since 2007, the World Economic Forum monitors the competitiveness of travel and tourism of various countries based on the calculation of the relevant index. In 2015 this index helped to analyze economies of 141 countries. The Ministry of Economic Development and Trade developed a draft decree "On adoption of the development Strategy of tourism and resorts for 2016-2020" (Glybovets 2011), which is to replace the current, but outdated and irrelevant act of 06.08.2008. According to the strategy, one of the areas is the formation and implementation of competitive national, regional and local tourist products. It substantiates urgency of monitoring the tourism competitiveness of Ukrainian regions.

1. Literature review

There is a lot of works dedicated to the tourism competitiveness research by the large number of foreign scientists, such as: Gburova and Matusikova (2014), Mahika, Bran and Tigu (2014), Singh and Singh (2016), Dias (2017), Rehman Khan, Qianli, SongBo, Zaman and Zhang (2017), Pulido-Fernandez, Rodriguez-Diaz (2016), *etc.*

On the other hand, the works of Ukrainian scientists are exploring the tourism competitiveness through the adjacent categories. So, the evaluation of tourism potential was carried out by such Ukrainian scholars as: Kovshova (2008) (country), Samko (2010) (region), Hayduk (1999) (territory), Glybovets (2011) (settlements), *etc.* The evaluation of tourist attractiveness was carried out by: Gavran (2002) (objects of recreation and tourist systems), Muzychenko-Kozlovskaya (2007) (territory), *etc.*

The analyzed publications are missing the results of the evaluation of tourist competitiveness of Ukrainian regions with building an appropriate rating, and with the research of the dynamics of development of the tourism industry. In particular, the missing piece is an adapted method of calculating of The Travel & Tourism Competitiveness Index, TTCI, to the Ukrainian statistics database, which, of course, is a barrier to achieving the strategic goal of tourism development on the national, regional and local levels.

The purpose of this article is to analyze the tourism competitiveness of Ukrainian regions based on the calculation of the relevant index, the ranking of regions, the dynamics of change in the index and rankings by region, evaluation of the level of tourism competitiveness of regions.

2. Methodology

The TTCI content consists of four sub-indices, 14 measurements and 90 separate indicators, 2/3 of which is statistics and 1/3 is an expert data (Table 1). The index measures the factors and causes that contribute to sustainable development of the tourism industry, which in turn leads to the development of competitiveness of the country.

Table 1. Structure of the Travel & Tourism Competitiveness Index

Travel & Tourism Competitiveness Index			
Enabling Environment	State policy of Travel and Tourism Regulations	Infrastructure	Natural and cultural resources
Business Environment (12 indicators)	Tourism-oriented (6 indicators)	Aero infrastructure (6 indicators)	Natural resources (5 indicators)
Safety and security (5 indicators)	International openness (3 indicators)	Land and sea transport infrastructure (7 indicators)	Cultural resources sand business trips (5 indicators)
Health and hygiene (6 indicators)	Price competitiveness (4 indicators)	Infrastructure of tourism services (4 indicators)	-
People resources and labor market (9 indicators)	Ecological sustainability (10 indicators)	-	-
Readiness of the ICT (8 indicators)	-	-	-

Source: Compiled by the authors based at Melnyk 2016

The sub-index A "Enabling Environment" encompasses the general parameters that are necessary for economic growth and business development (including tourism) in the country and enables to assess the effectiveness of legislation for the protection of property rights, regulation of foreign direct investments, dispute resolution, appeals against actions of the authorities; the level of violence and terrorist actions; the quality and accessibility of the health care system; education of the population, ease of finding, hiring and training of staff; number of mobile subscribers and Internet stuff.

Sub-index B "The State policy and regulation of travel and tourism" (T&T Policy and Enabling Conditions) covers indicators that are directly related to tourism and enables tourists to evaluate the quality of the environment and choose desired travel destination, for example, the priority level of tourism development, the share of budget expenditure on tourism; visa requirements for foreign tourists; the cost of airline services, hotel rooms, fuel, air pollution, state the effectiveness of sustainable tourism development, the number of endangered species, etc.

The sub-index C the "Infrastructure" reflects the availability and quality of tourism infrastructure, its logistics and hospitality, as well as identifies issues that require government interference: the quality of air transport infrastructure, the capacity of national and international flows; the density and quality of roads and Railways, quality of transport services; the number of hotel rooms, number of ATMs that accept Visa cards etc.

The sub-index G "Natural and cultural resources" contains indicators that reflect the main motivation to travel around the country - its cultural heritage and the riches of nature, for example, the number of objects of UNESCO World heritage sites, the level of digital tourism demand, the number of species and percentage of protected areas, the number of large sports arenas, etc.

The final TTCI is calculated as the arithmetic mean of the four values of the above sub-indexes.

3. Case studies

An important role in the adaptation of methods of calculation of TTCI to the regional level of Ukraine plays a selection of adequate national statistical indicators for the regions that would preserve the original meaning of the original indicator and would be available in statistical reports of the state service of Ukraine. Given this, it is proposed to submit the content of the TTCI for regions of Ukraine in the following way (Table 2).

Table 2. The indicators of the TTCI for the regions of Ukraine

№	Indicators (original TTCI)	Indicators (adapted TTCI)
1	Sub-index A "Enabling Environment"	
1.1	Cost to start a business	Available income per one person
1.2	Homicide rate / 100 t. ppl.	Number of people killed in the region / 100 t. ppl.
1.3	Physician density / 100 t. ppl.	Accessibility of doctors
1.4	Hospital beds availability	Available hospital beds for every 10 thousand people
1.5	HIV prevalence (age: 19-49)	The number of HIV and AIDS infected
1.6	Primary education enrolment rate	Primary education enrolment rate (6-9 y.o.)
1.7	Secondary education enrolment rate	Secondary education enrolment rate (10-17 y.o.)
1.8	Female labour force participation	Female labour force participation (opposite to male)
1.9	Individuals using the internet	Individuals using the internet
1.10	Broadband internet subscribers	Broadband internet subscribers
1.11	Mobile telephone subscriptions	Mobile telephone subscriptions
2	Sub-index B "State policy and regulation of tourism"	
2.1	Hotel price index	Average price of hotel rooms
2.2	Solids concentration (microgram/m ³)	Emissions of suspended solids in the atmosphere from stationary sources of pollution
2.3	Forest cover change (% per year)	Segment of reproduced forests by region (of total forest area)

№	Indicators (original TTCl)	Indicators (adapted TTCl)
2.4	Wastewater treatment (%)	Segment of circulating and consistently (re) used water
3	Sub-index C "Infrastructure"	
3.1	Available seat kilometres, domestic	Public transportation by interconnected airlift
3.2	Available seat kilometres, international	Public transportation by international connected airlift
3.3	Railroad density	Density of public railroad
3.4	Road density	Density of public hard roads
3.5	Hotel rooms quantity per 100 persons	Quantity of places in collective accommodation facilities per 100 persons
4	Sub-index D "Natural and cultural resources"	
4.1	Amount of World Heritage natural sites	Amount of state and national natural parks
4.2	Total protected areas	Segment of state and national natural parks
4.3	Amount of World Heritage cultural sites	Amount of cultural heritage sites of national significance
4.4	Amount of sports stadium	Amount of stadiums with stands for 1,500 seats or more

Source: Compiled by the authors based at Melnyk 2016

The adapted methods included 24 statistical indices from 90 indicators of the original techniques: sub-index "Enabling environment" with 11 indicators, sub-indexes "State policy and regulation of tourism" and "Natural and cultural resources" with 4 indicators for each, sub-index "Infrastructure" with its 5 indicators.

As the indicators included in the content of TTCl index have different measurement units and different ranges of values, it is necessary to bring their values to the normalized form that means to conduct a normalization procedure. The methodology of the World Economic Forum is used this purpose (Melnyk 2016):

- if the minimum value of the indicator corresponds to the worst position in the region and the maximum corresponds to the best one, then normalization is done by Eq. (1).

$$Indicator_i^{normal} = 6 \cdot \left(\frac{Indicator_i - Indicator_{min}}{Indicator_{max} - Indicator_{min}} \right) + 1, \quad (1)$$

when $Indicator_i^{normal}$ – normalized value of the indicator $Indicator_i$; $Indicator_{max}$, $Indicator_{min}$ – maximum and minimum values of the indicator among the compared regions;

- if the minimum value of the indicator corresponds to the best position in the region and the maximum corresponds to the worst one, then normalization is done by Eq. (2).

$$Indicator_i^{noemal} = -6 \cdot \left(\frac{Indicator_i - Indicator_{min}}{Indicator_{max} - Indicator_{min}} \right) + 7, \quad (2)$$

when $Indicator_i^{normal}$ – normalized value of the indicator $Indicator_i$; $Indicator_{max}$, $Indicator_{min}$ – maximum and minimum values of the indicator among the compared regions.

As a result, the range of possible values of the analyzed indicators will be determined by the interval [0; 7]. In this case, a "0" will correspond to the worst and "7" to the best value of normalized index among the compared regions. Sub-indexes A, B, C, and D are calculated as the arithmetic average of the component indicators included in their content. The results of the TTCl calculations and ratings of regions at the given index in 2013-2015 are shown in Table 3. In order to avoid distortion of the results of the study, the index calculations were not conducted for the Autonomous Republic of Crimea and the city of Sevastopol because appropriate statistical information on indicators isn't provided.

Table 3. Dynamics of TPCI and rating of the regions of Ukraine, 2013-2015

№	Regions	TTCI values			Index change, (%)	Rank places of regions			Rank change, (of places)
		2013	2014	2015		2013	2014	2015	
1	Vinnitsa	3,44	3,49	3,56	+3,46	13	17	19	↓6
2	Volyn	3,43	3,71	3,60	+4,90	14	9	14	=
3	Dnipropetrovsk	3,31	3,53	3,58	+8,06	19	14	18	↑1
4	Donetsk	3,17	3,14	3,21	+1,33	23	24	23	=
5	Zhytomyr	3,20	3,46	3,60	+12,43	21	20	12	↑9
6	Zakarpattia	3,79	3,77	3,81	+0,66	7	7	7	=
7	Zaporizka	3,87	3,78	3,73	-3,59	4	6	9	↓5
8	Ivano-Franksivsk	3,85	3,99	4,01	+4,26	5	5	5	=
9	Kyiv	2,89	3,17	3,32	+14,66	25	22	22	↑3
10	Kirovohrad	3,02	3,12	3,17	+4,90	24	25	24	=
11	Luhansk	3,40	3,16	3,16	-7,15	16	23	25	↓9
12	Lviv	4,09	4,22	4,25	+3,84	2	2	2	=
13	Mykolaiv	3,47	3,63	3,60	+3,86	12	12	13	↓1
14	Odesa	3,59	3,56	3,58	-0,28	9	13	17	↓8
15	Poltava	3,58	3,68	3,72	+3,88	10	11	10	=
16	Rivne	3,36	3,53	3,60	+6,87	18	14	15	↑3
17	Sumy	3,39	3,48	3,48	+2,77	17	18	20	↓3
18	Ternopil	3,41	3,49	3,59	+5,43	15	16	16	↓1
19	Kharkiv	3,51	3,70	3,74	+6,43	11	10	8	↑3
20	Kherson	3,67	3,72	3,82	+4,14	8	8	6	↑2
21	Khmelnyskyi	3,82	4,01	4,13	+8,16	6	4	4	↑2
22	Cherkasy	3,18	3,44	3,44	+8,22	22	21	21	↑1
23	Chernivtsi	3,93	4,18	4,17	+6,24	3	3	3	=
24	Chernihiv	3,30	3,47	3,63	+10,22	20	19	11	↑9
25	Kyiv city	4,35	4,57	4,67	+7,45	1	1	1	=

Source: Calculated by the authors based at data from State Statistics Service of Ukraine (Hayduk 1999).

For analysis of the regions' distribution according to the TTCI value it is proposed to divide the range [0; 7] into ten equal intervals so that 10% of regions with the best Index value was in the first interval ($6,3 < TTCI \leq 7$). The next 10% of regions with the best Index value get to a second interval ($5,6 < TTCI \leq 6,3$), etc.

Distribution results that are given in table 4 show that all analyzed regions were up to three intervals. The interval ($2,8 < TTCI \leq 3,5$) includes from 6 to 14 regions in different years. The number of areas of this interval is decreasing 4 times every year. In 2015, it includes six regions (20-25 places in the rankings): Sumy, Cherkasy, Kyiv, Donetsk, Kirovohrad and Luhansk regions. Positive tendency of TTCI changes is observed in all areas of this group (except for Lugansk region). It should be noted that there is a potential for transition to a higher interval in Sumy ($TTCI=3,48$) and Cherkasy ($TTCI=3,44$) regions because the values of their indices are close to the lower limit of the next interval in (3.5). The interval ($3,5 < TTCI \leq 4,2$) includes from 10 to 17 regions in different years. The number of regions in this interval is growing annually (by moving from the lower interval) in 3-4 regions. In 2015 it includes 17 regions (3-19 places in the ranking): Chernivtsi, Khmelnytskyi, Ivano-Frankivsk, Kherson, Zakarpattia, Kharkiv, Zaporizhia, Poltava, Chernihiv, Zhytomyr, Mykolaiv, Volyn, Rivne, Ternopil, Odesa, Dnipropetrovsk and Vinnitsia regions. In all areas of this group (except Zaporizhzhia and Odessa regions) observed a positive tendency of TTCI changes. It should be noted that Chernivtsi ($TTCI=4,17$) and Khmelnytskyi ($TTCI=4,13$) regions have the

potential to move to the higher interval. The interval ($4,2 < \text{TTCI} \leq 4,9$) covers the regions with the highest index value from the total sample. It includes Kyiv (2013-2015) and Lviv regions (since 2014).

Table 4. Distribution of the regions at intervals, 2013-2015

TTCI intervals	2013		2014		2015	
	Amount	%	Amount	%	Amount	%
from 0 to 0,7	0	0	0	0	0	0
...
from 2,8 to 3,5	14	56	10	40	6	24
from 3,5 to 4,2	10	40	13	52	17	68
from 4,2 to 4,9	1	4	2	8	2	8
...
from 6,3 to 7	0	0	0	0	0	0
TOTAL	25	100	25	100	25	100

Source: Compiled by the authors based at Table 3

It should be noted that for the period 2013-2015 in three regions observed a negative tendency of TTCI changes, seven regions have worsened their position in the overall rankings losing from 1 to 9 positions. On the other hand, twenty-two regions have a positive trend of TTCI changes, nine regions have improved their position in the overall ranking rising 1-9 positions four regions of which have moved to a higher interval. Nine regions have maintained the rating place. There are three leaders among them: Kyiv city, Lviv and Chernivtsi regions, as well as two outsiders: Kirovohrad and Donetsk regions.

Conclusion

The results of the calculation of travel and tourism competitiveness index found that the analyzed regions were distinguished in three intervals in 2013-2015: 92-96% of the regions is in the range of average index values ($2,8 < \text{TTCI} \leq 3,5$ $3,5 < \text{TTCI} \leq 4,2$), and 4-8% of regions – in intervals above the average of index ($4,2 < \text{TTCI} \leq 4,9$). It means that tourism competitiveness of regions of Ukraine has an average level. The positive aspect is that 88% (22 of 25) regions tend to increase the level of competitiveness, but none of the regions has TTCI indicator below 2.8, which corresponds to the intervals of low values of the index. Moreover, according to the World Economic Forum, TTCI values of Ukraine in comparison with all countries in the world contains 3, 83 (Muzychenko-Kozlovs'ka 2007) which confirms the validity of the results of this study.

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