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Tourism demand index and its correlation with standard of living in EU countries

Abstract. Tourism is one of the fastest growing industries in the world. This study proposes construction of tourism demand index and direct application of this index to rank chosen countries. The second aim is to analyze if the place in ranking is correlated with citizens' standard of living.

Six measures of tourism demand for 27 EU countries were collected from Eurostat for the year 2019. As a standard of living measure, Human Development Index (HDI) was taken. As a result, high and positive correlation between almost all types of tourism demand indexes and HDI was noticed. The place of a particular country in the ranking depends on the kind of tourism demand measure, which was used. The method of constructing tourism demand index proposed in the article can be used for other group of countries or regions.

Key words: tourism demand, ranking, index, correlation, outbound, inbound, trips

Introduction

Tourism plays an increasingly important role in the everyday life of majority of economies and its contribution to GDP is still growing. According to the report of the World Travel and Tourism Council (Travel & Tourism Benchmarking..., 2019), tourism created 10.6% of all jobs (334 million) and its contribution to GDP was 10.4% of global GDP (9.2 USD trillion) in 2019. In 2018 tourism contribution to GDP was 1.7 times higher than mining, 1.5 times higher than banking and automotive manufacturing, and 1.4 times higher than agriculture (Travel and Tourism Economic..., 2021).

As any other market, tourism sector has two sides: demand and supply. The subject of interest of this research is only the demand side of the tourism market.

Tourism demand is the subject of research and analysis of many scientists, scientific institutes and statistical institutions around the world. As X. Jiao, J.L. Chen, G. Li (2021) states „... accurate tourism forecasts are essential to helping tourism businesses and government bodies devise plans and manage resources efficiently”. Tourism demand

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of citizens, following Eurostat (Methodological Manual..., 2013), can be measured as participation in tourism, tourism trips, number of tourism nights and expenditures. It can be analyzed in division into domestic, outbound or inbound demand.

R. Baggio (2019, p. 255–269), following H. Song et al. (2010, p. 63–81) concludes that tourism demand “...can be measured by taking into account four elements: people (tourists), money (expenditure, receipts), time (stays and travels durations) and space (distances, lengths of trips)”. Most of the tourism demand research is devoted to forecasting (Song, 2008, p. 203–220; Song, 2019, p. 338–362; Li, 2020), modeling (Meo, 2018, p. 408–422; Rosselló-Nadal and Jianan, 2020, p. 1311–1326) or analyzing demand determinants (Shafiullah, 2019, p. 274–296), often using the advanced statistical and econometric methods. All research and analysis are based on tourism demand measures such as number of arrivals, tourism expenditures, number of trips. Scientists must assume that this data is reliable and credible, but collecting tourism demand data is exceptionally difficult and complicated. Despite of rules and recommendation given by international organizations such as UNWTO and Eurostat, data collection methods can differ across countries or even their regions (Baggio, 2019, p. 255–269). Data is collected from surveys, airports, harbors, accommodation, borders (EU mostly removed exact internal national borders). For several reasons tourism data is even estimated drawn from a random sample. Therefore, due to the lack of measurable data, as one present for medical, economic or technical sciences, researchers of tourist demand are forced to rely on certain heuristic solutions for data collection process.

The aim of this research is to build tourism demand index (TDI) which allows to rank EU countries according to the level of tourism demand of their citizens. The index will be versatile and therefore applicable to any group of countries or regions.

Several scientific and business bodies or organizations provide rankings on various social, health and economic aspects such as Economic Freedom Ranking, Doing Business Ranking, Best Health Ranking, etc. Tourism sector uses for instance the ranking of most visited countries or towns. However, currently no index enables to rank countries according to the level of tourism demand of citizens.

An additional aim of this research is to analyze whether the country's position in the tourism demand ranking is correlated with its citizens' standard of living. Following other researcher (Nundy, Kakar and Bhutta, 2022, p. 47–62; Sakyi-Nyarko, Ahmad and Green, 2022) Human Development Index (HDI) was taken as a measure of standard of living. “The Human Development Index (HDI) is a statistic developed and compiled by the United Nations to measure various countries' levels of social and economic development. It is composed of four principal areas of interest: mean years of schooling, expected years of schooling, life expectancy at birth, and gross national income (GNI) per capita. This index is a tool used to follow changes in development levels over time and compare the development levels of different countries” (Human Development Index..., 2022).

Material and methods

This study employs following tourism demand measures:

1. Participation in tourism (domestic – PTD, outbound – PTO, all countries of the world – PTA, in %);
2. Number of tourism trips (domestic – NTD, outbound – NTO, per 1000 citizens).
3. Number of nights spent during tourism trip (domestic – NND, outbound – NNO, per capita);
4. Total expenditure for tourism trips (domestic – TED, outbound – TEO, per capita, in EUR);

and two additional:

5. Average expenditure per trip (domestic – ATED, outbound – ATEO, in EUR);
6. Average expenditure per night (domestic – ANED, outbound – ANEO, in EUR).

Underlying data was collected from Eurostat for 27 EU countries and refer only to long-term travel (4 nights or over) for personal reasons in 2019.

To define tourism demand index (TDI) the analysis was divided into 3 steps. The first one was to rank countries in order from the lowest to the highest value for each of the tourism demand measures separately. The second step was to give each country points equal to their ranking position for each of the measures separately (letter R before the name of measure). In the last step, below formula was used:

$$TDI = \frac{(RPTD + RPTO + RPTA + RNTD + RNTO + RNND + RNNO) + (RTED + RTEO + RATED + RATEO + RANED + RANEO)}{m \cdot n}$$

where:

m – number of measures used in the numerator (in this formula $m = 13$),

n – number of countries analyzed (in this article n is equal to 27).

In the first bracket are measures related to tourist traffic, and in the second one, measures related to tourism expenditure. Hence, two separate indexes can be defined: TDTRI – tourism demand index measured only by tourist traffic ($m = 7$, $n = 27$) and TDEI – tourism demand index measured by expenditures ($m = 6$, $n = 27$).

$$TDTRI = \frac{RPTD + RPTO + RPTA + RNTD + RNTO + RNND + RNNO}{m \cdot n}$$

$$TDEI = \frac{RTED + RTEO + RATED + RATEO + RANED + RANEO}{m \cdot n}$$

TDTRI may be further divided into indexes separately for domestic tourism – DTDTRI (domestic tourism demand index measured only by tourist traffic, $m = 3$, $n = 27$) and outbound tourism – OTDTRI (outbound tourism demand index measured only by tourist traffic, $m = 3$, $n = 27$). PTA variable refers to participation in tourism to all countries of the world and thus includes participation in domestic and outbound trips, so the author decided not to include it in the indices calculated separately for domestic and foreign tourism.

$$\text{DTDTRI} = \frac{\text{RPTD} + \text{RNTD} + \text{RNND}}{m \cdot n}$$

$$\text{OTDTRI} = \frac{\text{RPTO} + \text{RNTO} + \text{RNNO}}{m \cdot n}$$

TDEI also can be divided in the same way, DTDEI (domestic tourism demand index measured only by expenditures, $m = 3$, $n = 27$) and OTDEI (outbound tourism demand index measured only by expenditures, $m = 3$, $n = 27$).

$$\text{DTDEI} = \frac{\text{RTED} + \text{RATED} + \text{RANED}}{m \cdot n}$$

$$\text{OTDEI} = \frac{\text{RTEO} + \text{RATEO} + \text{RANEO}}{m \cdot n}$$

Domestic tourism demand index (DTDI, $m = 6$, $n = 27$) allows to compare countries by the level of demand for domestic tourism only but using both kinds of measures, related to tourist traffic and expenditures. Outbound tourism demand index (OTDI, $m = 6$, $n = 27$) respectively, only by the level of demand for outbound tourism but also for both types of measures. The first one was calculated using formula:

$$\text{DTDI} = \frac{\text{RPTD} + \text{RNTD} + \text{RNND} + \text{RTED} + \text{RATED} + \text{RANED}}{m \cdot n}$$

and the second one similarly:

$$\text{OTDI} = \frac{\text{RPTO} + \text{RNTO} + \text{RNNO} + \text{RTEO} + \text{RATEO} + \text{RANEO}}{m \cdot n}$$

Index values belong to interval $\langle 0; 1 \rangle$. Higher index values mean a higher level of tourism demand in a given country as compared to other countries.

The Pearson coefficient was used to calculate the correlation between the ranking place in Human Development Index (HDI) in 2019 and individual indices. EU countries were ranked from the lowest living standard (the lowest HDI – 1st position) to the highest one (the highest HDI – 27th position). Their significance was tested with

the t-Student test for a significance level of 0.05. Data about places in Human Development Index Ranking was collected from United Nations Development Programme webpage (2020).

Results

The EU countries strongly differ with respect to the level of tourism demand. In 2019, participation in long-term tourism trips (all countries in the world – PTA) ranged from 75.51% in the Netherlands to 12.6% in Romania. Participation in domestic tourism was the lowest in Luxembourg (3.26%) and the highest in France (50.55%). The Netherlands was the country with the highest level of participation in outbound trips (60.63%) and Romania was the country with the lowest one (2.22%). Average participation in tourism trips (PTA) in EU was 48.75%, in domestic tourism trips 28.3% and in outbound trips 33.01%, with standard deviation respectively equals 14.52%, 13.44% and 17.28%. In the 15 countries participation in outbound tourism was higher than in domestic trips. The greatest gap among EU countries was observed for participation in outbound trips (Table 1).

France had the highest number of domestic tourism trips (1032 per 1000 citizens) in 2019. Luxembourg had the lowest number of such trips (16.6 per 1000 citizens), but the highest number of outbound trips (1990.8 per 1000 citizens). Greece was the country with the lowest number of outbound trips (63.6 per 1000 citizens). Average number of domestic tourism trips in EU was 416.3 per 1000 citizens with standard deviation 274.4. In 12 countries the number of domestic tourism exceeded the number of outbound trips. Average number of outbound trips was 605.9 with significant standard deviation equals to 432.6. Gap between the countries measured by the number of trips was medium-high and its magnitude was higher for outbound tourism (Table 1).

As mentioned for the previous tourism demand measure, France was the country with the highest number of nights spent during domestic trips (9.4 per capita) and Luxembourg with the lowest value of this measure (0.1 per capita). Romanian citizens spent the least number of nights during outbound trips (0.5 per capita) and the inhabitants of Luxembourg the most (20 per capita). Average number of nights spent during domestic tourism trips in EU was, in 2019, 3.2 per capita with standard deviation 2.3

Table 1. Quartiles and the coefficient of variation for participation in tourism, the number of tourism trips and the length of tourism trips

	Participation in tourism trips			Number of trips per 1000 citizens		Number of nights per capita	
	domestic [%]	outbound [%]	all countries [%]	domestic	outbound	domestic	outbound
Q1	15.57	18.05	38.65	213.39	241.76	1.33	2.54
Q2	30.53	38.36	54.08	339.49	533.88	3.04	4.42
Q3	34.79	48.74	59.15	530.65	877.64	4.58	9.01
CV	0.48	0.52	0.3	0.66	0.71	0.7	0.7

Source: own elaboration.

and average number of nights spent during outbound trips was 5.9 with standard deviation equals 4.5. The percentage of nights spent during domestic trips in total number of nights was higher than during outbound trips in ten countries only. Gap between the EU countries grouped by this measure was significant and same pattern was present for domestic and outbound tourism (Table 1).

The Table 2 shows tourism demand index (TDTRI) for each of EU countries which was based only on measures of tourist traffic. Sweden holds the first place in the ranking of total tourism demand measured by tourist traffic with the value of index 0.89 and Romania respectively the last place with index 0.16. The highest level of domestic tourism demand belongs to France (1.00) and the lowest level to Luxembourg (0.04). However, this country took the first place in ranking of outbound tourism demand (0.91).

Table 2. Tourism demand index based on the measures of tourist traffic

Country	Total (TDTRI)	Domestic (DTDTRI)	Outbound (OTDTRI)	Country	Total (TDTRI)	Domestic (DTDTRI)	Outbound (OTDTRI)
Austria	0.71	0.64	0.74	Italy	0.34	0.48	0.21
Belgium	0.54	0.23	0.78	Latvia	0.27	0.17	0.41
Bulgaria	0.19	0.30	0.11	Lithuania	0.26	0.14	0.43
Croatia	0.39	0.60	0.20	Luxembourg	0.47	0.04	0.91
Cyprus	0.70	0.53	0.85	Malta	0.44	0.14	0.70
Czechia	0.70	0.86	0.48	Netherlands	0.79	0.64	0.88
Denmark	0.70	0.65	0.83	Poland	0.48	0.72	0.27
Estonia	0.41	0.25	0.56	Portugal	0.37	0.62	0.17
Finland	0.84	0.93	0.73	Romania	0.16	0.32	0.05
France	0.68	1.00	0.35	Slovakia	0.59	0.65	0.51
Germany	0.78	0.74	0.79	Slovenia	0.43	0.20	0.63
Greece	0.30	0.57	0.06	Spain	0.59	0.90	0.28
Hungary	0.37	0.41	0.36	Sweden	0.89	0.88	0.89
Ireland	0.62	0.40	0.83				

Source: own elaboration.

Tourism expenditure, expenditure per trip and per night are different kinds of tourism demand measures. They are strongly connected with citizens' standard of living, behavioral norms and currency exchange rates. In 2019, the average of total expenditure for domestic tourism trips in EU was equal to 139.17 EUR per capita with standard deviation 124.28 euro. The highest one was noticed again in France (487.79 EUR per capita) and the lowest in Luxembourg (3.85 EUR per capita). Only in the six countries, percentage of domestic expenditure in total tourism spendings was higher than outbound expenditure. Romania had the lowest total expenditure for outbound trips (33.56 EUR per capita) and Luxembourg the highest (2535.68 per capita). The average spendings for such trips in EU countries was equal to 613.04 EUR per capita with standard deviation 588.93. It is worth noting that the median (324.58 EUR per capita) was almost two times lower than the arithmetic mean.

The average expenditure per trip varied less across EU countries than total expenditure per capita. Average spending per domestic trip was equal to 306.51 EUR with standard deviation 125.48 and per outbound trip 868.96 EUR with standard deviation 317.15. Latvia had the lowest expenditure per domestic trip (99.53 EUR) and Austria had the highest (630.5 EUR). In every country spending per outbound trip was higher than per domestic one. Swedes spent the most on one outbound trip (1611.52 EUR) and Hungarians the least (393.62 EUR). The average spending per outbound trips in EU countries was equal to 868.96 EUR with standard deviation 317.15.

The last analyzed tourism demand measure was average expenditure per night. The results for this measure are close to the aforementioned one. The first place in average expenditure per night during domestic trip took Austria (95.19 EUR) and the last one Latvia (13.43 EUR). The leader in average spending per night during outbound trip was Sweden (159.66 euro), the last place belonged to Hungary (47.79 EUR). Average expenditure per night during domestic trip was equal to 39.95 EUR with standard deviation 17.79 and during outbound trip 91.37 EUR with standard deviation 30.6.

The greatest differentiation of the EU countries was observed for total tourism expenditure per capita both for domestic and outbound trips (Table 3).

Table 3. Quartiles and the coefficient of variation for total expenditure per capita, average expenditure per trip and average expenditure per night

	Total tourism expenditure per capita [EUR]		Average expenditure per trip [EUR]		Average expenditure per night [EUR]	
	domestic	outbound	domestic	outbound	domestic	outbound
Q1	45.15	160.39	233.18	577.69	27.04	63.74
Q2	105.26	324.58	291.58	863.35	39.71	83.10
Q3	194.21	940.39	384.48	1128.22	51.18	116.09
CV	0.89	0.96	0.41	0.36	0.45	0.33

Source: own elaboration.

The second part of tourism demand index is based on tourism demand measured by expenditures only (TDEI). This index is shown in Table 4. Sweden took first place in the ranking of total tourism demand measured by expenditure with the value of index 0.95 and Hungary the last place with index equals 0.15. The highest level of domestic tourism demand measured by expenditure had Germany (index value – 0.94) and the lowest Latvia (0.05). Sweden again was the leader in ranking of outbound tourism demand measured by spending with index equal to 0.99 and Hungary and Bulgaria took the last place with the value of index 0.11.

Last, Table 5 shows tourism demand index based on the total measure of tourism demand, including both tourist traffic and tourist expenditure measures. This ranking is the ultimate result, since it covers all aspects of tourism demand. Sweden, for which total index was equal to 0.92, is the country with the highest level of tourism demand among EU countries. It took also the first place in ranking of outbound tourism demand

Table 4. Tourism demand index based on the measures of tourism expenditure

Country	Total (TDEI)	Domestic (DTDEI)	Outbound (OTDEI)	Country	Total (TDEI)	Domestic (DTDEI)	Outbound (OTDEI)
Austria	0.90	0.93	0.86	Italy	0.62	0.83	0.42
Belgium	0.52	0.51	0.54	Latvia	0.22	0.05	0.38
Bulgaria	0.19	0.26	0.11	Lithuania	0.21	0.09	0.33
Croatia	0.25	0.33	0.17	Luxembourg	0.63	0.31	0.95
Cyprus	0.66	0.54	0.78	Malta	0.61	0.49	0.73
Czechia	0.30	0.28	0.32	Netherlands	0.50	0.42	0.58
Denmark	0.86	0.88	0.85	Poland	0.33	0.42	0.25
Estonia	0.55	0.35	0.75	Portugal	0.44	0.53	0.36
Finland	0.66	0.60	0.72	Romania	0.27	0.40	0.14
France	0.83	0.90	0.75	Slovakia	0.41	0.43	0.40
Germany	0.83	0.94	0.72	Slovenia	0.33	0.44	0.22
Greece	0.41	0.57	0.25	Spain	0.65	0.74	0.56
Hungary	0.15	0.19	0.11	Sweden	0.95	0.91	0.99
Ireland	0.72	0.67	0.77				

Source: own elaboration.

Table 5. Tourism demand index (TDI)

Country	Total (TDI)	Domestic (DTDIT)	Outbound (OTDI)	Country	Total (TDI)	Domestic (DTDIT)	Outbound (OTDI)
Austria	0.79	0.78	0.80	Italy	0.47	0.65	0.31
Belgium	0.54	0.37	0.66	Latvia	0.25	0.11	0.40
Bulgaria	0.19	0.28	0.11	Lithuania	0.24	0.11	0.38
Croatia	0.32	0.47	0.19	Luxembourg	0.54	0.17	0.93
Cyprus	0.68	0.54	0.81	Malta	0.52	0.31	0.72
Czechia	0.52	0.57	0.40	Netherlands	0.66	0.53	0.73
Denmark	0.78	0.77	0.84	Poland	0.41	0.57	0.26
Estonia	0.47	0.30	0.65	Portugal	0.40	0.57	0.27
Finland	0.76	0.77	0.72	Romania	0.21	0.36	0.09
France	0.75	0.95	0.55	Slovakia	0.51	0.54	0.45
Germany	0.80	0.84	0.75	Slovenia	0.38	0.32	0.43
Greece	0.35	0.57	0.15	Spain	0.62	0.82	0.42
Hungary	0.26	0.30	0.23	Sweden	0.92	0.90	0.94
Ireland	0.66	0.53	0.80				

Source: own elaboration.

with index value equal to 0.94. Sweden holds also the second position in ranking of domestic tourism demand (0.9), in which the leader was France (0.95). Bulgaria had the lowest index in tourism demand ranking (0.19), Lithuania and Latvia in domestic part (0.11) and Romania in outbound part (0.09).

Correlation between almost all types of tourism demand indexes and ranking place in Human Development Index is statistically significant, positive and medium-high (Table 6). Only the level of domestic tourism demand, measured by tourist traffic, appears to be not dependent on standard of living factor (the correlation coefficient is statistically insignificant). Correlation HDI with outbound tourism demand indexes is higher than with domestic tourism demand indexes.

Table 6. Pearson correlation coefficient between tourism demand indexes and HDI ranking places, value of significance test ($\alpha = 0,05$)

	Person	t-test value		Person	t-test value		Person	t-test value
TDI	0.82	7.18	TDTRI	0.77	6.02	TDEI	0.76	5.88
DTDI	0.49	2.78	DTDTRI	0.26	1.37	DTDEI	0.61	3.89
OTDI	0.80	6.76	OTDTRI	0.78	6.22	OTDEI	0.74	5.53

Source: own elaboration.

Conclusions and discussion

Tourism is not considered to be a good necessary to live. Hence, to afford it consumers must have a free consumption fund for tourism demand to arise. Thus, in the ranking of tourism demand, countries with a high standard of living take the highest positions (Table 6). According to the literature (Smeral, 2003, p. 77–93), tourism is considered to be a luxury good (Cheng, 2012, p. 167–181), so demand elasticity is higher than one. However, depending on consumers' wealth, different types of tourism may be perceived as normal or even inferior goods (Bernini and Cracolici, 2016, p. 57–79; Fredman and Wikström, 2018, p. 51–63; Bernini and Ruizhe, 2021, p. 287–300). There are many economic and non-economic determinants of tourism demand, but the income factor plays a major role among them (Rudež Nemec, 2018). Tourism demand ranking shows that tourism is not commonly accessible yet, the median of the tourism demand index (TDI) among the nine countries with the lowest HDI is 0.26, for the next nine countries it is 0.52, and among the nine countries with the highest standard of living it is 0.76. This rule prevails even among EU countries, which have favorable quality of living compared to other countries of the world. It can be assumed that if any of the presented rankings were made for all countries of the world, the importance of the income factor would be even more visible. Among consumers participating in tourism, some types of tourism and some tourist destinations may become normal or inferior good, but the income factor remains the main determinant of participation in tourism trips. Only the consumer, who has free funds on disposal, can decide about their use. Other economic and non-economic factors can have impact on tourism demand once the wealth threshold is achieved. Hence, the value of total tourism demand index and thus a place in

the ranking is strongly connected with the level of HDI in EU countries. The correlation between citizens' standard of living and level of tourism demand is much more visible when only outbound tourism is analyzed (Table 6). The EU countries exhibit the biggest variability for the total tourism expenditure per capita and the least when expenditure per trip or night is analyzed. It means that spending on one trip among people who can afford to travel, regardless of their country of origin are not so varied.

The place in tourism demand ranking and the value of index depend also on the kind of tourism demand measure, which was used (Menegaki, Tiwari and Agiomirgianakis, 2020). The main total tourism demand index (Table 5) was calculated based on all the measures (tourism traffic and expenditure), but the place of the countries changes when only one type of measures is applied (Table 4 and Table 2) and also when only domestic or outbound tourism is taken into account. Sweden is an exception because it has the first position in all of the total rankings (together domestic and outbound tourism demand). Furthermore, it holds the first place in ranking of outbound demand measured by all the measures and measured only by expenditure and the second place in ranking of outbound demand measured by tourist traffic. Sweden was also at a high position in ranking of domestic tourism demand measured first by all the measures (2nd place), second by tourist traffic (4th place) and finally by expenditure (3rd place). Germany, Cyprus, Latvia, Lithuania and Bulgaria were the countries which were on the same place in total ranking (together domestic and outbound trips) regardless the kind of tourism demand measures. 21 countries were on different positions and difference was considerable. Czechia was at the eight place when traffic tourist measures of demand were applied and in twenty-first position when expenditure measures were used. Similarly, the Netherlands was at the third place applying tourist traffic measure and in fifteenth position when tourism expenditure measures were applied. Conversely, Italy took the twenty-second place in total tourism demand ranking measured by tourism traffic and the eleventh place using measures based on expenditure.

Even greater differences were noticed for the ranking places depending on the measure of tourism demand used for domestic tourism demand. Only Lithuania, Portugal and Romania had the same place in both rankings. Czechia took the fifth position in domestic tourism demand ranking based on tourist traffic measures and the twenty-third in ranking based on expenditure. Similarly, Poland was at the seventh place in the first ranking and at eighteenth place in the second one. Malta, Italy and Ireland were countries with a high position in tourism demand ranking using expenditure as a measure and low position in ranking based on tourist traffic.

Slovenia and France were the countries with the largest differences between places in the outbound tourism demand ranking applying tourist traffic or tourism expenditure as a measure. Based on the level of tourist traffic, Slovenia was ranked at twelfth place and France at the nineteenth. Based on the level of tourism expenditure Slovenia was in the twenty-third position and France at seventh place. Only Ireland and Latvia took the same ranking places.

The tourism demand index, based on all the tourism demand measures and taking into account both domestic and foreign trips, is the most general indicator that gives the

most comprehensive approach to the level of tourism demand of residents. A deeper analysis is possible by calculating separate indexes for domestic and outbound tourism trips. Countries such as Sweden, Germany, Denmark, Finland, Austria are characterized by a high level of domestic and outbound tourism demand. On the other hand among EU countries there are also those whose citizens strongly prefer domestic tourism such as France, Spain and Italy, and those whose residents prefer outbound trips such as Luxembourg, Cyprus, Ireland and the Netherlands. Furthermore, next stage of the analysis of tourism demand is possible by the calculation of separate indexes based on measures that take into account only tourist traffic or only expenses. Citizens of the Netherlands and the Czech Republic travel frequently, but their travel expenses are not high. Conversely, the travels of Italians are not that frequent, but the funds allocated to them are significant.

The calculation of tourism demand indexes and the preparation of rankings on their basis may be indicative for the supply side of the tourism market and for the authorities that have an impact on both the demand and the supply of tourism.

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