A Method for Shaping the Tourism Profile of the EU Countries According to the Structure of Tourist Expenditures in 2016

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Abstract

This paper presents an interdisciplinary research conducted on some features of the European tourism market. In our perspective, such an approach can help us find solutions to the challenges faced by the tourism activity nowadays. The generous databases provided by current international statistics can be processed by means of statistical and mathematical methods and software, in order to analyze different aspects of the tourism market in terms of size, structure and evolution. At the same time, the understanding of the tourists' buying and consumption behavior can contribute to the shaping of a country's tourism profile, depending on a particular feature or economic indicator.

In this study, the CFA method (Correspondence Factor Analysis) and the SPSS software (Statistical Package for Social Sciences) – used in data processing – provided the support for shaping the profile of each analyzed European country according to the size and structure of the expenditures incurred by the domestic trips taken by resident tourists.

Key words: expenditures categories, correspondence factor analysis, resident tourists, country profile
J.E.L. classification: C10, C38, L83, M31, Z32

1. Introduction

At the EU level, tourism is considered an important economic and social activity, with strong influences on general economic growth. In this context, it is noteworthy that tourism generates over 10% of the EU GDP (also taking into account the sectors related to tourism). It should be noted that in Europe, tourism is facing new challenges, and one of these is represented by the consumers' changing behavior. [European Parliament, 2015]

Based on these considerations, this paper aims, as a central objective, to shape the profile of each country and, implicitly, the profile of the resident tourists from the analyzed countries, according to the size and structure of tourist expenditures, as presented in international statistics.

The data processed in this research have a quantitative nature. On the one hand, they enabled us to analyze the size and structure of expenditures, and, on the other hand, to formulate qualitative interpretations, in order to show and explain some aspects of the tourists' purchasing and consumption behavior in each country. (Everitt *et al*, 2001)

The comparison (in absolute and relative terms/ values) of each of the main expenditure categories, at the level of each country, shows that there are particularities in the residents' behavior regarding the size and structure of the tourist expenditures incurred by domestic trips.

2. Creating the appropriate research framework

In order to achieve the proposed objective, we chose to carry out a desk-based, quantitative and descriptive research based on the analysis of cross-sectional secondary data provided by international statistics, represented by the values of the indicator "expenditure categories". For the purpose of this study, we used the statistical method known as *correspondence factor analysis (CFA)*. Data processing, indicator significance testing, and graphical representations were

performed using the *SPSS statistical software*. (Benzecri, 1992; Field, 2009; Pintilescu, 2007) The concepts and definitions used in this study are in line with the specifications described in the Methodological Manual for Tourism Statistics. [UN and UNWTO, 2008]

In this study, we processed the Eurostat data (from the Data Explorer menu) on the indicator "*tourist expenditures by expenditure category*" for the 27 EU Member States, with information available for 2016, [European Commission, Eurostat, Tourism, Data, Main Tables]

It is noteworthy that the data used in this research refer to the categories of expenditures made by resident tourists only for domestic trips (Snak *et al,* 2001; Minciu, 2004). In European statistics, the expenditures on tourist trips are divided and classified into the following main categories: "*expenditure on transport", "expenditure on restaurants/café", "expenditure on accommodation", "expenditure on durables"* and *" other expenditure"*.

3. Data, results and discussions

The correspondence table (which shows the distribution of statistical units according to the simultaneous variance of two categories of the same variable) is represented by the distribution of expenditures according to the tourists' "country of residence" and "main expenditure types/ categories". (Baltagi, 2008).

Table no. 1: Correspondence table for tourist expenditures, by main expenditure categories and the tourists' country of residence (2016)

Country	Expenditure categories					
	Expenditure on transport	**Expenditure on restaurants/ cafe**	**Expenditure on accommodation**	**Expenditure on durables**	**Other expenditures**	**Active Margin**
Belgium	83223.150	228113.530	287226.980	23243.840	78533.920	700341.42
Bulgaria	71632.530	143704.610	93611.740	.000	45230.800	354179.68
Czech Republic	314524.120	381274.590	475054.390	704.240	676546.510	1848103.85
Denmark	.000	.000	.000	.000	.000	.000
Germany	13242749.440	.000	18252756.510	2563041.530	11450990.970	45509538.45
Estonia	72766.170	59759.310	64483.410	839.060	52266.970	250114.92
Ireland	221779.230	.000	555652.680	44341.530	656542.440	1478315.88
Greece	303514.540	498588.140	226070.400	4009.590	338071.400	1370254.07
Spain	5593414.910	6483906.140	6091959.770	408967.820	5856075.680	24434324.32
France	11158797.970	8636765.280	12599034.290	2236720.270	14836758.920	49468076.73
Croatia	149958.830	148898.670	139849.420	3403.800	77163.870	519274.590
Italy	3417593.910	.000	5480852.990	47946.370	5204612.750	14151006.02
Cyprus	63146.070	59914.350	43819.770	26.380	.000	166906.570
Latvia	.000	83448.050	14029.100	13875.860	.000	111353.010
Lithuania	80435.110	1510.020	60072.820	31020.750	.000	173038.700
Luxembourg	3149.750	3743.780	149.220	3459.180	.000	10501.93
Hungary	376110.160	89764.060	382916.310	2204.710	.000	850995.24
Malta	151.020	26630.880	.000	12945.190	.000	39727.090
Netherlands	580889.090	683703.210	1525839.140	46898.840	658813.820	3496144.100
Austria	830139.440	.000	2041215.480	68320.040	1609656.910	4549331.870
Poland	969088.290	1678701.090	1637063.390	10963.960	910834.200	5206650.930
Portugal	.000	.000	.000	.000	.000	.000
Romania	541760.840	483848.580	384552.850	2378.390	357524.730	1770065.390
Slovenia	28505.590	34660.060	94372.720	15.300	37674.810	195228.480
Slovakia	136519.620	178993.180	309957.990	6467.230	239781.470	871719.490
Finland	1582405.190	1111036.760	1288398.740	189160.490	1639431.010	5810432.190
Sweden	1245141.640	.000	2178405.800	313137.000	2021210.490	5757894.930
Active Margin	**41067396.610**	**21016964.29**	**54227345.910**	**6034091.370**	**46747721.670**	**169093519.8**

Source: Eurostat data processed by SPSS

Each row in Table 1 shows the absolute value/ amount (expressed in thousands of euro) of the 2016 expenditures made by resident tourists, in each analyzed country, distributed by main expenditure categories. In another approach, each row refers to a country and includes the amount

of the tourist expenditures made by resident tourists per total and per main expenditure categories. (Spircu, 2005; Spircu *et al*, 1994)

It is noteworthy that in 2016, the total tourist expenditures made in the 27 countries amounted to EUR 169,093,519.850.

- The countries with the largest expenditures incurred by domestic trips (taken by residents) were France (EUR 49,468,076.730 – the 1st place), Germany (EUR 45,509,538.450 – the 2nd place) and, at a higher distance compared to the first two countries, Spain (EUR 24,434,324.320 – the 3rd place) and Italy (EUR 14,151,006.020 – the 4th place).
- The lowest levels of domestic tourist expenditures were held by the following countries: Luxembourg (EUR 10,501.930), Malta (EUR 39,727.090) and Latvia (EUR 111,353.010).
- We identified several groups of countries with higher and similar amounts of expenditures made by resident tourists: Finland (EUR 5,810,432.190 – the 5th place), Sweden (EUR 5,757,894. 930 - the 6th place) and Poland (EUR 5,206,650.930 - the 7th place); Austria (EUR 4,549,331.870 - the 8th place) and the Netherlands (EUR 3,496,144.100 - the 9th place); Czech Republic (EUR 1,848,103.850 - - the 10th place) and Romania (EUR 1,770,065.390 - the 11th place).

Table no 2: Row profiles for the distribution of tourist expenditures (shares), by country of residence and main expenditure categories (2016) (the Row Profiles output)

Country	Expenditure categories					
	Expenditure on transport	**Expenditure on restaurants/cafe**	**Expenditure on accommodation**	**Expenditure on durables**	**Other expenditure**	**Active Margin**
Belgium	.119	.326	.410	.033	.112	1.000
Bulgaria	.202	.406	.264	.000	.128	1.000
Czech Republic	.170	.206	.257	.000	.366	1.000
Denmark	.000	.000	.000	.000	.000	.000
Germany	.291	.000	.401	.056	.252	1.000
Estonia	.291	.239	.258	.003	.209	1.000
Ireland	.150	.000	.376	.030	.444	1.000
Greece	.222	.364	.165	.003	.247	1.000
Spain	.229	.265	.249	.017	.240	1.000
France	.226	.175	.255	.045	.300	1.000
Croatia	.289	.287	.269	.007	.149	1.000
Italy	.242	.000	.387	.003	.368	1.000
Cyprus	.378	.359	.263	.000	.000	1.000
Latvia	.000	.749	.126	.125	.000	1.000
Lithuania	.465	.009	.347	.179	.000	1.000
Luxembourg	.300	.356	.014	.329	.000	1.000
Hungary	.442	.105	.450	.003	.000	1.000
Malta	.004	.670	.000	.326	.000	1.000
Netherlands	.166	.196	.436	.013	.188	1.000
Austria	.182	.000	.449	.015	.354	1.000
Poland	.186	.322	.314	.002	.175	1.000
Portugal	.000	.000	.000	.000	.000	.000
Romania	.306	.273	.217	.001	.202	1.000
Slovenia	.146	.178	.483	.000	.193	1.000
Slovakia	.157	.205	.356	.007	.275	1.000
Finland	.272	.191	.222	.033	.282	1.000
Sweden	.216	.000	.378	.054	.351	1.000
Mass	**.243**	**.124**	**.321**	**.036**	**.276**	

Source: Eurostat data processed by SPSS

Applying the CFA method involves calculating *the profiles of the categories* of the first variable (i.e. the relative frequencies of the category "*country of residence*"), which shows the distribution of the categories of the other variable ("*main tourist expenditure categories*") among the categories of the first variable. (Benzecri,1992; Pintilescu, 2007)

The values in Table 2 represent the shares of the domestic expenditures made by tourists in the 27 countries (row profile), for each major expenditure category. The values in this table can outline the profile of each country in terms of the shares held by each major expenditure category, which allows us to further analyze the tourists' behavior in each country.

As far as the situation of Romania is concerned, in 2016 it can be seen that it ranked 11th (within the 27 analyzed countries), with the amount of EUR 1,770,065.390 for the tourist expenditures made by residents (see Table 1). The position held by Romania was better than that of the neighboring countries. For instance, in Hungary, the expenditures amounted to EUR 850,995.240; in Bulgaria, they amounted to EUR 354,179.680.

If we compare Romania's shares for the main expenditure categories with the average shares (at the level of the 27 countries), one can notice that, on the one hand, Romania held higher shares as regarded the "*expenditure on transport*" (i.e. 30.6%), compared with the total average of 24.3%. Moreover, it held 27.3% for the "*expenditure on restaurants/café",* compared to the average of 12.4%. On the other hand, it also held lower shares, i.e. 21.7% for the "*expenditure on accommodation"*, compared to the average of 32.1%; it held 0.1% for the "*expenditure on durables"*, compared to 3.6%; 21.2% for "*other expenditure*", compared with the average of 27.6%.

Regarding Romania's profile, outlined according to the ranking of the shares held by each expenditure category, the following aspects should be taken into account: the highest share was held by "*expenditure on transport*" (30,6%), followed by a close share in "*expenditure on restaurants/café"* (27.3%). *Together, these two expenditure categories held a share of 58%.* Two other expenditure types had similar shares, i.e. 21,7% was held by "*expenditure on accommodation*" and 20,2% was held by "*other expenditure*", together amounting to 42%. The category "*expenditure on durables"* held an insignificant share (0.1%).

4. Conclusions

The quantitative results obtained in this study by processing the database with the CFA method contribute to a better knowledge of the tourists' behavior regarding the size and structure of the amounts of money allocated to the main expenditure categories, when traveling to their own country.

Moreover, the results obtained in this study provided us with a basis for indirectly investigating the consumption of resident tourists (in terms of volume and structure) through the expenditures made during the trips they had taken in their own country. In fact, it may be considered that the "tourist expenditure" indicator refers, in particular, to the demand; the other component of the tourist market, i.e. the supply, is not distinctly highlighted.

The results presented in Table 2 give an enough clear picture of the profile of each country, implicitly of the tourists' profile in each country, according to the structure of tourist expenditures, the importance given or their attraction/ orientation for each expenditure category. It is also noteworthy that there are similarities between some countries, while there are obvious differences among other countries in terms of size and distribution of the expenditures made by resident tourists, by expenditure category.

The data processed in this study and the statistical methods have not allowed us to get qualitative results (connected, in particular, to the reasons behind the purchasing/ consumption behavior). Thus, we cannot argue/ explain why tourists allocate a certain part of their income for each expenditure category. Moreover, we cannot look for a connection between the size of the share held by each expenditure category and the importance that the respective expenditure has for tourists or identify the internal factors that influence the size and share of each expenditure category in every country.

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