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Domestic Tourist Consumption for Tourist Destinations in Romania in the Period 2014-2019

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Abstract. *The account Tourism Satellite represents dashboard necessary management performance into the sector tourist composition to him as one indicator system aggregate ensure so much analyze effects direct on economies Nation How and those indirect. shortcomings the account Satellite of Tourism that they are noted into the this article are related to lack the indicators that characterize development durable How and of those who describe phenomenon tourism at the regional level or destinations touristic.*

The research question of article is: What is the recorded by the volume consumption value Domestic Tourist at the level destinations tourism from Romania? Methodology used is based correlation analyses from consume Domestic Tourist globally in Romania and volume value of accommodation services into the relative to the number of overnight stays into the accommodation structures tourist for the destinations tourism from Romania. Data which were use are recorded and provided by the National Institute of Statistics, Tourism Satellite Account 2014-2019.

Conclusions extracts have a level of significance analogous to the studies and research in the field and have at the base important determined by practice patterns described. The values that are present into this article can be used by researchers in the field, by local authorities or power plants, such as and by entrepreneurs in the industry tourism.

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Keywords: Tourism Satellite Account, tourism consumption, regionalization, number of overnight stays, tourist destinations

1. Introduction

Measuring the value effects of economic phenomena is generally a rather difficult process, as it involves the collection of data and information for all components of a sector (Vanhove, 2005). The purpose of a measurement is given by the identification and respectively the efficiency of the

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measures necessary for development, but it must also include elements related to the labor force or more recently, according to the research carried out and adaptability to the conditions of a sustainable development.

Regarding the tourism industry, the results of the measurements are summarized in the Tourism Satellite Account (National Institute of Statistics, Tourism Satellite Account - TSA). This aggregate tabulation system is actually a dashboard for measuring field performance. It should be noted that TSA includes aggregate values that describe all tourism industries.

TSA is also a good support for researchers in the field, it contains data and information necessary for the development of new services or various connections between various fields. It can be considered as an example in support of this statement that, currently, the TSA does not contain data referring to the segment of sustainable development (Gossling et al., 2005), as they appear in the new European system of statistical indicators of tourism (European Commission, ETIS, 2016). The only TSA aggregate that can be considered to belong to the group of indicators that describe processes of sustainable development is the one that refers to rail passenger transport, through the share that is attributed to tourists. Values of road transport services are also recorded in the TSA, but there is no distribution of them by type of energy used, i.e. renewable or conventional. Of course, these are research topics for the next period, and considering the records currently made, it can be argued that the aggregates registered in the TSA can represent necessary information.

It can be stated at the moment that the data that are registered in the TSA do not contain elements that are contained in the research platform Sustainable tourism and development concept (Gossling et al., 2015). Thus, the TSA does not contain data that would generate implications on environmental conservation as a fundamental element of sustainable development or elements related to local communities.

Another major drawback of the TSA is that the aggregates presented are only at the national level (Frechtling, 2009). Values are not presented by development regions, counties or tourist destinations).

Looking, for example, from the point of view of the number of visitors, it would be ideal to know the volume of expenses made by them in a trip, as well as the separation of expenses by types of goods and services purchased. This would be beneficial to be able to determine the volume of purchases at the level of a certain local community or a destination, either for the purpose of developing the poor population in the areas visited and even to be able to determine the volumes of spending by micro-regions. Of course, this is difficult to determine, taking into account the scale necessary to carry out the measurements based on the diversity of tourist activities carried out.

In order to be able to switch to regional data or on tourist destinations, the procedure suggested by Frechtling (2009) can be used, namely connecting to well-determined, fully recorded statistical indicators, obtaining with their help the data to pass from the national level to at least the regional level.

The purpose of this article is to obtain the value level of Domestic Tourist Consumption (DTC) for tourist destinations in Romania. The following classes of tourist destinations were considered: Spa resorts, Resorts from the coastal area excluding the city of Constanța, Resorts from the mountain area, the Danube Delta area including the city of Tulcea, Bucharest and the county seat municipalities apart from the city of Tulcea and respectively other localities and tourist routes.

Obtaining forecasted values can help in the development and application of various programs that can be applied in tourist destinations, but also in the planning that can be carried out by local actors in association with local authorities, as factors directly involved in these industries.

In addition, determining the values of the Domestic Tourist Consumption (DTC) at the destination level can be a beneficial element for finding out the income multipliers for each of them. Of course, this requires in-depth research and as an argument it can be considered that, following the previous determinations, it was found that in those areas where there are important cultural objectives, the multiplication factors recorded higher values.

The calculation in this article was based on the fact that the TSA aggregates represent the balance between tourism supply and internal tourism consumption, including all the goods and services produced by tourism industries. It should be additionally mentioned that the data that were subjected to the analysis in this article do not include the year 2020, because the effects of the Covid-19 pandemic have substantially changed the behaviors of tourist demand and supply, and the factors that determined these things are the subject of other specialized research.

The research question of this article is: What is the level of Domestic Tourist Consumption for the destinations considered central in Romania?

Starting from this theme, the necessary auxiliary research question is: What are the reference indicators from the Tourism Satellite Account that can be used to obtain Domestic Tourist Consumption on tourist destinations?

Thus, the hypotheses of the proposed model were obtained, namely that the level of Domestic Tourist Consumption is in close correlation with:

- Volume of accommodation services for visitors;
- Total number of overnight stays in tourist accommodation structures.

Within the stated assumptions, the total number of overnight stays is the factorial variable that leads to the determination of Domestic Tourist Consumption for tourist destinations.

2. Literature review

Ensuring the comparability of data between different industrial branches in the National Accounts systems was the central element behind the formation of the Tourism Satellite Account. For research in the field, Nordstrom (1996) and Smith (1995) can be mentioned.

The research led to a set of general criteria formulated in a set of methodologies by the World Tourism Organization (2008). Regarding the initial composition of the TSA, the direct nature of the effect in the economy without the analysis of indirect effects was noted by Smeral (2006). This resulted in the development of the aggregates as well as the data collected in order to compile the TSA.

As Calvin (2003) or Wu (2019) also note, currently, the way of rendering information from the Tourism Satellite Account is approximately the same in all countries where it is applied.

The effects of the tourism sector on the national economy are substantiated in the research carried out by Smeral (2010) or Camacho-Murillo (2019).

Once the Tourism Satellite Account became a practice for many countries, research continued in the direction of the regionalization of the aggregates contained in it, of course starting from the fact that the aggregates contained in it do not contain information at the level of some development regions, counties or of tourist destinations.

Frechtling (2009) suggests as a possibility to determine the data at the regional level the use of certain reference indicators in the field, which are, however, calculated at the level of the considered regions. The accuracy of the collected data is of course essential for good data reduction from central to regional level.

Regional or local studies are fundamental in the development of Local Action Plans and therefore the data used in their development and implementation must be truthful.

It should be mentioned the article developed by Ferent (2020) which compiles at the level of Romania the factoring of the Direct Gross Domestic Product from Tourism for the eight development regions. It should also be noted that currently no analyzes are being carried out regarding the reduction of other aggregated indicators from the Tourism Satellite Account at the regional or local level.

This article substantiates a calculation methodology based on the analysis of the correlations between the national tourism aggregates to determine the Domestic Tourism Consumption at the level of tourist destinations in Romania. Classes formed according to the type of natural or human resources they have were considered as destinations.

3. Methodology

The purpose of this article is to break down the Domestic Tourist Consumption for tourist destinations in Romania. For this analysis, the following classes of destinations were considered: Spa resorts, Resorts from the coastal area excluding the city of Constanța, Resorts from the mountain area, the Danube Delta area including the city of Tulcea, Bucharest and the county seat municipalities apart from the city of Tulcea and respectively other localities and tourist routes.

for visitors, were considered as determining variables. The value volumes of DTC as well as visitor accommodation services are TSA aggregates and are determined only at the national level. For the number of overnight stays in tourist accommodation structures, however, the values for tourist destinations are known.

The values recorded and provided by the National Institute of Statistics: TEMPO_TUR105C_26_1_2023, for the evolution of the number of overnight stays in tourist accommodation structures for destinations in Romania during 2014-2019, are presented in table 1.

Table 1. Evolution of the number of overnight stays in tourist accommodation structures, for destinations in Romania in the period 2014-2019

Tourist destinations	years					
	2014	2015	2016	2017	2018	2019
Total	20280041	23519340	25440957	27092523	28644742	30086091
Spa resorts	3577394	3917389	4192978	4204898	4405740	4805188
Resorts in the coastal area, exclusively the city of Constanța	3248253	3667947	4108284	4316379	4553407	4657955
Resorts in the mountain area	2772579	3258394	3644320	4178123	4544949	4810148
The Danube Delta area, including the city of Tulcea	125416	138177	149798	210334	371797	380375
Bucharest and the county seat cities, excluding Tulcea	7850808	9208511	9885370	10341681	10712186	11055160
Other localities and tourist routes	2705591	3328922	3460207	3841108	4056663	4377265

Source: INS TEMPO_TUR105C_26_1_2023

As can be seen from table 1, for the entire period the values follow an increasing trend somewhat similar to that of the total number of overnight stays, corresponding to the entire period. This evolution trend can be visualized in figure 1, where only the curve from the national level of the number of overnight stays is presented.

As a first observation, it can be said that relative to the entire period under analysis, namely 2014-2019, the shares of the absolute number of overnight stays for tourist destinations in Romania were as follows: Spa resorts 16.19%, Resorts in the coastal area excluding the city of Constanța 15, 83%, Resorts in the mountain area 14.97%, the Danube Delta area including the city of Tulcea 0.89%, Bucharest and the county seat municipalities apart from the city of Tulcea 38.08% and respectively other localities and tourist routes 14.04%.

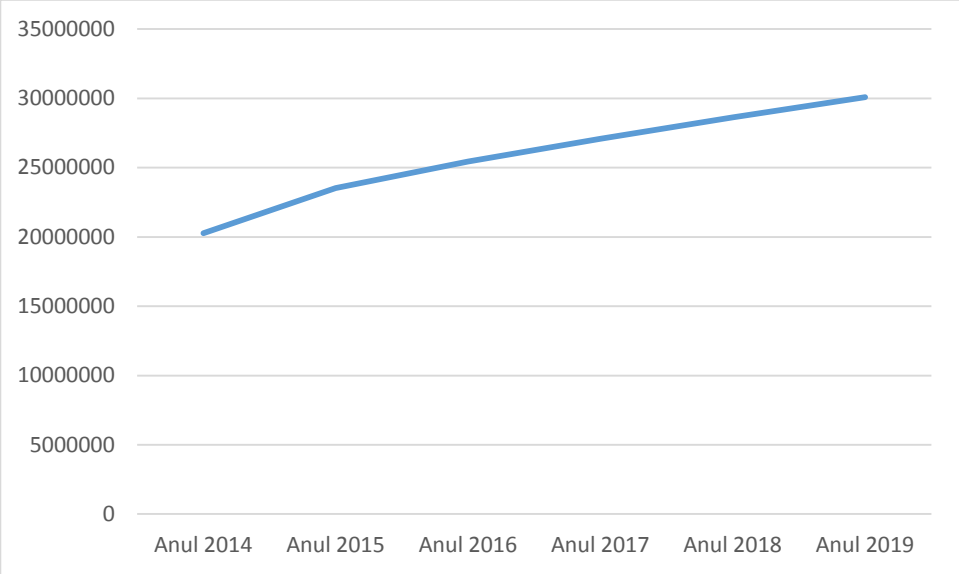


Figure 1. Evolution of the total number of overnight stays in tourist accommodation structures, for destinations in Romania in the period 2014-2019

Source: Authors' own research.

Table 2 shows the value volumes of tourist accommodation services for visitors as well as the national level of Domestic Tourist Consumption in Romania from 2014-2019. These values are recorded from data collected and provided by the National Institute of Statistics, Tourism Satellite Account 2014-2019.

Table 2. Evolution of the number of overnight stays in tourist accommodation structures, for destinations in Romania in the period 2014-2019

Indicators (thousand lei)	years					
	2014	2015	2016	2017	2018	2019
Accommodation services for visitors	8466.0	9789.0	9954.6	11220.5	13162.1	13606.9
Domestic Tourist Consumption	33410.0	37481.3	40173.2	49555.5	56315.1	57995.6

Source: INS Tourism Satellite Account 2014-2019.

As can be seen from the evolution of the two aggregate indicators presented in table 2, the evolution trend is also increasing and follows approximately the same curve as that of the total number of overnight stays. The evolution curves for the two indicators are presented in figure 2, where it can also be observed that in terms of accommodation services for visitors, the two trend lines are almost identical.

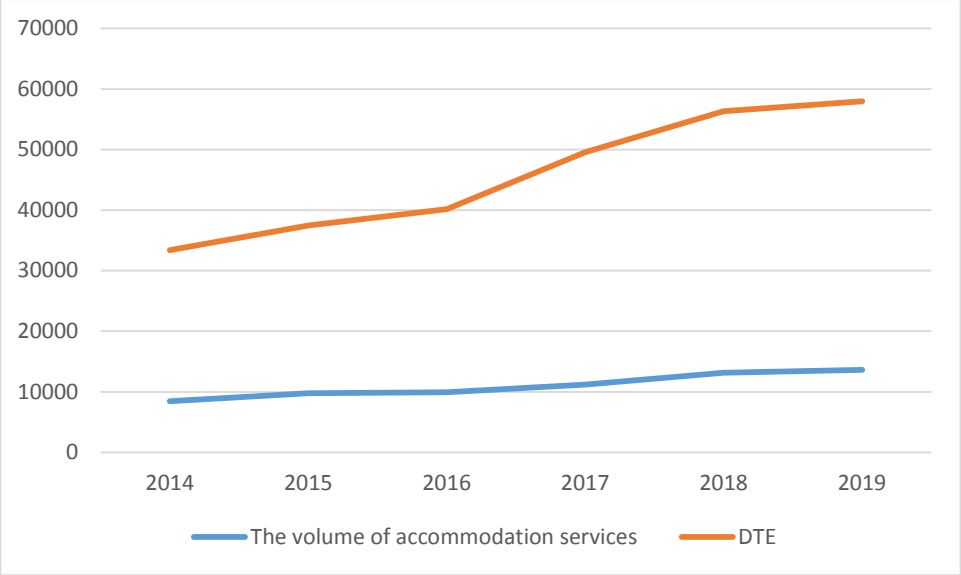


Figure 2. Evolution of the value volume of accommodation and DTE services in Romania in the period 2014-2019

Source: Authors' own research.

As can be seen from figure 3, there are no large variations in the weight of the value volume of accommodation services for visitors in relation to the global value volume of Domestic Tourist Consumption, an element that may indicate a further analysis of the correlation between the two variables.

From the analysis of the evolution trends that correspond to this period, the conclusion can be drawn at this moment not to introduce the data describing the year 2020, since the restrictions during the pandemic period did not represent a normality of the functioning of economic processes and moreover the total blockade imposed on the tourism industry requires an analysis based on other criteria or working principles.

The shares achieved in Domestic Tourist Consumption by the other tourism industries can be found in data provided by the National Institute of Statistics, Tourism Satellite Account 2014-2019. It should be noted, however, that the food and beverage service sector has the largest share with a share of over 30% of Domestic Tourist Consumption.

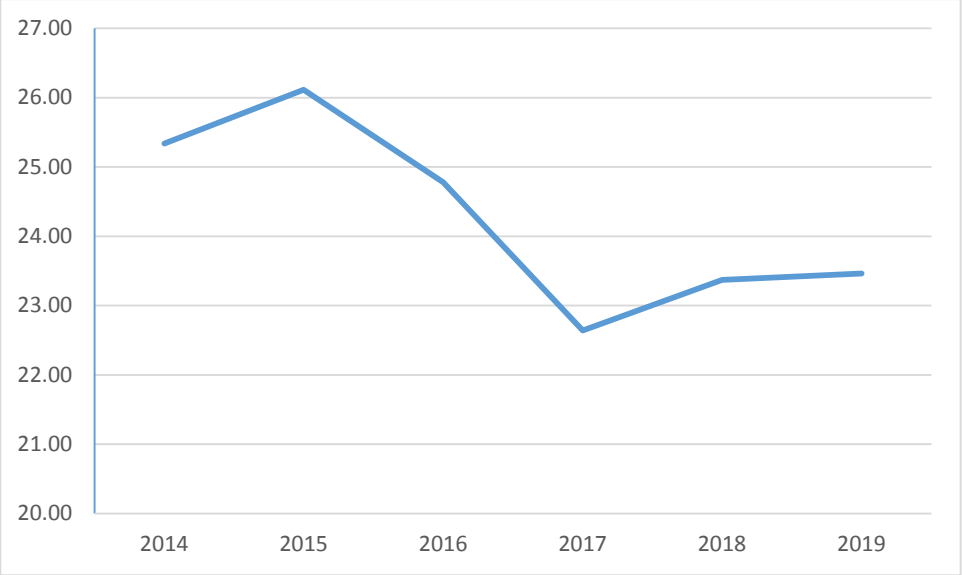


Figure 3. **Share of the value volume of accommodation services compared to DTE in Romania for the period 2014-2019**

Source: Authors' own research.

3.1. Model hypotheses

Based on the data presented in tables 1 and 2 as well as from the analysis of the associated graphic methods, the following hypotheses can be formulated:

- Domestic Tourist Consumption is strongly determined by the number of overnight stays in tourist accommodation structures;
- The volume of accommodation services for visitors is strongly determined by the number of overnight stays in tourist accommodation structures.

3.2. Methodology used

The research model that was the basis for forecasting DTE values and the value volume of accommodation services is based on the level of the determination ratio between the indicators. The ratio measures the level of influence of the determining factor on the other, an element that allows the transfer of weights between them at a high rate.

The goal pursued is to obtain predicted values for the two TSA aggregates at the level of tourist destinations in Romania.

Statistical analyzes were done with the SPSS v.26 software package.

It should be noted that the use of correlation between statistical variables has also been used in the tourism industry to reduce aggregate indicators by Dudek (2020) and Cerovici (2015). They used as factor variables the number of arrivals as well as the number of overnight stays to reduce the aggregate volume of Direct Gross Domestic Product from Tourism when determining the volume of food and beverage services.

3.3. Regression analysis results

The regression analysis to determine the determination ratio was made between the three indicators that were proposed for this, namely: Domestic Tourist Consumption, Volume of accommodation services for visitors as well as for the number of overnight stays in tourist accommodation units. The data that resulted from the analysis are presented in Table 3.

Table 3. Analysis of the determination ratio between DTE, the volume of accommodation services and the number of overnight stays in tourist destinations in Romania in the period 2014-2019

Road sign / Road sign	DTE	The volume of accommodation services	Total number of overnight stays in tourist destinations
1	2	3	4
DTE	1.0000	0.9752	0.9225
The volume of accommodation services	0.9752	1.0000	0.9205
Total number of overnight stays in tourist destinations	0.9225	0.9205	1.0000

Source: Authors' own research.

Considering the values obtained for the determination reports, it can be concluded that the stated assumptions are true and therefore the value volumes for the proposed indicators can be determined for one record, i.e. for one year. The year 2019 was chosen as a model for this calculation, for which the shares of the number of overnight stays for the tourist destinations in Romania were as follows: Spa resorts 15.97%, Resorts from the coastal area excluding the city of Constanța 15.48%, Resorts from the mountain area 15, 99%, the Danube Delta area including the city of Tulcea 1.26%, Bucharest and the county seat municipalities apart from the city of Tulcea 36.75% and respectively other localities and tourist routes 14.55%.

It should be noted that there are no big differences between these values and those that were recorded for the whole period, a fact that allows this type of data extrapolation at the level of a year.

Table 4 shows the values determined in relation to these weights for Domestic Tourist Consumption and respectively the volume of tourist accommodation services for destinations in Romania in 2019.

Table 4. Value volumes of DTE and accommodation services, for destinations in Romania in the period 2014-2019

Destinations / Road sign	Spa resorts	Resorts in the coastal area, exclusively the city of Constanța	Resorts in the mountain area	The Danube Delta area, including the city of Tulcea	Bucharest and the county seat cities, excluding Tulcea	Other localities and tourist routes
DTE 2019	9262.74	8978.93	9272.31	733.23	21310.53	8437.86
The volume of accommodation services in 2019	2173.22	2106.63	2175.46	172.03	4999.87	1979.69

Source: Authors' own research.

4. Conclusion

The analysis of economic phenomena and processes requires a set of performance indicators that is specific to each sector under study. Measuring the performance of an economic process is a fundamental element in order to approach and elaborate the measures necessary for development and, respectively, the harmonization of common actions for the actors involved.

As far as the tourism sector is concerned, the dashboard that provides the system of indicators needed to measure performance is the Tourism Satellite Account. This unitary system of aggregated indicators applied in many countries of the world under the direct coordination of

the World Tourism Organization, currently measures both direct effects on national economies and indirect ones.

Of course, in the application and analysis of the data contained in the TSA there are also minuses, namely, on the one hand, the indicators necessary to support sustainable development, but also regarding the fact that the aggregates contained in it only describe the phenomena at the national level.

Starting from these elements, the aim in this article was to use the data from the TSA together with those provided by the National Institute of Statistics, in order to be able to obtain certain regional indicators based on the aggregated indicators at the national level. In particular, starting from the number of overnight stays in tourist accommodation structures at tourist destinations, taking into account the links between this indicator (considered as a factorial variable) and the value volume of accommodation services, respectively the global value volume of Domestic Tourist Consumption (considered as result variables), a decomposition could be made for the tourist destinations in Romania, for the two result variables.

The correlation analyzes between the factors involved led to the finding of the existence of strong links between these variables, based on the high values recorded by the correlation coefficients. In addition, it should be noted that the values above 0.95 recorded by the correlation ratios lead to functional type relationships, but this should not be drawn as a conclusion since an average level of accommodation prices was indirectly used. Starting from these assumptions, it was possible to determine the level of the value volume of accommodation services and respectively of the global value volume of Domestic Tourist Consumption for tourist destinations in Romania.

Starting from the decompositions by tourist destinations, data can be obtained that may be necessary to continue studies both in the direction of sustainable development processes and in the direction of the decomposition of other indicators that characterize tourism industries.

In this type of studies, like the one carried out, the main problems are related to the accuracy of the obtained values, an element that requires further research in order to obtain more data and information that are the basis of the calculations. It can be referred to the fact that in a tourist destination the accommodation services do not have a uniform price at the same level of classification, as well as the fact that they differ between classifications. Determining a price that represents an average of these is a research objective that requires a separate approach.

Therefore, an additional element that would ensure the increase in the level of data accuracy is related to accommodation prices both according to the classifications of the accommodation units and according to the analyzed tourist destinations.

Of course, such a thing, once done, can lead much more easily to the determination of the volume of purchases made by a tourist, naturally with direct implications in their quantification in local budgets. However, ensuring the comparability of the data involved in these determinations must always be taken into account as a fundamental element for the veracity of the data.

Regarding the determinations made in this article, the primary objective was to identify the level of Domestic Tourist Consumption for tourist destinations in Romania. Of course, the value volumes obtained for these destinations may be necessary in planning future activities both for entrepreneurs in the field and for local authorities. In addition, data can also be used at the level of the central authorities to be able to measure the value of programs to support entrepreneurs.

Another element that appears necessary in future studies and developments is the completion of TSA with ETIS indicators, knowing that they cover a much wider spectrum, containing both indicators that are currently determined in TSA and indicators that correspond to

sustainable development. It can be mentioned that at the moment only the transport sector is somewhat part of the TSA. Somewhat, as there is no differentiation of the type of energy used in existing transport.

As it is easy to see, the approach of determining certain classes of indicators has its limits, caused by the insufficiency of the available data. Various statistical inferences cannot cover the limited volume of data provided by specialized institutions. In addition, data collections must be made that describe several economic sectors at the same time, such as for example the connection with the construction sector, which can lead in the first phase to the development of new products or services.

In this article, the applied statistical models were subjected to a high level of minimum values regarding the veracity of the results, and in this way the conclusions obtained can be considered pertinent. In addition, the statistical models used are used by the vast majority of researchers in the field, they have levels of appropriate significance relative to the predicted values.

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