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## TOURISM SATELLITE ACCOUNTS – AN INFORMATION BASIS FOR THE ANALYSIS OF TOURISM EXPENDITURE

### Introduction.

Tourism is increasingly becoming an important sphere of economic activity due to the growth of its share in the GDP in the countries and regions, and its impact on the development of infrastructure and a number of sectors of economic activity – construction, transport and communications, agriculture, etc. We must note its role for providing investment opportunities, creating new jobs and revitalizing not only the national but also the local economy. The development of tourism is a prerequisite for visitors to get acquainted with the cultural and historical heritage of the country, its natural features and traditions. At the same time, travelling abroad is a sign of the increased living standards of the population and a proof of the expansion of the business relations with other countries.

The sustainable development of tourism, strengthening its competitiveness and increasing the efficiency of the activities it covers are the strategic goals facing the tourism sector for the coming years [1]. The availability of sufficient statistical data, conclusions and evaluations obtained through appropriate statistical analysis methods are a prerequisite in developing the respective management solutions in order to exploit the economic and social benefits of tourism. In this regard, it is important not only to timely provide the statistical information to the authorities concerned, but also to ensure data comparability, completeness and the necessary degree of detailing. The responsibility of the statistical offices of all EU countries to be guided by and apply the relevant regulatory documents: Council Directive 95/57/EC [2] until the end of 2011 and from the beginning of 2012 – Regulation 692/2011 [3] of the European Parliament and of the Council plays an important role in this respect.

The *object of study* is tourism satellite accounts.

The *subject of study* is the information aspects of tourism satellite accounts in the context of their application for tourism expenditure analysis.

The *purpose* of this article is to theoretically justify and study empirically the possibilities for analyzing tourism expenditure based on data from tourism satellite accounts.

### Main text.

#### *I. Significance of tourism satellite accounts*

The introduction of tourism satellite accounts has its historical development. The term ‘satellite accounts’ was introduced in the late 1970s in France to designate special accounting methods related to the System of National Accounts using a special approach to quantify the economic importance of tourism. After a number of expert developments under the auspices of the United Nations World Tourism Organization (UNWTO), the Committee on Tourism at the Organization for Economic Cooperation and Development and other international organizations, in 1993 the UN Statistical Commission adopted ‘Recommendation on tourism statistics’ [4]. This was the beginning of the development of the conceptual basis for the creation of tourism satellite accounts, the joint work of the WTO, the OECD and Eurostat, which was adopted in 1999 [5]. For the first time in 2000, the UN Statistical Commission adopted the document ‘Tourism Satellite Account: Recommended Methodological Framework’ [6]. An improved version of this document came out in 2008 [7]. It covers the changes in the System of National Accounts 2008 and the International Recommendations on Tourism Statistics 2008 [8]. At present, many countries apply this methodology to collect and analyze statistical information in the field of tourism in order to assess the economic effect of this economic activity.

Tourism statistics usually focus on visitors’ accommodation and relate to the physical flows – overnights stays in tourist accommodation establishment or number of tourist trips. Such information is insufficient to get a comprehensive evaluation of tourism, conduct an economic analysis of its contribution to the national economy and assess its impact on the other economic sectors. In order to make a conclusion on the competitiveness of tourism activities, one must know well their volume, characteristics, profile of tourists, tourism expenditure and economic benefits.

In the System of National Accounts, tourism is not clearly specified as an economic sector. That is why satellite accounts are used, which have similar basic concepts, definitions, classifications and rules of accounting. Enterprises engaged in tourism activities are involved in various sectors of the national economy. On the other hand, tourism characteristic products belong to

different groups, according to the National Classification of Products by Economic Activities [9]. At the same time, tourism activities are related to different groups, according to the National Classification of Economic Activities [10]. All this poses difficulties in reporting and measuring the contribution of tourism to the national economy and is a factor in the use of tourism satellite accounts.

## *II. Basic concepts and structure of tourism satellite accounts.*

The term 'tourism industry' or 'tourism related activities' summarizes internationally comparable activities such as accommodation for visitors, catering activities, passenger transport by rail, land, sea and air, hiring of vehicles, activities of travel agencies, tour operators and other reservation services, sports and cultural activities. Retail trade of country-specific tourism characteristic goods and services are also added here.

Tourism satellite accounts contain data that is grouped into ten standard tables presented in a logical order [11]. In eight of them, the production, consumption, income generation and investment in tourism are presented. A special table is compiled for non-monetary indicators – number of tourists, number of overnight stays, number of enterprises, number and capacity of mass catering establishments. One table describes employment in tourism. The content of the tables is as follows:

- Table 1: Inbound tourism expenditure, detailed by products and categories of visitors, i.e. consumption in the country of non-resident visitors;
- Table 2: Domestic tourism expenditure, detailed by products, categories of users and types of trips, i.e. consumption in the country of resident users, which includes both travel expenses within the country and travel expenses incurred in the country of those travelling abroad;
- Table 3: Outbound tourism expenditure, detailed by products and categories of users, i.e. the consumption of resident visitors when travelling abroad;
- Table 4: Domestic tourism consumption, by product type, i.e. the expenditures of Tables 1 and 2 are aggregated to provide information on one of the key tourism indicators, the basis for calculating the Gross Domestic Product and Gross Value Added created directly by tourism;
- Table 5: Production accounts in the tourism sector and in other sectors (at basic prices);
- Table 6: Total volume of domestic supply and consumption related to domestic tourism (at purchase prices);
- Table 7: Employment in the tourism sector;
- Table 8: Gross accumulation of fixed capital in the tourism sector and in other sectors;
- Table 9: Collective tourism consumption, detailed by product and managerial level;

- Table 10: Non-monetary indicators. This table is made up using four sub-tables – number of trips and overnight stays by types of tourism and categories of visitors, inbound tourism: number of arriving visitors and overnight stays by type of transport, number of accommodation establishments and accommodation options by forms of accommodation, number of establishments by tourism activities according to the average number of work places.

The product classification contains two main groups – 'Consumer products' and 'Products with a certain value'. Consumer products are divided into 12 groups for 'Typical tourism products' and one group 'Other consumer products'. Typical tourism products are accommodation services, catering services, rail, land, water, air passenger services, leasing services of transport equipment, travel agency services and other reservation services, tourism services, sports and recreational services, tourism characteristic goods and services typical for the particular country.

Statistical information provided through tourism satellite accounts is available on the Eurostat website [12]. The main database is in the section 'Industry, Trade and Services', subsection 'Tourism'. Additional information resources on tourism statistics are structural business statistics, balance of payments, a module from the specialized study on the use of information and communication technologies, as well as passenger transport statistics.

The official data on tourism related activities in Bulgaria, which the National Statistical Institute offers on its website [13] in the part 'Tourism' of the 'Business statistics' section, refers to tourism expenditure of different categories of visitors (resident and non-resident), types of expenditure, types of trips (one-day or with overnight stays).

- Table 1: Inbound tourism expenditure by products and category of visitors;
- Table 2: Domestic tourism expenditure by products and category of visitors;
- Table 3: Outbound tourism expenditure by products and category of visitors;
- Table 4: Tourism expenditure in the country by products and forms of tourism.

In the tables published by the National Statistical Institute, the products offered are described in six categories characteristic of tourism – these are accommodation services, services related to food and beverage serving, transport, tour operators and travel agencies, cultural events, sports and recreation. All other products are grouped under the category 'Other consumption products'.

Data for the period 2008–2014 is currently available on the National Statistical Institute's official website. The information sources are: report on the activities of the accommodation establishments, a survey for stud-

ying the tourist trips of the population, a survey for studying the outbound trips from Bulgaria of foreign and Bulgarian citizens, the balance of payments of Bulgaria, national accounts, annual report on the activities of tour operators and travel agencies and report on the activities of museums.

### III. Statistical analysis of the tourism expenditure dynamics.

Data on tourism expenditure provided by satellite accounts shows that tourism industry has a high relative share in the GDP of Bulgaria. From the diagrams in Figure 1, it can be concluded that there are two sub-periods in the dynamics of this indicator – until 2010 and after that. In the first sub-period, the values of the indicator are decreasing, with tourism expenditure being the smallest in 2010, a possible explanation of which is the consequences of the global economic crisis. After 2010, there began a gradual increase in the absolute amount of real tourism expenditure. At the same time, their relative

share in the GDP of the country is increasing to reach and surpass the pre-crisis level.

The analysis of tourism expenditure in the country shows that its relative share remains stable by categories of visitors over the studied period – for residents it is 12.9% on average and for non-residents it is 87.1% on average of the total expenditure. These results lead to the conclusion that non-resident visitors have almost 7 times higher expenditures in the country than resident visitors.

There are two categories excluded from product expenditure in this study. One is services related to tour operators and travel agencies – since no values are reported for non-resident visitors, it is impossible to compare them with the data for resident visitors. Services related to sports and recreation, despite their increase in nominal and real terms, have a very small share in the tourism expenditure – about 1-2% for both non-resident and resident visitors, which allows them to be excluded from the analysis.

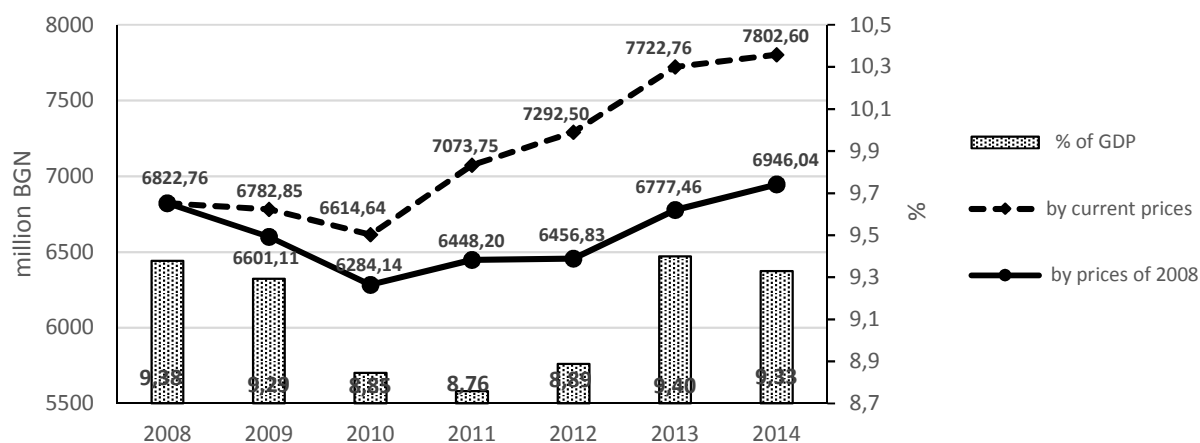


Fig. 1. Tourism expenditure (resident and non-resident visitors) in the country for the period 2008 – 2014

Source: [13] and own calculations.

### Statistical analysis of the tourism expenditure structure.

Exploring the dynamics of the absolute values of tourism expenditure over the period studied makes it difficult to draw conclusions on the contribution of individual product categories and tourists to the benefits of tourism in the country, as they are a value indicator. Studying their structure by the 'product categories' attribute can give a clearer view of the changes that occurred.

The following conclusions can be drawn for tourism expenditure, studied by categories of visitors:

- The structure of domestic tourism expenditure is stable over the period studied. The relative shares of

the different expenditure categories until 2013 are ranked in the same way (Table 1). In 2014, the ranking changes with regard to the largest relative shares. The largest part of the tourism related expenditure is spent on food and beverage serving services and the smallest part is for cultural services;

- During the period studied, there were slight changes in the structure of domestic tourism expenditure (Table 2). Until 2011, the expenditure on transport services had the highest relative share, and in the last three years the expenditure on food and beverage serving services ranked first. Despite the exchanged roles, it can be said that these two categories of expenditure cover about 57% of the total domestic tourism expenditure;

Table 1

**Structure of inbound tourism expenditure by products for the period 2008 – 2014, %**

Products	2008	2009	2010	2011	2012	2013	2014
Accommodation services	21.82	20.46	20.46	21.03	21.03	20.69	22.09
Food and beverage serving services	27.81	26.56	26.81	27.15	27.15	29.70	30.48
Transport services	11.30	11.71	11.69	11.79	11.79	9.65	9.82
Cultural services	9.29	8.43	8.30	8.18	8.18	8.38	8.31
Other consumption products	29.78	32.84	32.74	31.85	31.85	31.58	29.30

Source: [13] and own calculations.

Table 2

**Structure of domestic tourism expenditure by products for the period 2008 – 2014, %**

Products	2008	2009	2010	2011	2012	2013	2014
Accommodation services	16.77	24.41	24.88	21.43	23.46	22.54	25.19
Food and beverage serving services	21.80	16.62	22.00	27.93	31.93	28.96	27.86
Transport services	26.17	39.43	35.05	32.28	27.85	27.58	27.36
Cultural services	12.36	10.33	8.45	6.79	7.56	8.74	8.54
Other consumption products	22.90	9.21	9.62	11.57	9.20	12.18	11.05

Source: [13] and own calculations.

• There is an interesting phenomenon in the structure of outbound tourism expenditure (Table 3). Until 2012, the structure is relatively stable, keeping the order of relative shares. There is a significant preponderance of expenditure on other consumption products, and tourism related expenditure is dominated by the expenditure on food and beverage serving services. The

structure of tourism expenditure underwent a dramatic structural change in 2013 when the relative share of the expenditure on accommodation and transport increased their share more than twice at the expense of the three-fold decrease in the share of the expenditure on other consumption products.

Table 3

**Structure of outbound tourism expenditure by products for the period 2008 – 2014**

Products	2008	2009	2010	2011	2012	2013	2014
Accommodation services	8.67	10.21	8.51	8.35	11.01	21.30	22.13
Food and beverage serving services	16.48	19.62	29.15	28.04	28.73	28.44	27.82
Transport services	11.22	10.38	11.50	10.71	10.38	27.29	26.92
Cultural services	3.01	2.85	3.38	4.09	4.60	6.26	5.98
Other consumption products	60.62	56.94	47.46	48.81	45.28	16.71	17.15

Source: [13] and own calculations.

The identified regularities as a result of the descriptive analysis are confirmed by the values of the integral coefficient of structural changes [14], used as an analytical measure for the occurring structural changes (Table 4). The insignificant annual structural changes in the inbound tourism expenditure led to slight structural changes for the period as a whole. The domestic tourism

expenditure underwent slight annual structural changes, the accumulation of which was reflected in moderate structural changes throughout the whole period studied. It can be seen that the dramatic structural changes in the outbound tourism expenditure for the period 2008-2014 are the result of the dramatic structural changes measured in 2013 compared to 2012.

Table 4

**Values of the integral coefficient of structural changes for the tourism expenditure structure for the period 2008 – 2014**

Categories of visitors	2009/ 2008	2010/ 2009	2011/ 2010	2012/ 2011	2013/ 2012	2014/ 2013	2014/ 2008
Non-residents in the country	0.054	0.004	0.016	0.000	0.048	0.040	0.047
Residents in the country	0.309	0.101	0.111	0.096	0.064	0.045	0.243
Residents abroad	0.058	0.161	0.025	0.056	0.471	0.018	0.616

Source: Own calculations.

The comparison of tourism expenditure structures between the different categories of visitors can provide additional clarity to characterize their needs. The values

of the integral coefficient of structural differences [14] are used as a measure for this purpose (Table 5).

Table 5

**Values of the integral coefficient of structural differences for the tourism expenditure structure for the period 2008 – 2014.**

Differences between categories of visitors	2008	2009	2010	2011	2012	2013	2014
Residents and non-residents in the country	0.276	0.536	0.478	0.414	0.405	0.382	0.370
Residents in the country and abroad	0.540	0.724	0.633	0.590	0.563	0.078	0.107
Residents abroad and non-residents in the country	0.446	0.350	0.261	0.285	0.232	0.335	0.335

Source: own calculations.

The results show that there are moderate to dramatic structural differences in the tourism expenditure of the different categories of visitors. The structures of residents abroad and non-residents in the country show the slightest difference. A possible explanation for this fact is the similar needs of tourists travelling outside their own country. Although for 2013 and 2014 there are slight structural differences between the expenditures of residents in the country and abroad, for the remaining years of the studied period these differences are measured as great, and in 2009 – as dramatic. As already noted in the descriptive analysis, this is due to the large relative share of expenditure on other consumption products of residents abroad.

### Summary and Conclusions

The purpose of creating and using tourism satellite accounts is to enable the analysis of all aspects of the demand and supply of tourism related goods and services, as well as to identify the link between this supply and other types of economic activities. Using them, on the one hand, ensures the coherence of tourism statistics with other areas of the official statistics of each country and, on the other, it improves the international comparability of data on the contribution of tourism to the respective national economy.

Tourism is increasingly becoming an important area of economic activity due to the growth of its share in the GDP of the country and its impact on the development of infrastructure and many sectors of economic activity – construction, transport and communications, agriculture, etc. The availability of detailed information on tourism expenditure is a prerequisite for expanding the possibilities to analyze their volume and structure. This, in turn, may reveal the potential for increasing the contribution of the tourism industry to the GDP and realizing the country's competitive advantages as a tourism destination.

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**Шопова М. Сателітні рахунки туризму – інформаційна база для аналізу витрат на кінцеве споживання**

Для розробки управлінських рішень, що сприяють сталому розвитку туризму, утвердженню його

конкурентоспроможності та підвищенню ефективності видів діяльності, що входять в його охоплення, необхідна наявність своєчасно наданої статистичної інформації, яка гарантує сумісність, повноту і деталізацію даних. У публікації представлено методологічні основи сателітних рахунків туризму. Акцентовується увага на їх значенні як джерела достовірної і порівнянної статистичної інформації про значимість туризму для економіки з точки зору витрат, зайнятості та валового внутрішнього продукту. Розглядається зміст таблиць, які надають дані про туризм за видами діяльності і продуктів. Теоретичні аспекти проілюстровані емпіричним дослідженням витрат на кінцеве споживання туристів (резидентів і нерезидентів) в Болгарії. За допомогою статистичних методів аналізу досліджено зміни їх розміру і структури за період 2008-2014 рр.

*Ключові слова:* туризм, сателітні рахунки туризму, витрати на кінцеве споживання, статистичний аналіз структур.

**Шопова М. Сателітніє счета туризма – информационная база для анализа расходов на конечное потребление**

Для разработки управленческих решений, способствующих устойчивому развитию туризма, утверждению его конкурентоспособности и повышению эффективности видов деятельности, входящих в его охват, необходимо наличие своевременно предоставляемой статистической информации, гарантирующей сопоставимость, полноту и детализацию данных. В публикации представлены методологические основы сателитных счетов туризма. Акцентируется внимание на их значении в качестве источника достоверной и сравнимой статистической информации о значимости туризма для экономики с точки зрения расходов, занятости и валового внут-

реннего продукта. Рассматривается содержание таблиц, предоставляющих данные о туризме по видам деятельности и продуктам. Теоретические аспекты проиллюстрированы эмпирическим исследованием расходов на конечное потребление туристов (резидентов и нерезидентов) в Болгарии. Посредством статистических методов анализа исследованы изменения их размера и структуры за период 2008-2014 гг.

*Ключевые слова:* туризм, сателитные счета туризма, расходы на конечное потребление, статистический анализ структур.

**Shopova M. Tourism satellite accounts – an information basis for the analysis of tourism expenditure**

In order to develop management decisions promoting sustainable tourism development, strengthening its competitiveness and increasing the efficiency of the activities it covers, there must be timely statistical information available ensuring data comparability, completeness and detailing. This paper presents the methodological foundations of tourism satellite accounts. The emphasis is placed on their significance as a source of reliable and comparable statistical information on the importance of tourism for the economy in terms of expenditure, employment and gross domestic product. The contents of the tables containing data on tourism by activity and products are discussed and the theoretical aspects are illustrated through the empirical study of tourism expenditure (resident and non-resident visitors) in Bulgaria. Statistical methods of analysis are used to study the changes in their size and structure for the period 2008-2014.

*Keywords:* tourism, tourism satellite accounts, tourism expenditure, statistical analysis of structures.

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