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**TOURISM  
IN FUNCTION OF DEVELOPMENT  
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**Spa Tourism in Serbia and Experiences of Other Countries**



**THEMATIC  
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**II**



**UNIVERSITY OF KRAGUJEVAC  
FACULTY OF HOTEL MANAGEMENT  
AND TOURISM IN VRNJAČKA BANJA**



# STATISTICS OF TOURISM AND CATERING TRADE STATISTICS IN THE REPUBLIC OF SERBIA

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## Abstract

*In this paper, we present the statistical data sources on Tourism and Catering Trade published by Statistical Office of the Republic of Serbia. The aim of the paper is to show interested researchers the available statistical data sources on Tourism and Catering Trade activity in the Republic of Serbia that can be used for empirical research. We briefly introduce survey methodology applied by Statistical Office of the Republic of Serbia. We present selected statistical data using tables and advanced graphs and we also list available publications with these data. Analyzing the available data, we conclude that statistical surveys are extensive and the obtained pieces of information are important for analyzing levels, trends and tendencies in tourism, but there is also a way to enrich available sources of information, especially with the data related to the value of the tourist turnover and with seasonally adjusted data.*

**Keywords:** *tourism statistics, catering trade statistics, statistical survey, database, Serbia*

## Introduction

Statistical coverage of Tourism and Catering Trade includes collecting, processing and publishing the statistical data in the field of Tourism and Catering Trade by the Official producers of economic statistics in the Republic of Serbia. Statistics of Tourism and Catering Trade covers economic activity within the activity of national economy which was originally named - Tourism and Catering Trade, but today, in the System of National Accounts of the Republic of

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Serbia, it is known as Accommodation and Food Service. The main producer of statistical data in the fields of tourism and catering trade in Serbia is the Statistical Office of the Republic of Serbia. Statistical coverage of tourism and catering trade has been realized through two statistical areas. The Tourism area, i.e. tourism statistics, provides information of tourist turnover and capacity of accommodation facilities, while the Catering Trade, i.e. catering statistics, monitoring trends of volume and structure of turnover that is realized in the Catering Trades activity.

Statistical Office of the Republic of Serbia collects data about Tourism and Catering Trade activity via regular statistical surveys. In the area of Tourism, there are two types of surveys: statistical survey of tourist arrivals, or Tourists arrivals and overnight stays, and Statistical survey on travel agencies. These surveys collect the data on tourist turnover based on the number of arrivals and overnight stays realized by domestic and foreign tourists. In the Catering Trade area, there are quarterly and annual Catering trade surveys, and within these two types of surveys the data on Catering Trade turnover are collected. In this paper, we present these types of surveys, and outline a basic form of survey methodology. We list the indicators obtained via these surveys and publications of Statistical Office of the Republic of Serbia where these data is published.

Besides the Statistical Office of the Republic of Serbia, the data in the areas of Tourism and Catering Trade are also collected and published by other state organizations and institutions that are a part of the system of official statistics in the Republic of Serbia. The Ministry of Trade, Tourism and Telecommunications publishes information in the field of domestic and external trade, data about tourist turnover and the review of categorized tourist facilities in the Republic of Serbia. National Tourism Organization of Serbia publishes the data about tourist destinations in the Republic of Serbia and the data about catering facilities in the Republic of Serbia, which are available to the domestic and foreign tourists.

One part of the information is obtained via the surveys of the very Organization and the records that the Organization carried out, but the largest part of the information is taken from the Statistical Office of the Republic of Serbia. This is the reason why the paper is primarily focused on the presentation and analysis of the data of the

Statistical Office of the Republic of Serbia, as the most important producer of economic statistics in the area of Tourism and Catering Trade in the Republic of Serbia.

The main aim of this paper is to introduce interested researchers to the available statistical data that could be used in empirical researches in the area of Tourism and Catering Trade. After Introduction, in the first part of this paper, we present surveys on tourist arrivals and overnight stays and surveys on travel agencies. In the second part, we present statistical surveys of the Catering Trade turnover.

We describe in brief the methodology applied in these surveys and present statistical data which are obtained. Some of the data is presented using advanced graphics and tables. Some other possibilities of the analysis, based on the available data, are also illustrated in order to analyze the level and trends in the Tourism and Catering Trade in the Republic of Serbia. Statistical publications of Statistical Office of the Republic of Serbia, where the data on Tourism and Catering Trade are published, are presented, as well. We also present data, i.e., indicators on Tourism and Catering Trade, which are available in the database of the Statistical Office of the Republic of Serbia. In Conclusion, we point out that the possibilities of analysis that can be performed based on available statistical sources of information in the area of Tourism and Catering Trade are considerable, but there is a way to enrich available sources of information, especially with the data related to the value of the tourist turnover and with seasonally adjusted data.

### **Tourism statistics – Methods and data**

In Tourism statistics, Statistical Office of the Republic of Serbia conducts two types of surveys: Survey on tourist arrivals and overnight stays and Statistical survey on travel agencies. Statistical research about tourist arrivals and overnight stays has a long tradition. In the statistical system of Serbia, the first methodology manual was introduced in 1946, and it was published in 1954 in the edition of the Federal Statistical Office "Methodological material " volume no. 37. The aim of survey on tourist arrivals and overnight stays is to collect the data about the level, structure, tourist turnover and capacity of catering facilities.

Reporting units in these surveys are business entities and tourists in catering facilities for accommodation. Reporting units deliver data about the number of overnight stays and their accommodation facilities to the Statistical office of the Republic of Serbia. Survey is carried out through reporting methods and data is collected on a monthly level, by filling the form “Monthly report about tourist visits and overnight stays in catering facilities.” Reporting units – business entities (companies that provide accommodation services) prepare their reports about accommodation facilities and overnight stays of domestic and foreign tourists, using book of guests, technical documentation, inventory lists and documents for determining the type and category of accommodation facilities. Definition of main variables and methodology is coordinated with suggestions of Eurostat in the field of tourism (Regulation (EU) No 692/2011).

Surveys collect the following data:

- Data about the number of tourist arrivals and overnight stays in accommodation facilities;
- Data about the number of foreign tourist arrivals and overnight stays in accommodation facilities according to the country they come from;
- Data about the number of accommodation facilities for tourist accommodation, according to types and categories, and also according to the number of rooms and beds.

Data obtained in surveys are used for monitoring and analyzing the level of tourist turnover, for studying tourism conjectures, for analyzing the use of accommodation facilities, as well as for planning and analyzing measure of economic policy in the field of tourism. The data obtained are published in the publications of the Institute: Statistical Release, Monthly Bulletin, Statistical Yearbook of Serbia, Municipalities in Serbia, Statistical calendar and on the Internet website of the Institute.

Statistical survey on travel agencies covers travel agencies that are located in the Republic of Serbia and have a license for performing intermediation in Tourism. These agencies are reporting units in a statistical survey. This type of research is implemented with reporting method, based on filling the appropriate form. The aim of this survey is to provide data about travel agencies in country and abroad, the data about the level and structure of tourist turnover realized by

travel agencies and capacity of travel agencies of their own transport means (cars, vehicles, ships, boats). The obtained results are useful for analyzing tourist turnover realized by travel agencies, understanding economic impact of travel agencies and the creation of satellite account in the System of National Accounts in order to observe the impact of tourism on the national economy.

In these researches the following data are obtained:

- turnover, expressed by the number of tourists (number of arrivals) and the number of overnight stays,
- tourist turnover of domestic tourists, covers turnover (the number of nights and tourists) realized in arrangement of travel agencies by domestic tourists,
- tourist turnover of foreign tourists, covers turnover realized in arrangement of travel agencies by foreign tourists in the Republic of Serbia, where origin of foreign tourists is determined on the basis of nationality, and
- travel means of travel agency, includes data on the number of transport vehicles which an agency owns (buses, passenger cars, ships, boats, etc.) and are intended for the transport of tourists or for rental to the tourists.

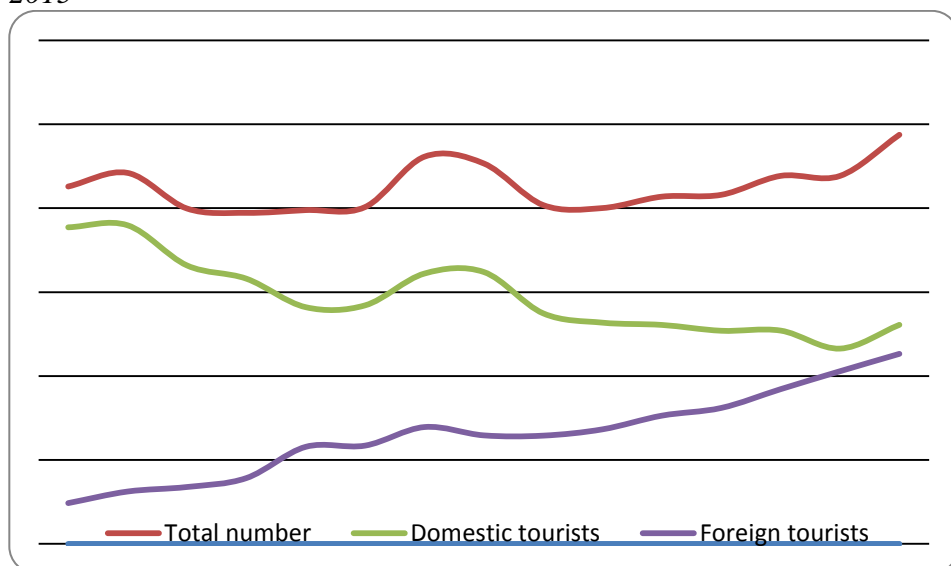
The survey is semiannual, and results are published in the Statistical Yearbook of the Republic of Serbia and on the Internet website of the Statistical Office of The Republic of Serbia.

Statistical data in the area of Tourism are also available in the Database of the Statistical Office of the Republic of Serbia. Database can be accessed via Internet website. As it is explained (Radović – Stojanović, Zečević, Kojčin, 2015, p.832), "... The Statistical Office of the Republic of Serbia Database was formed at the beginning of 2010. The database was formed with about 400 indicators and in the meantime it has been developed and changed with data, so that today it contains data for 735 indicators in all areas of social and economic life from which the Office collects and processes statistical data". The following tourism indicators are available: Tourist arrivals and overnight stays - annual data, Tourist arrivals and overnights stays from December 2010 - monthly data and Tourist arrivals and overnight stay by regions - monthly data. "Indicators in the Database can be observed by different qualitative and numerical characteristics. Furthermore, there is a choice of territory, a period of

observation and the type of data to be displayed. After the selection of characteristics, time period and data types, a report in the form of a series of data, or two-dimensional tables containing series of structures and time series are generated from the database” (Radović–Stojanović, Zečević, Kojčin, 2015, p.835). Regarding indicators from the tourism area, for each indicator there are available data for domestic tourists, foreign tourists and in total, and the data about tourists visit by regions (Belgrade region, Vojvodina region, Šumadija, West Serbia, South and East Serbia).

Graph 1 shows data about tourists' arrivals - annual data (domestic, foreign, and total) in the period from 2001 to 2015 for the Republic of Serbia. The data on the number of domestic and foreign tourists are obtained via statistics surveys of tourist arrivals and overnight stays. The data on the number of tourists from 2005 to 2015 are downloaded from the Database, while for the period from 2001 to 2005 data is taken from the publication of Statistical Office of the Republic of Serbia, Statistical Yearbook 2005.

**Graph 1:** *Tourist arrivals - domestic, foreign, total, annual data, 2001-2015*

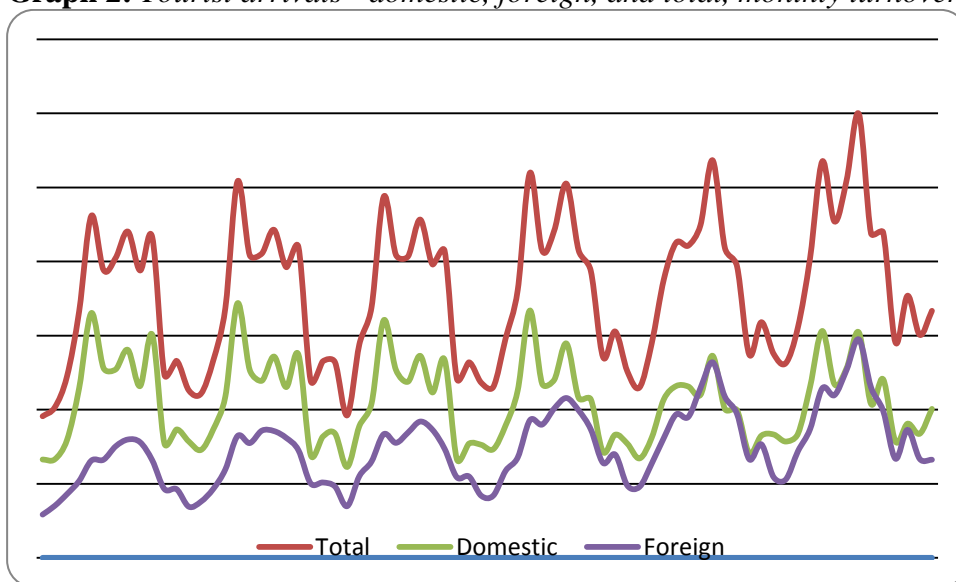


**Source:** *Statistical Office of the Republic of Serbia, Statistical Yearbook 2005, Database*

In the period from 2001 to 2015, the number of domestic and foreign tourists shows opposite trends – the number of domestic tourists decreases, while the number of foreign tourists shows an upward long-term trend. The downward trend in the number of domestic tourists was briefly reversed in the expansion phase of the Serbian economy, which, according to (Radović – Stojanović, 2014, p. 165), is manifested in the period from February 2006 to January 2008. Till 2009, the total tourist visits are decisively influenced by domestic tourists, and then the foreign tourists take precedence. The number of foreign tourists who visit Serbia has not significantly declined after the global economic crisis, i.e. after 2008 and 2009, but the number of domestic tourists has, which means that the domestic tourists felt the decline in living standards during the crisis, and reacted by reducing tourist travel in the country. One part of this decrease can probably be attributed to the reorientation of domestic tourists to foreign destinations, but the appearance of the series and the fact that the domestic tourists reacted in the slowdown phase by reducing tourist travel, speak in favor of the interpretation that the causes related to the standard of living and economic situation in the country are crucial to the creation of domestic tourism demand. The growth in the number of domestic tourists in 2015 gives hope that this downward trend could stop and perhaps even reverse. For all that time, the number of foreign tourists increases year by year, when in the last couple of years almost equals the number of domestic tourists. The total number of tourist visits, which for last couple of years was at approximately the same level, after 2010 begins to grow, primarily due to the visit of foreign tourists. However, only in 2015 it exceeds the level of before the global economic crisis.

Graphic 2 shows monthly data on domestic and foreign tourist arrivals in the period from January 2010 to February 2015 (the last available data). As it can be seen, the data is not seasonally adjusted. In the Database of the Statistical Office of The Republic of Serbia, monthly data about tourist arrivals for the period before 2010 are not available. These data can be found in Monthly Statistical Bulletin, but only in the index form.

**Graph 2:** *Tourist arrivals - domestic, foreign, and total, monthly turnover*



**Source:** Statistical office of the Republic of Serbia

In the time series of tourist arrivals, the impact of the seasonal component is evident. Based on the available data, the time series model Tourist arrivals – total is seasonal ARIMA model type (0,1,1) (0,1,1)<sup>3</sup> Tourist visits to the Republic of Serbia in the last five years are in the highest from May to September, whereas in other months they are at a considerably lower level, i.e. only about 50% of the visits in the period from May to September. The Graph shows that the seasonal pattern of series over the years changes and that the visit, which in the beginning of the period is distributed in the summer months, in 2014 and 2015 reaches the peak in the month of August. In the Database of the Statistical Office in the Republic of Serbia there are not available monthly data for the period before 2010, which is necessary in order to analyze how the seasonal pattern appeared in previous years.

### **Catering Trade Statistics**

There are two types of surveys in the Catering Trade statistics: Quarterly survey and Annual survey on Catering Trade. In these surveys the collected data is about Catering Trade turnover. The aim

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3 Identification of time series model is performed using the software JDemetra +.

of surveys is to provide necessary data for monitoring and analyzing trends, level and structure of turnover in the catering trade industry. In these surveys there is a large number of data in the field of catering trade. In a quarterly survey the following data are collected:

- total turnover of business entities in the reporting quarter by months,
- the turnover by statistical territorial units,
- the structure of turnover by types of catering services, and
- the turnover of catering activities by month.

In the annual survey, the following data are collected:

- The number and capacity of catering facilities by type and category,
- The number of employees by types of catering facilities,
- The level and structure of turnover of Catering Trade, by type of catering trade services,
- The volume and structure of turnover in Catering Trade, by quantity and value, and
- The total turnover in Catering Trade by month.

Data on Catering Trade comes from accounting and other records of business entities (legal entities and entrepreneurs) that deal with the Catering Trade activities. They are reporting units in statistical surveys. The survey is conducted via reporting method - reporting units send completed forms by post office. Definitions of basic variables and calculation of methodology results are partially coordinated with the recommendations of Eurostat (Council Regulation No 1165/98). Turnover in the Catering Trade presents a bookkeeping accounting value of Catering Trade services (accommodation, food, beverages), and other services provided by the Catering Trade (transport of guests and luggage, catering craft activities, sales of tobacco, souvenirs, newspapers, etc.). The turnover tax (or Value Added Tax since 2005) is also included in the value of the services performed.

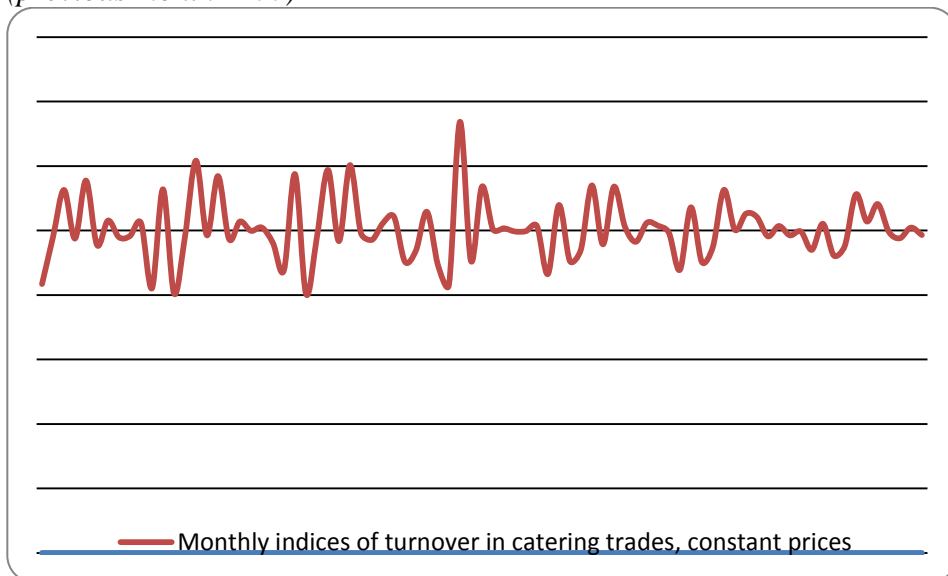
Data on the turnover in the Catering Trade by months presents estimates derived from monthly variations and assessment of the turnover trends. By the end of the quarter, monthly estimates are adjusted on the basis of regular quarterly statistical survey, which is based on an incomplete coverage of legal persons, where legal

entities whose aggregate value of turnover compared to the full set amounts to over 90% are covered, as well as on the basis of sample based quarterly survey of entrepreneurs. Final data is the result of Catering Trade surveys in annual and they make up the total turnover, which is published in the annual series. Catering Trade turnover indices at constant prices are obtained by dividing the turnover index at current prices by price index of catering services. The data is published in the Monthly Statistical Bulletin (monthly data), Statistical Yearbook (annual, final data) and on the Internet website of the Office.

The obtained data is used for monitoring and analyzing the level, dynamics and structure of turnover in the Catering Trade industry, for realizing international statistical obligations, for planning and analyzing economic policy in the field of Catering Trade, for studying economic situation in the field of catering activity, for analyzing measure of effects of economic policy in the field of Tourism and Catering Trade, for analyzing the characteristics of seasonal use of facilities and turnover services in the Catering Trade. The possibilities of applying data is numerous. But, besides the large amount of data which is collected in surveys in the database of the Statistical Office of the Republic of Serbia, there are only two indicators available: Annual turnover in Catering Trade and Monthly turnover in Catering Trade. The annual turnover in Catering Trade is expressed in the absolute data and in the indices (in current prices and constant prices). For monthly turnover in Catering Trade, there are available monthly indices of turnover in the current prices and constant prices.

Graph 3 shows the Catering Trade turnover indices at constant prices. Catering Trade turnover indices at constant prices are obtained by dividing the turnover index at current prices by price index of catering services. Monthly index of turnover in Catering Trade at current prices is calculated as ratio of turnover value in the specified month to the corresponding average value of the base year (previous month =100).

**Graph 3:** *Catering Trade turnover indices at constant prices, 2009-2015 (previous month=100)*



**Source:** Statistical Office of the Republic of Serbia.

Catering Trade turnover, as it was expected, shows seasonal fluctuations. The time series model Catering Trade turnover is a seasonal ARIMA model of the type  $(0,1,1) (0,1,1)$ .<sup>4</sup>

Seasonal pattern is changed by years, so in 2014 and 2015 Catering Trade turnover was the biggest in March, as opposed to previous years, where the peaks of season have been in May, March and December, respectively. Turnover stays at the approximately same level in the whole period.

The Catering Trade annual turnover in the current prices is presented in the Table 1.

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<sup>4</sup> Identification of time series model is performed using the software JDemetra +.

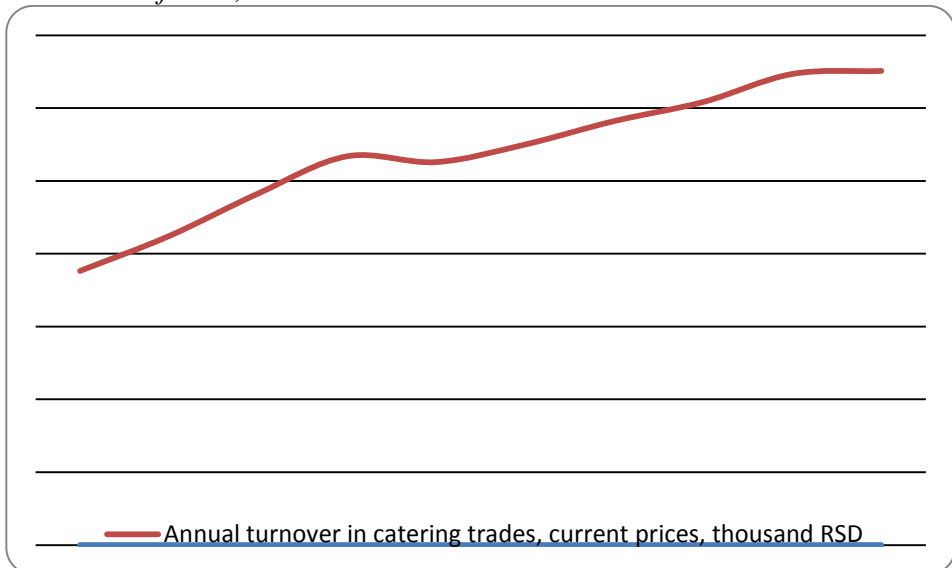
**Table 1:** Annual turnover in catering trades, current prices, expressed in thousands of RSD

Annual turnover in catering trades, current prices, expressed in thousands of RSD	
2005	RSD 37,641,087
2006	RSD 42,432,870
2007	RSD 48,271,064
2008	RSD 53,384,299
2009	RSD 52,583,535
2010	RSD 55,002,378
2011	RSD 58,219,574
2012	RSD 60,841,400
2013	RSD 64,685,091
2014	RSD 65,104,515

**Source:** Statistical Office of the Republic of Serbia.

The Catering Trade annual turnover in the current prices is presented in the Graph 4.

**Graph 4:** Annual turnover in catering trades, current prices, expressed in thousands of RSD, 2005-2014.

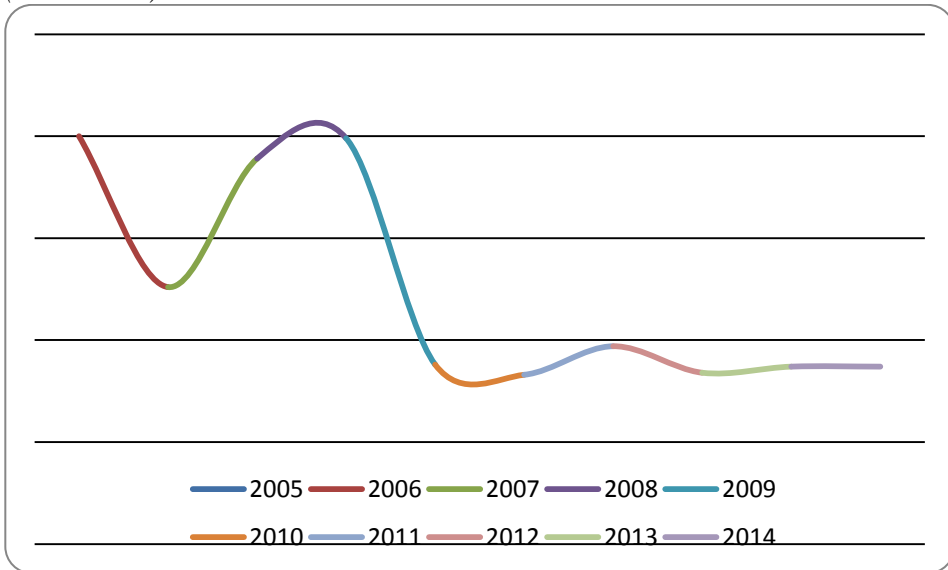


**Source:** Statistical Office of the Republic of Serbia.

Graph 4 shows that there was a significant increase in turnover at the Catering Trade in the period from 2005 to 2014. However, the indices

of annual turnover at constant prices indicate that this growth comes from price growth, and that in recent years there has been actual decline and then stagnation in turnover at the Catering Trade.

**Graph 5:** *Annual turnover indices in catering trades, constant prices (2005=100)*



**Source:** *Statistical office of the Republic of Serbia.*

The annual Catering Trade turnover significantly decreases with the outbreak of the global economic crisis, and after 2009, it remains at about the same annual level.

The series of monthly data shown in Graph 3 is in an index form (monthly data on the value of Catering Trade turnover are not available). Regarding annual data, of interest for the analysts would be extending the series and the introducing several additional indicators in the Database, which would enable monitoring of trends over a longer time period and has opened new perspectives in the analysis.

The similar situation is in other areas of applied statistics, where there is a great need for a longer time series, as observed in (Radović – Stojanović, Čudan, 2012, p. 141).

## Conclusion

Although there are numerous data collected via statistical surveys of Tourism and Catering Trade statistics, the number of indicators in the Database of Statistical Office of The Republic of Serbia in the areas of Tourism and Catering Trade is relatively small. There are not included all data obtained via surveys, and some series are short, while the researchers are interested to extend the series. Some annual data in the database are not available, so the information must be sought in the publication of the Institute. This is the case with tourist arrivals, for which there are no available data in the database for the period before 2005, although they can be found in the Statistical Yearbook. It is similar with the monthly data on Catering Trade turnover.

Monthly turnover in the Catering Trade, on the bases on which monthly turnover indices at current and constant prices are calculated, is not available in the database, nor in the in the publications of the Statistical Office of the Republic of Serbia. In the publications of the Office, one could find some other interesting data, for example, the data about tourist arrivals and overnight stays by types of tourism area and regions and also some seasonally adjusted data. However, the data on monthly turnover in the Catering Trade are not incorporated in Database.

Some of the data obtained via statistical surveys of the Office (the data about tourist capacity) are published by other producers of official statistics in Serbia, such as the National Tourism Organization of Serbia. In contrast to data on tourist arrivals and overnight stays, which is useful for understanding the tourism demand, the data on capacities are important for understanding the supply in tourism. The question which remains is how to incorporate this kind of data in the database of the Statistical Office of the Republic of Serbia.

Nevertheless, analytical capabilities of available data from the Statistical Office of the Republic of Serbia are significant. The analyzed data, gathered via statistical surveys, show the most important tendencies in Tourism and Catering Trade, the growing number of tourist visits and stagnation of Catering Trade turnover, as well as the Tourism dependency on the cyclical conjecture in Serbian

economy. However, there are some ways to improve these analytical capabilities. The absolute data on the turnover value, as well as the seasonally adjusted data, would be interesting for the empirical research and application of mathematical methods in the analysis, whereas the introduction of different calculated indicators based on available data would create new approaches in the analysis of economic effects of Tourism and Catering Trade.

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