

# TWINNING CONTRACT

BA 15 IPA SR 01 17

## Support to the reform of the statistics system in Bosnia and Herzegovina



## STUDY VISIT REPORT

on

**Tourism Statistics**

**Activity 2.5.2**

**Study visit to Croatia**

13 – 15 November

Version: Final

## Table of contents

1. General comments.....	3
2. Lessons Learned.....	4
3. Conclusions and recommendations.....	6
Annex 1. Programme .....	8
Annex 2. Persons met.....	10

## List of Abbreviations

BHAS	Agency for Statistics of Bosnia and Herzegovina
BiH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
EC	European Commission
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
FIS	Institute for Statistics of Federation of Bosnia and Herzegovina
MS	EU Member State
RSIS	Institute for Statistics of Republika Srpska
RTA	Resident Twinning Adviser
ToR	Terms of Reference
TP	Twinning Project

## 1. General comments

This study visit report was prepared within the EU Twinning Project "Support to the reform of the statistics system in Bosnia and Herzegovina" and organised under component 2 - Business Statistics, activity 2.5.2 Tourism Statistics.

The primary goal of the study visit was to introduce the BiH statisticians to the current practices and to the production process used for the demand side of the tourism survey in the Croatian Bureau of Statistics. In addition, this was excellent opportunity to gain knowledge and the best practices from CBS experience on the data collection instrument that they use (CATI method) and to learn in a detailed way on the methodology used for Survey on Tourist Activity of Population of Republic of Croatia. No regular survey for the demand side of the tourism statistics in BiH has been conducted yet. Currently, statistical institutions in BiH are preparing to start with the first wave of data collection of regular Survey on Leisure and Business Trips that covers the period of January - October 2018 followed by a second data collection wave in the beginning of 2019, that covers the remaining months of 2018 and the participation questions for the whole reference year of 2018 in accordance with EU Regulation 692/2011 (Annex II – National tourism).

Through the current IPA 2015 TP we have developed questionnaire and interview guide, defined sampling criteria as well as make and adopt an activity plan for a regular survey with a timetable of activities in order to get the methodological aspects in place before the data collection. Most of the procedures that will be used for the new demand side tourism survey concerning the sample frame, the sample design and concepts of sampling unit, reporting unit and statistical unit are similar to those used for other household based surveys in BiH. The Master Frame 2009 is going to be used for the regular survey until the updated results of the Population Census are going to be available.

Furthermore, the data collection method (PAPI), face-to-face interviews will be used, as it is the most feasible method when dealing with a small budget/sample size combined with a lack of a register and other available data collection methods. One of the priorities in the BiH statistical system is to develop a new data collection methods (CAPI, CATI or web- surveys) in order to reduce costs and burden on statisticians and to improve overall quality of collected survey data. This SV covered topics essential for future development of demand side tourism survey in BiH. Beside above mentioned themes, we were interested in getting more information about current status and production of tourism statistics as well as their work on production of Tourism Satellite Accounts (TSA) in Croatia.

The staff of BHAS, and RSIS would like to express their thanks to all officials and individuals met for the kind support and valuable information which they received during the stay in Croatia and which highly facilitated the work. Representatives of FIS did not take part in study visit.

This views and observations stated in this report are those of the consultant and do not necessarily correspond to the views of EU, BHAS, FIS, RSIS, CBBH, Statistics Denmark, INSEE, Statistics Finland and Croatian Bureau of Statistics.

## 2. Lessons Learned

At the beginning of the study visit, participants from BHAS and RSIS were introduced with the overall structure, historical development and responsibilities of Tourism Statistics Department in CBS. Also, we were acquainted with the current status and production of Survey on Tourist Activity of Population of Republic of Croatia. The first day of the study visit we were informed about methodology used for collecting data and conducting the demand side survey in Croatia. They presented the whole production process for demand side survey used in CBS to us, starting from the sample selection, data collection process, calculation method used and dissemination of results.

For the Survey on Tourist Activity of Population of Republic of Croatia the CATI method (Computer-Assisted-Telephone-Interviewing) for data collection is used. The main reason for the introduction of telephone interviewing in CBS was to improve the quality of collected data, standardize data collection process, and provide more efficient use of resources by reducing costs of conducting household surveys in Croatia. A stratified random sample is used for this survey. The target population is represented by the population of the Republic of Croatia at the age of 15 years or more. What is specific to this survey is the sample frame that consists of a telephone directory of landline as well as a telephone directory of a mobile network. These two telephone directories contain data related to the user's name, address and label that determines whether the telephone number belongs to an enterprise or an individual. A dual frame design is used and it allows the overlapping of the two independent sample frames from which two independent samples are selected, in order to calculate the estimation for the entire population.

The telephone numbers of the landline are related to the households, where the respondent is selected by the method of the last birthday, while the user of mobile telephone number is interviewed if the person has 15 years or more. For the selection of the sample, a proportional allocation is used and sample size meets the national needs of the Republic of Croatia (considering that the survey is conducted quarterly - 5000 individuals are selected for every of the first three quarters, while 7000 individuals are selected for the IV quarter). For statistical institutions in BiH it is important to examine the possibility of using other data collection methods, beside face-to-face interviews (PAPI method) and in that way to reduce the burden on statisticians, costs and improve the quality of collected data in Bosnia and Herzegovina. Further activity on introduction of new data collection methods (CATI and web surveys) is crucial for the modernization of the statistical production process in BiH.

The second day of the study visit we were acquainted with imputation and weighting method used for the Survey on Tourist Activity of Population of Republic of Croatia. After collecting data and clearing the database with responses, imputation of data related to traveling expenses is carried out in two cases. In the first case, information about the total travel costs is known, but there is a lack of a certain cost per items. In situations like this the difference between the total cost and the remaining amounts expressed per items is calculated and the amount received is imputed. In the second case, amount of total costs does not exist, so imputation is required according to so-called hot-deck method. By using this method missing values are imputed according to the responses of the similar units (the grouping can be done based on the main country of destination, type of accommodation, length of travel, etc.). Similar procedures for imputation of missing data we are planning to introduce for Survey on Leisure and Business Trips in BiH. For the calculation of the final weights, initial weights are corrected for non-response and after that post-stratification is

performed for mobile telephone users. The main reason for partial post-stratification is the lack of external information. To be more precise, The Croatian Regulatory Authority for Network Industries (HAKOM) possesses information about the number of mobile telephone users who have signed contracts with mobile operators (post-paid subscribers), while this external information is not available for landline users. The correction of weights for landline users is based on the information collected during the fieldwork (members of household who are 15 years or older). A composite factor for the overlapping part of the sample frame should also be taken into account in order to correct the final weight because there is a possibility that one user finds himself in both sampling frames (this information is collected during fieldwork). The calibration is performed on the number of individuals aged 15 or more in private households by gender, age groups and the highest level of education, using the data from the 2011 Census. Totals from the individual's level are raised to the level of journeys and the coefficients of variation for key variables are calculated by using the SAS statistical program. This was a very interesting topic having in mind our intention to further investigate the possibility of using the telephone directory of landlines as well as a telephone directory of the mobile network companies which currently are operating in BiH. We are planning to organise a meeting with The Communications Regulatory Agency of Bosnia and Herzegovina and to find out if this data is available and if there are any legal obstacles regarding the use of this data by the statistical institutions in BiH.

The third day of the study visit we visited the CATI centre of the Croatian Bureau of Statistics which is established in 2015. Currently, the CBS is using CATI centre for conducting several agricultural surveys, ICT survey and Survey on Tourist Activity of Population of Republic of Croatia. For other household surveys in CBS, the CAPI method is used when interviewers use a laptop with an installed application in Blaise 4.8 statistical software. In the course of a direct interview with the respondent, interviewers enter the data into the database on the laptop. For communication with the central office they use the CMS (Case Management System) system that enables them to download the application, take a sample of reporting units, download a new supplementary reporting unit, and also forward the entered data to the central office. Through the CMS, the controller monitors the work of field interviewers and controls their work.

For the purpose of tourism demand side survey, the CBS use the services of the CATI centre where interviewers collect data through a telephone interview on a selected sample of people age 15+. The basic application used by interviewers was created in Blaise 4.8 statistical software intended for household surveys. This method requires an up-to-date phone book so that the sample is created on the basis of a directory that contains all persons who have a registered phone number, whether mobile or fixed. Due to the daily obligations (work, education, etc.) of the target population, the work of the CATI centre is organized in two shifts and the work of the interviewers in each shift is supervised by one supervisor in CBS. He monitors the work of each interviewer at his station. The collected data is passed through the set of controls in the editing process in order to eliminate logical and calculation errors in the data. An application used by interviewers (operators in the CATI centre) contains a minimum set of controls so that respondents and interviewers are less burdensome when interviewing selected people.

Our intention is to use only face-to-face interviews, as the data collection method for the reference year of 2018. PAPI method is recommended, especially where telephone penetration is low and where the household is the reporting unit. It is possible at a later stage to use different data collection methods in combination as is the case for a number of the EU countries. A multiple data collection approach has the advantage of ensuring a larger coverage where you may reach for

instance an older generation using face-to-face interviews and a younger generation using telephone (CATI) or web surveys.

### 3. Conclusions and recommendations

1. This study visit was very extensive and covered a lot of different topics. Mostly, topics were related to development and production of tourism statistics. We had heard a lot of useful recommendations based on CBS experience which will be used in our work on further development and production of tourism statistics in BiH.
2. We were introduced with the methodology used for the production of the Survey on Tourist Activity of Population of Republic of Croatia. Since the demand side of tourism survey in BiH is in the development phase, the lessons learned during the study visit will be very helpful for our current work on introduction of the regular Survey on Leisure and Business Trips in BiH.
3. It is important to introduce different data collection methods (CATI, CAPI, web survey) in order to ensure a larger coverage of the resident population, increase the data quality and reduce the response burden on the reporting units in BiH. We were introduced to the main functionality of the CATI centre in the CBS (questionnaire design, organization of work, data collection process, editing rules, etc.) which benefits considerably on the increase of cost-efficiency and reducing the response burden in Croatia.
4. Based on the information and recommendations provided by the CBS, statistical institutions in BiH will consider the possibility to improve the survey data collection in BiH. A further activity on introduction of a new data collection methods is crucial for modernization of statistical production process in BiH.
5. The importance of reaching the goals based on the activities planned through IPA 2015 Twinning Project for component 2.5 Tourism Statistics to contribute to further harmonization of BiH statistics with EU requirements.
6. The received valuable materials will be further analyzed and made available to all interested in the statistical system of BiH.

### Actions needed for moving forward

The representative of the three statistical institutions in BiH adopted an updated Activity plan for a Survey on Leisure and Business Trips with a timetable of activities for referent year 2018. Survey fieldwork will be conducted in two waves, first by the end of November 2018 and second wave by the end of February 2019.

Activity/Month	N18	D18	J19	F19	M19	A19	M19	J19	J19	A19	S19	O19
<b>Training of Interviewer</b>	X											
<b>Send notification letter</b>	X											
<b>Survey fieldwork</b>	X			X								
<b>Data entry</b>		X (1st wave)		X (2nd wave)								
<b>Validation and imputation</b>			X (1st wave)		X (2nd wave)							
<b>Grossing-up</b>						X	X					
<b>Aggregating data</b>						X	X					
<b>Macro-validation</b>						X	X					
<b>Analysis</b>						X	X					
<b>Dissemination</b>								X				
<b>Quality report</b>											X	
<b>Documentation</b>											X	

## Annex 1. Programme

<b>Day 1 – Tuesday, 13 November 2018 (Ilica 3, room 101)</b>		
9:30 – 9:45	Welcome by Croatian Bureau of Statistics and introduction of participants, Agenda	<i>Marko Krištof Darko Jukić Ivana Brozović Marijana Kožul</i>
9:45-10:30	Tourism statistics – general overview  Methodology for collecting data and conducting survey Tourist activity of the population of Republic of Croatia  Organizing the process of collecting and processing data for survey Tourist activity of the population of Republic of Croatia	<i>Ivana Brozović Marijana Kožul</i>
10:30 – 10:45	Coffee break	
10:45-12:00	Build data collection instrument Questionnaire design and basic logical-calculation controls for data collection by CATI method	<i>Ivana Brozović Marijana Kožul</i>
12:00 – 13:00	Lunch break	
13:00 – 14:30	Built data collection instrument Data Entry Programming (Blaise Application), Questionnaire and Sample Installation in CATI Center, Setting Control of Collected Data for survey Tourist activity of the population of Republic of Croatia	<i>Tihomir Koletić Ivana Brozović Marijana Kožul</i>
14:30 -14:45	Coffee break	
14:45 – 16:00	Build data collection instrument Case Management System (CSM) for CAPI data collection	<i>Tihomir Koletić Ivana Brozović Marijana Kožul</i>
<b>Day 2 – Wednesday, 14 November 2018 (Ilica 3, room 101)</b>		
09:30-10:30	Defining a framework and methodology for the sample selection for survey on Tourist Activity of Population of Republic of Croatia  Identifying and defining the target population, defining sample frame and determining methodology of sampling and criteria	<i>Lidija Gligorova Ivana Brozović Marijana Kožul</i>



10:45 – 12:00	Data processing - Survey on Tourist Activity of Population of Republic of Croatia  Control, editing and data correction (Blaise application)	<i>Marijana Kožul</i> <i>Ivana Brozović</i> <i>Lidija Gligorova</i>
12:00 – 13:15	Lunch break	
13:15 – 14:00	Imputation and weighting - Survey on Tourist Activity of Population of Republic of Croatia Indicators of accuracy and reliability	<i>Lidija Gligorova</i> <i>Ivana Brozović</i> <i>Marijana Kožul</i>
14:00 – 15:00	Data processing - Survey on Tourist Activity of Population of Republic of Croatia  Calculating the aggregate Data analyses IT software support for data processing (SAS)	<i>Marijana Kožul</i> <i>Sandra Truntić</i> <i>Ivana Brozović</i>
15:00 – 15:15	Coffee break	
15:15 – 16:00	Dissemination of data - Survey on Tourist Activity of Population of Republic of Croatia  Experience, timeliness	<i>Ivana Brozović</i> <i>Marijana Kožul</i>
<b>Day 3 - Thursday, 15 November 2018 (Branimirova 19-21, meeting room)</b>		
9:30 – 11:00	CATI and CAPI system in CBS  Surveys implemented Applications/software used Organisation (interviewers, supervisors, administration etc.)	<i>Tihana Cukina</i> <i>Ivana Brozović</i> <i>Marijana Kožul</i>
11:00 – 11:15	Coffee break	
11:15 – 12:00	CATI data collection for survey on Tourist Activity of Population of Republic of Croatia  Blaise Call Scheduling System Interviewer's work Supervisor's work Visit to the CATI centre	<i>Tihana Cukina</i> <i>Ivana Brozović</i> <i>Marijana Kožul</i>
12:00 – 13:15	Lunch break	
13:15 – 14:30	CAPI data collection  CMS – preparation and administration Administration of interviewer's work Administration of supervisor's work	<i>Tihana Cukina</i> <i>Ivana Brozović</i> <i>Marijana Kožul</i>
14:45 – 16:00	Discussion and closure	<i>Ivana Brozović</i> <i>Marijana Kožul</i>

## Annex 2. Persons met

### Agency for Statistics of Bosnia-Herzegovina:

- *Alen Bajramović, Head of Department for Services Statistics*
- *Azra Bander Demirović, Junior Officer for Services Statistics*
- *Ševala Abaz, Head of Department for applications and management of databases*
- *Jasna Isaković, Head of Department for Sample design and Methodology*

### Institute for Statistics of Republika Srpska:

- *Ms Jelena Glamočika, Head of Department for Services Statistics*
- *Ms Slađana Nikić, Senior Advisor for Statistics of Government Finance*
- *Ms Vedrana Dejanović, Junior Officer for Sample design*
- *Mr Pero Kazanovića, IT support*

### Croatian Bureau of Statistics

- *Mr Marko Krištof – Director General*
- *Mr Darko Jukić, Director of Business Statistics Directorate*
- *Ms Ivana Brozović, Head of Tourism Statistics Department*
- *Ms Marijana Kožul, Senior Advisor, Tourism Statistics Department*
- *Ms Lidija Gligorova, Senior Advisor – Specialist, Classification, Sampling, Statistical Methods and Analyses Unit*
- *Mr Tihomir Koletić, Senior IT Advisor, Department of Data Processing System Organization, Implementation and Maintenance*
- *Ms Sandra Truntiћ, Senior IT Advisor, Department of Data Processing System Organization, Implementation and Maintenance*
- *Ms Tihana Cukina, Head of Department for Development and Implementation of Data Collection Methods*