TWINNING CONTRACT

BA 15 IPA SR 01 17

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

MISSION REPORT

Activity 2.5.4:
Analysis of regular survey on tourism statistics

Component 2: Business Statistics
Sub-component 2.5: Tourism Statistics

Mission carried out by
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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

Executive Summary

The purpose of this mission was discuss the experiences from the first wave of data collection, discuss editing and validation methods and revise and prepare the questionnaire and the interview guide for the second wave of data collection. There was an overall satisfaction with the data collection process so far.

A module on participation in tourism for the whole reference year of 2018 was added to the questionnaire and the interview guide. This was followed by a discussion and initial proposal on data editing and validation methods. The data from the first data collection wave needs to be examined in more detail by BHAS, RSIS and FIS before a specific imputation method is adapted. A set of logical and formal controls were defined and they need to be integrated into an IT application before the next mission.

Finally, a quick guide was presented and a detailed plan for the second wave of data collection was discussed and agreed upon.

1. General comments

This mission report was prepared within the EU Twinning Project *Support to the reform of the statistics system in Bosnia and Herzegovina*. It was the fourth mission to be devoted to sub-component 2.5: *Tourism Statistics* within Component 2: *Business Statistics* of the project. The overall purpose of the mission was to prepare a regular survey on the demand side of tourism statistics.

The specific objectives of the fourth mission were:

- Follow up from the previous mission
  Prepared by the MS experts
  - Presentation on data editing and validation procedures
  - Presentation on imputation methods
  - Example of quick-guide for demand side survey

  Prepared by the BC experts
  - Presentation of data collection process (fieldwork, FAQ)

- Analysis of first wave of data collection (response rate, data quality, etc.)
- Presentation of data entry process
- Review of questionnaire and interview guide
- Preparation of a set of formal and logical controls
- Proposal of imputation methods
- Requests for further development of IT application
- Preparation of detailed plan for second wave of data collection

The consultants 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 Bosnia-Herzegovina and which highly facilitated the work of the consultants.

This views and observations stated in this report are those of the consultants 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. Assessment and results

The main focus of this mission was to share experiences from the first data collection wave, revise the questionnaire and the interview guide, add a participation module for the whole reference year and discuss data editing and validation methods.

The following things were achieved during the fourth mission:

- Data collection process analyzed
- Process of data entry presented
- Set of formal and logical controls prepared and agreed
- Treatment of non-response discussed
- Proposal of imputation method examined
- EU experiences presented
- Request for IT application prepared
- Detailed plan for second wave of data collection agreed
- Input provided for the ToR of the next activity

Data collection and data entry process

Since the previous mission, the first wave of data collection covering the reference period of January-October 2018 has taken place. The first day of the mission was spent on presenting the initial results and experiences from the data collection and the data entry process. BHAS presented the experiences from Brcko, which was followed by the experiences from RSIS and FIS. The experiences are described below:

Brcko experience

The experience with the first data collection wave in Brcko was an overall positive one. The timetable was followed without any major delays. The sample size was 550 households and the response rate was 61.5 per cent. 41.5 per cent of the total non-response (39.5 per cent) referred to over-coverage, i.e. respondents not suitable for interviews, new or vacant addresses, and similar. The interviewers received two days of training prior to the data collection. The payment for the interviewers was a bit late due to the Holiday season in December, but otherwise the process was regarded very satisfying.

RSIS experience

In RSIS, they were also rather satisfied with the results having in mind that this was the first survey and based on a Master Frame from 2009. The sample size in RSIS was 1700 households, and the response rate was 75 per cent. There has been made no further analysis on the non-response at this stage. The interviewers had one day of training and it took place in Banja Luka and some other locations. The data collection was carried out from November 22nd to December 4th 2018. There was an overall agreement to cover two weekends in order to meet as many respondents as possible at home in the household. RSIS did not use the BHAS application for data entry, so the data entry was made post data collection with a separate application.

The main issue that occurred was – like in the case of Brcko – the issue of over-coverage. Furthermore, some respondents were not happy with being selected for several surveys in a short period of time. The issue of reuse of respondents for several surveys can be managed by introducing a maximum of times a household can be selected during a given period. However, the size of the Master Frame has to be taken into account.

FIS experience
Although there was a dependency on external parties such as the interviewers, FIS was also satisfied with the first data collection wave. The sample size consisted of 3300 household. The response rate was 79.5 per cent. There were 60 interviewers that received one day of training in November 2018 by the FIS employees themselves. The training took place in Sarajevo, Tuzla, Zenica, Bihac and Mostar. There was an overall satisfaction with the training, and interviewing was performed on time.

FIS faced some technical issues, but nothing of significance. Data entry was made two days before deadline in December. FIS experienced the same challenges regarding sample frame and over-coverage as in Brcko and RSIS. The most frequent reasons for non-response was empty, demolished, temporarily or permanently vacant apartments or houses. The respondents residing in the urban locations proved to be more reluctant in participating in the interview than the rural population. This can have an effect on the representativeness of the sample compared to the population and needs to be examined.

There was an ongoing dialogue with BHAS regarding issues arisen during the data collection. The budget for the second wave of data collection has not been agreed upon yet and this has to be clarified before the second wave of data collection.

The general experience
In general, there was an overall satisfaction with the process so far. The total gross sample was 5550 households, and the overall response rate was approx. 76.7 per cent, which is to be considered high compared with similar surveys in the EU. The use of face-to-face interviews often tend to increase the response rate compared to telephone interviews or web surveys. On the other hand, telephone interviews and web surveys are often less expensive to carry out. There was also an overall satisfaction with the interviewers.

There are approx. 67.000 households in the Master Frame from 2009 and thus in the population that the sample is derived from. As a consequence, the Sample Department from BHAS would not recommend rules for reuse due to an already relatively small population size. This is a trade-off between not burdening the respondents too much and the need for a big enough sample.

A more detailed analysis of the data quality will reveal whether it is possible and feasible to lower the sample size for the second wave of data collection and perhaps reduce costs given the rather high response rate for the first wave of data collection. Furthermore, the sample covers households and thus often several individuals, so the number of respondents will still be high even though the sample is reduced.

The general experience with the questionnaire was positive. Some filters and frases in the questionnaire were revised during this mission based on the feedback from the interviewers.The expenditure questions proved to be the most difficult to fill in, in part due to recall bias and in part due to reluctance to answer a sensitive question. Furthermore, the question on destination in BiH was revised only to have town and municipality as smaller geographical levels proved difficult for the respondents to answer. For the similar question on foreign destination only name of the country is to be obtained in the revised questionnaire, not the city. The split between private and business trips should be made more clear according to the interviewers. Some respondents were confused with the mix of private and business, and it was suggested and agreed upon to separate the two purposes into two sections for the 2019 questionnaire. The questionnaire for the rest of 2018 will only undergo minor adjustments such as rewording and deletion of some text in order to avoid break in series between the two data collection waves for the reference year 2018.

The interview guide will be updated with a more elaborate explanation on usual environment so it is more clear that the usual environment first and foremost is defined by the respondent´s subjective feeling and secondly by some helping guidelines. For instance, crossing a municipal border is sometimes not a requirement for taking a tourism trip. It is only to be viewed as a helping criterion combined with other criteria such duration, purpose etc. There will also be an explanation on the expenditure and how to get an estimate if the respondent is not able to answer for the different categories of expenditure.

The data will be processed and handled in Blaise, Access and R. The data from Brcko, FIS and RSIS can be merged after this mission.

The second wave of data collection is planned to take place in March. The revised questionnaire and interview guide for the second wave of data collection has been discussed during this mission and will afterwards undergo a final revision by BHAS, RSIS and FIS before dissemination to the interviewers. The Sample Department will update the sample with removal of non-existing households.

Furthermore, it needs to be clarified what funds are available for the second wave of data collection, as FIS has a challenge financing this. The cost for the first data collection wave was approx. 40.000 KM. They need to find funds for the second wave collection and await the federal budget for 2019. A possible solution is to reduce the cost for the second wave of data collection significantly by reducing the sample size by 50 per cent. It is recommended, that FIS analyze the data quality of the first wave of data collection and based on this decide whether it is feasible to reduce the sample with 50 per cent. If the sample is reduced by 50 per cent, the gross sample for the second wave of data collection will be 650 from Brcko, 1700 from RSIS and 1700 from FIS, which equals a total sample of 4050. Given a high response rate of 76.7 per cent in the first wave of data collection, the net sample size for the second wave of data collection is expected to be relatively high. This issue needs to be handled in March at latest. Otherwise the survey is at risk of not getting done.

Revision of questionnaire in detail

The questionnaire for the first wave of data collection was discussed and subsequently revised based on the experiences from the interviewers. The following will be revised prior to the second wave of data collection:

- Under the socio-demographic questions on educational level and level of employment it is suggested from the MS experts to remove the explanatory text and replace it with “Only relevant for household members aged 15+ years”. Furthermore, a new modality called “Not applicable” should be added to cover children aged 0-14 years.
- The question on reasons not to go on trips should be removed from the questions on the number of trips and relocated in the participation module as it is only relevant when asking for the annual participation in tourism. This change will be implemented prior to the second wave of data collection.
- According to interviewers, some respondents were confused with the mix of private and business questions, and it is therefore recommended that the questionnaire will be revised into a more clear distinction between the two purposes for the next reference year.

- Regarding the characteristics of the trips it is recommended to change the design of the ordinal number of household member and the ordinal number of trips so it more clear what belongs with what. Furthermore, there are a need for 7 brackets for the ordinal number.
- For the second wave of data collection the interviewer will only ask for the last 3 trips instead of 5 due to the shorter reference period of only 2 months compared to a the previous reference period of 10 months.
- Regarding the question on foreign destination for trips as well as same-day visits, it is agreed to remove the option of answering a city destination. Only countries are to be obtained. The city is not mandatory according to the EU regulation.
- The wording “Small area/settlement” in the question on the domestic destination for trips as well as same-day visits will also be removed.
- In the question on type of destination, it is recommended to remove the modality of YES/NO and allow the interviewer to mark the answers with a X instead.
- Questions on booking will be changed by Eurostat next year, so it is recommended to hold any changes until then.
- Furthermore, the question on package trip expenditure will also be revised in the EU Regulation next year and should therefore not be revised before then. However, the MS experts suggest to remove the wording “All-inclusive, pension etc.” under the question on the package trip components. All-inclusive etc. is to be included under accommodation.
- An extra row should be added under the question on number of persons that the expenditure covers.
- Some interviewers suggested to move the question on the purpose of the same-day visit below the questions on destination and month of the visit. The MS experts are in line with this suggestion and recommend to follow the same structure as for the trips with overnight stays.
- Question on household income is optional according to the EU regulation, but is in the questionnaire for national purposes. The response rate on this question was relatively high and will therefore remain in the questionnaire.

The discussion on the questionnaire was followed by a short discussion on the supporting interview guide. It was suggested by FIS to elaborate more on the definition on usual environment. The definition on the usual environment is usually based on the subjective feeling of the respondent. However, if the respondent is in doubt, a range of helping criterions or guidelines can be introduced. Even though crossing an administrative border such as a municipality is a criterion, then staying within a municipal border can still be considered outside the respondent´s usual environment. If the respondent for example lives in a big city and go on a same-day visit in the same area, it is still considered tourism if it is not a part of his or hers daily routine.

In the module 1, the explanation for question 6 and 7 should be changed to 15+ years instead of mentioning the years 2012 and 2003. In the explanation for the question on business expenditure it is suggested to underline that a best estimate is better than no answer at all. Furthermore, it should be clarified in the explanation that respondent´s private expenditure on the business trip is to be counted in as well. If a respondent is not able to remember specific expenditures, a total expenditure is acceptable.

The participation module needs to be described in detail in the interview guide before the second wave of data collection begins in March. There was also a short presentation on a quick guide for the demand side survey. A quick guide is a to-do list that tells what to do and what to remember. It does not tell how and why.

Data editing and validation procedures

The MS experts had a presentation on data editing and validation procedures such as logical controls. The presentations were followed by a more detailed discussion on relevant procedures suitable for this survey. Eurostat has provided the member states with some basic validation procedures for the demand side survey such as outlier detection and other validation rules that can be found in their documentation, and the MS experts strongly recommend to make use of these as a starting point. This validation procedure can be adjusted to the national needs. For dissemination validation purposes it is possible to use EDIT/EBB provided by Eurostat. The questionnaire formed the basis of the discussion and the logical controls relates to the questions in the questionnaire. The specific controls can be found in Annex 3. The logical controls are also suitable as a basis for coding the IT application.

There was also a discussion on different imputation methods. The data however needs to be analyzed in more detail before the proper imputation method is chosen. If it is possible, it would be recommendable to test different kinds of imputation methods and compare the results before selecting the most suitable method.

Request for IT application

There was a short discussion on the use of IT applications for the demand side survey. The data for Brcko, RSIS and FIS will be entered in Blaise or IST, and afterwards the three data sets are merged into one data set. Data quality is checked and analyzed at the entity level and by BHAS in the case of Brcko. BHAS, RSIS and FIS will probably use similar procedures. BHAS will coordinate the work in order to harmonize the process.

The MS experts suggest to standardize this procedure, so the data logical control and imputation is done by the same IT applications. Simple data quality analysis is already rather standardized and can be done separately, but the MS experts recommend that the logical controls specific for this survey are done by developing a standard programme in SAS/R or similar that can be shared between BHAS, RSIS and FIS. They can afterwards analyze the data separately by using the same programme. The programme can be made by a working group compiled of representatives from BHAS, RSIS and FIS. Cooperation and standardization secures harmonization in method and furthermore reduces costs and time consumption on coding the logical controls and imputation. It needs to be clarified who will set up the logical controls, and this should be done prior to the next mission in May. Next mission will be about choice of imputation method and logical controls in detail as well as presentations on grossing-up procedures and how to perform an analysis of the aggregated data.

Detailed plan for the second wave of data collection

After the discussion on data editing and validation there was a discussion on a detailed plan for the second wave of data collection.

As a first subject, it was proposed to reduce the sample size for FIS in order to reduce costs and get the whole survey done.

BHAS, RSIS and FIS would like to have the fieldwork for the second wave of data collection finished before the LFS survey begins, because there are many overlaps in the two samples and thus a risk of higher non-response.

- The simple changes and small adjustments to questionnaire and interview guide will be done in February. Other, more fundamental changes will not take place before preparation for the next reference year.
- BHAS, RSIS and FIS will analyze the data in detail using the outlier detection rule from Eurostat combined with the logical controls in Annex 4. It will subsequently and in the next mission be decided which imputation methods to use and what else needs to be added in the validation process.
- The sampling design and printing will take place in March.
- Fieldwork is scheduled in the end of March, beginning of April, prior to LFS.
- There will be a mission in May (perhaps 20-24th) where the validation procedure and imputation will be the main subject.
- The data will be validated and imputed after the mission in May.
- Method on grossing-up and aggregation to be used needs to be clarified. MS experts prepare presentation on grossing-up and aggregating tables.

Note: 1=First wave of data collection, 2=Second wave of data collection

Activity/Month	**S 18**	**O18**	**N18**	**D18**	**J19**	**F19**	**M19**	**A19**	**M19**	**J19**	**J19**	**A19**	**S19**	**O19**	**N19**	**D19**
Finalizing questionnaire	1					2										
Finalizing interview guide	1					2										
Interviewer instructions			1				2									
Printing		1					2									
Produce sample		1					2									
Print notification letter			1				2									
Survey fieldwork			1	1			2									
Study visit about methodology/Mission			X			X			X							
Data entry					1			2								
Validation and imputation									1 & 2							
Grossing-up										1 & 2						
Aggregating data										1 & 2						
Macro-validation													1 & 2			
Analysis													1 & 2			
Dissemination																1 & 2
Quality report															1 & 2	
Documentation															1 & 2	

3. Conclusions and recommendations

The purpose of this mission was to share the experiences from the first data collection wave. Furthermore, there was a discussion on validation procedures, which was followed by a revision and preparation of the questionnaire and the interview guide for the second data collection wave. There was an overall satisfaction with the data collection process so far.

The questionnaire and the interview guide only was discussed and only minor revisions - with the exception of one structural revision that can wait until next reference year of 2019 – were needed. The revisions are listed in the report and should be implemented in February at the latest.

The collected data was not analyzed in detail and this has to be done prior to the next mission in order to be able to choose the most suitable method of imputation. The MS experts therefore recommend that a more extensive data analysis on the quality is carried out as soon as possible. The results should be one of the main subjects for the next mission.

There was also a presentation and discussion on the use of logical and formal controls. Eurostat has provided the member states with some basic validation procedures for the demand side survey that can be found in their documentation, and the MS experts strongly recommend to make use of these as a starting point. This validation procedure can be adjusted to the national needs. For dissemination validation purposes it is possible to use EDIT/EBB provided by Eurostat as well. It is in general recommended that BHAS, RSIS and FIS use a common set of validation rules for data entry and validation.

The MS experts also recommend to reduce the sample size for FIS in order to be able to conduct the second wave of data collection in spite of budget issue for 2019.

What has to be done before the next mission:

Action	Deadline	Responsible person
Revision of the questionnaire and the interview guide	End of February	BHAS, RSIS and FIS
Initial analysis of the data quality (response rate, standard error, outliers and similar) in order to choose the suitable imputation method	End of April	BHAS, RSIS and FIS
Presentation on grossing-up and aggregation procedures	Next mission in May	MS experts
Presentation on IT application	Next mission in May	BHAS, RSIS and FIS

Annex 1. Terms of Reference

Terms of Reference

EU Twinning Project BA 15 IPA ST 01 17

Component 2: Business Statistics
Sub-component 2.5: Tourism Statistics
11-15 February 2019
Hosting institution: RSIS, Veljka Mlađenovića 12d, Banja Luka

Activity 2.5.4: Analysis of regular survey on tourism statistics

1. Mandatory result and benchmarks for the component

Mandatory result:

- New indicators on demand-side tourism statistics, in accordance with EU Regulation 692/2011 (Annex II – National tourism) produced and made available to users by 8th project quarter

Benchmarks:

- Plan for development of demand-side tourism statistics produced by 2nd project quarter
- Questionnaire for a regular survey prepared by 2nd project quarter
- Criteria for an IT application defined by 5th project quarter
- First results of survey analyzed by 6th project quarter
- Indicators on demand-side tourism statistics compiled by 7th project quarter
- Indicators on demand-side tourism statistics made available to users by 8th project quarter
- Methodological document on demand-side tourism statistics developed by 8th project quarter
- Quality report for tourism statistics developed by 8th project quarter

2. Purpose of the activity

- Follow up from the previous mission

  Prepared by the MS experts
  - Presentation on data editing and validation procedures
  - Presentation on imputation methods
  - Example of quick guide for demand side survey

  Prepared by the BC experts

  Presentation of data collection process (fieldwork, FAQ)

- Analyses of first wave of data collection (response rate, data quality, etc.)
- Presentation of data entry process

- Review of questionnaire and supporting documents
- Preparation of set of formal and logical controls
- Proposal of imputation methods
- Requests for further development of IT application
- Preparation of detailed plan for second wave of data collection

3. Expected output of the activity

- Main findings from data collection process analysed
- Process of data entry presented
- Set of formal and logical controls prepared and agreed
- Treatment of non-response discussed
- Proposal of imputation method examined
- EU experiences presented
- Request for IT application prepared
- Detailed plan for second wave of data collection agreed
- Input provided to the ToR of next activity

Annex 2. Persons met

Agency for Statistics of BiH (BHAS)

Alen Bajramović, BHAS

Azra Bander Demirović, BHAS

Jasna Isaković, BHAS

Institute for Statistics of Federation of BiH (FIS)

Sanja Ambrožić, FIS

Dženana Vreto, FIS

Institute for Statistics of Republika Srpska (RSIS)

Jelena Glamočika, RSIS

Slađana Nikić, RSIS

Vedrana Dejanović, RSIS

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MS Experts

Else Marie Rasmussen, Statistics Denmark

Ivana Brozović, Croatian Bureau of Statistics

Twinning Project Administration

Katja Møller Hjelvang, RTA

Đemka Šahinpašić, RTA Assistant

Haris Imamović, Interpreter

Annex 3. Validation controls

- **Socio-demographic questions**
  - Q1 on residency in BiH last 12 months: If not 1 or 2, then error.
  - Q2 on name: String variable.
  - Q3 on gender: If not 1 or 2, then error.
  - Q4 on relation: If not 1-5, then error.
  - Q5 on year of birth: If not 1900 or higher until current year, then error. Should be length 4.
  - Q6 on education: Values 1-6, “Refusal” or “Not applicable”.
  - Q7 on employment status: Values 1-4, “Refusal” or “Not applicable”.
- **Number of trips**

  ID-number of person speaking on behalf of the household. Maximum is the number of household members, and children are to be excluded.
  - Q1: Values 1,2. If 2, then go to Q6.
  - Q2: Values 0-99. If 0, then go Q4.
  - Q3: Values 0-99. Q3 has to be =<Q2.
  - Q4: Values 0-99. If 0 then go to 6.
  - Q5: Values 0-99. Q5 has to be =<Q4.
  - Q6: Values 1,2.
  - Q7: Values 0-99. Q6 has to be 1. If it is 0 then go to Q9.
  - Q8: Values 0-9. Q8 has to be =<Q7. If higher than 9, then check plausibility
  - Q9: Values 0-99.
  - Q10: Values 0-9. Q10 has to be =<Q9. If higher than 9, then check plausibility
  - Q11: Values 1-8 or “Refusal” or “Don´t know”. If Q1=2 or Q2=0, then Q11 should be answered. Should be moved to the participation module.
- **Characteristics on trips**
  - Q1: String variable. Dropdown list in database.
  - Q2: If Q1=”BiH”, then answer this question. Answer with city/municipal-code.
  - Q3: Format MM YY. Link to reference period (T and T-1)
  - Q4: Number of nights: Values 1-366.
  - Q5: Choose maximum on the basis of what data shows. Q5 should be < than Q4
  - Q6: Only answer. Values 1-14 and “Refusal” and “Don´t know”. Link the type of trip under number of trips with purpose of trips if possible. Example, if no business trips, then the purpose should be private. If Q6=private, then answer Q7. Else go to Q8.
  - Q7: Multiple answers possible for 1-6 or “Don´t know” and “Refusal”.
  - Q8: Transport. Values 1-6 and “Don´t know”.
  - Q9: Booking transport by travel agent: Values 1,2 and “Don´t know”.
  - Q10: Booking transport online: Values 1,2 and “Don´t know”.
  - Q11: Type of accommodation: Values 1-8, “Refusal” and “Don´t know”. If non-rented in (6,7,8), then go to Q14.
  - Q12: Booking of accommodation by travel agent: Values 1,2, and “Don´t know”. If non-rented, then Q12=2.
  - Q13: Booking of accommodation online: Values 1,2, and “Don´t know”. If non-rented, then Q13=2.
  - Q14: Other mode of booking. Only to be answered if Q9=2 and/or Q12=2.
  - Q15: Expenditure participants should correspond with the travel party size. Change in IG, either individual or whole travel party.
  - Q16: If Q9 =1 or Q12 =1, then answer this question. Values 1,2, and “Don´t know”. If value=1, then go Q17, if value=2 or don´t know, go to Q19.
  - Q17: Total cost of package trip. Only to be answered, if Q16=1. Values 1-99999.
  - Q18: At least two answers should be chosen. Multiple answers.
  - Q19: Transport expenditure: Values 0-9999. Don´t know and refusal. If Q16=2, then go to Q20, else go to Q19a.

  - Q19a: Additional transport expenditure apart from package trip expenditure on transport. Q18=1.
  - Q20: Accommodation expenditure: Values 0-9999. Don´t know and refusal. If Q16=2, then go to Q21, else go to Q20a.
  - Q20a: Additional accommodation expenditure apart from package trip expenditure on accommodation. Q18=1.
  - Q21: Expenditure on food and drinks: Values 0-9999. Don´t know and refusal. If Q16=2, then go to Q22, else go to Q21a.
  - Q21a: Additional expenditure on food and drinks apart from package trip expenditure on food and drinks. Q18=1.
  - Q22: Other expenditure: Values 0-9999. Don´t know and refusal. If Q16=2, then go to Q22, else go to Q22a.
  - Q22a: Additional other expenditure apart from package trip expenditure on other. Q18=1.
  - Q23: Expenditure on durable and valuable goods. Q23 has to be <= to Q22 or Q22a. Minimum of 300 KM.
  - Q24: Checking total: Total=Transport + Accommodation + Food and drinks + Other. If package trip, then total=total cost of package + additional transport + additional accommodation + additional food and drinks + additional other. The value reported is to be the individual expenditure, so if the respondent answers on behalf of the whole travel party, then the expenditure should be divided by the number of participants.
  - Q25: If they did not answer the separate expenditure, then please estimate a total expenditure. If Q24=0, then answer Q25. The estimated total expenditure should be broken down by categories by using the proportion of the other responses grouped by similar respondents.
- **Same-day visits characteristics**
  - Copy from trips
- **Income question**
  - Q99: Values 1-8, ”Refusal” and ”Don´t know”
- **Participation module**
- **Correlation between questions (deductive method)**
  - Calculate data minimum, maximum, median, mean value. For example put median number of trips as threshold. If higher, then put a warning.
  - If number of trips is <=5, then number of columns under characteristics of trips should be = to that.
  - If the number of trips is higher than 5, then the weight shall be multiplied with Number of trips total/Number of trips in detail. Group by relevant variables. Proportional principle.
  - If they have at least 1 personal trip, then purpose should be 1-12.
  - If they have at least 1 business trip, then purpose should be 13,14
  - Distribution of domestic and foreign destinations shall correspond on answers on trips home and abroad under number of trips. General rule in the columns.
  - Transport and expenditure
  - Transport and destination. If outside Europe, then by air if missing. What is the most frequent value when travelling in BiH. Use this as imputation measure if missing.
  - If package trip then accommodation has to be rented.
  - If accommodation is rented, then accommodation expenditure should be higher than 0, if they have answered the separate category.
  - If accommodation is non-rented then accommodation expenditure should be 0.
  - If package trip then yes to use of travel agent.
  - If package trip, then package trip expenditure > 0.
  - If transport mode 1-5 and no to package trip, then transport should be higher than 0.
  - Correlation between annual number of trips and annual number of participants. Number of participants should always be =< than number of trips.

  - Outlier detection for accommodation expenditure is calculated by looking at accommodation expenditure/ number of nights spent.
  - Correlation between household members and participants in the trip.
  - Similar controls for same-day visits
  - Match answers in number of trips last quarter with the participation module.
- **Outlier detection: Calculate possible outliers and look at them manually. Impute or keep.**

Annex 4. Quick-guide for demand side survey

1) **Make a budget and secure allocated funds.**
2) **Make a work-plan with the relevant persons from the statistical offices.**
3) **Decide on data collection method: CATI, PAPI, CAPI, web or mixed mode.**
4) **Prepare questionnaire and interview guide for the reference period.**
5) **Hire interviewers, print and prepare IT application for data entry.**
6) **Prepare sample.**
7) **Notify that the survey takes place.**
8) **Prepare the data editing and validation controls in R/Blaise.**
9) **Train interviewers.**
10) **Data collection.**
11) **Data entry.**
12) **Formal and logical controls.**
13) **Outlier and anomaly detection.**
14) **Non-response treatment.**
15) **Imputation and data editing.**
16) **Aggregate data.**
17) **Compare data with other sources and across time.**
18) **Tables for publication**
19) **Make data quality analysis for documentation and for Eurostat.**
20) **Test data with EDIT.**
21) **Disseminate data on a national level and to Eurostat.**

Data editing and validation process