

TWINNING CONTRACT

**Support to the State and Entity Statistical
Institutions, phase V**

Bosnia-Herzegovina



MISSION REPORT

on


Extended household budget survey (EHBS)

Component no 2, Activity 2.5

Mission carried out by Giorgio Della Rocca, Istat

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List of Abbreviations

BiH	Bosnia and Herzegovina
BHAS	Agency for Statistics of Bosnia and Herzegovina
CONCORD	Controllo e Correzione Dati
DEI	Data Editing and Imputation
EHBS	Extended Household Budget Survey
ESS	European Statistical System
FIS	Institute for Statistics of Federation of Bosnia and Herzegovina
HBS	Household Budget Survey
RSIS	Institute for Statistics of Republika Srpska
Istat	Italian National Institute for Statistics
ToR	Terms of Reference

1. General comments

This mission report was prepared within the Twinning Project „Support to the State and Entity Statistical Institutions, phase V”. It was the third mission devoted to EHBS within Component 2 of the project.

The concrete objectives of the mission were:

- Finalizing the acceptance ranges according to the discussion had during previous missions.
- Adoption of the program codes concerning the check of income and investments.
- Applying the DEI procedure to the whole set of HBS core data (without ad hoc modules) in order to have the first statistics and indicators about the impact of the DEI procedure in order to have information for the final tuning of the DEI.
- Adoption of DEI rules for the two new modules on health and social inclusion by involving the main variables.
- Data base cleaned and ready for analysis

The consultant would like to express his thanks to all officials and individuals met for the kind support and valuable information which he/she received during the stay in Bosnia-Herzegovina, and which highly facilitated the work of the consultant.

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 or Istat.

2. Assessment and results

Introduction

- The main objective of this mission was to assist the BHAS, FIS, RSIS staff during the final phase of the DEI procedure on the HBS 2011 related to the CONCORD (SCIA and RIDA modules) software that have been used in the previous HBS surveys (2004 and 2007).
- To analyse the first results of survey, check the DEI report and verify the correct of DEI process.
- To verify the first statistics results on the monthly average expenditure are in line with the survey expectation.

Current situation in data editing and imputation

As described in previous reports the data editing and imputation in two previous HBS surveys was performed using the tailor-made software for data editing and imputation (it consists of CONCORD and additional programs developed in C++) developed in ISTAT. This software was used for data editing and imputation of both categorical and continuous variables. Software uses logical relations among variables (edit rules) for detecting errors in variables and for detecting missing variables as well.

The rules and procedures defined and approved in the previous missions, have been applied relatively on the raw data of Final Interview, Diary and Self Consumption.

The procedure, as a whole, was carried out without any particular problem and the reports generated by the software CONCORD, which contains the percentage of imputation for each variables object of correction, was analyzed to verify the correctness of the DEI process.

A first analysis of the results has highlighted a good quality of DEI process; rare cases of high imputation rates have been found.

Simultaneously with the control of the reports produced by the check plan, a monitoring on the impact of the DEI process on average monthly household expenditure has begun, both on raw data and on clean data, for the following 12 main division of COICOP classification (2 digit).

1	Food and non-alcoholic beverages
2	Alcoholic beverages, tobacco and narcotics
3	Clothing and footwear
4	Housing, water, electricity, gas and other fuels
5	Furnishings, household equipment and routine household maintenance
6	Health
7	Transport
8	Communication
9	Recreation and culture
10	Education
11	Restaurants and hotels
12	Miscellaneous goods and services

The results have been compared with the average monthly household expenditure evaluated in previous surveys: such analysis, however superficial, didn't highlight any particular difference, still, the data should be analyzed, in the next weeks, with more attention

In order to harmonize the 2011 survey data with the 2007 data set, a new nomenclature of the variables was decided, likewise to what was done during the previous survey, where variables have been renamed following the scheme of the paper questionnaire, so as to allow easier identification of the information collected.

Currently new definition of the name variables are provide only for the final interview questionnaire, in the short-term variables name related to Diary and Self Consumptions questionnaire should be updated.

3. Conclusions and recommendations

The meeting has been very fruitful, especially thanks to the work done by the Bosnian team on the DEI before the meeting.

The DEI procedure regarding the expenses on Final Interview, Diary and Self Consumption has been successful carried out and completed.

The analysis of the DEI procedure reports has identified critical points to be submitted to more detailed inspections; in details, for the expenditure in which the imputation percentage assumes significant level the following checks should be performed:

- To verify the position and the length of the variable on the track record.
- To verify the acceptance limits of the ranges

A first comparison of average monthly household expenditure on the raw and cleaned data for the main aggregates of COICOP has shown a good quality of the survey as a whole, even though there are some significant differences, the final estimates are not so different from the estimate of the previous survey.

Moreover, missing the final weight, it can not be defined as a complete and exhaustive analysis of the results.

More precisely, for a complete analysis of DEI process and a serious comparison with the results of previous surveys, the following operations should be carried out:

- To define a new nomenclature of the variables object of analysis in order to harmonize the 2011 survey data with the 2007 one, specially for Diary and Self Consumption questionnaires.
- To define the final weight.
- Analysis of main socio-demographic indicators (Household & Individuals) at level of State and Entity, comparison with the previous surveys.
- Analysis of average monthly household expenditure for classes and groups of COICOP classification (3 digit Groups and 4 digit Class for the Food group) at level of State and Entity, comparison with the previous surveys.
- Poverty estimation and main characteristics of poor households at level of State and Entity, comparison with the previous survey.

The Bosnian team has to implement and develop program codes for the income and investment sections according to the decisions agreed upon during the previous mission; the results of this part of the survey should be analyzed as soon as the final weight is defined.

Concerning the two new modules on health and social inclusion, some statistics about missing items and on the distribution of the main variables should be produced. These are critical modules because they gather subjective information, and it is difficult to check their validity.

4. Topics for the next meeting

The next mission in this component will be mission 4 from the plan. This mission will take place about one month after this mission. The main activities during this mission will be

1. *Analysis of the results and indicators in order to assess the validity of the DEI procedure*
2. *Analysis of estimate and missing values on income and investments data.*
3. *Analysis of estimate and missing values on the two new modules on health and social inclusion .*

4. *Final tuning of the DEI procedure.*

Extended Household Budget Survey (EHBS)
04th to 08th of June 2012
Terms of Reference - Activity 2.5
EU Twinning Project BA 08-IB-FI-03
Institute for Statistics of Republika Srpska Banja luka
Veljka Mladjenovica 12d, Banja Luka

Component 1 Business Statistics

- 1.1. Statistical Business Register
- 1.2. Structural Business Statistics
- 1.3. Construction Statistics
- 1.4. Retail Trade Statistics
- 1.5. Tourism Statistics

Component 2 Extended Household Budget Survey

Component 3 Institutional Capacity

- 3.1. Long term strategy
- 3.2. Metadata and classification system development
- 3.3. Promotion of dissemination

Benchmarks

- A) Previously used methods of data editing and imputation (DEI) revised, DEI methods for HBS 2011 selected for further implementation and the plan for data editing and imputation prepared by 4th project quarter
- B) Procedures for data editing and imputation finished for both categorical and continuous variables by 8th project quarter
- C) Software for DEI developed and implemented and cleaned data base ready for analysis
- D) Necessary documentation for HBS prepared as a basis for first HBS metadata
- E) HBS data analysis revised and possibly improved. Dissemination means improved
- F) Development plan for future production of the HBS and EHBS prepared in the context of other social statistics (LFS, SILC, LSMS, etc.)

2.3. Activity

Data Editing and Imputation III

The expected activities are:

- Finalizing the acceptance ranges according to the discussion had during previous mission.
- Adoption the program codes concerning the check of income and investments.
- Applying the DEI procedure to the whole set of HBS core data (without ad hoc modules) in order to have the first statistics and indicators about the impact of the DEI procedure in order to have information for the final tuning of the DEI.
- Adoption of DEI rules for the two new modules on health and social inclusion by involving the main variables.

- Applying the DEI procedure to the whole set of HBS data (with ad hoc modules) in order to have the first statistics and indicators about the impact of the DEI procedure in order to have information for the final tuning of the DEI.
- Preparation of the list of activities to be done before the next mission
- Preparation of the list of topics for the next mission

Expected output

- DE&I procedures for variables from ad hoc modules on social inclusion designed
- Ranges of acceptances for all HBS variables introduced into DEI procedures
- Data base cleaned and ready for analysis
- Mission report – summarized and detailed version completed
- General and detailed activity plans and draft ToR for the next mission prepared and agreed by all partners (BHAS-BD/ FIS/RSIS participants, experts and RTA)

Explanation of the Expected outputs:

During the third mission significant progress on Data Editing and Imputation was made thanks to improvements from previous missions. Between the third and the fourth mission, statisticians from B&H have prepared basic statistics on missing items from ad hoc modules in order to be able to design DEI rules for them. This work should be checked and further DE&I procedures designed in order to complete the whole process and to be able to go towards the final goal, i.e. clean data base ready for analysis.

List of Participants

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Edin Šabanović, Assistant Director in the Sector for Statistical Methodology, Standards, Planning, Quality and Coordination

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Agenda

Time	Event	Purpose / detail
04 June 2012 09:00-13.00	Welcome	Introduction on the program of the week All participants
04 June 2012 14:00-17.00	Presentations and discussions of the present status of the DE&I. Explanation of the work done by statisticians from B&H in the period between two missions.	BiH participants Experts
05 June 2012 09:00-13.00	Revision of the DE&I procedures from the beginning up to current stage. Discussion	Experts
05 June 2012 14:00-17.00	Further work on DEI procedures.	BiH participants Experts
06 June 2012 09:00-13.00	Adoption of new DE&I procedures related to newly introduced variables and ad hoc modules on social inclusion.	BiH participants Experts
06 June 2012 14:00-17.00	Adoption of new DE&I procedures related to newly introduced variables and ad hoc modules on social inclusion.	BiH participants Experts
07 June 2012 09:00-13.00	Adoption of new DE&I procedures related to newly introduced variables and ad hoc modules on social inclusion.	BiH participants Experts
07 June 2012 14:00-17.00	Discussion about further steps in DE&I work. Next mission-Which topics? What to do for the next mission?	Possible suggestions BiH Participants Experts
08 June 09:00-12:00	Debriefing	Other issues and evaluation of the Mission Experts BiH Participants