

TWINNING CONTRACT

2023/447-234



EU for Further Development of Statistics System in BiH



MISSION REPORT

Activity 4C: Creation of longitudinal weights Component 4: Statistics on Income and Living Conditions

Mission carried out by

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EU FOR FURTHER DEVELOPMENT OF STATISTICS SYSTEM IN BIH



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List of Abbreviations

BA	Bosnia and Herzegovina
BC	Beneficiary Country (Bosnia and Herzegovina)
BHAS	Agency for Statistics of Bosnia and Herzegovina
BiH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
EU	European Union
EUD	European Union Delegation to Bosnia and Herzegovina
FI	Finland
FIS	Institute for Statistics of the Federation of Bosnia and Herzegovina
LA	Language Assistant
MS	EU Member State
RSIS	Institute for Statistics of Republika Srpska
RTA	Resident Twinning Advisor
RTAA	Resident Twinning Advisor Assistant
SILC	Statistics on Income and Living Conditions
ToR	Terms of Reference



Executive Summary

The key focus of the mission was to provide insight into the creation of longitudinal weights. Although most methodological prerequisites are met, several obstacles were identified, including missing cross-sectional weights for later years, and absence of technical code packages. A detailed task list was developed to guide future work, and a methodological memo was delivered to support next steps.

Quality reporting was further discussed, with agreement to advance the national SIMS (single integrated metadata structure) BA-SILC reports and to adopt the updated 2025 EU-SILC SIMS guidelines, if possible. Additional technical topics - including calculation of key indicators, handling non-response, and data validation practices - were revisited.

The mission concluded with five main recommendations. However, subsequent communication with beneficiaries showed that the required population data is actually available, leaving four recommendations for further actions: completing cross-sectional weighting for 2023–2025, selecting program solutions for longitudinal weighting, launching quality reporting in SIMS, and calculating key SILC indicators with standard errors to confirm the meeting of precision requirements.

1. General comments

This mission report was prepared within the EU Twinning Project "Further Development of the Statistics System in Bosnia and Herzegovina". It was the third mission devoted to the Statistics on Income and Living Conditions (SILC) Component of the Project.

The purposes of the mission were:

- Insights into creation of longitudinal weights gained
- Quality reporting (further discussions)
- Evaluation of the actions required after the 2st mission made
- Mission Report with recommendations for future work (outside the scope of the project) drafted

The consultants would like to express their thanks to all officials and individuals from Bosnia and Herzegovina met for the kind support and valuable information, 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, Statistics Finland, Statistical Office of the Republic of Slovenia or The Italian National Institute of Statistics.

2. Assessment and results

The mission was started with a general overview of the current state of production of BA-SILC. Data collection has been successfully completed for years 2022-2025. Data collection for 2026 is in preparation phase, assumable data collection will start in May or June 2026. The 2022 data files have been validated by Eurostat and are ready. The 2023 data files are nearly validated; cross-sectional weights are missing as well as longitudinal weights. The 2024 data is in production phase and the 2025 data in raw data format. One new person has joined the BHAS SILC team since the last mission, his responsibilities being data processing, data compiling and editing.

The targeted actions agreed upon in the last mission were reviewed: Integration of cross-sectional and longitudinal data into the reconciled SILC format has been completed for the available years 2022 and 2023. The following year's data will be integrated into this longitudinal data format as soon as the data processing phase is finished for each year. BA has not calculated essential indicators (AROPE (At Risk Of Poverty or social Exclusion) and components) with own programs for the time being. Efforts to convert Eurostat indicator programs to SPSS language has been done earlier. However, the results calculated with SPSS seemed unreliable because they differed from the results calculated by Eurostat. Eurostat calculates the indicators for BA. New efforts to calculate the indicators will be made in BA.

Insights into creation of longitudinal weights gained

The main topic of the mission was to give insights into the calculation of longitudinal weights. In the beginning an overview of the longitudinal weights and different phases of their construction process was given emphasizing methodological requirements. This enabled the discussion of the current situation of BA-SILC in regard to difficulties to carry out longitudinal weighting when some data sets are not ready for calculation process, how to make the data preparation and mechanism for that purpose and the challenge to create the calibration marginals for longitudinal weighting.

It was decided that MS experts would prepare the list of tasks and contents which are required for the phases of creating the longitudinal weights together with preliminary evaluation based on discussions what are already available in BA-SILC and what are not achieved. At the second day session this list was studied in detail together with some clarifications given by the BA participants.

Although most requirements for the phases were fulfilled, some reasons for not conducting the calculation were found. The lack of cross-sectional weights due to non-finalized data sets after year 2022 prevents the formation of some part of base longitudinal weights. There are no code packages for technical calculation of the different phases of longitudinal weighting. These challenges were identified and it was decided to take action for finding solutions.

A memo by methodological expert Pauli Ollila covering the technical aspects of longitudinal weight construction regarding the BA situation of EU-SILC has been delivered to RTA Niels Madsen for distribution to BA-SILC experts.

Quality reporting (further discussions)

A short presentation on quality reporting was provided first, by reminding the issues which were dealt during the first mission in March 2025 and by updating the source references delivered then, and second, by highlighting topics which could be further discussed in the current mission. The decision to proceed concretely with the national SIMS FI-SILC 2024 report with concentrating on the methodological concepts, was taken. The SIMS 2025 EU-SILC guidelines, which Eurostat updated recently, were introduced to the discussion. From BA side it was announced that the BA-SILC national metadata file has been updated in general.

Discussions on quality reporting was continued on the second day of the mission, as support for the discussion FI SIMS reports were downloaded from CIRCABC. Established processes and practices from FI quality reporting were given as examples. It was emphasized to use SIMS guidelines, where thorough instructions for EU-SILC quality reporting are given. Eurostat can be contacted concerning BA access to the metadata handler.

Other topics

Calculation of main SILC indicators were shortly discussed. The indicators with standard errors are mandatory to attach to the quality reporting as part of precision requirements. FI explained how they use preliminary calculated indicators to validate their own data and assess the plausibility of the results. The indicators are also calculated with national definitions for total income for national disseminating purposes, giving slightly differing figures compared to EU-SILC figures. Also, other topics related to SILC data collection, processing and validation were discussed, such as follow-up of households, dealing with partial non-response and outliers, and validating the results by comparing with other statistics on the same topics.

3. Conclusions and recommendations

Recommendation 1: The cross-sectional procedure should be carried out for EU-SILC year 2023 and later for years 2024 and 2025 when the data are ready. The cross-sectional weights are used in the beginning panels for the construction of the key longitudinal weights.

Recommendation 2: Program solutions should be chosen for longitudinal weighting to be finally carried out. Some generic solutions of other offices (e.g. Statistics Finland) for different tasks can be adopted in the SAS form and then converted to the R form by artificial intelligence. Finally, the calculation of longitudinal weights can be carried out by BA.

Recommendation 3: The BA-SILC quality reporting should be launched in ESS SIMS (Single Integrated Metadata Structure, SIMS). The prerequisites are that the EU-SILC SIMS guidelines updated by Eurostat in CIRCAB for the survey year are properly reviewed, and a process for quality reporting is designed, and tools available for reporting are chosen. The 2025 EU-SILC SIMS guidelines will be adopted for the 2025 survey reporting, however, the referred source information, if relevant, can be utilized in advance. Establishing the quality report for the first time requires a significant amount of work and effort, as well as collaboration between persons working with BA-SILC. The following years the work will be easier, when mainly updates on yearly changes have to be made.

Recommendation 4: It is highly recommended to calculate main SILC indicators and standard errors in order to report the compliance with the preciseness requirements (EU Regulation 2019/1700 Annex 2) in Annex – 8 Breaks in time series along with the data transmission. Key SILC indicators: at-risk-of-poverty or social exclusion (AROPE), at-risk-of-poverty rate, and at-risk-of-persistent-poverty rate.

Annex 1. Terms of Reference for the current mission

Terms of Reference

EU Twinning Project BA 19 IPA ST 01 23

Component 4: Statistics on Income and Living Conditions

Timing:

24 March 10 a.m. – 26 March 3. p.m. 2026

**Venue: TBD, Sarajevo,
Bosnia and Herzegovina**

Activity 4C: Creation of longitudinal weights

Initially, the Project was supposed to assist on utilizing administrative data (AD) sources for the compilation of indicators on wages and salaries. However, since this topic is also on the agenda in the AD project, the BC has requested to change the content and, consequently, the results in the Twinning Project. The new requested subject is EU SILC (Statistics/Survey on Income and Living Conditions) focusing only on the survey part (Living Conditions), as the indicators for income will be covered by the AD project.

The Project will provide expert assistance in the processing of EU SILC research (production of quality reports, assistance in the preparation of longitudinal weights, assistance in the calculation of basic indicators).

1. Mandatory results

Preparation of quality report.

Creation of longitudinal weights.

Calculation of SILC indicators.

2. Purpose of the activity:

- Insights into creation of longitudinal weights
- Quality reporting (further discussions)
- Evaluation of the actions required after the 2st mission
- Mission Report with recommendations for future work

3. Expected outputs of the activity:

- Insights into creation of longitudinal weights gained
- Quality reporting (further discussions)
- Evaluation of the actions required after the 2nd mission made
- Mission Report with recommendations for future work (outside the scope of the project) drafted

Annex 2. Persons met

BHAS:

- Zlatan Hadžić, Expert Advisor for the Statistics on Income and Living Conditions (SILC)
- Jasna Hadžić, Head of Department for sample design and methodology
- Muamer Aganović, Department for sample design and methodology

FIS:

- Hidajeta Colovic, Assistant Director
- Mirza Omanić, Unit of the living conditions
- Edina Mehidić, Unit of the living conditions

RSIS:

- Biljana Tešić, Unit of employment and social statistics
- Vedrana Dejanović, Senior Statistician (online)

MS Experts:

- Sonja Bärlund, Statistics Finland
- Marie Reijo, Statistics Finland
- Pauli Ollila, Statistics Finland

RTA Team:

- Niels Madsen, RTA
- Damir Omeragić, interpreter
- Senka Ahmetovic-Palic, Language Assistant

Signatures

For the approval of the contents of this report, representatives from BHAS, FIS and RSIS as well as MS experts and the RTA sign here:

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