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1. STATISTICAL PROCESS AND STATISTICAL OUTPUTS

1.1 The purpose of the survey

The Labor Force Survey is a survey that measures the economic activity of the population over a short period of seven days. The LFS represents research conducted to gather data on the basic characteristics of a working-age population, based on which the total labour force in the country is reviewed, together with data on demographic and educational characteristics of household members by sex. The survey provides information on employment, unemployment, underemployment, the characteristics of the main and additional job and the work that the person has done in the past, then data on occupation, activity, time of work, duration of employment, education and further training, job search etc.

The main goal of the survey is to gather data on the three main, mutually exclusive segments of population: the employed, the unemployed and the inactive. Collected data allows the calculation of the most important indicators of the labor market situation and the state of the economy of a country, namely the activity rate, employment rate and unemployment rate.

1.2 Legal basis and responsibility of statistical institutions

The Labor Force Survey is conducted in accordance with the following national legal regulations:

- Law on Statistics of Bosnia and Herzegovina (BiH Official Gazette no. 26/04 and 42/04);
- Law on Statistics in the Federation of BiH (FBiH Official Gazette No.63 / 03 and 9/09);
- Law on Statistics of the Republic of Srpska (RS Official Gazette 85/03);
- Multi-annual statistical programs and annual work plans of BiH and the Entities.

The Labor Force Survey is conducted in accordance with the following EU regulations:

- Council Regulation (EC) no. 577/98 of 9th March 1998 on the organization of the LFS in the EU (OJ No L 77/3);
- Regulation (EC) no. 1372/2007 of the European Parliament and of the Council of 23th October 2007 amended by Council Regulation (EC) no. 577/98 on the organization of the LFS in the Community;
- Regulation (EC) no. 2257/2003 of the European Parliament and of the Council of 25th November 2003, amended by Council Regulation (EC) no. 577/98 on the organization of the Labour Force Survey in the Community and adapting the list of survey variables (OJ No L 336/6);
- Regulation (EC) no. 1991/2002 of the European Parliament and of the Council of 8th October 2002 amended by Council Regulation (EC) no. 577/98 on the organization of the Labour Force Survey in the Community (OJ No L 308/1):
- Regulation (EC) br.1897 / 2000 of 7th September 2000;
- Other set of regulations for the implementation of LFS.

This survey is a joint project of three statistical institutions in Bosnia and Herzegovina (Agency for Statistics of Bosnia and Herzegovina, Federal Institute for Statistics and Republika Srpska Institute of Statistics), that worked as a team on the development of instruments for the implementation of the Labour Force Survey (methodology, instructions, questionnaires, data entry and processing program), its implementation on the field, treatment (every statistical institutions for their area) and data analysis.

1.3 Classifications used

The classifications used are in accordance with international and EU standards. In the encoding and processing of data gathered in this Survey, the following classifications were used:

- Classification of activities KDBiH 2010, that is comparable to the classification of activities by the United Nations (ISIC Rev.4) and the classification by the European Union (NACE Rev.2),
- Classification of occupations KZBiH-08, that is comparable to the International classification of occupations (ICSO-08),
- Classification of the professional status of the employed, that is comparable to the international classification of employment statuses (ICSE),
- Classification of the levels of education, that is comparable to the International standard classification of education (ISCED 2011),
- Fields of education and training classification (FOET 2013).

1.4 Reporting unit

The reporting unit is a member of an selected household in the sample. A household member is not considered to be a person born after the end of the reference week. A household member is considered a person who was alive in the reference week and who subsequently died.

1.5 Statistical observation unit

The observation unit of the survey is a household living in a housing unit randomly selected to the sample. Demographic data are collected for all household members, while data on activity are collected for all household members aged 15 and over. The determining criterion for which persons age 15 and over the data on labor activity should be collected is the presence of household members in the last 12 months in relation to the reference week.

1.6 Coverage

Due to massive demographic changes in the population, data from 1991 census in BiH were not used as a sample frame for LFS. In order to carry out household-based survey, households were listed in the selected census areas during 2003. The result of this activity is a frame of households, called the Master sample, used for sampling the Labor Force Survey and for all other household-based surveys.

The sample frame for sampling encompasses 1,417 enumeration areas with 67,947 households who agreed to respond after direct contact. Sample for the Labour Force Survey 2017 was selected from the Master Sample. The sample size for the Labour Force Survey 2017 covers 10,629 households, of which 6,196 households in the Federation of Bosnia and Herzegovina, 3,376 households in Republika Srpska and 1,057 households in Brcko District BiH. The sample includes private households. The survey does not include collective.

Sample design for the Labor Force Survey is a two-stage stratified cluster pattern. In the first stage were selected enumeration areas from the Master sample by a simple random sample within the stratum. Stratification was done by entities (including the Brcko District of BiH) and type of settlements (urban and other). In the second phase, within the selected enumeration areas, a selection of households was made. That is why we say that the sample is designed as a stratified two-stage random sample with 6 strata.

1.7 Statistical concepts and definitions

The working-age population includes all persons aged 15 and over and is divided into two categories: economically active population or labor force (employed and unemployed persons) and economically inactive population.

Employed persons are persons aged 15 years and over who worked at least one hour for a salary or fee during the reference week, regardless of their formal status or did not work during the reference week and have the job to which they intend to return.

According to the EU definitions, applied in the survey, people have a job to come back if their absence from work lasts up to 3 months (including 3 months), or if it lasts longer than 3 months, and during that time they receive a salary in the amount of 50% or more. Those persons are considered as employed. Absent from work due to illness, pregnancy or maternity leave are included in the employed persons, regardless of the length of absence from work.

The contingent of employed persons consists of: *employees* (employed persons who perform work for a wage or salary), *self-employed* (employers who are owners of a business enterprise and employ one or more employees and the persons self-employed without employee/employees and work for their own account) and *unpaid family members* (household members working in the family business and for their work do not receive a salary).

The underemployed persons are the persons who work less than full time and would like to work more and are willing to accept more work in the next two weeks (within their present work, with additional work or other-a new job).

The unemployed are persons of 15 years or more and who did not performed any work for wage or salary in the reference week, nor did they have a job to return to, who were actively seeking job during four weeks (the reference and three preceding weeks) or who were not seeking job because they found a job which will start work in a period not exceeding three months, are available for work, ie. could begin work during the next two weeks if they are offered a job.

Inactive population includes all persons aged 15 years and over who are not classified as employed or unemployed. These are people who in the reference week did not work (performed activity), and that during the four weeks (the reference and three preceding) did not seeking job, as well as people who are not ready to start work in the next two weeks, if the job was offered.

Discouraged inactive persons are persons who are not seeking for job during the reference week, because they are convinced that they can not find a job, even though they want to work and are ready to start work in the next two weeks if they are offered a job.

The above-mentioned statuses are the statuses of the interviewed persons under the definitions of the International Labour Organisation (ILO) and the working status of the interviewed persons under their own opinion is subjective working status.

Basic indicators that are derived from the Labour Force Survey are:

- Activity rate: is the percentage of labour force in the total population of working age.
- Employment rate: is the percentage of the employed persons in the total population of working age.
- Unemployment rate: is the percentage of the unemployed persons in the labour force.

2 RELEVANCE

2.1 Users of statistical survey data

The Labor Force Survey meets the needs of data users because it is prepared in accordance with EU standards and recommendations of the International Labor Organization (ILO). The survey data are comparable at international level.

2.1.1 Key users of statistical survey data

The key users of the survey data are:

- Internal users: statisticians from other statistical domains;
- National beneficiaries: governments at all levels, ministries, other state institutions, economic institutes, faculties, scientists, labor market analysts, media;
- International users: Statistical Office of the EU (EUROSTAT), World Bank, International Labor Organization (ILO), UNDP, UNESCO, UNECE, OECD, European Training Foundation (ETF), USAID, Embassy.

2.1.2 Assessment of users needs

The Labor Force Survey is prepared in line with international standards and recommendations and meets the needs of domestic and international users. The academic community and the scientific research institutes use the data from the survey for scientific research projects and papers in order to develop and implement the recommendations of relevant institutions to improve the position of the labor force, especially the unemployed in BiH. Government institutions that work on labour market projections, employment agencies and ministries of all levels of government dealing with civil society issues, human rights and employment policies use the data from the survey to identify the necessary improvements in their labor market performance. International users use data from the survey for systemic and user-oriented overview of internationally comparable LFS indicators and for international research projects aimed at developing and improving the labour market position.

2.1.3 Assessment of the perception and user satisfaction

One of the key elements in securing the quality of statistical data is monitoring users satisfaction. The User Satisfaction Survey was conducted 3 times, in 2011, 2014 and 2017. According to the results of the last User Satisfaction Survey, the largest number of respondents were interested for statistics on the area of population statistics (58,3%) and area of employment and salaries statistics in which also belongs the Labor Force Survey (50,0%).

2.2 Completeness of data

2.2.1 Data completeness rate (R1)

The Labor Force Survey has been prepared on the basis of regulations of the European Commission No. 377/2008. According to the regulation number 377/2008 rate of available statistics is 100%, which means that it covers all mandatory variables on which statistics are calculated.

The mismatch applies only to the periodicity of the survey. According to regulations it is required continuous conduction of the survey during the year, with quarterly production of results, while in BiH survey is conducted once a year.

3 THE ACCURACY AND CLARITY

3.1 Sampling errors

3.1.1 Sampling error (A1)

Coefficients of variation and confidentiality intervals are calculated and published for the following statistics and/or variables: total population, working age population, labour force, employed persons, unemployed persons, inactive persons, persons under the age of 15, persons aged 15-64, activity rate, employment rate and unemployment rate.

1. Confidentiality intervals for principal characteristics of the population by activity, LFS 2017, BiH

	Estimation (000)	Standard deviation	Lower 95% CL	Upper 95% CL	Coeff of Variation %
1. Total population (3+6+7)	2,734	71	2,595	2,873	2.6
2. Working-age population	2,407	61	2,288	2,527	2.5
3. Labour Force (4+5)	1,026	30	967	1,085	2.9
4. Employed persons	816	25	767	864	3.0
5. Unemployed persons	211	9	192	229	4.5
6. Inactive	1,381	35	1,312	1,450	2.5
7. Persons under 15 year of age	327	13	301	352	3.9
8. Persons age 15-64	1,827	51	1,728	1,927	2.8
Rates %					
Activity rate	42.6	0.5	41.7	43.6	1.2
Employment rate	33.9	0.5	32.9	34.8	1.4
Unemployment rate	20.5	0.7	19.2	21.8	3.3

3.1.2 Activities to reduce the sampling errors

Sampling errors for key indicators (employment rate, unemployment rate, activity rate at the BiH and entity levels) are quite acceptable, except, perhaps, for Brcko, which is a small territory (although the sample was enlarged). A higher reliability of other indicators or of those key ones, on more detailed levels though, is possible in the present situation only if the sample size is increased (as it is not possible to conduct a reliable and more precise selection of a sample). On the other hand, it will not be necessary to increase the sample size in a situation in which the census data, which will enable a different sample design and a targeted selection of population, will be used as a sampling frame.

3.2 Non-sampling errors

3.2.1 Non-sampling errors - Coverage errors

3.2.1.1 Over-coverage rate (A2)

The over-coverage rate is the share of units available within the sample frame that are not part of the target population. Since we usually do not consider all frame units, but only selected in the sample, we need that share to estimate the data on the (non) relevance of the unit in the sample. One of the reasons for over-coverage is the time difference between Master sample update and sample selection.

This enables inclusion of households in which no one resides (empty housing units) which is a problem, as it changes the non-response rate that affecting the weights and the estimates. According to LFS 2017 data, 953 housing units were found in the sample and they were not found in the field, or they were empty or destroyed, or they were used for business purposes. Therefore, the over-coverage rate is 9%.

3.2.1.2 Joint units share (A3)

This survey does not combine data from two or more sources.

3.2.1.3 Errors of under-coverage

One of the reasons for under-coverage is the time difference between updating the Master Sample and sample selection. In this way, households living in dwellings that are formed after the Master Sample update or are not listed for any reason during the Master sample update in 2009, which should be within the sample selection frame.

3.2.1.4 Measures to reduce coverage errors

Basic measures to reduce coverage errors involves regular updating the Master Sample, using data from the Population Census for a sample selection, as well as the use of administrative registers relating to population.

3.2.2 Non-sampling errors - Errors of measurement

For the LFS 2017, the data were collected using the PAPI method, through paper questionnaires where there is no possibility of automatic control and verification of questions or answers. Therefore, there are possible errors due to the work of the interviewer. The resulting errors are reduced to an acceptable minimum by taking actions such as regular instructing. Before accessing the data entry, the paper forms are visually checked and if some irregularities are detected in the data, which cannot be corrected by other data, the person in charge of this control establishes a telephone contact with the household and takes the information to correct the data in the questionnaire. Controls are implemented in the Blaise program for data entering, which reduces errors caused by data entry. When data is entered into the electronic database, the data are controlled for the second time and the logical and computational controls are included. If the data that does not meet the pre-defined control is entered, the entry is disabled until a corrected data is entered (so-called "Hard" control). If necessary at this stage is again contacted household by phone in order to correct the data. There are only a small number of controls that are warning bud do allow the entry of data which are not in accordance with the defined control (so-called "Soft" control).

At the very beginning of the data entry from the questionnaire, it is verified whether is the household included in the survey sample is. It is not possible to enter data for a household which is not selected in the sample. Also, it is not possible to enter one and the same questionnaire twice. During data processing, detailed logical-computational control of all responses is performed. Within the form, there are certain links between the data defined by the control. In addition to the data collected about individuals who provided data (data on response to LFS 2017), data on non-response are also collected. These are data relating to households which are not provided data and these data are entered through separate software in a separate database. The sum of households from these two databases (response and non-response) must match the total number of households selected in the sample for the LFS 2017.

3.2.2.1 *The reasons for the occurrence of errors of measurement*

The reasons for the occurrence of measurement errors can be:

- the design of the instruments of the survey (questionnaire, instructions, a list of households),
- rejection of data providers,
- the influence of interviewers on a respondents.

Measurement errors are possible at the stage of data collection due to lack of understanding of questions by respondents, particularly the elderly or for giving responses by another household member. The most common mistake which was made by interviewers is filling in the wrong column, ie. fill in data for particular respondent in the second column.

3.2.2.2 *Measures to reduce the number of errors of measurement*

Specialized training of interviewers is an important phase in this survey, as it allows interviewers to properly treat all the questions on the form which results in fewer incorrect responses. Training is held every year, before the start of fieldwork. On the training interviewers get a full methodological material with all the explanations. During the fieldwork each interviewer has its own controller that can help him in all situations in which requests assistance. The connection between controller and interviewer continues after the fieldwork. Special attention on the training and during field work is given to interviewers who work for the first time on implementation of the survey.

3.2.3 *Non-sampling errors – Non-response errors*

3.2.3.1 *Units non-response rate (A4)*

The non-response rate in the Labor Force Survey 2017 is 25.4%.

1. **Non-response rate by type of settlement**

Type of settlement	Non-response rate (%)	Number of households who responded	Number of households who did not responded	Total sample
Urban	30.6	3,216	1,418	4,634
Other	21.5	4,709	1,286	5,995
Total BiH	25.4	7,925	2,704	10,629

2. Reasons for unsuccessful interviewing

Reasons for unsuccessful interviewing	BiH	% share in non-response	Rate according to type of non-response (%)
Address does not exist in the field	99	3.7	0.9
Empty apartment	782	28.9	7.4
Devastated apartment	52	1.9	0.5
The apartment is used for business	20	0.7	0.2
Absent household	871	32.2	8.2
The household refuses to be questioned	788	29.1	7.4
Other	92	3.4	0.9
Total BiH	2,704	100.0	

3.2.3.2 Item non-response rate (A5)

The Labor Force Survey 2017 is designed in such a way that questions in the survey questionnaire, from which key variables are derived, have to be fulfilled. Reporting units have to provide data for variables and that's why the variable non-response rate is not calculated. This is provided by the filters/ jumps that the majority of questions in the questionnaire contain and which disable further interviewing if there is no answer to any of the questions.

3.2.3.3 Procedures in the case of non-response

In case of the non response by household (either the household was not found at the address or refused to participate in the survey for any reason) no missing values are imputed. Rather, correction is introduced by weighing (correction of the initial non-response weights). If the data is missing, ie there is no answer on some questions (about certain variables), a telephone connection with the household member is established and missing values are entered. Exceptionally, if you fail to establish a telephone connection, the value of the variable is estimated based on historical data. The survey was designed in a way that (with regard to the use of filter-jumps in most questions) there is no possibility of non-response on some of the questions. Inadequate response values appear on certain questions and in this case imputation is made. In the case of inadequate answers to the question imputation is made depending on the type of questions. According to that, imputation is only made on questions relevant to the variables for publication such as: length of job search, work hours, etc. Continuous variables usually apply the average or medium process in the observed groups eg for a particular age, a certain school A degree of interest, etc. For categorical variables, either historical data (previous year survey) or logical conclusion (if these are a few) or hot-deck method are used.

3.2.3.4 Methods for reducing the rate of non-response

In order to reduce the rate of non-response for subsequent surveys, it is needed to use a more up-to-date sample frame - either a population census base or a regular and updated Master Sample. Also, writing more precise methodological explanations relating to a specific question (variable), better training of interviewers, public awareness about the Survey etc. can contribute to reducing the rate of non-response.

3.2.4 Imputation

3.2.4.1 Imputation rate (A7)

The share of imputed data is very small, about 0.1%. In the current procedures, it is not possible to see which variables are imputed, meaning that quality indicators such as imputation cannot be calculated directly but can only be estimated.

3.2.5 Revisions

3.2.5.1 Average size of data revisions (A6)

Since there was no difference between the first and the final results, the indicator is not calculated for the survey.

4 TIMELINESS AND PUNCTUALITY OF PUBLISHING

4.1 Timeliness

4.1.1 Time lag of first results (TP1)

Reference period	03 th -09 th April 2017
Date of publishing of the first results	11 th June 2017
Time gap (number of months)	T+3

Time lag of first results is T + 3.

4.1.2 Time lag of final results (TP2)

Reference period	03 th -09 th April 2017
Expected date of publishing	October 2017
Actual date of publishing	November 2017
Time gap (number of months)	T+7

Time lag of final results is T + 7.

4.2 Publishing punctuality

4.2.1 Publishing punctuality (TP3)

The punctuality of the first results is T + 0, while the punctuality of the final results is T + 10. When the final results of the Labor Force Survey 2017 were published, a delay of 10 days was recorded.

4.3 The reasons for the major delays and measures to improve the timeliness and punctuality

In publication of the LFS 2017 results there was no delay.

5 COHERENCE AND COMPARABILITY

5.1 Coherence

5.1.1 *Coherence between different sources, coeff.(CH1)*

Data on the number of employed persons from the Labor Force Survey can be compared with data on the number of employed persons who are collected by conducting a Monthly statistical survey on employees and their wages RAD-1 and statistical survey on individuals - self-employed persons and persons which are employed by them (RAD-15).

According to the Labor Force Survey 2017, the number of employed persons was 815,659, while the number of employed persons collected by conducting a Monthly statistical survey on employees and their wages in April 2017 was 741,774 persons. The number of employed persons as a result of the LFS is 9.9% higher than the number of employed persons as a result of a reference related statistical survey RAD-1 and RAD-15 for the month of April 2017.

The number of unemployed persons as a result of the Survey conducted in 2017 was 210,678, while the number of unemployed persons collected on the basis of official records of unemployed in the employment bureaus, amounting to 495,405 persons, indicating that the number of unemployed persons in the Labor Force Survey 2017 is lower by 42,5% of the number of unemployed people obtained as a result of a reference related research.

5.1.2 *The reasons for the significant deviations*

The definition of the labor force in the Labour Force Survey is based on the objective, the actual inclusion in the labor market, while the definition on data from administrative records is based on the formal (registered) status of labour force. This implies that the administrative data include only registered employees, while survey covers total of employment, which is based on the status of persons in the activities in the observed week (the last week). More precisely, the Labour Force Survey includes, in addition to formally employed persons, the categories of employees that are not covered by administrative sources, such as: self-employed in agriculture, unpaid family members, employees of contractors, temporarily or occasionally employed and employed in the informal economy.

5.2 Comparability

5.2.1 *Asymmetry for mirror flows statistics, coeff. (CC1)*

The coefficient of asymmetry (discrepancies) is not calculated for the Labour Force Survey.

5.2.2 *Length of comparable time series (CC2)*

The length of comparable time series for the Labor Force Survey is 12 years, since the survey is conducted once a year in the spring since 2006.

5.2.3 *Interruptions in the time series*

There were no breaks in time series.

5.3 Geographical comparability

5.3.1 Comparability with other members of the European Statistical System

The comparability of data from the Labour Force Survey in the other European countries is provided, because the LFS 2017 was made on the basis of Regulation EC No 577/98, 377/2008 and 1897/2000. However, in EU member states a survey is carried out continuously throughout the year, with the development of quarterly and annual results, while in Bosnia and Herzegovina survey is conducted once a year due to resource constraints, and the non-compliance relates only to the periodicity of implementation.

6 ACCESSIBILITY AND CLARITY, DISSEMINATION FORMAT

6.1 Press releases with published data

The preliminary results of the Labor Force Survey 2017 have been published in a press release, which can be found on the BHAS's web site at the following link:

http://www.bhas.ba/ankete/ARS_2017G12_001_01_bos.pdf

6.2 Publications with published data

The final results of the Labor Force Survey 2017 are published in a publication that can be found on the BHAS's web site at the following link:

http://www.bhas.ba/tematskibilteni/TB_ARS%202017_BS_ENG.pdf

6.3 On – line data base

The on-line database for the Labour Force Survey 2017 is not available.

6.4 Access to microdata

Access to micro-data for research purposes is enabled and data is provided exclusively through protocols that imply that users must indicate the purpose of using micro-data and sign a memorandum of understanding. Micro data for Labor Force Survey 2017 have not been submitted to Eurostat, except for a set of basic indicators in predefined tables upon the request.

6.5 Accessibility of methodological documentation

Files with metadata are not available. The basic information on this survey is an integral part of each publication. Also, more detailed survey information can be found in the document "Report on the sector review of the Labor Force Survey in BiH", which is available on the BHAS's website at the following link:

http://www.stat.gov.ba/dokumenti/1231052_SR_Report_LFS_BiH_18.12.2014.pdf

6.6 Measures to improve the user-friendliness

The results are clearly disseminated.

6.7 *Data set consultations (AC1)*

We have no information on the number of user consultations in 2017.

6.8 *Metadata consultations (AC2)*

The metadata in the form of ESMS reference metadata for this research is not on the web page. So there was no metadata consulting - web pages hits.

6.9 *Metadata completeness rate (AC3)*

Metadata completeness rate is 93,6%.

7 COSTS AND RESPONDENTS BURDEN

7.1 Costs of statistical survey conduction

We do not have accurate information on annual operating costs by major cost components.

7.2 Respondents burden

We have no precise information on the annual respondents burden.

7.3 Measures to reduce costs and burdens

The measures that should be taken to reduce the cost and burden of the reporting units are as follows:

- Reduce the number of contacts with the reporting unit
- Use of Census of population, households and dwellings database as a sample selection frame, which would reduce the frequency of participation of the same households in surveys
- Use of administrative data.

8 CONFIDENTIALITY

8.1 Confidentiality – policy

Confidentiality of statistical data is regulated by law and the personnel conducting statistical surveys has the legal obligation to protect confidentiality. Law on Statistics of BiH (Off. Gazette of BiH 26/04 and 42/04 - Chapter XI - Article 23.-29.) establishes the principle of confidentiality as one of the main principles. Agency for statistics of BiH distributes statistics in line with statistical principles of the European Statistics Code of Practice and in particular with the principle of statistical confidentiality.

8.2 Confidentiality – Data treatment

By signing the Memorandum of Understanding, data users having access to individual data are obliged to:

- treat individual anonymized data as confidential in accordance with the rules, regulations and procedures,
- ensure adequate protection of individual data in accordance with the rules, regulations and procedures,
- protect the transfer of microdata and destroy the media where the data are, as well as the accompanying documentation, five days after the publication of the results.

9 STATISTICAL PROCESSING

9.1 Data source

Survey is based on a sample of selected households as observation units. Population census bases or population registers are usually used for the sample frame of households. The last census in BiH was conducted in 2013 and still is not used for the sample frame. The sample frame used for the survey is a household database updated in 2009. With this project data on all households in 1.499 randomly selected enumeration areas were collected. Data on 80.069 households in BiH are collected. Those households comprise the Updated Master Sample which is the base for sampling of all households surveys on the territory of BiH.

However, as sample frame for the Labor Force Survey, a part of the Updated Master Sample was used, 67,974 households who were directly contacted and agreed to provide the data. From this frame, which was stratified in its design by entities (including the Brcko District of BiH) and type of settlement (urban and other), a selection of 10,629 households for BiH was made. Therefore, it is said that the sample is designed as a stratified two-stage random sample with 6 strata (two for entities and two for Brcko District BiH).

9.2 Frequency of data collection

Data on Labor Force Survey are collected once a year in the spring in the month of April.

9.3 Data collection

Data on the Labor Force Survey are collected through the PAPI method via paper form questionnaires. The data are collected directly from all household members in the household selected in the survey sample via interviews. The survey responses are given by every household member separately, for himself or herself, and for children below 15 years of age by the child's parent or guardian. One member, a head of the household or the most knowledgeable household member, may give responses for all members of the observed household. The participation in the survey is voluntary, and the questionnaire used for the Survey emphasized the confidentiality of individual data.

Field work was organized in cooperation all three statistical institutions in BiH. Agency for Statistics of BiH, Federal Institute for Statistics and Republika Srpska Institute for Statistics engaged about 240 accredited interviewers for the purpose of data collection.

9.4 Data validation

In order to ensure the quality of the data, prior to the publication of the data, the evaluation and verification of source and output data is performed. For the purposes of data validation, the comparison of the survey results with the previous years, the calculation of the response and non response rate is performed.

9.5 Data compilation

Data entry, analysis and data processing of the survey material was done decentralized: Agency for Statistics of BiH entered, processed and analyzed survey material from the Brcko District of BiH, while the Entities are obliged for entering information, processing and analysis of its survey material.

In case of the unit nonresponse (either the household was not found at the address or refused to participate in the survey for any reason) no missing values are imputed. Rather, correction is introduced by weighing (correction of the initial non-response weights). In case of non-response by one household member (refusal by a household member to participate in the survey, in LFS2b in particular) imputation is not done (there were no such cases in 2017). In case of an item non-response, imputation is done, depending on the type of question. Imputation is done only on the variables which are important for the purpose of developing a publication, such as the job search length, an average number of work hours, etc. In case of continuous variables, the breakdown or median procedures apply in the observed groups, for example, for a certain age group, certain qualifications, certain professions, etc.

In case of categorical variables, either historical data (if any, e.g. from the survey conducted last year) or a logical conclusion (if such cases are rare) or a hot-deck method are used. Sometimes a subsequent telephone contact is made once the data processing stage has been reached as the field work ended over a month ago.

The first step to be taken in order to estimate the unknown parameters of the population is to calculate initial weights. An initial weight represents a reciprocal value of probability of the selection of the given unit in the sample. In case of a stratified random sample, in which in stratum h n_h units were selected to the sample, while there is a total N_h units in the stratum, the probability of the selection of a unit of that stratum is equal to n_h / N_h , and an initial weight is equal to N_h / n_h . Bearing in mind that in every statistical survey, no matter how carefully it is carried out, non-sampling errors of different types occur, it is necessary to calculate corrective factors of initial weights.

The corrective factors are used, for example, to increase selectively initial weights of the units which belong to a response within the survey, so that they represent also the units in the population which are classified as non-response. The basic assumption of this kind of correction is that the non-responding units of the sample are, under the key survey parameters, similar to the responding ones within the survey. If in case of a stratified sample there is a response m_h out of a total of n_h selected in the sample, in stratum h , then the initial weight correction factor is equal to n_h/m_h .

In the LFS an initial weight for a household in one of the six strata, is, in fact, a reciprocal value of the product of three factors: probability of the selection of the primary sampling unit (enumeration areas), the probability of selection of a secondary sampling unit (households) and the rate of selection of the type of sample (because instead of the entire Master Sample, only the portion of households which were directly

contacted and agreed to answer questions was taken). Correction for non-response is done at each of the six strata.

Additional corrections, such as calibration, post-stratification, are not done as there are no good external sources to be used for that purpose. Controls which prevent entries of computationally and logically erroneous data into the database are built into the survey data entry software programme. Those are mainly "HARD" controls which are warning and disabling the entry until correct data are entered. This way of entering the data ensures a base with logically and computationally clean data following the data entries.

The Survey was based on a sample of selected households as unit of observation. For the sample frame is usually used the base of population census or population register. The last Census in BiH was carried out in 2013, but it is still not implemented as a sample frame. For the sample frame updated database of households in 2009 was used. With the support of UNDP, it was prepared and implemented the project named Updating Sample Frame in BiH, for which funding was provided by the UK government, through its Department for International Development (DFID). This project was done by collecting data on all households that were located in 1.499 selected enumeration areas. Data were collected on about 80.069 households that make up an Expanded Master Sample and serves as a basis for selecting a sample for all household - based surveys carried out within the territory of BiH. However, a part of the Expanded Master Sample was used as a frame for the LFS, or more precisely, all the households which were contacted directly and agreed to provide data - 67.974 households. From this framework (which was in its design stratified by entities and Brcko District BiH) and type of settlement (urban and other) were selected 10.629 households in BiH, of which 1.057 for Brcko District BiH. That's why we say that the pattern is designed as a two-stage stratified random sample where we had six strata.

9.6 Adjustments

9.6.1 Seasonal adjustment

As the Labor Force Survey is conducted once a year, seasonal adjustment is not done.