



Quality Report for
STRUCTURAL BUSINESS
STATISTICS (ANNEXES I – IV), 2012

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1. Introduction into the statistical survey and its output – Survey methodology

1.1. Purpose and periodicity of survey implementation

The aim of statistical activities carried out as part of structural business statistics (SBS) is to provide annual indicators necessary for the analysis and monitoring of business activities of market producers. Produced data are used for the analysis of structure of active market enterprises by activity and structure of factors used in the production process, as well as for the analysis of business profit and losses and competitiveness of enterprises and the analysis of business developments at the state and international levels.

Structural Business Statistics data represent important inputs for estimates and calculation of macroeconomic aggregates in the National Accounts, for weights calculation for calculation of indices in short-term statistics, as well as for data updating in the Statistical Business Register.

The compilation of SBS variables and indicators, i.e. the production of structural business statistics in the sections services, industry, trade and construction (Annexes I, II, III, IV) has been carried out regularly since 2010, in accordance with the basic EU Regulation 295/2008 and implementing regulations 250/2009, 251/2009 and 275/2010.

1.2. Legal basis and responsibility of statistical institutions

Structural Business Statistics (SBS) activities are carried out in accordance with the Law on Statistics of Republika Srpska ("Official Gazette of Republika Srpska", No. 85/03) and pursuant to the Statistical Programme for the period 2013-2017 and the current annual Work Plan of the Republika Srpska Institute of Statistics.

The obligation to submit data to the Republika Srpska Institute of Statistics (the Institute) is based on Article 8 of the Law on Statistics of Republika Srpska.

1.3. Observation unit

The survey on Structural Business Statistics covers economically active, market-oriented enterprises from the Statistical Business Register, kept and updated by the Republika Srpska Institute of Statistics.

1.4. Data collection

Collection of data for the production of structural business indicators is carried out using the reporting method, through "Annual reports on Structural Business Statistics". Enterprises are obliged to submit data five months after the end of observation year, while regional offices of the Republika Srpska Institute of Statistics collect the reports.

Indicators collected through this questionnaire are available in accounting, personnel and other records of enterprises. These include data on revenues, expenditures, inventories, employees, gross fixed capital formation, etc.

1.5. Coverage

Structural Business Statistics cover all active enterprises of the non-financial business economy (entrepreneurs are not covered) whose headquarters are in Republika Srpska and which have submitted their financial reports for the year preceding the observation year. Enterprises covered by the survey produce and provide services for the market, with income from sale of goods and services accounting for over 50% of operating income.

This statistical activity covers the following sections of activity¹:

- B – Mining and quarrying;
- C - Manufacturing;
- D - Electricity, gas, steam and air-conditioning production and supply;
- E – Water supply; sewerage, waste management and remediation activities;
- F – Construction;
- G – Wholesale and retail trade; repair of motor vehicles and motorcycles;
- H – Transport and storage;
- I – Accommodation and food service activities;
- J – Information and communication;
- L – Real estate activities;
- M – Professional, scientific and technical activities;
- N – Administrative and support service activities;
- P - Education (private sector);
- Q – Human health and social work activities (private sector);
- S – Other service activities (except division 94 which is excluded in accordance with the EU Regulation).

The framework for the survey implementation is the Statistical Business Register. The combined method of sample method and full coverage method is used to conduct this survey. Full coverage method is used for enterprises with 20 or more persons employed, and sample method is used for enterprises with less than 20 persons employed. The sample is created on the basis of the Statistical Business Register data and it is designed as a stratified random sample. A stratum must contain at least five sampling units. Stratification of units of the sampling framework is done by activity of enterprises, their number of employees and conditions of the initial census for specific strata. The number of employees is used to determine size classes (class I – 0 to 19 employees, class II – 20 to 49 employees, class III – 50 or more employees). These three classes are used for all sections except the section Trade, which is stratified on the basis of six classes by number of employees (class I – 0 to 1 employees, class II – 2 to 9 employees, class III – 10 to 19 employees, class IV – 20 to 49 employees, class V – 50 to 249 employees, class VI – 250+ employees). In 2012, of 7,546 enterprises in the framework, 3,882 were selected into the sample. Of 264 strata, 120 included enterprises with 20 or more employees and these were fully covered by the sample, while in 144 strata with less than 20 employees enterprises were selected randomly.

Table 1. Number of enterprises in the sample framework

Section of activity	Class of employees			Total, framework
	I	II	III	
B	57	8	8	73
C	1,105	210	174	1,489
D	20	5	16	41
E	67	37	30	134
F	504	77	55	636
H	553	28	14	595
I	115	17	6	138
J	195	16	10	221
L	110	4	1	115
M	574	35	12	621
N	120	11	5	136
P	44	8	5	57
Q	235	5	2	242
S	48	2	2	52

¹Sections of activity in accordance with the Classification of Economic Activities KD BiH 2010, which in its content and structure fully complies with the EU Statistical Classification of Economic Activities NACE Rev 2(NACE Rev. 2)

Table 2. Number of enterprises in the sample and sampling rate

Section of activity	Class of employees I		Class of employees II		Class of employees III		Total, sample	Sampling rate %
	I	sampling rate %	II	sampling rate %	III	sampling rate %		
B	43	75.4	8	100.0	8	100.0	59	80.8
C	611	55.3	210	100.0	174	100.0	995	66.8
D	20	100.0	5	100.0	16	100.0	41	100.0
E	54	80.6	37	100.0	30	100.0	121	90.3
F	196	38.9	77	100.0	55	100.0	328	51.6
H	227	41.0	28	100.0	14	100.0	269	45.2
I	85	73.9	17	100.0	6	100.0	108	78.3
J	120	61.5	16	100.0	10	100.0	146	66.1
L	103	93.6	4	100.0	1	100.0	108	93.9
M	226	39.4	35	100.0	12	100.0	273	44.0
N	97	80.8	11	100.0	5	100.0	113	83.1
P	38	86.4	8	100.0	5	100.0	51	89.5
Q	67	28.5	5	100.0	2	100.0	74	30.6
S	33	68.8	2	100.0	2	100.0	37	71.2

Table 3. Number of enterprises in the sample framework and in the sample for the section Trade (G)

Class of employees	I	II	III	IV	V	VI	Total
Sample framework	615	1760	337	203	76	5	2,996
Sample	246	459	170	203	76	5	1,159
Sampling rate %	40.0	26.1	50.4	100.0	100.0	100.0	38.7

1.6. Definitions

All definitions used in the domain of structural business statistics are fully harmonised with definitions stipulated in the EU Regulation 250/2009. Some of significant definitions are listed below.

Number of enterprises covers enterprises registered in the Statistical Business Register, in the population which is subject to observation, which operate commercially and which were active at least for part of the observation year (with either realised turnover or employees). All temporarily inactive (quiescent) and actually inactive enterprises are excluded.

Number of employees covers persons who are employed on a temporary or permanent basis, working in full or part time. Number of employees includes seasonal workers, apprentices, people working from home and persons on strike or on short-term leave. This number does not cover persons on long-term leave. Employees are paid by the employer for performed work, and payments can be in the form of wage, salary, fee, gratuity, piecework pay or remuneration in kind.

Number of persons employed includes number of employees on the payroll and unpaid employed persons such as proprietors, partners, family members working regularly in the enterprise, volunteers, etc.

Operating revenues represent the results of enterprises' business operations expressed as a value. These include revenues from the sale of goods, products and services, revenues from the use of own goods, other operating revenues, and changes in stocks of finished goods and ongoing production. They are expressed without value added tax.

Operating expenditure represents enterprises' costs of business operations expressed as a value. These include purchase value of sold goods, intermediate consumption (costs of materials and energy, costs of production services, non-material costs), depreciation and provision costs and personnel costs.

Inventories represent a form of working capital. Their value is a state on the first and last day of the year, expressed in monetary terms. Structural business statistics monitor inventories in terms of materials, energy, goods, ongoing production and finished products.

Gross fixed capital formation into material and non-material fixed assets (new and used) represents the value invested in acquisition of assets and costs of maintenance and emergency repairs of acquired capital assets. This category does not include regular repair and maintenance costs.

Turnover covers calculated revenues from sale of own products, revenues from provided services and revenues from sale of goods for resale, during the observation period. Calculation of turnover covers all billed taxes, except VAT and excise.

Value added at factor costs is given as the gross amount (without depreciation deduction), calculated by adding subsidies to production value at basic prices, and subtracting product and production tax costs and value of intermediate production from it.

Personnel costs are defined as total compensation of employees during the observation period, in money or in kind. These consist of gross wages and salaries, and other personnel costs having the character of personal income.

Turnover per person employed is obtained by dividing total turnover by total number of persons employed. This indicator expresses the enterprise's selling capacity from specific activity.

Value added per person employed is a basic indicator for labour productivity measuring. This indicator shows the amount of value added produced per person employed.

Share of value added in production value is obtained by dividing total value added by total achieved production value.

Labour costs per employee show the average costs of employees in certain activities and these are obtained by dividing total labour costs by number of employees, that is, by number of persons who were paid for performed work.

Profitability represents percentage share of gross operating surplus in turnover. This indicator shows earning capacity of an enterprise or of certain activities.

1.7. Data processing

Data processing and production of results are carried out at the Production Statistics Division and Services Statistics Division of the Republika Srpska Institute of Statistics. These divisions perform formal, computational and logical controls, treat extreme values of microdata, assess and analyse results, etc.

Data from "Annual reports on structural business statistics" are entered into the application without prior corrections of possible irregularities, i.e. in the "raw" form. Following completion of data entry, it is possible to see a list of all computational and logical errors, for all reporting units, with red-tagged "hard" errors. The basis for microdata editing are comparisons with structural business statistics data from the previous year and with data from final accounts of the observation year. In addition to the above, data are also compared with labour statistics, "PRODCOM" statistics and other statistics associated with structural business statistics. In case of discrepancies, checks are made with reporting units, via telephone.

Identification of outliers, as potential errors in data, is realised through the application of the "Hidioglou-Berthelot" algorithm in the programming environment "R".

Data processing and production of results are carried out for the levels of sections, groups, divisions and classes of activity, in accordance with the KD BiH 2010 classification, and by size of enterprises. For the part of population for which the sample was selected, values of the entire set are assessed. The "Horvitz-Thompson" method is used for the assessment of results.

1.8. Data publishing

In accordance with the EUROSTAT's recommendations, results of Structural Business Statistics are shown by main activity of the reporting unit, that is, if an enterprise performs several activities, the overall result is attributed to its primary activity.

Data/results are published at the level of section of activities and by size of enterprises, and they are shown as absolute amounts. Structures of results by section of activities are given as percentages.

Preliminary data are available and published 10 months after the observation period and final data 18 months after the same period. Annual release entitled "Basic structural indicators of business activities of enterprises" is available at the website of the Republika Srpska Institute of Statistics www.rzs.rs.ba.

Structural indicators of business activities of enterprises for 2012 are published in special publications, "Statistical Yearbook" and "This is Republika Srpska". These publications are available in printed and electronic form, at the website of the Institute.

Structural business statistics results for the Republika Srpska level are regularly submitted to the Agency for Statistics of Bosnia and Herzegovina (BHAS), the institution responsible for the compilation of data for the Bosnia and Herzegovina level and for the reporting to EUROSTAT.

1.9. Key variables

Key variables of structural business statistics are:

- Revenues from regular activity (revenues from the sale of sold products and goods and provided services, revenues from the use of own goods, other operating revenues, and revenues based on changes in stocks of finished goods and ongoing production);
- Expenditures on regular activity (costs of material and energy, purchase value of sold goods, costs of production services, non-material costs and personnel costs);
- Value of inventories (raw materials and materials, fuel and energy, goods for resale, finished products, ongoing production and semi-products);
- Employment (annual average number of employees, number of worked hours, external associates and their costs);
- Gross fixed capital formation into material and non-material assets and for the protection of environment.

1.10. Key statistics

Key statistics of structural business statistics are:

- Number of enterprises by class of employees and by class of the Classification of Economic Activities;
- Number of persons employed by class of employees and by class of the Classification of Economic Activities;
- Turnover by class of employees and by class of the Classification of Economic Activities;
- Value added at factor costs by class of employees and by class of the Classification of Economic Activities;
- Production value by class of employees and by class of the Classification of Economic Activities;
- Personnel costs by class of employees and by class of the Classification of Economic Activities;
- Gross operating surplus by class of employees and by class of the Classification of Economic Activities;
- Profitability rate by class of employees and by class of the Classification of Economic Activities;
- Productivity rate by class of employees and by class of the Classification of Economic Activities.

For 2012, multiannual statistics include:

- Gross fixed capital formation into non-material assets by class of employees and by class of the Classification of Economic Activities;
- Turnover in Trade (division 47) by type of products and services (Classification of Products by Activity);
- Number of stores by class of employees.

1.11. Questionnaire

The questionnaire “Annual report on structural business statistics” has been designed for the implementation of structural business statistics activities. Two questionnaires have been developed for each Annex (I-IV) of the EU Regulation 295/2008, namely, a detailed questionnaire for enterprises with 20 or more employees and a shortened questionnaire for other enterprises. Thus, the survey uses eight main questionnaires. In addition to these, additional questionnaires are used for Annexes II, III and IV.

The questionnaire is available at the Institute’s website:

<http://www.rzs.rs.ba/front/category/28/99/?&add=None>

1.12. Annexes

In addition to the questionnaires used for survey implementation, all reporting units also receive appropriate Instructions for completing the questionnaire and the Letter to reporting units. The instructions are also available at the website of the Institute

<http://www.rzs.rs.ba/front/category/28/99/?&add=None>

1.13. Responsible institution and contact information

Name and address of the responsible institution:

Name of the Institution: Republika Srpska Institute of Statistics

Address of the Institution: Veljka Mlađenovića 12d, 78 000 Banja Luka, Republika Srpska, BiH

Contact persons (name, surname and contact information)

Name and surname of the persons responsible: Danica Babić and Slađana Nikić

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E - mail: danica.babic@rzs.rs.ba; sladjana.nikic@rzs.rs.ba

Other institutions involved in the data collection process

There are no other institutions involved in the data collection process for structural business statistics.

2. Relevance

Structural business statistics results for the Republika Srpska level are submitted to the Agency for Statistics of Bosnia and Herzegovina, the institution responsible for the compilation of data for the BiH level and for the reporting to Eurostat. Annual structural business statistics of enterprises, by activity of the KD BiH 2010, sections from B to J, from L to N and divisions 95 and 96 are delivered within the series 1A, 2A, 3A and 4A, as defined by the EU Regulation 251/2009. Annual structural business statistics of enterprises, broken down by size classes of employees, by economic activity of the KD BiH 2010, sections from C to J, from L to N and divisions 95 and 96 are submitted within the series 1B, 2B, 3B and 4B.

2.1. Quality and performance indicator – Rate of available ESS statistics (R1)

Data obtained through this survey allow for the calculation of all the statistics required by the EU Regulation 295/2008 at the level of observation units for Annexes I-IV, regardless of these being annual or multiannual. The rate of available statistics is 100%.

3. Accuracy

3.1. Sampling errors

3.1.1. Method of calculating sampling errors

The combined method of sample method and full coverage method is used to conduct this survey. Full coverage method is used for enterprises with 20 or more persons employed, and sample method is used for enterprises with less than 20 persons employed. In accordance with the EU Regulation 275/2010, sampling errors are expressed by the coefficient of variation for number of enterprises, value added at factor costs, personnel costs, number of employees, and gross fixed capital formation into material assets.

The assessment of variance is made using the “Survey” package of programming environment R, taking as a basis the initial sample design.

3.1.2. Quality and performance indicator – Coefficient of variation (A1)

The coefficient of variation (CV), as a relative standard error, is calculated as the standard deviation (error) divided by the value of estimated parameter. As such, it represents the measure of deviation which is comparable for various indicators and domains.

$$CV = \frac{SE}{\hat{\theta}}$$

Table 4. Coefficients of variation (CV%) for main indicators

Section of activity	Number of enterprises	Turnover	Value added at factor costs	Gross fixed capital formation	Personnel costs	Number of employees
B	0.0	0.2	0.5	0.1	0.2	0.3
C	0.0	0.1	0.4	2.4	0.2	0.2
D	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.7	0.4	4.4	0.3	0.2
F	0.0	1.2	2.6	2.1	0.6	0.6
G	0.0	0.4	0.9	3.9	1.1	0.5
H	0.0	1.8	1.1	4.1	0.3	0.5
I	0.0	0.8	0.6	0.1	0.4	0.6
J	0.0	0.3	0.2	0.5	0.4	0.5
L	0.0	1.5	2.1	4.6	1.8	0.4
M	0.0	2.3	2.0	5.4	2.1	1.2
N	0.0	1.0	1.8	0.9	0.7	0.5
P	0.0	0.2	0.2	0.0	0.1	0.2
Q	0.0	3.6	2.6	9.1	2.2	1.7
S	0.0	0.8	0.8	0.5	0.7	0.7

Coefficients of variation provided in the table are very low, with a few exceptions.

Table 5. Coefficients of variation (CV%) for main indicators

Section of activity	Number of enterprises	Turnover	Value added at factor costs	Number of persons employed
B_1	0.0	2.8	22.3	3.4
B_2	0.0	0.0	0.0	0.0
B_3	0.0	0.0	0.0	0.0
C_1	0.0	1.0	1.9	1.1
C_2	0.0	0.0	0.0	0.0
C_3	0.0	0.0	0.0	0.0
D_1	0.0	0.0	0.0	0.0
D_2	0.0	0.0	0.0	0.0
D_3	0.0	0.0	0.0	0.0
E_1	0.0	3.6	3.2	2.0
E_2	0.0	0.0	0.0	0.0
E_3	0.0	0.0	0.0	0.0
F_1	0.0	4.4	12.0	2.2
F_2	0.0	0.0	0.0	0.0
F_3	0.0	0.0	0.0	0.0
G_1	0.0	3.1	5.4	3.7
G_2	0.0	1.5	3.3	1.3
G_3	0.0	1.7	3.8	2.0
G_4	0.0	0.0	0.0	0.0
G_5	0.0	0.0	0.0	0.0
G_6	0.0	0.0	0.0	0.0
H_1	0.0	3.2	3.5	2.1
H_2	0.0	0.0	0.0	0.0
H_3	0.0	0.0	0.0	0.0
I_1	0.0	2.6	2.7	1.9
I_2	0.0	0.0	0.0	0.0
I_3	0.0	0.0	0.0	0.0
J_1	0.0	2.7	2.6	2.4
J_2	0.0	0.0	0.0	0.0
J_3	0.0	0.0	0.0	0.0
L_1	0.0	1.7	2.7	0.6
L_2	0.0	0.0	0.0	0.0
L_3	0.0	0.0	0.0	0.0
M_1	0.0	3.6	3.9	2.2
M_2	0.0	0.0	0.0	0.0
M_3	0.0	0.0	0.0	0.0
N_1	0.0	1.5	5.3	1.9
N_2	0.0	0.0	0.0	0.0
N_3	0.0	0.0	0.0	0.0
P_1	0.0	1.1	1.4	1.3
P_2	0.0	0.0	0.0	0.0
P_3	0.0	0.0	0.0	0.0
Q_1	0.0	11.7	7.9	2.5
Q_2	0.0	0.0	0.0	0.0
Q_3	0.0	0.0	0.0	0.0
S_1	0.0	1.7	1.7	1.2
S_2	0.0	0.0	0.0	0.0
S_3	0.0	0.0	0.0	0.0

3.1.3. Explanations

Sampling errors occur as a result of conducting the survey on a sample, i.e. the survey is not carried out on the entire target population, but on a part of it. Inclusion of the entire population, that is, census taking, would require much more time and significantly increased financial resources for the implementation. Given that a number of possible samples can be selected for the survey, each sample would result in more or less different estimates of key indicators. Unlike non-sampling errors, sampling errors are measurable and they serve to show the level of reliability of obtained indicators. They also provide a measure of the variation of indicator assessments from all possible samples. Coefficient of variation (CV) and confidence interval are used as a test of reliability of assessed indicators.

3.1.4. Activities to reduce sampling errors

Sampling errors on key indicators are completely acceptable. Therefore, measures to reduce these are not considered.

3.2. Non-sampling errors

3.2.1. Coverage errors

Coverage errors represent differences between the target population and population covered by the sample. These deviations are rare, but possible.

3.2.1.1. Quality and performance indicator – Overcoverage rate (A2)

If there is no timely information about the change of main (prevailing) activity, it may happen that the SBS survey covers an enterprise from a section of activities which, in accordance with the methodology, is not subject of observation of structural business statistics. This is possible because enterprises which have submitted final accounts for the previous year are included in the survey framework, in accordance with the prevailing activity recorded in the previous year.

In terms of enterprises' activities, coverage errors occur when the survey covers enterprises for which it was recorded that they were not active in the observation year (bankruptcy, liquidation, etc.).

3.2.1.2. Undercoverage error

Undercoverage error may occur if the survey does not include all enterprises which have been active in the previous year. This occurrence is associated with the submission of final accounts. Though rarely, it does happen that an enterprise does not submit its final accounts, even though it was active.

There were no such cases in 2012.

3.2.2. Measurement errors

3.2.2.1. Controls to detect measurement errors

Data editing process begins after data from all collected reports are entered. Measurement errors are detected and prevented through computational and logical controls built into the application for data entry and processing. The application was developed in the NET environment. It is a web ASP application with a code written in Visual Basic. Data are stored in a custom-made MS SQL database.

The control implies monitoring of the accuracy, logic, completeness and consistency of data at the level of observation unit. The application contains around fifty logical and computational controls, some of which are cautionary (soft), while some indicate mandatory corrections (hard). Some of the logical controls are:

- Enterprise's only or highest revenue cannot be from sale, if the main (prevailing) activity is in the section industry or construction;
- If an enterprise has revenues from sale of own products, it also must have purchase costs of raw materials and materials; or, if there are revenues from sale of goods, there must be purchase value of sold goods;
- An enterprise which has employees must also provide personnel costs (accounting principle is applied; therefore wages and salaries should be accounted, even though they were not paid).

The application for data entry and processing does not provide a possibility to record the state of errors after the first entry, i.e. after the entry of raw data. Thus, there are no exact data on how many corrections were made and on which variables.

3.2.2.2. Reasons for the occurrence of measurement errors

The most common reasons for the occurrence of measurement errors are:

- Superficial or incomplete completion of the report;
- Lack of understanding of the methodology by the person filling in the report;
- Random errors occurring while data are entered in the report (questionnaire);
- Data are entered in the wrong amount (i.e. amount with decimal places, two zeros, etc.).

3.2.2.3. Procedures in cases of measurement errors

If measurement errors are detected, methodologists use computational and logical controls to make corrections after collected data are compared with the SBS data from the previous year and with the data obtained through other statistical surveys. If major errors are detected, the person who completed the report is contacted.

There is no automatic data editing.

3.2.2.4 Quality and performance indicator – Data editing rate (A3)

There are no accurate records of corrections made in the data editing phase. The rate is estimated at 25%.

3.2.2.5 Measures to reduce measurement errors

The most important instrument used to reduce measurement errors occurring while the report is completed are the instructions for completing the report, which is sent to reporting units once a year. These instructions describe in detail the method of completing the report.

For this reason, instructions for completing the report and notes provided in the questionnaire of the Annual report on structural business statistics are very precise and detailed. In order to reduce measurement errors, persons who complete the report must be familiar with the survey methodology, which is provided in the instructions and in the questionnaire. In that way, the person is able to complete the report as accurately as possible.

In order to reduce measurement errors, the letter to reporting units provides contact information of the persons implementing the survey. These persons are able to provide all the necessary explanations for completing the questionnaire.

3.2.3. Non-response errors

3.2.3.1. Quality and performance indicator – Non-response rate (A4)

Table 6. Non-response rate

Section of activity	Number of observation units	Number of units for which the report was not submitted	Non-response rate	Weighted non-response rate	Share of non-response in number of employees	Share of non-response in turnover
Total	3,882	582	15.0	17.7	7.1	4.9
B	59	9	15.3	15.8	0.9	0.6
C	995	149	15.0	18.2	7.6	3.6
D	41	2	4.9	4.8	0.0	0.0
E	121	10	8.3	9.4	1.1	1.0
F	328	51	15.5	20.2	12.9	13.0
G	1,159	167	14.4	17.7	8.4	5.1
H	269	42	15.6	20.1	3.9	8.8
I	108	27	25.0	26.0	11.8	10.3
J	146	15	10.3	10.1	1.7	0.4
L	108	21	19.4	19.6	15.2	14.6
M	273	49	17.9	19.9	15.1	18.6
N	113	22	19.5	20.1	5.7	2.4
P	51	9	17.6	17.9	11.9	9.3
Q	74	3	4.1	4.5	2.0	0.5
S	37	6	16.2	18.6	5.0	1.0

3.2.3.2. Quality and performance indicator – Non-response rate of variable (A5)

The existing application does not provide for a possibility to record the number of non-response cases by individual variable.

3.2.3.3. Procedures in cases of non-response

Exceptionally, in case of non-response to individual questions and in cases of discrepancies, inconsistencies and errors which cannot be corrected after repeated contact with the reporting unit, data are estimated based on available final accounts or data obtained through other statistical surveys (for example, performed hours can be estimated on the basis of labour statistics data).

In case an entire report is missing, in spite of the enterprise being active in the observation year, the enterprise is contacted by telephone, in some cases the questionnaire is sent to the enterprise again, and finally, written warnings are sent. If a case of non-response is not solved, initial weights for the stratum the enterprise belongs to are corrected, starting from the basic assumption that these units are, by key parameters of the survey, similar to those that have submitted the report.

The estimate of entire population is made using the calibration method, which uses all known information from the Statistical Business Register, including: number of enterprises per stratum, number of employees per stratum and total turnover per stratum.

Input for the calibration process includes corrected initial weight, known totals of used auxiliary information per stratum, and values of auxiliary variables for units which have responded. The calibration process serves to find a solution to the optimization problem with additional conditions (seeking related extremes), as specified by the following formula:

$$\left\{ \begin{array}{l} \min \sum_{i \in r} d(g_i, w_i) \\ \sum_{j \in r_h} g_j = N_h \\ \sum_{j \in r_h} g_j x_j^{emp} = X_h^{emp} \\ \sum_{j \in r_h} g_j x_j^{fin} = X_h^{fin} \end{array} \right. \quad h = 1, \dots, H$$

where:

d – function of distance (logarithmic, in this case)

g_i – calibrated weight (output of the calibration process)

w_i – weight calculated by correcting the initial weight for total non-response

N_h – number of elements of the population in the stratum h

r_h – response in the stratum h

x_j^{emp} – number of employees from the register for the unit j (from response)

x_j^{fin} – financial data from the register for the unit j (from response)

X_h^{emp} - number of employees per stratum

X_h^{fin} - total revenue (turnover) per stratum

H - total number of strata.

Calibration is performed using the “Survey” package of the programming environment R.

3.2.3.4. Procedures to reduce non-response rates

In order to reduce non-response rates, multiple contacts with reporting units are established, questionnaires are sent repeatedly (combined with e-mail), and similar.

3.2.3.5. Quality and performance indicator – Rate of imputed data (A6)

In the application, there is no procedure to record imputed data (items). Missing reports are not imputed.

3.2.3.6. Quality and performance indicator – Number of errors, by type (A7)

The SBS application does not provide a possibility to record errors before and after their correction. To be precise, if some information is corrected, the application saves the new/corrected value. Even though it is impossible to present a precise rate, approximately 70% of all errors are logical ones.

3.2.3.7. Quality and performance indicator – Average size of revision (A8)

Revision of data for structural business statistics was not implemented or planned.

4. Timeliness and punctuality

4.1. Timeliness of release

Timeliness of release represents the interval between the observation period the data refer to and the date of release. Preliminary and final data of structural business statistics are published pursuant to the Release calendar and in accordance with the EU Regulation 295/2008.

4.1.1. Quality and performance indicator – Timeliness of preliminary results (T1)

End of observation period	Preliminary results	Number of days between the end of observation period and the release date of preliminary results
31 st December 2012	10 th December 2013	T+344

4.1.2. Quality and performance indicator – Timeliness of final results (T2)

End of observation period	Final results	Number of days between the end of observation period and the release date of final results
31 st December 2012	15 th May 2014	T+500

4.2. Punctuality of release

Punctuality of release represents an interval between the actual and planned dates of release, as specified in the Release Calendar.

4.2.1. Quality and performance indicator – Punctuality of release (T3)

Preliminary and final results were published within deadlines specified in the Release Calendar.

4.3. Reasons for significant delays and measures to improve timeliness and punctuality of release

There were no delays; data were published within predefined deadlines.

5. Accessibility and clarity

5.1. Accessibility

Users of statistical data can easily and quickly access structural business statistics data, as these are published at the Institute's website and in printed publications (statistical release, Statistical Yearbook and "This is Republika Srpska").

5.1.1. Dissemination channels

Number	Dissemination channels	Used
1	Website of the Institute – Internet release	YES
2	Written requests of users according to their specification	YES
3	Data published via telephone	NO
4	Digital media (CD, floppy disk, etc.)	NO
5	Data presented at press conferences	YES
6	Thematic bulletin	NO
7	Special printed publications	YES
8	Databases available to external users	NO
9	Statistically protected microdata	NO

5.1.2. Quality and performance indicator – Rate of used dissemination channels (AC1)

The rate of used channels of dissemination is 44.4% (4/9x100).

5.1.3. Methods of dissemination

The following methods of dissemination were used to publish structural business statistics data for 2012:

Number	Methods of dissemination	Used
1	Website of the Institute – Internet release	YES
2	Websites of other institutions	NO
3	Websites of international institutions	NO
4	Written requests	YES
5	Telephone mediation	YES
6	Digital media (CD, floppy disk, etc.)	NO
7	Data presented at press conferences	YES
8	Statistical Yearbook	YES
9	This is Republika Srpska	YES
10	Statistical Yearbook	YES
11	Thematic bulletin	NO
12	Special publications	NO
13	Eurostat's publications	NO
14	Publications of other international organisations (OECD, IMF)	NO
15	Databases for internal use	YES
16	Databases available to external users	NO

5.1.4. Quality and performance indicator – Rate of used dissemination methods (AC2)

The rate of used methods of dissemination is 50% (8/16x100).

5.1.5. Quality and performance indicator – Number of accesses to the online database (AC3)

Structural business statistics data are not available in an on-line database.

5.2. Clarity

In addition to data, publications also provide methodological explanations and definitions of basic indicators and concepts.

5.2.1. Printed publications and Internet publication

- Annual release 'Basic structural indicators of business activities of enterprises' – preliminary results;
- Annual release 'Basic structural indicators of business activities of enterprises' – final results;
- Statistical Yearbook;
- "This is Republika Srpska".

5.2.1.1. Disseminated results

- The release presents basic structural indicators of business activities of enterprises, shown as absolute values, rates and structures. Turnover, value added at factor costs, personnel costs and turnover per person employed (labour productivity) and average labour costs are expressed in convertible marks. Results are published in tables and graphs;
- Statistical Yearbook presents basic structural indicators by section of economic activity and by class of employees, in tables and graphs;

- The publication “This is Republika Srpska” presents aggregated indicators of business activities of the non-financial business economy, in tables and graphs.

5.2.1.2. Level (level of detail) of dissemination

Data are presented by section of the Classification of Economic Activities KD BiH 2010 and by size of enterprise, at the Republika Srpska level.

5.2.1.3. Metadata

In the framework of Metadata at the official website of the Institute, in the part which refers to structural business statistics, basic concepts and definitions for this survey are available, as well as the Methodology. In addition, brief metadata are provided in printed and electronic publications – Statistical Yearbook and release.

5.2.1.4. Measures to improve clarity of disseminated results

Data are presented clearly.

5.2.2. Quality and performance indicator – Rate of metadata completeness (AC4)

Not subject to special analyses within structural business statistics.

6. Comparability and coherence

6.1. Comparability over time

6.1.1. Quality and performance indicator – Length of comparable time series (CC1)

Structural business statistics have been produced regularly since 2010. With continuous development of the survey, in line with recommendations and regulations of the European Commission, all sections of activity according to the KD BiH 2010 have been covered since 2012.

Table 7. Sections of activity covered by structural business statistics

2010	B	C	D	E	F	G	H	I	-	L	-	-	-	-	-
2011	B	C	D	E	F	G	H	I	J	L	M	N	-	-	S
2012	B	C	D	E	F	G	H	I	J	L	M	N	P	Q	S

6.1.2. Breaks in time series

Due to differences in the coverage of sections of activity, structural business statistics data for 2012 are not fully comparable with data for the previous two years, which is evident in Table 4.

6.1.3. Other factors affecting comparability over time

There are no specific factors which could affect the comparability of time series, since the recommendation regarding variables to be provided has been fully applied. These variables are specified in Regulations 295/2008 and 251/2009.

6.2. Geographical comparability

6.2.1. Comparability with other members of the European Statistical System

Structural business statistics data for Annexes I – IV are fully comparable with data of other members of the European Statistical System.

6.3. Seasonal adjustment

Seasonal adjustment is not necessary, as the survey is carried out annually.

6.4. Coherence between preliminary and final data

6.4.1. Dissemination policy for preliminary data

Assessed preliminary results of structural business statistics for Annexes I – IV should be available 10 months after the end of observation period.

6.4.2. Quality indicator – Coherence between preliminary and final data (CC2)

The indicator is calculated for key statistics, using the following formula:

$$CC2 = (X_k - X_1) / X_k$$

where: X_k – final value of observed statistics

X_1 – preliminary value of observed statistics

	Number of employees	Turnover
CC2	-0.00014	-0.00424

6.4.3. Reasons for significant differences between preliminary and final data

The indicator presented in item 6.4.2. implies that differences between preliminary and final data are very small.

6.5. Coherence with results of the reference survey

6.5.1. Brief description of the reference survey

Structural business statistics data are compared with data obtained through national account statistics, employment statistics, "PRODCOM" statistics, and other statistics associated with structural business statistics.

6.5.2. Quality and performance indicator – Compliance with the reference data (CC3)

The indicator is calculated for key statistics, using the following formula:

$$CC3 = (X - Y) / Y$$

where: X – value of indicator of structural business statistics

Y – value of comparable indicator in the reference source (national accounts statistics)

	Number of employees	Turnover
CC3	-0.036	0.009

6.5.3. Reasons for significant discrepancies

There were no significant discrepancies.

7. Concessions – compromises between output quality components

Not subject to special analyses.

8. Assessment of users' needs and perceptions

8.1. Classifying and understanding users

Structural business statistics data are used for different surveys and to create development projects. These data are also used by the Ministry of Finances, Ministry of Economic Relations and Regional Cooperation, Ministry of Trade and Tourism, Ministry of Energy, Industry and Mining, Economics Institute, Directorate for Economic Planning, Directorate for European Integration, Chamber of Commerce, republic and municipal agencies for the development of small and medium-sized enterprises, the media, etc.

Main internal users of these data are the Statistical Business Register, national accounts, short-term statistics and industry statistics.

8.2. Measuring users' perceptions and user satisfaction

8.2.1. Quality and performance indicator – User satisfaction index (US1)

A general User Satisfaction Survey has been conducted, but not specifically for this survey.

8.2.2. Quality and performance indicator – Time elapsed since the last user satisfaction survey (US2)

A general User Satisfaction Survey has been conducted, but not specifically for this survey.

9. Costs and burden on respondents/reporting units

9.1. Costs of the Republika Srpska Institute of Statistics

Data on costs of the Republika Srpska Institute of Statistics for the implementation of statistical surveys of structural business statistics are not available.

9.1.1. Quality and performance indicator – Annual operating costs, average by main cost components (PCR1)

Not subject to special analyses.

9.2. Burden and costs of respondents/reporting units

9.2.1. Quality and performance indicator – Annual burden on respondents in hours and/or financial indicators (PCR2)

Table 8. Burden related to the “Annual report on structural business statistics”, hours

Type of questionnaire	Number of observation units	Number of questionnaires per observation unit	Average time required to complete one questionnaire (hours)	Total time spent (hours)
detailed with additional	568	1	4.5	2,556
detailed	444	1	2.6	1,154.4
shortened	2,288	1	1.8	4,118.4

9.3. Measures to reduce costs and burden

- Use of administrative data sources;
- Introduction of an electronic questionnaire.

10. Confidentiality, transparency and protection

10.1. Confidentiality

Data referring to individual observation units are used for statistical purposes only. The confidentiality of data and protection of personal information are guaranteed by Articles 25 and 27 of the Law on Statistics of Republika Srpska ("Official Gazette of Republika Srpska", No. 85/03) and the Rules of protection of confidential data of the Republika Srpska Institute of Statistics. The confidentiality of statistical data is also ensured through the Law on the protection of personal data ("Official Gazette of BiH", No. 49/06).

10.2. Transparency

Users are familiar with the method of data use. No errors were observed in the publications; therefore, there was no need to correct or publish them.

10.3. Protection

See chapter 10.1.

11. Conclusion

Planned improvements and activities in the production of structural business statistics:

- Use of administrative sources for small enterprises, while surveys should be used for medium and large enterprises;
- Development of a sample framework for entrepreneurs;
- Development of a model for estimates of SBS variables for entrepreneurs or establishment of a separate survey for this group of observation units;
- Improvement of the application in terms of the establishment of procedures for complete records of data corrections made in the data editing phase;
- In cooperation with IT staff, develop a system for recording the number of accesses to electronic publications of structural business statistics;
- Through a specific User Satisfaction Survey, obtain information about user satisfaction.