Methodological
Document

# BUSINESS STATISTICS

## PLANNIING OF NEW STRUCTURAL BUSINESS SURVEYS IN BOSNIA AND HERZEGOVINA

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**FOREWORD**

In the process of accession to the European Union and harmonisation with the EU standards and practice, the statistical system of BiH is expected to harmonise its activities with the requirements of the European Statistical System. The transition period is characterised by significant changes in politics, legislation and economic system and it requires adoption of new statistical standards and methods. Accordingly, the statistical system has to ensure high quality and timely following the changes occurring in the new circumstances and to allow international comparison of statistical data. The objective of the CARDS Twinning Project " "EU Support to the Statistics Sector of Bosnia and Herzegovina - Phase III", funded by the European Union, was to support Bosnia and Herzegovina in fulfilling this important obligation.

Within the framework of the aforementioned Project, Component "Business Statistics" with Sub Component "Structural Business Statistics" was implemented. Publication "Business Statistics – Planning of New Structural Business Surveys in the BiH territory " is the result of the joint efforts of experts from the Italian National Institute of Statistics (ISTAT) and three statistical institutions from Bosnia and Herzegovina.

We would like to express our gratitude and thanks to the European Union, the Delegation of European Commission to Bosnia and Herzegovina and Eurostat for their joint efforts in the implementation of this project as well as providing financial, administrative and technical assistance.

Furthermore, we would like to express our special thanks to the ISTAT expert team led by Mr. Gian Paolo Oneto, Team Leader of the Component "Business Statistics", who with their straightforward and professional efforts contributed to the development of new methodology for planning and implementation of structural business statistics in line with the EU standards.

Special thanks go to Ms. Cecilia Pop, Resident Twinning Advisor, and her team for highly professional and committed support to the BiH statistical system.

It is our special pleasure that we have been able to provide the producers and users of statistical data with a methodological approach for further planning and implementation of structural business statistics in BiH that is compliant with the EU standards and regulations

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# 1. INTRODUCTION

## 1.1. The BiH reality - Current situation

The General Framework Agreement for Peace in Bosnia and Herzegovina (GFAP), signed in 1995, established a complex institutional structure in Bosnia and Herzegovina (BiH). According to GFAP, BiH consists of two entities, Republika Srpska (RS) and the Federation of Bosnia Herzegovina (FBiH) and from 1999 the Brcko District by separate legislative and administrative autonomy. As BiH Parliament did not approve a proposed new Constitutional ammendments in May 2006, GFAP remains in force.
The statistical system of BiH reflects this administrative arrangement. It consists of Agency for Statistics of BiH (BHAS), Federal Institute for Statistics of FBiH (FIS) and Institute for Statistics of Republic of Srpska (RSIS). The Bureau for Statistics of the Brcko District (BSBD) is the department of BHAS.

The Statistics Law was adopted by the BiH Parliament in April 2004. According to the Law, BHAS is responsible for: a) aggregation, production and dissemination of the data on the state level, b) development and establishment of statistical standards (methodologies and classifications) and c) international cooperation.

At the moment BHAS employs 48 persons (including employees in the Brcko), but according to the recently adopted Organization plan, it needs to increase to 182 staff by the end of 2015. FIS and RSIS produce statistics for the entity levels and employ 170 and 104 staff respectively. The existence of two levels of statistical institutions requests very strong need of thickset cooperation, coordination and communication in processes of statistical production.

The existing BiH Statistical Programme for 2005-2008 adopted by the BiH Council of Ministers in April 2005. This strategic document clearly defines the mission, vision, main tasks and objectives to be met by official statistics. Programme is in line with Eurostat's Statistical Requirements Compendium and serves as a basis for the entity Statistical Programmes. The Annual Plans of Activities are elaborated in line with the existing Statistical Programme.

The BiH and the RS Statistical Councils were established in December 2004. The tasks of the councils are to give professional advices on the preparation and implementation of the statistical programme and the development of statistics. The FBiH Statistical Council is not established yet.

Memorandum of Understanding was prepared in November 2005 with the intention to improve cooperation and to establish a unified system for methodologies and standards in statistical production, but statistical offices have not signed it yet. The EC, the Office of the High Representative and the International Monetary Fund urge statistical offices to ensure signing of the Memorandum.

Independently from the official statistical institutes, several other institutions produce statistics in various fields (demographics, agriculture, industry, energy etc.), but the statistical entities of these institutions are not included in the Statistical System.

Lack of human resources, in terms of insufficient number of professional statisticians in all three statistical institutions and, in particular, in BHAS is the main obstacle to success. None of three statistical institutions has recruited sufficient number of staff for planned tasks to be carried out.

After several years of preparations, the Council of Ministry of BiH signed the Stabilization and Association Agreement (SAA) in Luxembourg on 16. Jun 2008. The goal is gradual integration of BiH into EU structures. In this context, the country is making progress towards meeting European standards, mainly consisting of the adoption of new legislation, the establishment of a number of new institutions and strengthening of its administrative capacity. Along with it, the statistical institutions in BiH should develop and strengthen to provide basic reliable and high quality statistical data, which will progressively comply with European standards.

In particular, the business statistics request additional efforts in the process of production of reliable and internationally comparable data at the BiH level. With regards to structural business statistics, it is crucial to extend the coverage and quality issues through new sources and introducing new surveys to achieve fully comparability of statistics with EU standards.

## 1.2 The actual structural business survey in BiH

Assessment of the actual situation on Business Statistics (BS) in both entities and in the BHAS was the first task of the Project experts. It was completed in early phases of Project through extensive discussions with statisticians responsible for the BS in all statistical institutions.

For each of the three sub-components of BS the following aspects were evaluated:

- Situation of the production of Business Statistics
- The quality and existence of the data in terms of methodology, nomenclatures and classifications, concepts and definitions, coverage, etc
- Institutional arrangements and the role of the three statistical offices in production of BS
- Cooperation among the three statistical institutes and with other administration offices.

The specific assessment on SBS sub-component was concentrated on:

- Different aspects of the current situation in the production of SBS in the two entities

- Forthcoming improvements of SBS to be planned in the Project

**Actual situation (as it was at the end 2006)**

The focus of the analysis was on coverage and other quality features relating to the structural part of IND 21 survey put in place in both the FIS and the RSIS in 2006. This common survey questionnaire putting together structural and PRODCOM information (IND 21) utilised in 2006, with reference to the year 2005, was limited only to the industrial sector (sections C to E of NACE) and included only legal units. Actually, several structural variables were set in the old version of IND 21 merely with the aim to obtain information for designing a system for calculation of Industrial Production Indices. National accounts had no adequately detailed data on value added.

Given their high importance for structural business statistics a preliminary overview of the characteristics of Business Registers (BRs) and data collection architecture and coverage were considered. This activity was supported by the availability of recent mission reports on the BR Twinning component, submitted by Project experts for Business Register.

The IND 21 survey carried out by the FIS and the RSIS shared similar characteristics and needs for improvements. There was not a common set of standards on survey management and methodologies (including IT platform, threshold and coverage aspects, etc.).

In both entities, coverage by sector was limited to industry (Sections C to E in NACE classification). The population coverage was limited on legal subjects, certainly within the limitations of business registers currently utilized. Variables obtainable through IND 21 covered major SBS basic requirements. The investment section was not included in SBS. Variables on investment were collected in a separate specific survey (INV 01).

Important differences characterised the main statistical processes carried out by FIS and RSIS, due both to the organisation of BRs and to data collection and treatment procedures (correction of errors, partial and total missing answers, etc.).

The standard territorial network of statistical offices (6 regional department in RSIS, 10 cantonal departments in FIS, and the BHAS department in Brcko District), was favouring the accomplishment of a very high response rates by European standards (90%).

Some very significant question on the IND 21 survey for 2005 had to be specifically addressed by Project experts. These included: a) Negative value added values resulting for specific industries; b) Quality issues concerning techniques and rules for data treatment (identification, imputation and cleaning procedures with respect to outliers, missing answers, etc.; integration techniques, etc.); c) The possibility of acceleration of the extension of coverage (the timetable agreed by the two entities and the BHAS envisages the inclusion of construction from year 2008 and service activities from year 2009); d) The organizational pros and cons of creating a specific SBS units (work organisation was based on sectors of activity).

As regard the sampling aspects, it was found that all the business surveys discussed in the missions were carried out through census or cut/off surveys, while no probabilistic design was used.

**The main findings**

The annual survey on the industrial sector referring to year 2005 (IND 21) is an important building block, with common features for the two entities, while for the other sectors (section F to K of NACE) new surveys have to be planned.

The SBS surveys undertaken by the FIS and the RSIS share similar features and needs for improvements. There is a partial departure from European SBS regulation in the definition of enterprise adopted in both entities for SBS survey purposes. The detailed examination of survey results for 2005 was foreseen as the first priority for future actions while some unforeseen aspects emerged that deserve intervention.

In both entities, firm coverage was entire, though within the present limits of business registers. Variables obtainable through IND 21 covered most of SBS basic requirements. Both entities presented some negative value added occurrences.

There was not a common set of standards on survey management and methodologies, due both to the organisation of BRs and to data collection and treatment procedures (threshold and coverage aspects, IT platforms, correction of errors, partial and total missing answers, etc.), which are being addressed.

The timetable originally agreed by the two entities and BHAS envisaging the inclusion of construction from year 2008 (with reference to 2007) and service activities from year 2009 appeared in conflict with Project targets.

The most relevant problems were: the inclusion of craft activities and service activities in the current surveys (and the additional aspects concerning operational solutions due to the lack of a crafts' register and the planning of an overall estimation strategy), the extension to small-medium enterprises as well, simplification of questionnaire, the harmonisation of activities with respect to the EU methodological standards on SBS.

### 1.3 Requested improvements and recommendations

A general recommendation emerging from the review concerned the need to assess as quickly as possible the feasibility of undertaking data collection for structural variables in NACE sections F to K (construction to market services) starting from year 2008 (reference year 2007).

Detailed request concerned the need of providing the Project experts with the following information:

- Definitions and technical explanations currently used in the structural business survey (IND 21) in the industrial sector, in order to better evaluate coherence with respect to international standards,
- A detailed explanation concerning the list of variables and the accounting rules used for working out the value added evaluation

Further SBS analysis confirmed the priority of developing the following aspects:

- Pathways for increasing size and sectoral coverage of surveys, also by means of splitting the current survey in two (census based for large firms; sample based for SMEs, upon fixing appropriate thresholds).

- Changes to the questionnaire, to be examined more thoroughly:

    - Sorting out the Prodcom section, to be surveyed autonomously, also considering the possibility of dropping some variables.

    - Introducing a section for investment variables, and possibilities for dropping the investment questionnaire.

- Methodological tools for increasing size and sector coverage of surveys, also by means of splitting the current survey in two parts (census based for large firms, sample based for SMEs, upon fixing appropriate thresholds).

- Quality issues.

The main priorities that emerged from the review of SBS actual situation were:

- BHAS and the two entity institutes should cooperate at drawing an outline of the structure of the business sector at entity and country levels, with specific attention to the relative share of craft vs. legal units (in terms of units, employment and economic results) as well as to the employment size of firms, by sector of activity (see below).

- Comprehensive and detailed analysis of definitions and technical explanations currently used in the structural business survey (IND 21) should be prepared by local experts in order to better evaluate coherence with respect to international standards. This task was to be backed by detailed explanations concerning the list of variables and the accounting rules used for working out the value added evaluation in both Entities.

- Deadlines listed in the component timetable should be respected as much as possible.

An important recommendation emerging from the action concerns the need to separate more clearly the 3 single sub-components and the persons in charge of them, identifying specific steering groups and responsible persons.

## 2 Planning and launching new SBS pilot surveys

### General observations

After the benchmark on" Existing practices on structural business statistics" defined, the main goal was the development of a new methodology for SBS and its implementation in a pilot survey (census survey for large and medium firms and sample survey for small firms) enlarging coverage to entrepreneurs and to services activities.

In that context different technical problems had to be faced, discussed and settled:

1) State of the art for what attains to the evaluation of size and stratification of the reference populations, including crafts, market service activities and small enterprises.
2) Building up of lists of units for sample selection and the grossing up procedures. These lists cannot be based on a real business register, which is going to be built up in the frame of another component of the project.
3) Survey methodology: cut/off threshold for defining the census and the sample domains, observation units, kind of stratification, relationships between sample sizes, response burden and expected sampling error.
4) Statistical tables to be produced, calculations of economic and statistical indicators, presentation and analysis of results
5) Other aspects (planning of training activities on survey methodology and on statistical software use and programming, revision of the whole timetable referred to SBS).

The introduction of the new pilot SBS survey has been carried out according to definitions and classification rules as mentioned in all relevant SBS regulations concerned (SBS 58/97, 410/98, 2700/98, 2056/02, 1670/03).

The survey phases have been grouped in the following items:

1) Definition of phenomena (economic performance of firms);
2) Definition of variables according to EU regulation;
3) The survey questionnaire;
4) The population of reference and observation units;
5) List of reference for the sample selection and grossing up of sampling results;
6) Sampling strategy;
7) Estimation strategy;
8) Data capturing;
9) Data editing (outliers, partial or total missing data), and
10) Dissemination and analysis of SBS indicators.

Due to lack of human resources to deal with SBS, in accordance with agreement of BHAS and two entities, the new SBS pilot survey focused only on the NACE H and I sections (Hotels and Restaurants and Transport and communications) with census survey for large and medium firms (20 and more employees) and sample survey for small firms enlarging coverage to entrepreneurs.

## 2.1 The questionnaire

Taking as example the Italian yearly SME survey questionnaire, most sections of the questionnaire form were discussed, in order to identify which questions could be relevant for the BiH context and according to questions already asked for in the actual questionnaire (IND 21) used for industry.

The all variables were checked with the SBS Regulation No 2700/98 and examples of the computation of the main indicators (value added, etc.) were made.

After a comprehensive discussion, new questionnaire was prepared and agreed among BHAS and two entities.
The prepared questionnaire form was tested in the field on a limited number of reporting units. Based on testing results certain changes were performed and final version of questionnaire for conducting of new survey was created and agreed. This common questionnaire was prepared in joint work of all BiH statistical offices. In the same way, BHAS and entities decided to use the same questionnaire form for all observation units in SBS pilot survey, for census and for sample.

New questionnaire consists of following parts: a) Identification page, b) 12 tables with relevant characteristics and 3) Contact information. The questionnaire contains the following information:

**0) Identification and structural data** – contain all identification variables and other structural variables: name, location, description of main activity, secondary activities, number of local units, status (active/inactive), legal procedures, seasonal activity, etc.)
**T 1) Revenues from business activities** – includes: revenues from sales of goods and services, resale of goods in the same condition, work undertaken for its own purpose and capitalized, subsidies on products and production, increase/decrease in the stocks of finished goods and work in progress, other operating income;
**T 2) Production costs** – contain following variables: cost of purchases of raw materials, consumables and ancillary materials; purchases value of goods for resale; purchases of energy products; purchases of services; personnel costs; amortization; other operating expenses; taxes on the products excluding VAT and other indirect taxes on production.
**T 3) Change in stocks of raw materials and goods for resale**
**T 4) Employment** – includes: owners, partners and unpaid family workers, and paid employees (annual average of persons and number of hours worked)
**T 5) Personnel costs** – includes: wages and salaries; other compensations to employees; employers' contribution to social schemes.
**T 6) External personnel and their cost** - includes: number of external personnel, number of hours worked, personnel cost.
**T 7) Gross investments in tangible goods** - includes: value of investment in material goods by kind of investment and total investment in intangible assets.
**T 8) Investment for environment protection** - includes: value of investment by activity for environment protection.
**T 9) Other data** – includes: VAT invoiced and deductible VAT; export and import of goods and services; income from rents, dividends, royalties etc; direct tax paid; total R&D expenditure etc.
**T 10) Local units** – includes: number of units, number of persons employed, personal cost, turnover, and investment.
**T 11) Kind of activity unit for enterprises with 20 + employed** - includes: number of units, number of persons employed, personnel cost, turnover, and investment.
**T 12) Retrospective data** - includes: number of employees and revenue from sales products and services for previous year.
**00) Information on the filling questionnaire and contact information** - includes: time spent for filling questionnaire; e- mail address; website; interest for filling questionnaire on-line; names of compiler and responsible persons.

## 2.2. The starting frames

### 2.2.1 Outline of the structure of the business sector

In the preparing phase of the survey, BHAS and the two entities cooperate in preparing an outline of the structure of the business sector (whole economy) at entity and country levels, with specific attention to the relative share of craft vs. legal units (in terms of units, employment and economic results) as well as to the employment size of firms, by sector of activity.

BHAS proposed the framework for preparing the tables, based on ISTAT expert's request. SBS observation units are all enterprises and entrepreneurs dealing with market production and/or production for own final consumption in NACE sections C –K, without J.

Methodologies for building up the tables were developed separately by the both entity offices and BD, depending on availability of sources of the requested information.

#### 2.2.1.1 Sources and methodology for FZS tables

Within the framework of preparations for carrying out the SBS survey, enterprises and entrepreneurs were classified into classes and activities from C to K sections, based on available information and data from current statistical surveys. Basic units that fall into category 02 (enterprises in FBiH) or 03 (entrepreneurs in FBiH) were selected from the Administrative register of business units and then the data on number of employees and realized turnover were added, on the basis of the actual database derived from previous surveys. For that purpose, the data from the Annex of Annual Financial Report (AFR) and the data from Monthly and Quarterly Distributive Trade Reports (on realized turnover of business units dealing with trade) were used.

For entrepreneurs, the data from the FZS Register of entrepreneurs and the data from the annual reports for entrepreneurs that are reporting units of Federal Tax Authority were used, only.

The tables were produced in EXCEL format for 2005 and 2006.

#### 2.2.1.2 Sources and methodology for RZSRS tables

Tables were produced for all units that were performing activities included in Sections C to K of NACE Classification (with the exception of J). The tables were produced in EXCEL format for 2005 and 2006. The tables for 2005 were produced in two versions: a) based on branch statistics data and b) based on National Accounts data.
The version for 2006 is based only on National Accounts statistics.

Data in the tables are provided for the level of a branch activities and employees, according to the classes (1-9, 10-9, 20-49, 50-99, 100-199, 200-499, 500 and more employed persons) for the following variables: a) number of enterprises or establishments, b) number of employed persons and c) annual value of turnover of products and services.

The sources of data to fill out the tables were regular statistical surveys, depending on the area of activity. Statistical data for all sections of activities (with the exception of entrepreneurs) are collected from the enterprises by reporting method.

Data included in tables are presented in four levels: first level refers to the overall data for the level of section; second level contains data for enterprises whose main and secondary activity belong to NACE C – K; the third level, the data on enterprises in the NACE sections A, B, J, M, N, O are included only for their active secondary activities from the sections C - K and the fourth level refers to the entrepreneurs for whom the data are estimated according to the National Accounts data.

Coverage - all statistical surveys related to the mentioned activities are conducted using the method of full coverage. For the purpose of conducting survey, Statistical address lists (Lists of

enterprises) are formed from the AR of business units (only active enterprises) that is kept by RZS RS and from Annual financial reports taken over from APIF. Each year Statistical address lists are supplemented and updated in line with the aforementioned sources.

### 2.2.2 List of reference for the sample selection and grossing up of sampling results

At the moment of preparing of SBS survey, a business register was not available and, as a consequence, statisticians from entity institutes made special effort to build up a list from which a sample of units were drawn. It was suggested to statistical institutions to identify and describe all sources used (administrative data, previously existing statistical databases, etc.), and general methodology concerning techniques used for putting together different lists to obtain requested list.

The lists included information on: identification code, name, complete address (including a geographic location code), economic activity, number of persons employed, possibly turnover and/or value added.

The lists for 2005 were created first, as test lists. Later on, the lists reflecting situation valid on 31. 12. 2006 were produced. The lists for enterprises and entrepreneurs were created separately.

Methodologies for building up the tables were developed by both entity offices and BD separately depending on availability of sources of the requested information.

#### 2.2.2.1 Sources and methodology for FZS lists

For the purpose of planning the survey, a simulation of business register was done on the base of the existing register of business units and register of entrepreneurs kept by FZS, and from the statistical reports: Annex of AFR for 2006, monthly and quarterly reports for 2007, concerning employment and salaries, trade, industry, catering and tourism, transport and communication.

**List of enterprises:** For category 02 (enterprises), the business units for which the activity status is A (active), D (moved into canton) or O (moved away from the canton) were selected. The business units for which the status is O (moved away) are considered inactive in the canton from which they moved away, but were taken into account here because there were only few of them and they had completed Annex for 2006, too.

All business units selected by previously described criteria were matched with Annex 2006 and only those which had completed Annex have been surveyed. In the same way, selection and matching with RAD-1 (employees and salaries) survey from August 2007 were performed and, subsequently, with TRG-1 (distributive trade) survey from August 2007.

Matched units were integrated in the following way – first, the business units matched with Annex were taken, then business units matched with RAD (which were not included in matching with Annex), and, finally, business units matched with TRG (which were not found during matching with Annex and RAD) were added. It means that all units were present only once.

Apart from identification number for each unit, the following data were also taken over: Entity, Canton, and Municipality, status of organization, form of ownership, NACE and number of employees. All these data were taken from the register of surveys from which the unit was selected after the matching was carried out. In case that some data was missing in the register of survey from which the business unit was selected, then an adequate data was assigned – if it existed – from the register of the next survey with which matching was carried out. If the data was missing for all surveys with which matching was done, then that information was taken from the administrative register of business units.

**List for entrepreneurs:** The same procedure was used for category 03 (entrepreneurs). The business units for which the activity status is A (active) or D (moved in) were selected, but business units for which the activity status was O (moved away) were excluded as it was not for

sure that entrepreneurs who moved away from one canton, will continue their business activity in another canton.

As there were no adequate surveys with which matching could be performed, only administrative register of business units from which all data were taken was used as a source of data. Since the number of employees has not been updated in this register, and most frequently, that number is 0, 1 or 2, meaning that different strata will not be created for entrepreneur's sample, this number has not been presented on the list. For both categories of business units (enterprises and entrepreneurs), new unique identification numbers were made.

#### 2.2.2.2 Sources and methodology for RZSRS lists

Starting lists of all active enterprises and entrepreneurs were prepared for the purpose of conducting SBS survey. Those should simulate a frame for sample selection. Lists (sample frame) were produced by using all available sources of information.

**List of entrepreneurs:** List of entrepreneurs was created by using administrative data from the following institutions:

- Health Insurance Fund of Republic Srpska (FZRS)
- Pension and Disability Insurance Fund of Republic Srpska (PIORS) and
- The Tax Administration of Republic Srpska (PURS).

Upon the request submitted to the FZRS, the data in the form of table were received, containing 29229 records, which that Fund treated as entrepreneurs. In addition to the other data, the mentioned table contained field with PIORS identification number.

On the other hand, for the purpose of comparability of the received data, the PIORS table that presented the situation valid on 31.08.2007 was used. That table contained 49567 records and, among other data, it also contained PIORS identification number and PURS Unique Identification Number (UIN) for the taxpayer.

The reason for integrating it with the table received by the PIORS is that the UIN that were missing in the FZRS table (there were UIN for 2463 records out of 29229) were updated in the tables concerning entrepreneurs. UIN was necessary for integration with the PURS table where unit observed can be connected with the basic unit. For the sake of registering with the PIORS, each unit in the system obtains a new registering number and there is no possibility to be linked to the basic unit.

PURS table contains data on tax payers (83465 records) that also include UIN of the tax payers.

As to the registration procedure in FZRS, which follows immediately after the PIORS registration where registering PIORS number with a sector of activity determined by the PIORS is filled in the FZRS table, it was conducted in the following way:

- As a starting point for forming the list of entrepreneurs, the FZRS list integrated with the list from PIORS (from which units which were not entrepreneurs were deleted) was used, using PIORS identification number. In this way a list with 22943 records was obtained.
- Then, the list was integrated with the list from PURS by the UIN of the basic unit. In this way, the list with 20163 records was obtained;
- Ultimately, the records that do not belong to the sections C-K (without J activity) were left out, so the final list contains 18006 records.

The data on number of employees and code of activity were taken from the FZRS table.
During some phases of list creating, certain sets of data were controlled by FZRS in order to obtain a quality of data as high as possible.

**List of enterprises**: For creating a list of enterprises, the following data were used:

- Updated administrative register of RZRS
- Data from surveys (labour force survey, transport statistics survey, trade statistics survey and survey in tourism statistics)
- Data from Annual financial report for 2006.

A starting list of legal entities from the register contained information on enterprises, which have reported changes in the administrative registers since 1997 up to now. Enterprises established in 2007 were deleted from that list as well as enterprises which initiated bankruptcy procedures.

Then, that list was compared with information obtained from statistical surveys, with the purpose of possibly adding to the list the enterprises, which were active according to the surveys. Afterwards, the enterprises, which were active according to the surveys and have not reported any change in administrative register over the last ten years, were added to the list.

The code of activity were taken from the administrative register, while number of employees were taken from the labour force survey, the data from the profit and loss accounts and administrative register, whereas the data sources were listed according to the priority given.

174 enterprises were also added to the list, the enterprises with 0 employee and which were active according to the financial indicators and data from the statistical surveys.

At the end, the units lacking any information concerning the number of employees were deleted from the list. The final list contains 8133 records.

#### 2.2.2.3 Sources and methodology for Brcko lists

**Lists of enterprises:** For the purpose of creating a list of enterprises (legal units), the data from Administrative Register of business units were used. Tax Authority for direct taxation and Brcko District Branch for Statistics jointly keep and maintain the Register.

During the first phase of creating lists, estimation of activity status of enterprises contained in the Register was performed, whether an enterprise was active or it was only formally included in the Register. Updating of the activity status was done on the base of the data from Annual Financial Report (AFR), for the enterprises which submitted those reports.

Then, the data on the value of turnover and number of employees taken from AFR were integrated in the existing lists of Register. Afterwards, an additional analysis of the data on number of employees was performed by comparing the data on the number of employees taken over from the AFR with the same data from the Annual statistical report on employees and salaries (RAD-1G).

For the purpose of creating the list, all enterprises, which reported certain turnover in AFR and for which number of employees was 0, were treated as active enterprises with 1 employee and classified into the category of the enterprises with “1 – 9 employees”.

Additional updating of the lists of active enterprises was carried out on the base of data taken over from the sectoral statistics. It especially refers to the statistics of industry, construction and trade. These activities have the largest contribution in the value added and the largest number of active units.

**Lists of entrepreneurs:** For the purpose of creating the entrepreneurs lists, the data were used from the mentioned Register, which contains data on enterprises and entrepreneurs. The data on the number of employees for the entrepreneurs was also taken from the Register.

It is important to point out that mandatory revised registration of all business units (enterprises and entrepreneurs) in Brcko District was carried out in 2002. The form for registration of business unit encompasses two data on number of employees: 1) number of employees at the time of

registering and 2) planned number of employees. It means that business units with revised registration in the Register (which were already established by 2002) have data on employees from 2002. For the business units registered after 2002, the data included in the Register refer to the number of employees in the year of their registration.

The list of entrepreneurs integrated data on the number of employees at the time of entrepreneur's (firm's) registration. It means that created list contains data on the number of employees referring to different years (from 2002 to 2006). There was no possibility for checking and updating the data from the statistical sources, because the entrepreneurs have not been monitored through statistical surveys in sectoral statistics.

Likewise, no other (administrative) sources for entrepreneurs have data on the number of employees, their business activities and business addresses.

Additional problem (due to the specific status of Brcko District) faced during lists' creation and taking over the data from AFR was actual use of two entity systems of accounting in BD. The business units with FBiH accounting system had to be separated on the list from the business units using RS accounting system. The forms with links to the corresponding chart of accounts should be delivered to the reporting units.

## 2.3 The sampling design

### 2.3.1 Theoretical aspects

***Linear estimator***

A linear estimator is defined as a linear combination of the available sample observations. It can be written as:

$$T = \sum_{i \in s} p_i y_i = \sum_{i=1}^{n} p_i y_i$$

where *s* is a generic sample including *n* units, $y_i$ is the value of the *y*-variable on the *i-th* sample unit and $p_i$ is the sampling weight given to this unit, depending on the sampling design.
If the goal is the estimation of a population mean, using a simple random sampling we have: $p_i = 1/n$ for each *i.*

If one uses a PPS design (probability proportional to size), then one has $p_i = \frac{\sum_{i=1}^{N} x_i}{Nn\, x_i}$, where *x* is an auxiliary variable (available for all the units in the population) that should be quite correlated with those object of estimation (*y*).

***Allocation of units among strata***

Proportional:
$n_h = w_h n$ .
A larger number of sampling units will be assigned to strata that are very numerous in the population.

Optimal (Neyman):

$$n_h = \frac{w_h \sigma_h}{\sum_{h=1}^{L} w_h \sigma_h} n .$$

A larger number of sampling units will be assigned *not only* to strata that are very numerous in the population, but to strata in which the variable of interest is characterized by an high degree of variability as well.

### 2.3.2 The universe of reference

The universe of references derive from databases supplied by the BiH statisticians. The elaborations on these databases were necessary in order to define populations from which the samples must be drawn. Data have been re-organized in a more synthetic scheme for each entity: final tables are available in Excel file “SBS – UNIVERSE 2006.xls”.

The tables SBS 1 and 2 below contain the number of units, the number of persons employed and the yearly turnover for each entity, separately for enterprises and entrepreneurs and by sector of economic activity. The 66,0% of enterprises and the 52,9% of entrepreneurs operate into the Fed territory, while the corresponding share in terms of turnover are equal, respectively, to 72,4% and 15,3%. Entrepreneurs are particularly relevant in RS, because the 83,1% of the turnover realized by entrepreneurs in the whole BiH derives from RS.

On the whole, in the BiH territory operate 26.674 enterprises and 60.658 entrepreneurs, so that the whole population includes 87.332 units.

## TABLE SBS 1 - MAIN INDICATORS FOR ENTERPRISES (MARKET PRODUCTION) BY CLASSES FOR 2005 - 2006 data

| Section | Sub-section | Division | Group | RS | | | FED | | | BD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Number enterprises / shops | Number of employees end of the year | Annual turnover from sales of products, services and goods 000 KM | Number enterprises / shops | Number of employees end of the year | Annual turnover from sales of products, services and goods 000 KM | Number enterprises / shops | Number of employees end of the year | Annual turnover from sales of products, services and goods 000 KM |
| **TOTAL** | | | | **7.749** | **138.615** | **9.600.285** | **17.613** | **229.692** | **25.949.210** | **1.312** | **5.837** | **290.656** |
| **C** | | | | **79** | **5.437** | **262.399** | **129** | **16.601** | **485.147** | **3** | **17** | **905** |
| | CA | | | 8 | 2.402 | 88.301 | 17 | 13.878 | 337.548 | 0 | 0 | 0 |
| | CB | | | 71 | 3.035 | 174.098 | 112 | 2.723 | 147.599 | 3 | 17 | 905 |
| **D** | | | | **1.480** | **52.445** | **1.750.667** | **3.588** | **77.994** | **6.261.543** | **171** | **1.492** | **134.988** |
| | DA | | | 240 | 7.669 | 423.056 | 582 | 12.084 | 1.266.260 | 44 | 704 | 89.334 |
| | DB | | | 108 | 6.771 | 74.567 | 266 | 9.703 | 203.524 | 8 | 31 | 501 |
| | DC | | | 43 | 4.469 | 49.349 | 60 | 4.916 | 135.475 | 6 | 11 | 1.277 |
| | DD | | | 369 | 7.816 | 250.973 | 597 | 6.282 | 362.629 | 27 | 99 | 7.693 |
| | DE | | | 117 | 1.890 | 119.702 | 381 | 3.974 | 269.127 | 0 | 0 | 0 |
| | DF | | | 4 | 576 | 45.961 | 6 | 1.314 | 154.936 | 0 | 0 | 0 |
| | DG | | | 41 | 769 | 20.466 | 84 | 2.689 | 262.707 | 5 | 56 | 9.913 |
| | DH | | | 72 | 1.384 | 57.545 | 246 | 2.207 | 228.687 | 12 | 42 | 4.561 |
| | DI | | | 79 | 1.673 | 51.675 | 258 | 4.248 | 416.672 | 14 | 61 | 3.543 |
| | DJ | | | 194 | 9.450 | 444.245 | 545 | 14.774 | 1.614.206 | 12 | 152 | 7.017 |
| | DK | | | 38 | 1.542 | 18.666 | 118 | 3.954 | 160.860 | 6 | 10 | 241 |
| | DL | | | 89 | 2.786 | 77.896 | 197 | 2.712 | 307.708 | 11 | 144 | 4.454 |
| | DM | | | 21 | 2.239 | 22.290 | 44 | 2.228 | 308.219 | 0 | 0 | 0 |
| | DN | | | 65 | 3.411 | 94.275 | 204 | 6.909 | 570.532 | 26 | 182 | 6.454 |
| **E** | | | | **119** | **9.982** | **658.520** | **111** | **12.402** | **1.305.025** | **4** | **195** | **5.717** |
| | | 40 | | 40 | 6.478 | 584.252 | 33 | 7.934 | 1.180.641 | 1 | 110 | 2.395 |
| | | 41 | | 79 | 3.504 | 74.267 | 78 | 4.468 | 124.384 | 3 | 85 | 3.322 |
| **F** | | | | **645** | **13.497** | **552.539** | **1.630** | **24.985** | **1.386.228** | **115** | **789** | **43.205** |
| | | | 45.1 | 43 | 476 | 24.197 | 113 | 620 | 74.724 | 9 | 18 | 322 |
| | | | 45.2 | 358 | 10.229 | 417.481 | 589 | 18.860 | 1.009.946 | 67 | 528 | 30.596 |
| | | | 45.3 | 144 | 1.846 | 69.882 | 413 | 2.681 | 165.317 | 19 | 97 | 7.928 |
| | | | 45.4 | 96 | 940 | 40.684 | 498 | 2.774 | 132.788 | 20 | 146 | 4.359 |
| | | | 45.5 | 4 | 6 | 296 | 17 | 50 | 3.453 | 0 | 0 | 0 |
| **G** | | | | **3.895** | **34.927** | **5.183.717** | **7.935** | **55.555** | **12.972.340** | **832** | **2.609** | **73.095** |
| | | 50 | | 401 | 3.486 | 521.749 | 942 | 7.009 | 1.738.878 | 77 | 415 | 15.234 |
| | | 51 | | 2.025 | 15.297 | 3.273.139 | 3.875 | 30.733 | 9.067.246 | 461 | 1.091 | 37.261 |
| | | 52 | | 1.469 | 16.144 | 1.388.829 | 3.118 | 17.813 | 2.166.216 | 294 | 1.103 | 20.600 |
| **H** | | | | **155** | **2.383** | **47.625** | **490** | **3.924** | **117.959** | **25** | **80** | **1.326** |
| | | | 55.1 + 55.2 | 64 | 1.578 | 20.572 | 133 | 2.288 | 71.808 | 2 | 42 | 1.111 |
| | | | 55.3 + 55.4 + 55.5 | 91 | 805 | 27.053 | 357 | 1.636 | 46.151 | 23 | 38 | 215 |
| **I** | | | | **685** | **14.233** | **761.206** | **1.588** | **25.110** | **2.083.897** | **65** | **286** | **15.086** |
| | | | 60.1 | 5 | 3.171 | 35.426 | 2 | 3.811 | 66.552 | 0 | 0 | 0 |
| | | | 60.2 | 460 | 4.350 | 176.575 | 1.191 | 10.769 | 731.390 | 48 | 187 | 11.466 |
| | | | 60.3 | 2 | 5 | 1.500 | 1 | 37 | 178.782 | 0 | 0 | 0 |
| | | 61 | | 2 | 3 | 85 | 0 | 0 | 0 | 1 | 60 | 0 |
| | | 62 | | 2 | 10 | 294 | 6 | 117 | 15.977 | 0 | 0 | 0 |
| | | | 63.1 | 6 | 24 | 1.197 | 10 | 185 | 11.268 | 0 | 0 | 0 |
| | | | 63.2 | 16 | 334 | 17.190 | 16 | 475 | 31.170 | 1 | 1 | 4 |
| | | | 63.3 | 30 | 330 | 12.530 | 104 | 475 | 53.844 | 2 | 4 | 1.230 |
| | | | 63.4 | 121 | 1.014 | 125.201 | 185 | 1.213 | 76.258 | 9 | 17 | 918 |
| | | | 64.1 | 2 | 2.309 | 34.544 | 7 | 3.146 | 95.927 | 0 | 0 | 0 |
| | | | 64.2 | 39 | 2.683 | 356.664 | 66 | 4.882 | 822.730 | 4 | 17 | 1.468 |
| **K** | | | | **691** | **5.711** | **383.612** | **2.142** | **13.121** | **1.337.071** | **97** | **369** | **16.334** |
| | | 70 | | 54 | 228 | 8.396 | 137 | 1.030 | 55.141 | 12 | 69 | 1.344 |
| | | 71 | | 22 | 95 | 8.065 | 86 | 222 | 31.497 | 3 | 5 | 224 |
| | | 72 | | 81 | 482 | 29.722 | 300 | 1.345 | 122.165 | 6 | 11 | 436 |
| | | 73 | | 19 | 246 | 7.116 | 51 | 1.037 | 173.502 | 0 | 0 | 0 |
| | | 74 | | 515 | 4.660 | 330.312 | 1.568 | 9.487 | 954.766 | 76 | 284 | 14.330 |

## TABLE SBS 2 - MAIN INDICATORS FOR ENTREPRENEURS (MARKET PRODUCTION) BY SECTION FOR 2005 - 2006 data

| Section | RS | | | FED | | | BD | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number entrepreneurs | Number of employees end of the year | Annual turnover from sales of products, services and goods 000 KM | Number entrepreneurs | Number of employees end of the year | Annual turnover from sales of products, services and goods 000 KM | Number entrepreneurs | Number of employees end of the year | Annual turnover from sales of products, services and goods 000 KM |
| **TOTAL** | **25.640** | **62.921** | **3.665.886** | **32.094** | **40.519** | **672.734** | **2.924** | **3.882** | **72.170** |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 1.710 | 3.741 | 119.730 | 4.649 | 5.469 | 105.884 | 182 | 501 | 4.430 |
| E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 360 | 809 | 33.580 | 1.503 | 1.914 | 37.033 | 69 | 75 | 3.618 |
| G | 12.145 | 24.290 | 2.623.906 | 12.543 | 17.195 | 195.451 | 1.931 | 2.408 | 37.268 |
| H | 5.664 | 28.320 | 768.471 | 6.845 | 9.636 | 209.097 | 358 | 481 | 11.824 |
| I | 5.055 | 5.055 | 76.134 | 4.261 | 4.224 | 69.671 | 275 | 293 | 10.551 |
| K | 706 | 706 | 44.065 | 2.293 | 2.081 | 55.599 | 109 | 124 | 4.479 |

### 2.3.3 The sampling designs

Starting form the size of the universe existing in the BiH territory, for each entity four sampling designs were elaborated, according to the following rules:

1) Inside each entity, all the units in the populations have been stratified according to the economic activity (the level of details corresponds to the level of details supplied by the BiH experts), the number of persons employed (1-9, 10-19, >19) and the possibility that a unit is an enterprise or an entrepreneur.
2) 4 sampling designs were elaborated on the basis of 4 theoretical sampling rates: 2,5%, 5%, 10% and 20% (these figures indicate the ratio between the number of units in the sample and the number of units in the whole population).
3) A general rule was imposed as to apply a census survey for all the units with at least 20 persons employed, and to use a sampling survey for the units with less than 20 persons employed only.
4) The sample units were allocated among strata using the proportional rule.
5) For the units with less than 20 persons employed, ithere is the rule that in each stratum, if in the population the stratum contains less than 6 units, then the sample will include all the units (e.g., we apply a census in the stratum). Moreover, an additional rule is that if according to the proportional allocation the sample units into a stratum are less than 6, then by default the final sample units will always be fixed to 5 (for instance, if the population of a given stratum consists in 20 units and we are applying a proportional allocation with a sampling rate equal to 10%, then we should draw from the stratum only 20x0,1=2 units. In this case the final number of sampling units will be automatically moved to 5).
6) As a consequence of rules 4) and 5) above, the final theoretical sampling rate will be quite always higher then the pre-fixed initial sampling rate. For instance, for the total BiH starting from a theoretical sampling rate equal, respectively, to 2,5%, 5%, 10% and 20%, the final theoretical sampling rates that satisfy rules 4) and 5) are equal, respectively, to 6,5%, 8,7%, 13,3% and 22,6% (including enterprises and entrepreneurs together, see for more details table RS 1).

The next tables BiH 1, BD 1, FED 1 and RS 1 summarise the sampling designs for the single entities, separately for enterprises and entrepreneurs and according to the 4 sampling rates.

More detailed tables – where samples have been designed for each economic activity and class of persons employed – are available in the Excel file “SBS – SAMPLING DESIGN 2006.xls”, looking at the worksheet named as “BD SAMPLE 2006”, “FED SAMPLE 2006”, “RS SAMPLE 2006” and “TOTAL BiH SAMPLE 2006”. In each worksheet there are 3 tables:

1) Table 1: it presents data for both enterprises and entrepreneurs
2) Table 2: it contains the detailed samples for enterprises (by economic activity and class of persons employed).
3) Table 3: it contains the detailed samples for entrepreneurs (by economic activity)

The agreement on the final sampling design that will be adopted does not complete the technical issue concerning this topic. As a matter of fact, the further step will consist in the building up of lists of units that should be as much as possible coherent with the population supplied and on the basis of which these elaborations have been carried out. Moreover, there is the need to draw the sample according to a simple random sampling inside each stratum (excluding, of course, those strata that will be object of a census).

If the universes derived from the lists will no be the same than those used for running these first elaborations, there is the need to adjust properly the sampling designs available right now.

## TABLE BiH 1 - 4 THEORETICAL SAMPLES (ENTERPRISES + ENTREPRENEURS) - SUM: BD+FED+RS - 2006 data

| | | | | NUMBER OF UNITS | | | | | EXPECTED % COVERAGE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample | | | | | Sample | | | |
| Section | Division | Group | Stratum | Universe | 0,2 | 0,1 | 0,05 | 0,025 | Universe | 0,2 | 0,1 | 0,05 | 0,025 |
| **TOTAL** | | | **Total** | **87.332** | **19.721** | **11.613** | **7.623** | **5.678** | **100,0** | **22,6** | **13,3** | **8,7** | **6,5** |
| TOTAL | | | Enterprises | 26.674 | 7.891 | 5.649 | 4.588 | 4.103 | 100,0 | 29,6 | 21,2 | 17,2 | 15,4 |
| TOTAL | | | Entrepreneurs | 60.658 | 11.830 | 5.964 | 3.035 | 1.575 | 100,0 | 19,5 | 9,8 | 5,0 | 2,6 |

## TABLE BD 1 - 4 THEORETICAL SAMPLES (ENTERPRISES + ENTREPRENEURS) - 2006 data

| | | | | NUMBER OF UNITS | | | | | EXPECTED % COVERAGE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample | | | | | Sample | | | |
| Section | Division | Group | Stratum | Universe | 0,2 | 0,1 | 0,05 | 0,025 | Universe | 0,2 | 0,1 | 0,05 | 0,025 |
| **TOTAL** | | | **Total** | **4.236** | **1.028** | **666** | **498** | **421** | **100,0** | **24,3** | **15,7** | **11,8** | **9,9** |
| TOTAL | | | Enterprises | 1.312 | 401 | 305 | 267 | 249 | 100,0 | 30,6 | 23,2 | 20,4 | 19,0 |
| TOTAL | | | Entrepreneurs | 2.924 | 627 | 361 | 231 | 172 | 100,0 | 21,4 | 12,3 | 7,9 | 5,9 |

## TABLE FED 1 - 4 THEORETICAL SAMPLES (ENTERPRISES + ENTREPRENEURS) - 2006 data

| | | | | NUMBER OF UNITS | | | | | EXPECTED % COVERAGE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample | | | | | Sample | | | |
| Section | Division | Group | Stratum | Universe | 0,2 | 0,1 | 0,05 | 0,025 | Universe | 0,2 | 0,1 | 0,05 | 0,025 |
| **TOTAL** | | | **Total** | **49.707** | **11.318** | **6.561** | **4.203** | **3.053** | **100,0** | **22,8** | **13,2** | **8,5** | **6,1** |
| TOTAL | | | Enterprises | 17.613 | 4.900 | 3.352 | 2.596 | 2.247 | 100,0 | 27,8 | 19,0 | 14,7 | 12,8 |
| TOTAL | | | Entrepreneurs | 32.094 | 6.418 | 3.209 | 1.607 | 806 | 100,0 | 20,0 | 10,0 | 5,0 | 2,5 |

## TABLE RS 1 - 4 THEORETICAL SAMPLES (ENTERPRISES + ENTREPRENEURS) - 2006 data

| | | | | NUMBER OF UNITS | | | | | EXPECTED % COVERAGE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample | | | | | Sample | | | |
| Section | Division | Group | Stratum | Universe | 0,2 | 0,1 | 0,05 | 0,025 | Universe | 0,2 | 0,1 | 0,05 | 0,025 |
| **TOTAL** | | | **Total** | **33.389** | **7.375** | **4.386** | **2.922** | **2.204** | **100,0** | **22,1** | **13,1** | **8,8** | **6,6** |
| TOTAL | | | Enterprises | 7.749 | 2.590 | 1.992 | 1.725 | 1.607 | 100,0 | 33,4 | 25,7 | 22,3 | 20,7 |
| TOTAL | | | Entrepreneurs | 25.640 | 4.785 | 2.394 | 1.197 | 597 | 100,0 | 18,7 | 9,3 | 4,7 | 2,3 |

### 2.3.4 Estimate of the sampling error

At the moment, the estimate of the sampling error is a first attempt to assess the degree of precision of estimates based on a sampling survey as that object of interest. As a consequence, these estimates should be seen as a useful, but at the moment quite raw additional information.

We have summarised main results in the following table BiH 4, for enterprises only (entrepreneurs have been excluded, because quite less information on them is available), for the total BiH and the single entities.

The figures concerning the estimated sampling errors must be interpreted, for each sampling rate, as the largest expected percent error that we are going to face using a given sampling design and with the purpose to estimate the average yearly turnover (mean of turnover for each unit).

Even though more details on the basic concepts of sampling theory will be considered more in details in the next future, we resume in a few words what is the rationale leading to figures in table 4.

If we indicate as $T$ an estimator (based on a sampling survey) of an unknown population parameter $\theta$, then we know that, for large samples, with the 95% of probability the largest expected percent estimate error will be given by:

$$Error\%_{(95\%)} = \frac{\pm 1{,}96\sqrt{Var(T)}}{T} = \pm 1{,}96CV \qquad (1)$$

where $Var(T)$ is the sampling variance of the estimator $T$ and CV is the sampling coefficient of variation of the estimator, given by the ratio between the standard deviation and the estimator itself. In particular, if $T$ is given by the stratified sampling estimator, we have that:

$$T = \sum_{h=1}^{L} w_h \bar{y}_{sh} \qquad (2)$$

where $L$ is the number of strata, $w_h=N_h/N$, $N_h$ is the number of units in the population belonging to the stratum $h$, $N$ is the overall population size and $\bar{y}_{sh}$ is the sample mean in the stratum $h$. We also know that using a simple random sampling inside each stratum we have that:

$$Var(T) = \sum_{h=1}^{L} w_h^2 (1 - f_h) \frac{\sigma_h^2}{n_h} \qquad (3)$$

where $n_h$ is the number of sampling unit in the stratum $h$, $f_h=n_h/N_h$ is the sampling rate in the stratum $h$ and $\sigma_h^2$ is the variance of the variable of interest in the population (that could be estimated using the sample data, when they will be observed). Since this last variance cannot be known in advance, we have worked out two hypotheses: 1) the ratio between the standard deviation $\sigma_h$ and the unknown population mean is equal to one; 2) the previous ratio is equal to 1,5 (higher variability of the individual turnover in the population).

Let's note that this variance can be estimated using the following unbiased estimator of the sampling variance got using the available sample data (in the formula $\bar{y}_s$ is the sample mean):

$$\hat{\sigma}_h^2 = \frac{\sum_{i=1}^{n} (y_i - \bar{y}_s)^2}{n-1} . \qquad (4)$$

It is important to underline that, according to (3) – that represents the variance of the estimator and, so, an estimate of the squared estimate error expressed in its original measure unit – the sampling error will be lower if a large number of sampling unit is used and/or if the population variance in each stratum is low. Strata that are object of a census give a null contribution to the overall variance, because in that case $(1-f_h)=0$.

Figures in the right part of table 4 correspond to (1), according to the 2 above mentioned hypotheses for the ratio between standard deviation and mean. The variable of interest is the average yearly turnover.

For the total BiH, supposing a ratio equal to 1 (low-medium population variability) we expect for a percent error ranging from 0,17% using a sampling rate of 2,5% and 0,11% using a sampling rate of 20% (the relative gain in using a quite larger sample is less than proportional). Supposing a ratio equal to 1,5 (medium-high population variability) we expect for a percent error ranging from 0,26% using a sampling rate of 2,5% and 0,16% using a sampling rate of 20%.

An analogous interpretation can be given to figures concerning the single entities. The higher percent error for BD is due to the fact that errors are expressed in a percent form respect to the average level of the unknown parameter: since for BD this average level will be quite low (the average turnover per enterprise is 222.000 KM for BD, against 1.344.000 for the whole BiH), consequently the relative error will be higher (it is more difficult to guarantee a certain percent precision level when the parameter to be estimated is low).

**TABLE BiH 4 - ESTIMATE OF THE SAMPLING ERROR WITH 4 THEORETICAL SAMPLES (ENTERPRISES)**

| ENTITY | Number | Average turnover (000) | % weight number | % weight turnover | Ratio between standard deviation and mean = 1 | | | | Ratio between standard deviation and mean = 1,5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample | | | | Sample | | | |
| | | | | | 0,2 | 0,1 | 0,05 | 0,025 | 0,2 | 0,1 | 0,05 | 0,025 |
| **Total BiH** | **26.674** | **1.344** | **100,0** | **100,000** | **0,11** | **0,14** | **0,16** | **0,17** | **0,16** | **0,21** | **0,24** | **0,26** |
| **RS** | 7.749 | 1.239 | 29,1 | 26,79 | 0,22 | 0,27 | 0,30 | 0,31 | 0,33 | 0,40 | 0,44 | 0,47 |
| **FED** | 17.613 | 1.473 | 66,0 | 72,40 | 0,13 | 0,16 | 0,19 | 0,20 | 0,19 | 0,24 | 0,28 | 0,31 |
| **BD** | 1.312 | 222 | 4,9 | 0,81 | 0,42 | 0,51 | 0,55 | 0,58 | 0,63 | 0,76 | 0,83 | 0,86 |

The table includes the highest expected sampling error (plus or minus) respect to the turnover mean using simple random sampling without replacement and the sample mean (1,96CV).

### 2.3.5 The final Sample

The first experiment of a complete SBS survey of enterprises has been done as a pilot survey on a reduced subset of the population. Only some sector of services (Hotel, restaurants, transport and communications) have been considered and finally the figures about the sample units have been produced.

**Table 2.3.5.1** – Final Sample in RS

**ENTITY: RS**
**ENTERPRISES**
**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 27 | 18 | 29 | 74 |
| 55.3+55.4+55.5 | 85 | 12 | 12 | 109 |
| 60.1 | | | 1 | 1 |
| 60.2 | 406 | 55 | 41 | 502 |
| 60.3 | 3 | | | 3 |
| 62 | 1 | | | 1 |
| 63.1 | 6 | 2 | | 8 |
| 63.2 | 10 | 1 | 5 | 16 |
| 63.3 | 26 | 4 | 1 | 31 |
| 63.4 | 83 | 20 | 5 | 108 |
| 64.1 | 1 | 1 | 1 | 3 |
| 64.2 | 34 | 5 | 2 | 41 |
| **Total** | **682** | **118** | **97** | **897** |
| **Total 55-64** | **682** | **118** | **97** | **897** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 5 | 5 | 29 | 39 |
| 55.3+55.4+55.5 | 9 | 5 | 12 | 26 |
| 60.1 | | | 1 | 1 |
| 60.2 | 41 | 6 | 41 | 88 |
| 60.3 | 3 | | | 3 |
| 62 | 1 | | | 1 |
| 63.1 | 5 | 2 | | 7 |
| 63.2 | 5 | 1 | 5 | 11 |
| 63.3 | 5 | 4 | 1 | 10 |
| 63.4 | 8 | 5 | 5 | 18 |
| 64.1 | 1 | 1 | 1 | 3 |
| 64.2 | 5 | 5 | 2 | 12 |
| **Total** | **88** | **34** | **97** | **219** |
| **Total 55-64** | **88** | **34** | **97** | **219** |

**ENTREPRENEURS**
**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 61 | 1 | | 62 |
| 55.3+55.4+55.5 | 3,607 | 43 | 8 | 3,658 |
| 60.1 | 6 | | | 6 |
| 60.2 | 1,540 | | 1 | 1,541 |
| 60.3 | 4 | | | 4 |
| 62 | 1 | | | 1 |
| 63.1 | 1 | | | 1 |
| 63.2 | 200 | 1 | | 201 |
| 63.4 | 3 | | | 3 |
| 64.2 | 4 | | | 4 |
| **Total** | **5,427** | **45** | **9** | **5,481** |
| **Total 55-64** | **5,427** | **45** | **9** | **5,481** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 12 | 1 | | 13 |
| 55.3+55.4+55.5 | 721 | 9 | 8 | 738 |
| 60.1 | 5 | | | 5 |
| 60.2 | 308 | | 1 | 309 |
| 60.3 | 4 | | | 4 |
| 62 | 1 | | | 1 |
| 63.1 | 1 | | | 1 |
| 63.2 | 40 | 1 | | 41 |
| 63.4 | 3 | | | 3 |
| 64.2 | 4 | | | 4 |
| **Total** | **1,099** | **11** | **9** | **1,119** |
| **Total 55-64** | **1,099** | **11** | **9** | **1,119** |

**Table 2.3.5.2** – Final Sample in FED

**ENTITY: FED**

**ENTERPRISES**

**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 83 | 19 | 32 | 134 |
| 55.3+55.4+55.5 | 327 | 22 | 11 | 360 |
| 60.1 | 1 | | 1 | 2 |
| 60.2 | 1,021 | 90 | 85 | 1,196 |
| 60.3 | | | 1 | 1 |
| 62 | 4 | | 2 | 6 |
| 63.1 | 7 | 2 | 1 | 10 |
| 63.2 | 12 | 1 | 3 | 16 |
| 63.3 | 95 | 6 | 3 | 104 |
| 63.4 | 157 | 20 | 8 | 185 |
| 64.1 | 3 | | 4 | 7 |
| 64.2 | 52 | 4 | 9 | 65 |
| **Total** | **1,762** | **164** | **160** | **2,086** |
| **Total 55-64** | **1,762** | **164** | **160** | **2,086** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 8 | 5 | 32 | 45 |
| 55.3+55.4+55.5 | 33 | 5 | 11 | 49 |
| 60.1 | 1 | | 1 | 2 |
| 60.2 | 102 | 9 | 85 | 196 |
| 60.3 | | | 1 | 1 |
| 62 | 4 | | 2 | 6 |
| 63.1 | 5 | 2 | 1 | 8 |
| 63.2 | 5 | 1 | 3 | 9 |
| 63.3 | 10 | 5 | 3 | 18 |
| 63.4 | 16 | 5 | 8 | 29 |
| 64.1 | 3 | | 4 | 7 |
| 64.2 | 5 | 4 | 9 | 18 |
| **Total** | **192** | **36** | **160** | **388** |
| **Total 55-64** | **192** | **36** | **160** | **388** |

**ENTREPRENEURS**

**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | | | | 139 |
| 55.3+55.4+55.5 | | | | 9,057 |
| 60.1 | | | | 3 |
| 60.2 | | | | 4,829 |
| 63.1 | | | | 1 |
| 63.2 | | | | 14 |
| 63.3 | | | | 18 |
| 63.4 | | | | 2 |
| 64.2 | | | | 8 |
| **Total** | | | | **14,071** |
| **Total 55-64** | | | | **14,071** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | | | | 27 |
| 55.3+55.4+55.5 | | | | 1,811 |
| 60.1 | | | | 3 |
| 60.2 | | | | 965 |
| 63.1 | | | | 1 |
| 63.2 | | | | 5 |
| 63.3 | | | | 5 |
| 63.4 | | | | 2 |
| 64.2 | | | | 5 |
| **Total** | | | | **2,824** |
| **Total 55-64** | | | | **2,824** |

**Table 2.3.5.3** – Final Sample in BRCKO

**ENTITY: BRCKO**
**ENTERPRISES**
**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 2 | | 1 | 3 |
| 55.3+55.4+55.5 | 17 | | | 17 |
| 60.2 | 35 | 2 | 1 | 38 |
| 63.1 | | | 1 | 1 |
| 63.2 | 1 | | | 1 |
| 63.3 | 2 | | | 2 |
| 63.4 | 6 | | | 6 |
| 64.2 | 5 | | | 5 |
| **Total** | **68** | **2** | **3** | **73** |
| **Total 55-64** | **68** | **2** | **3** | **73** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 2 | | 1 | 3 |
| 55.3+55.4+55.5 | 5 | | | 5 |
| 60.2 | 7 | 2 | 1 | 10 |
| 63.1 | | | 1 | 1 |
| 63.2 | 1 | | | 1 |
| 63.3 | 2 | | | 2 |
| 63.4 | 5 | | | 5 |
| 64.2 | 5 | | | 5 |
| **Total** | **27** | **2** | **3** | **32** |
| **Total 55-64** | **27** | **2** | **3** | **32** |

**ENTREPRENEURS**
**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 4 | 1 | | 5 |
| 55.3+55.4+55.5 | 341 | | | 341 |
| 60.2 | 259 | | | 259 |
| 63.1 | 1 | | | 1 |
| 63.2 | 5 | | | 5 |
| 64.2 | 3 | | | 3 |
| **Total** | **613** | **1** | **0** | **614** |
| **Total 55-64** | **613** | **1** | **0** | **614** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| 55.1+55.2 | 4 | 1 | | 5 |
| 55.3+55.4+55.5 | 34 | | | 34 |
| 60.2 | 26 | | | 26 |
| 63.1 | 1 | | | 1 |
| 63.2 | 5 | | | 5 |
| 64.2 | 3 | | | 3 |
| **Total** | **73** | **1** | **0** | **74** |
| **Total 55-64** | **73** | **1** | **0** | **74** |

**Table 2.3.5.3** – Final Sample in BiH

**ENTITY: RS + FED + BRCKO**
**ENTERPRISES**
**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| **Total** | **2,512** | **284** | **260** | **3,056** |
| **Total 55-64** | **2,512** | **284** | **260** | **3,056** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| **Total** | **307** | **72** | **260** | **639** |
| **Total 55-64** | **307** | **72** | **260** | **639** |

**ENTREPRENEURS**
**UNIVERSE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| **Total** | **6,040** | **46** | **9** | **20,166** |
| **Total 55-64** | **6,040** | **46** | **9** | **20,166** |

**SAMPLE 2006**

| | Employment class | | | |
|---|---|---|---|---|
| **NACE** | **1** | **2** | **3** | **Total** |
| **Total** | **1,172** | **12** | **9** | **4,017** |
| **Total 55-64** | **1,172** | **12** | **9** | **4,017** |

## 2.4 Testing of the questionnaire

The three statistical institutions reached an agreement on common form of SBS Questionnaire for testing in mid of December of 2007. The testing of SBS questionnaire, by reporting units, has been assessed as very important issues. Basic aim of the testing was to verify whether all questions in the Questionnaire are appropriate, i.e. whether some questions should be changed, deleted or better explained. In addition, the testing was aimed at checking the possibility of obtaining requested data and the coherence of the grouped items in the questionnaire, whether they properly connected and consistent with items recorded by enterprises and entrepreneurs in their files.

Elaborations were based on the last available 2006 data supplied by each entity. It was agreed between ISTAT expert and local experts, that for testing it is not necessary to go into details regarding economic activities of the selected units. It is enough to guarantee statistical significance (of course, separately for each entity) for the level of activity sections that means in total for: Industry, Construction, Trade, Hotels and restaurants, Transportation and communications, and Other services. All entrepreneurs (shops/crafts) are treated separately as one separate activity.

The basic idea for selecting units for testing was to use small sub-samples. So, it was selected: a) 1% of units included in theoretical sample for Industry, Construction and Entrepreneurs; and b) 2% of units included in theoretical sample for Trade, Hotels and restaurants, and Transportation and communications. Beside that a practical rule has been added that each branch within the entity needs to select at least two units.

.

In this way the overall test sample for the whole BiH included 251 units, of which 133 enterprises and 118 entrepreneurs. Test sample sizes for the single entities were: 142 units for FED, 89 for RS and 20 for BD.

It was up to the entity statistical institutes to select units, enterprises and entrepreneurs for testing. It means that the entities were free to select units within each activity. The additional recommendation by ISTAT was that sufficient number of small units, enterprises, and entrepreneurs should be included in the testing. Above-mentioned “small” implies that unit has less than 20 employees. It was recommended to choose approximately 50% of small units. Overall, for BiH, 128 small units should be tested out of 251.

As draft of questionnaire for testing was prepared at the beginning of November 2007 BHAS tried organizing a joint meeting to discuss the draft, soon after the preparation. However, the entity statistical institutes were too busy with other duties, at that time. So, the meeting was held at the beginning of December 2007 and testing form of questionnaire was agreed and testing could start.

RIS commenced testing of questionnaire in the middle of December 2007 and completed it at beginning of January 2008. FIS commenced testing questionnaire at the beginning of January 2008 and finished it by the end of the month. Brcko District conducted testing in December 2007.

Interview method was used for testing units. During discussions with chosen units statisticians looked for the best way to link the content of questionnaire with available accounting files and at the same time to acquire variables in line with SBS definitions.

Single legal units, were selected intentionally and those were, mostly, the units with which statistical institutes have good cooperation trough other statistical surveys. The principle was adopted in order to achieve better efficiency in defining the content and particular items in the questionnaire.

Questionnaire needed to fulfill requirements defined by SBS methodology and at the same time to be suitable for reporting unit. The aim was to match, as close as possible, the items from SBS surveys with accounting records that legal units keep.

Only, the content of the questionnaire, the description of questions, suitability for units, and consistency of groupings was tested. So, SBS questionnaire was tested itself in this action, but not the methods of collecting of data, and processing data or reasons for non-response. The form of questionnaire was the same for enterprises and for entrepreneurs. To entrepreneurs had possibility to fill in only items of totals, unless their bookkeeping records do not allow more detailed data.

But, due to insufficient number of statistical staff and because of other responsibilities (including, also, activities related to other Twinning sub-component) neither FIS nor RZS statisticians were in situation to do testing of total number of proposed units. The second frustrating circumstance, which resulted in fewer number of units tested, was work overload at reporting units chosen for testing. At that time (the end of the year and beginning of the new one) units have lots obligations (for example completing of annual financial reports). In this way the testing in both entities was conducted on the number that represents around 55% of proposed number of units. Only, in Brcko District testing was conducted on the total number of units.

### General comments received from the tested units

General comments received from the tested units from both entities and BD could be summarised as follows:

- The questionnaire is too comprehensive;
- The questionnaire asks for several data that units already supplied trough other surveys, such as: Annex of the Annual Financial Report, data on salaries (RAD) and investment (INV).
- Data on local units should be collected trough separate questionnaire forms for each unit.

Simple form of questionnaire should be prepared for entrepreneurs and adjusted, also, for the entrepreneurs which apply the single accounting system.

- SBS questionnaire requires establishment of additional analytical records in legal units.

- Each statistical survey is additional burden for the units.

- Chosen time for testing was not suitable for units due to summing up of the business results

### Changes made on SBS questionnaire for pilot survey

In general, the prepared questionnaire was assessed as rather good. The mentioned general comments are really welcome, but they are going to be fully considered in the planning of regular SBS survey for 2008 reference year. For the time being there was no time to accept them and to simplify forms for small units.

Other particular comments, given on tables or questions, were considered and accepted if they marked as constructive. That kind of comments was incorporated in SBS questionnaire for survey conducted within the Project. Testing pointed to the need for preparing more detailed Instructions for filling in the questionnaire. It was done; the Instruction clarifies all items that may be interpreted in

different ways. Besides, linking of certain parts of accountant items with the items in the questionnaire was improved and added to questionnaire.

## Conclusion

Though fewer units were tested than it was anticipated, it was considered that the main objective of the testing has not been jeopardized. It means that according to the tested number of units we could make relevant conclusions.

The units which participated in this action gave an important contribution to the improvement of the Questionnaire content and quality.

Testing took part in a very inconvenient time for legal units. Real survey, according to legal units' recommendations, will be carried out from the middle of March until the end of April of current year for referring year.

Finally, it must be remarked that, due to the fact that only two sections were included in the survey, the form was modified. Certain labels of the fields were adjusted to the chart of accounts. For each item in the form, a link was established with the accounting codes used in FBiH, to facilitate filling in the questionnaires and to improve the data quality.

## 3. The new surveys: operational issues and outcomes

### 3.1 Carrying out the new surveys

SBS pilot survey encompasses NACE H and I sections (Hotels and Restaurants and Transport and Communication). The data were collected for 2007, as reference year.

From the sample obtained by ISTAT 4656 observation units were included in the survey in whole BiH; those were 639 enterprises and 4017 entrepreneurs. In FBiH 3212 units were included (388 enterprises and 2824 entrepreneurs). In RS 1338 units were included (219 enterprises and 1119 entrepreneurs). In BD 106 units were included (32 enterprises and 74 entrepreneurs).

During the survey preparation phase, three different classes of enterprises by size were identified (depending on the number of employees): class from 1 to 9, class from 10 to 19 and class of 20 and more employees.

On the basis of the starting lists produced, it was decided that for small enterprises (up to 20 employees) the survey should be carried out on the sample, and a complete coverage - census should be performed for medium and large enterprises for 20 and more employees.

Questionnaire forms were printed with basic identification data for each reporting unit pre-printed in advance (name of enterprise, registration number for the enterprise, identification number – for entrepreneurs, address – street and number, municipality and telephone number) and unique ordinal numbers assigned to each form (three copies for each unit).

Trainings for statisticians were carried out in regional departments in order to clarify and to prepare the statisticians on the field for the contacts with reporting units while carrying out survey.

#### 3.1.1 Organizing and carrying out survey in FZS

From the sample obtained by ISTAT which was produced on the base of previously prepared frame, 3212 observation units were included in the survey; those were 388 enterprises and 2824 entrepreneurs.

In the second part of March, the material was prepared for printing. It included: SBS form and methodological explanation, letter to the enterprises and entrepreneurs with explanation why the form was sent to them, list of directories of enterprises' and entrepreneurs' reporting units for the survey's coverage (4 lists, as well as a letter to cantonal departments and offices, containing instructions for carrying out the survey).

The instruction meeting with cantonal departments and offices was held on 30$^{th}$ March, and on the same day, the cantonal departments and offices took over tools (all materials) for carrying out the survey. After that, cantonal departments distributed the SBS material to the reporting units.

Throughout April, the fieldwork was completed. During May, a certain number of reporting units were contacted for data checking; it especially referred to the status and activity of the enterprises, i.e., entrepreneurs.

**Collecting and checking data** : In order to monitor activities related to the survey on the field, FZS produced instructions to business units and entrepreneurs in cantons and municipalities, as well as 2 forms for following the rate of response: a) form on the status of enterprise and b) reporting form.

The form for monitoring 'the status of the enterprise' includes 9 modalities: 0-implies that the enterprise is active but has not responded; 1- the enterprise is active, it responded and it belongs to the stratum in which it is selected; 2- the enterprise is dead; 3- cessation of the observed activity (usually before termination of business); 4- enterprise is temporary not active; 5- enterprise is in the process of liquidation; 6- questionnaire is not delivered to the enterprise; 7- the activity of the enterprise is not included in the questionnaire; 8- wrong classification; 9- other.

In line with the "Reporting form", cantonal departments and offices were preparing records on the number of collected and not-collected questionnaires and data on the enterprises which had the intention to provide data within a reasonable time.

Summed up reports from cantonal offices were regularly delivered to FZS in Sarajevo. They served as a basis for preparing total comprehensive report for FBiH, which was submitted to BHAS so as to inform them on the process of carrying out fieldwork.

During the process of collecting filled questionnaires, logical and calculation controls of data in the questionnaires were continually performed, necessary corrections were performed through the contacts with reporting units, as appropriate. FZS would contact cantonal departments on a daily base to check whether the organization of the survey was functional, as well as to solve possible methodological and other issues.

Big public enterprises were directly contacted by the FZS's employees from the Department of trade, catering, tourism and communication, who with their expert participation and instructions contributed to have better filling in of the questionnaires, in accordance with methodological explanations.

The data from cantonal departments and offices were arriving continually, they were checked and analyzed, and where it was necessary, the adjustments were done. At the end of the conduction of the survey, the data from the cantonal departments and offices were integrated into one database, analyzed once again and compared with the sample database to ensure better coverage of the reporting units for this survey according to the planned strata. Then the database in appropriate format was submitted to the BHAS within the scheduled deadlines.

During the carrying out of the survey, the reporting units were fair with regards to the filling in the questionnaires. The problems were faced in full cooperation with the entrepreneurs: they mostly concerned a poor updating of the basic register used for sampling and the fact that entrepreneurs did not have an adequate bookkeeping system from which it is possible to derive requested statistical data easily that caused problems for filling in the questionnaire. Besides, it is necessary to keep on developing cooperation and increase cooperation of entrepreneurs as regards official statistics.

### 3.1.2 Organizing and carrying out survey in RS

From the sample obtained by ISTAT which was produced on the base of previously prepared frame, 1338 observation units were included in the survey; those were 219 enterprises and 1119 entrepreneurs.

After the joint meetings held in February 2008 the activities for conducting new SBS survey were performed in line with the tasks and deadlines agreed at that meeting, and in the following phases.

**Organization of work:** Before agreed SBS Questionnaire was sent to the printing, it was thoroughly inspected once again, and in the special column the accounting entry of the Chart of Accounts for RS was assigned to each item. All expert and technical issues were solved throughout regular contacts with BHAS. As a result, all changes and corrections were agreed and adopted by both parties.

Along with preparation of the questionnaire form for printing, "The instructions to the reporting units", "Invitation letter" and other supporting material for the preparation of new SBS survey were provided to the regional offices. Supporting material included following documents: SBS Methodology (prepared by BHAS), questionnaires, instructions, chart of accounts, and additional supporting forms. Questionnaire forms were printed with basic identification data for each reporting unit pre-printed in advance (name of enterprise, registration number for the enterprise, identification number – for entrepreneurs, address – street and number, municipality and telephone number) and unique ordinal numbers assigned to each form (three copies for each unit).

During this phase two additional supporting forms were created in RZRS for this survey: SBS/2 – Questionnaire on non-response (to monitor the number and type/reasons of non-response) and SBS/3 – Reporting form (for recording situation in the field for each reporting day). BHAS agreed on supporting forms and suggested their use in FZS and Brcko District, too. They agreed on it.

**Instructions to the regional offices:** A day before an instruction session, a meeting with a representative from BHAS was held in Banja Luka to determine a detailed control of certain items, links between items and other controls to be performed on the collected material prior to the data entry into base of micro data (those were formal, logical and calculating controls).

The instructions to regional department representatives were provided on 20$^{th}$ March in the premises of the Institute. The heads of the regional department and certain number of employees from all six departments of statistics of Republic Srpska attended the instruction session. The introduction on the goals and content of the Project preceded a thorough presentation of the Questionnaire (with emphasis on the especially important controls of certain items from the Questionnaire). Additional explanations were provided for all questions which were not completely clear to the participants.

The organization of the fieldwork was explained in the end. Throughout the instructions provided, two new SBS supporting forms were presented: SBS/2 and SBS/3 and it was explained how to fill in them. All the material was handed over to the heads of the departments to distribute them further on the field.

**Collecting and checking data:** The process of collecting and controlling completed questionnaires was lengthy and detailed. In accordance with the SBS/3 form, the situation on the field was monitored on a daily basis, and the records on the number of collected forms, especially for response and non-response, and separately for each department were kept.

Each questionnaire was reviewed and checked by monitoring the most important items and links among them (according to the request for formal, logical and calculation controls that were defined and prepared by the BHAS and which RZSRS and FZS adopted on 19th March 2008).

**Data entry:** The process of entering data into the base of micro data lasted for seven days, and seven persons were simultaneously working on data entering. Two separate applications were created for entering response and non-response.

During the process of the data entry, certain controls were performed again similar to the first ones – formal, logical and calculating. At the field for totals, "soft" controls were set for checking totals.

**Control of entered data:** After entering data into application, the controls were performed again. It was the third level of control (the first ones were performed during collection of completed questionnaires, the second ones during data entry into application). Finally, during this phase through controls lists, each important item and links among items (formal, logical and calculating) were thoroughly checked once again. That checking phase lasted for seven days.

### 3.1.3 Organizing and carrying out survey in BD

SBS survey for 2007 for BD (the same as for entities) covered legal entities and entrepreneurs for activities: Catering, Transportation, Storage and Communications. From the list of enterprises and entrepreneurs (created during the previous phase), the firms dealing with mentioned activities were selected.

The result of the selection was: 73 entrepreneurs (46 with FBiH accounting system + 27 with RS accounting system), and 32 legal entities (17 with FBiH accounting system + 15 with RS accounting system). In total 105 units were selected for carrying out SBS survey 2007 in BD.

The questionnaire forms were printed (2 linguistic versions) and delivered to reporting units at the end of March (by post, with confirmation of receipt). The first deadline for reporting units to submit completed questionnaires was two weeks after receipt. Two additional weeks were left for contacts in case of non-response or for making corrections in case of incorrect filling in. Three levels of subsequent contacts with reporting units were realized within those two additional weeks.

**Collecting and checking data:** each day during collection, the data on receipt of questionnaires were filled in "Reporting form" (SBS/3). In case it was written on receipt confirmation that the addressee is unknown or moved away, those firms were contacted using phone numbers from the address list. It could already be noticed at that time that some firms, according to their owners' statements, reported cessation of the activities, or no one answered the calls at the phone number. After that, it assumed that the cessation of the activity was reported to the Court register only, and not to the tax administration register.

Specific issue occurred in Brcko District regarding freight forwarding section; a number of firms did not work in 2007 since the border crossing Gunja was closed, and that was the only border crossing under the competence of BD. Certain number of units ceased their activities as a consequence of smaller volume of business of "Arizona" market in Dubrave that used to be the largest open-market in the region. Now, "Arizona" market is organized regularly, and some activities are forcefully displaced. Owners of the firms claim they unregistered their activities long time ago, but they are still present in the Register.

In several cases, after interventions, it was established that some firms moved to another address, or, in case of the “Arizona” market, the number of an establishment (the address) was not provided, and so on, so the SBS questionnaires were not delivered to them. In case of the block of flats, the number of the flat (where headquarters of the firm were located) was not included in the Register most often, or the firm’s logo was not visibly displayed on the building’s façade. That is why, after the checking, SBS questionnaires with altered address information were sent again to some firms.

A part of the report related to non-response deals with this issue, treating the reasons for non-response and it could be seen that some firms refused to cooperate. Certain number of firms did not submit completed questionnaire, because, according to what they stated, they were too busy to do it or the form was to o complicated to be filled in.

**Data entry into base of micro data and control:** After receiving completed questionnaires, quality control of obtained data was performed. The enterprises were contacted for additional information. The controls were based on description, produced by BHAS, of formal, logical and calculation controls that SBS questionnaire should satisfy for data entry.

## 3.2 Designing IT application for SBS

BHAS’ and entity statistical institutes’ IT experts took over duty to design IT application for SBS survey. The ISTAT experts provided training for software use and ensured IT expert support.

It was agreed that each entity institute would independently prepare an application, enter data and process them. The objective was to have more of IT staff participating in all phases to get knowledge and experience in carrying out this type of business statistical survey

In addition, the format of the database for submitting entities’ data to BHAS was agreed.
The Entities’ institutes, in accordance with an agreed format, submit data to BHAS, so BHAS can generate database for the BiH level. Apart from integrating and processing data at the state level, BHAS is also in charge of collecting and processing data from the Brcko District.

In BHAS, the data are stored in Microsoft SQL, purposely created relational database. To perform data entry a stored procedure is used on Microsoft SQL Server 2005. Database contains tables from the questionnaires with smaller optimization as well as additional tables with data such as Classification of activities and tables with different values to fill in Combo box. The central table is Enterprise, filled in manually in application, but automatic data entry from the business register is planned for the future.

Within the SBS project, BHAS created an application for data entry and editing in Microsoft Visual Basic (Visual Studio 2005), programming language with set control of the data entry. In general, the controls are split into two categories. The first one is “Hard”, which implies check of entered data and does not allow entry if any of the rules is broken. The second category is “Soft“, which gives warning in such cases but allows further entry. The controls are implemented by using check and error provider functions. The application graphical interface is user-friendly, so there is no need to train staff for data entry.

In line with the methodology, an application for data analysis and processing and calculating necessary variables has been created. This is a testing application and its improvement will follow the project development and requests accordingly. All modules will be included in statistical IT system which will operate with statistical business register and will mutually complement each other. There

are plans for the future to create on-line applications with Microsoft ASP.NET tools, what will improve data exchange.

FZS database has been created in MS Access-u 2003.The structure of the base followed the form of the questionnaire. FZS IT team created an application for data entry in Visual Basic-u 6.0, which contained all required controls ("Soft" and "Hard") regarding mandatory data, ranges of certain variables, sums, and similar. The application has been installed in 10 cantonal departments of FZS, operators have been trained to use applications and instructions were provided, concerning logical and calculation controls that SBS questionnaire has to fulfill for data entry. IT procedure was created (macro in MS EXCEL) to fill in SBS questionnaires with identification data for each firm from AR, separately.

For storing SBS survey data, a relational database on MS SQL server was designed. A client-server application was created for managing data in the database, to enable entering and editing of the data whose modules will be developed and updated as it is expected that this survey will become regular. The application also has required data entry controls. For 2007, the data were entered in central SQL database, using seven computers in one location (Banja Luka).

As a format for data exchange MS Access database was used in which entity institutes exported collected data; it is considered as a satisfying solution for all project participants. Final format for data exchange has not been defined yet, and it implicates a formatted text.

## 3.3 The survey outcomes

### Response rates in Republic of Srpska

In Tables 3.3.1-3.3.3 are given response rates in Republic of Srpska by strata and domain. First three digits in the strata mark in Table 3.3.1 have the same meaning as in domain mark, while the fourth digit marks employment class:

- first employment class (1-9 workers) is marked by digit 1
- second employment class (10-19 workers) is marked by digit 2
- third employment class (more than 20 workers) is marked by digit 3

Fifth digit of strata mark is the entrepreneur flag (0 marks enterprise, while 1 marks entrepreneurs).

**Table 3.3.1 -** Response rates by strata

| Strata | Nh | nh | mh | Resp. rate % |
|---|---|---|---|---|
| 55110 | 25 | 5 | 3 | 60.0 |
| 55111 | 61 | 12 | 11 | 91.7 |
| 55120 | 19 | 5 | 5 | 100.0 |
| 55121 | 1 | 1 | 1 | 100.0 |
| 55210 | 82 | 8 | 4 | 50.0 |
| 55211 | 3516 | 703 | 426 | 60.6 |
| 55220 | 11 | 5 | 4 | 80.0 |
| 55221 | 42 | 8 | 5 | 62.5 |
| 60111 | 5 | 5 | 3 | 60.0 |
| 60210 | 400 | 40 | 33 | 82.5 |
| 60211 | 1406 | 281 | 134 | 47.7 |
| 60220 | 55 | 6 | 6 | 100.0 |
| 60310 | 4 | 4 | 3 | 75.0 |
| 60311 | 4 | 4 | 3 | 75.0 |
| 62010 | 1 | 1 | 1 | 100.0 |
| 63110 | 6 | 5 | 5 | 100.0 |
| 63111 | 1 | 1 | 1 | 100.0 |
| 63120 | 1 | 1 | 1 | 100.0 |
| 63210 | 9 | 5 | 3 | 60.0 |
| 63211 | 192 | 38 | 18 | 47.4 |
| 63220 | 1 | 1 | 1 | 100.0 |
| 63221 | 1 | 1 | 1 | 100.0 |
| 63310 | 26 | 5 | 5 | 100.0 |
| 63320 | 2 | 2 | 2 | 100.0 |
| 63410 | 83 | 8 | 7 | 87.5 |
| 63411 | 3 | 3 | 2 | 66.7 |
| 63420 | 20 | 5 | 5 | 100.0 |
| 64110 | 1 | 1 | 1 | 100.0 |
| 64120 | 1 | 1 | 1 | 100.0 |
| 64210 | 33 | 5 | 4 | 80.0 |
| 64211 | 4 | 4 | 2 | 50.0 |
| 64220 | 5 | 5 | 5 | 100.0 |
| 55130 | 27 | 27 | 27 | 100.0 |
| 55230 | 9 | 9 | 9 | 100.0 |
| 60130 | 1 | 1 | 1 | 100.0 |
| 60230 | 38 | 38 | 38 | 100.0 |
| 63230 | 4 | 4 | 4 | 100.0 |
| 63330 | 1 | 1 | 1 | 100.0 |
| 63430 | 4 | 4 | 4 | 100.0 |
| 64130 | 1 | 1 | 1 | 100.0 |
| 64230 | 2 | 2 | 2 | 100.0 |
| **Total** | **6108** | **1266** | **793** | **62.6** |

Domain is marked by means of group or division of NACE Rev 1.1 Economic Activity Classification, but having in mind following convention:

- groups 551 and 552 are marked with 551
- groups 553, 554 and 555 are marked with 552
- groups 601, 602 and 603 are marked with 601, 602 and 603, respectively
- divisions 61 and 62 are marked with 610 and 620, respectively
- groups 631, 632, 633, 634, 641 and 642 are marked by 631, 632, 633, 634, 641 and 642, respectively.

**Table 3.3.2** - Response rates by domain

| domain | Nh | nh | mh | response rate % |
|---|---|---|---|---|
| 551 | 3684 | 728 | 444 | 61.0 |
| 552 | 73 | 19 | 15 | 78.9 |
| 553 | 36 | 36 | 36 | 100.0 |
| 601 | 1819 | 334 | 176 | 52.7 |
| 602 | 55 | 6 | 6 | 100.0 |
| 603 | 39 | 39 | 39 | 100.0 |
| 621 | 1 | 1 | 1 | 100.0 |
| 631 | 320 | 65 | 41 | 63.1 |
| 632 | 25 | 10 | 10 | 100.0 |
| 633 | 9 | 9 | 9 | 100.0 |
| 641 | 38 | 10 | 7 | 70.0 |
| 642 | 6 | 6 | 6 | 100.0 |
| 643 | 3 | 3 | 3 | 100.0 |
| **Total** | **6108** | **1266** | **793** | **62.6** |

***Domain** = 2 digits NACE Rev. 1.1 **x** employment class*

**Table 3.3.3 -** Response rates by domain

| Domain | Nh | nh | mh | Response rate (%) |
|---|---|---|---|---|
| 551 | 133 | 50 | 47 | 94.0 |
| 552 | 3660 | 733 | 448 | 61.1 |
| 601 | 6 | 6 | 4 | 66.7 |
| 602 | 1899 | 365 | 211 | 57.8 |
| 603 | 8 | 8 | 6 | 75.0 |
| 620 | 1 | 1 | 1 | 100.0 |
| 631 | 8 | 7 | 7 | 100.0 |
| 632 | 207 | 49 | 27 | 55.1 |
| 633 | 29 | 8 | 8 | 100.0 |
| 634 | 110 | 20 | 18 | 90.0 |
| 641 | 3 | 3 | 3 | 100.0 |
| 642 | 44 | 16 | 13 | 81.2 |
| **Total** | **6108** | **1266** | **793** | **62.6** |

**Domain** = 3 digits NACE Rev. 1.1, whereby is
551 = 551 and 552
552 = 553 and 554 and 555
610 = 61
620 = 62

**The survey outcomes (response rates) and post-stratification in FBiH**

**Table 3.3.4** - Response rates by strata

| stratum | Nh | nh | mh | response rate % |
|---|---|---|---|---|
| 55110 | 83 | 8 | 7 | 88 |
| 55111 | 66 | 13 | 7 | 54 |
| 55120 | 30 | 8 | 8 | 100 |
| 55130 | 30 | 30 | 30 | 100 |
| 55210 | 327 | 33 | 32 | 97 |
| 55211 | 3170 | 634 | 336 | 53 |
| 55220 | 26 | 6 | 6 | 100 |
| 55221 | 65 | 7 | 7 | 100 |
| 55230 | 10 | 10 | 10 | 100 |
| 55231 | 1 | 1 | 1 | 100 |
| 60110 | 1 | 1 | 1 | 100 |
| 60111 | 2 | 2 | 1 | 50 |
| 60130 | 1 | 1 | 1 | 100 |
| 60210 | 1021 | 102 | 96 | 94 |
| 60211 | 764 | 153 | 81 | 53 |
| 60220 | 180 | 18 | 18 | 100 |
| 60230 | 75 | 75 | 75 | 100 |
| 60330 | 1 | 1 | 1 | 100 |
| 62010 | 4 | 4 | 4 | 100 |
| 62030 | 2 | 2 | 2 | 100 |
| 63110 | 7 | 5 | 5 | 100 |
| 63120 | 2 | 2 | 1 | 50 |
| 63130 | 2 | 2 | 2 | 100 |
| 63210 | 12 | 5 | 3 | 60 |
| 63220 | 2 | 2 | 2 | 100 |
| 63230 | 3 | 3 | 3 | 100 |
| 63310 | 104 | 11 | 11 | 100 |
| 63311 | 8 | 2 | 1 | 50 |
| 63320 | 6 | 5 | 4 | 80 |
| 63330 | 3 | 3 | 3 | 100 |
| 63410 | 157 | 16 | 13 | 81 |
| 63420 | 24 | 6 | 6 | 100 |
| 63430 | 7 | 7 | 7 | 100 |
| 64110 | 3 | 3 | 2 | 67 |
| 64120 | 1 | 1 | 1 | 100 |
| 64130 | 4 | 4 | 4 | 100 |
| 64210 | 52 | 5 | 3 | 60 |
| 64211 | 4 | 2 | 1 | 50 |
| 64220 | 4 | 4 | 3 | 75 |
| 64230 | 10 | 10 | 10 | 100 |
| **Total** | **6274** | **1207** | **809** | **67** |

***stratum*** *= 3 digits NACE Rev. 1.1 (whereby is 551 = 551 and 552, 552 = 553 and 554 and 555, 610 = 61, 620 = 62)* ***x*** *employment class* ***x*** *entrepreneur flag*

**Table 3.3.5** - Response rates by domain

| domain | Nh | nh | mh | response rate % |
|---|---|---|---|---|
| 551 | 3646 | 688 | 382 | 56 |
| 552 | 121 | 21 | 21 | 100 |
| 553 | 41 | 41 | 41 | 100 |
| 601 | 1788 | 258 | 179 | 69 |
| 602 | 180 | 18 | 18 | 100 |
| 603 | 77 | 77 | 77 | 100 |
| 621 | 4 | 4 | 4 | 100 |
| 623 | 2 | 2 | 2 | 100 |
| 631 | 288 | 39 | 33 | 85 |
| 632 | 34 | 15 | 13 | 87 |
| 633 | 15 | 15 | 15 | 100 |
| 641 | 59 | 10 | 6 | 60 |
| 642 | 5 | 5 | 4 | 80 |
| 643 | 14 | 14 | 14 | 100 |
| **Total** | **6274** | **1207** | **809** | **67** |

***Domain** = 2 digits NACE Rev. 1.1 **x** employment class*

**Table 3.3.6** - Response rates by domain

| domain | Nh | nh | mh | response rate % |
|---|---|---|---|---|
| 551 | 209 | 59 | 52 | 88 |
| 552 | 3599 | 691 | 392 | 57 |
| 601 | 4 | 4 | 3 | 75 |
| 602 | 2040 | 348 | 270 | 78 |
| 603 | 1 | 1 | 1 | 100 |
| 620 | 6 | 6 | 6 | 100 |
| 631 | 11 | 9 | 8 | 89 |
| 632 | 17 | 10 | 8 | 80 |
| 633 | 121 | 21 | 19 | 90 |
| 634 | 188 | 29 | 26 | 90 |
| 641 | 8 | 8 | 7 | 88 |
| 642 | 70 | 21 | 17 | 81 |
| **Total** | **6274** | **1207** | **809** | **67** |

**Domain** = 3 digits NACE Rev. 1.1, whereby is
551 = 551 and 552
552 = 553 and 554 and 555
610 = 61
620 = 62

Stratification by respondent units was built on the same principle as it has already been done for the frame and the sample (according to NACE activity, employee categories and distinction between enterprises and entrepreneurs).
Upon the determination of activity for stratification, the primary activity was taken in the cases where change of stratum, set by the frame and the sample, was not possible due to this determination of the

activity. By the units by which the change of stratum, set by the frame and the sample, was possible due to the determination of the activity, and which had also secondary activities, it was taken one activity from those secondary activities, which was taken already before towards frame and sample stratification. This was possible to do considering the knowledge of the way of unit's registration and its primary activity, and also considering the knowledge of the real situation based on statistical surveys, on which basis actually the frame for this survey was made. Employee categories were made on the base of the number of employees from the table about employment.

After calculating response rates by all strata, new adjustment of sample and frame size in total and by strata was made, on the base of the fact that the response rates by strata should be between 0.5 and 1.

By all strata with the response rate bigger than 1 as well as by all strata with the employee category 3 (20 and more employees) these response rates were set to 1. By all strata with the response rate lower than 0.5 this response rate was set to 0.5. These had an effect on the final number of units entered into sample and the final number of units entered into frame. By all strata with the response rate bigger than 1 as well as by all strata with the employee category 3 (20 and more employees) the number of units and the number of employees in the sample and in the frame were set to be equal to the number of respondent units and the number of employees in those respondent units. By all the strata with response rates between 0.5 and 1 nothing has been changed. By all the other strata, the determination of the frame size on the base of the sample size kept the same relations firstly used for the determination of the sample size on the base of the frame size.[1] In these strata, the numbers of employees in the sample and in the frame were obtained using the same relation between the number of units and the number of employees in the sample and in the frame determined at the beginning of the survey.

[1] This means if one fifth of the number of units in the frame was taken into sample at the beginning, by this adjustment 5 times more units than in the sample will be taken into frame.

**Response rates in District Brcko**

**Table 3.3.7 Response rates by strata**

| Strata | Nh | n | m | response rates (%) |
|---|---|---|---|---|
| **55110** | 2 | 2 | 2 | 100.0 |
| **55111** | 4 | 4 | 2 | 50.0 |
| **55121** | 1 | 1 | 1 | 100.0 |
| **55210** | 17 | 5 | 4 | 80.0 |
| **55211** | 341 | 34 | 18 | 52.9 |
| **60210** | 35 | 7 | 5 | 71.4 |
| **60211** | 259 | 26 | 14 | 53.8 |
| **60220** | 2 | 2 | 2 | 100.0 |
| **63111** | 1 | 1 | 1 | 100.0 |
| **63210** | 1 | 1 | 1 | 100.0 |
| **63211** | 5 | 5 | 5 | 100.0 |
| **63310** | 2 | 2 | 2 | 100.0 |
| **63410** | 6 | 5 | 3 | 60.0 |
| **64210** | 5 | 5 | 3 | 60.0 |
| **64211** | 3 | 3 | 2 | 66.7 |
| **55130** | 1 | 1 | 1 | 100.0 |
| **60230** | 1 | 1 | 1 | 100.0 |
| **63130** | 1 | 1 | 1 | 100.0 |
| **Total** | **687** | **106** | **68** | **64.1** |

**stratum** = 3 digits NACE Rev. 1.1 (whereby is 551 = 551 and 552, 552 = 553 and 554 and 555, 610 = 61, 620 = 62) **x** employment class **x** entrepreneur flag

**Table 3.3.8 Response rates by domain**

| Domain | Nh | n | m | response rates (%) |
|---|---|---|---|---|
| **551** | 364 | 45 | 26 | 57.8 |
| **552** | 1 | 1 | 1 | 100.0 |
| **553** | 1 | 1 | 1 | 100.0 |
| **601** | 294 | 33 | 19 | 57.6 |
| **602** | 2 | 2 | 2 | 100.0 |
| **603** | 1 | 1 | 1 | 100.0 |
| **631** | 15 | 14 | 12 | 85.7 |
| **633** | 1 | 1 | 1 | 100.0 |
| **641** | 8 | 8 | 5 | 62.5 |
| **Total** | **687** | **106** | **68** | **64.1** |

**Domain** = 2 digits NACE Rev. 1.1 **x** employment class

**Table 3.3.9 Response rates by domain**

| Domain | Nh | n | m | response rates (%) |
|---|---|---|---|---|
| **551** | 8 | 8 | 6 | 75.0 |
| **552** | 358 | 39 | 22 | 56.4 |
| **602** | 297 | 36 | 22 | 61.1 |
| **631** | 2 | 2 | 2 | 100.0 |
| **632** | 6 | 6 | 6 | 100.0 |
| **633** | 2 | 2 | 2 | 100.0 |
| **634** | 6 | 5 | 3 | 60.0 |
| **642** | 8 | 8 | 5 | 62.5 |
| **Total** | **687** | **106** | **68** | **64.1** |

**Domain** = 3 digits NACE Rev. 1.1, whereby is
551 = 551 and 552
552 = 553 and 554 and 555
610 = 61
620 = 62

Stratification by respondent units was built on the same principle as it has already been done for the frame and the sample (according to NACE activity (Question 7), employee categories (number of employees from the table 4) and distinction between enterprises and entrepreneurs). The next step had been the calculation of response rates for each stratum. In District Brcko was not made the adjustment of the sample and frame size. Re-contacts with the enterprises or entrepreneurs were made for the strata with response rates lower than 0.5 in a way to achieve the response rates greater than 0.5. By all the strata with response rates between 0.5 and 1 nothing has been changed.

## 4. Treatment of micro-data

Data processing begin after capturing information from each questionnaire. The first step regards the application of check rules on the single record. The rules are reported in the annex of this report and reflect the structure of the questionnaire.

Main purpose of micro-data treatment is identification and localization certain anomalies in data collected by means of survey. Anomalies are necessarily present as consequence of non-sampling errors of survey. That kind of errors enclose errors made by human factor and comprise of, for example, certain kinds of systematic errors, measurement errors (questionnaire), data input errors, anomalous values provided by survey units and so on.
Considering that this kind of errors may have deep influence on quality of estimates, it is necessary to take some effort with aim of their identification and elimination.

### 4.1 Editing of micro-data

The editing procedures have been developed inside each database and applied to each record in order to respect the constraint of the questionnaire.

After the insight in one of the National Account's surveys for the years 2006 and 2007 in FBiH, it has been realized that the number of entrepreneurs in division 55 (group 55.1) was significantly overestimated because of the fact that the register, from which the active entrepreneurs were taken for the frame, was not updated. This number was changed in the frame and also in the sample of the survey.
During the process of collecting filled questionnaires, logical controls of data in the questionnaires were continually performed and necessary corrections were performed through the contacts with reporting units, as appropriate.
For the reporting units which referred statistical office to use the data previously delivered through earlier survey Annual Financial Report (AFR) for the year 2007 – Annex07, the data were overtaken from this survey.
Editing of some obvious errors was done by direct recall of respondents. There were different kinds of mistakes: a respondent misunderstood a question, a respondent or an interviewer checked the wrong response, an interviewer miscoded or misunderstood a written response and so on. The most common error was that a respondent misunderstood a question.
For all the units with activity status 2 or 3 (temporary or permanently inactive), which have delivered fulfilled SBS questionnaire, status has been changed into 1 (active), because those units were active in the period of implementation of the SBS survey. It is mentionable, that the original status has been retained, because of the further use for updating of the Business register (the real or the simulated one). Other units with status 2 or 3 were excluded from further analysis.
For all the units that delivered partly fulfilled SBS questionnaire, but that have already delivered the data in the Annex07 survey, some missing data have been added using the existing data for that unit from previously mentioned survey. For some of the units that delivered fulfilled questionnaire, data in table about employment (table 4) were missing, but the data on number of employees on the first side of the questionnaire were given, so exactly this data was taken into table 4. For the entrepreneurs, which delivered fulfilled SBS questionnaire, but not the data on employees, that number was taken from the existing administrative register of units. Because the entry of 0 as a number of employees was not allowed by SBS survey data entering, by all the units with this case this number was replaced with 1 (commonly this was case by entrepreneurs which number of employees was taken out of existing register). For the units without data in table 4, the number of female employees and the average number of working hours (for all the units for which the total number of employees was taken out from the question about the average number of employees at the beginning of the questionnaire or

from the Annex at those units) were updated on the base of average of the data delivered inside of SBS survey and on the base of the data from one monthly labour force survey (RAD-1) for April 2008.
After re-contact of the respondent units, which have primary activity outside of sections H or I, their activity was changed into the proper one. After re-contact of the respondent units, which have very low average number of working hours, the same one was adjusted with the correct number.
After imputation on the calculated variables TO, PV, VA, IC, wo, PC, SC, TP, micro data editing was done (using those variables) in following way:

1. If Income_0101+Income_0102<>TO and Income_0101>TO then Income_0101 was set to be TO and Income_0100 to be Income_0100-Income_0101+TO; if Income_0101+Income_0102<>TO and Income_0101<TO then Income_0102 was set to be TO-Income_0101 and the Income_0100 to be Income_0100-Income_0101+TO-Income_0102.
2. Costs_0205 was set to be equal to PC, Costs_0200 was calculated with this new Costs_0205, Costs_0202 was set to be TP-(Costs_0201+Costs_0203+Costs_0204+Costs_0208) and the Costs_0200 to be TP+PC+Costs_0206+Costs_0207+Costs_0209+Costs_0210.
3. Stock_0302 was set to be PV+TP-TO-(Costs_0201+Costs_0203+Costs_0204+Costs_0208)-(Income_0100-Income_0104-Income_0105). Stock_0301 was set to be VA+Costs_0200-PV-TP+Costs_0201+Costs_0203+Costs_0204+Costs_0208-(Costs_0205+Costs_0206+Costs_0207).
4. 040400 was set to employees-040300-040500; 040000 was set to be equal to wo; if wo=employees then 040100 and 040200 were set to 0 and in other cases just 040200 was set to wo-employees-040100. Working hours and number of women were adjusted proportional to the distribution before any changes and according to the new total number of workers.
5. Salary_0505 was set to be SC, Salary_0500 was set to be PC. If the changed Salary_0500 was grater than the sum of all the variables that made this variable (Salary_0501, Salary_0502, Salary_0503, Salary_0504, Salary_0505) then the difference between the calculated Salary_0500 and the changed one was equally distributed to all these variables excluding Salary_0505. If the changed Salary_0500 was less than the sum of all the variables that made this variable (Salary_0501, Salary_0502, Salary_0503, Salary_0504, Salary_0505) then the difference between the calculated Salary_0500 and the changed one was proportional (to the distribution before any changes) distributed to all these variables excluding Salary_0505.

### 4.2 Anomalous values

Essential parts of data editing procedure are error localization and their treatment.
This kind of errors are usually shown like suspiciously great or small values of variables (or economic indicators). In another words, values of variables (and economic indicators) which are considered as correct, should be in precisely determined interval, while other values, outside of that interval (outlier), are considered as anomalous and is subject of certain treatment.
Construction of interval of values which are considered as correct is done by observation of data (by means of making graphical interpretation and calculating basic statistical indicators), as well as on basis of opinion of subject matter experts.
Generally, all errors in variables and economic indicators identified in this way, are treated as item non-response by means of imputation (replacement of missing values with values which are acceptable by explicit criterions). Data from different sources can be used to impute missing values

(administrative data) as well as data from survey units which are in some way similar to survey unit(s) with missing values.

Procedure which is conducted in case of structural business statistics survey in Bosnia and Herzegovina consists of ad-hoc procedure proposed by ISTAT experts, which is implemented in STATA software. Most important SBS variables from EU Regulation 58/97 and some statistical indicators were calculated using Stata software. Those statistical indicators were used for detection of anomalous values.

Starting preconditions for the detection of anomalous values in Republic Srpska are availability of following economic indicators data:

- value added per worker (va/wo)
- turnover per worker (to/wo)
- production value per worker (pv/wo)
- intermediate consumption (ic/wo).

Procedure has been conducted separately by above indicators and gave certain number of identified errors.
The essence of procedure is to identify values which greater than double 99th percentile or lower than double 1st percentile. Questionnaires on which are detected potential anomalous values are additionally controlled by subject methodologists and subject matter experts. Questionnaires which are failed this kind of control are subject of further treatment.

Most important SBS variables from EU Regulation 58/97 and some statistical indicators were calculated using Stata software. Those statistical indicators were used for detection of anomalous values.

After the first check in FBiH and Brcko District, several indicators have been computed in order to judge on the presence of anomalous values. (Table 4.2.1.)

**Table 4.2.1: Statistical Indicators for checking micro-data**

| Indicators | Formula | Extreme values to check |
|---|---|---|
| Turnover per worker | to_w=TO/wo | >0 and pct99 |
| Value added per worker | va_w=VA/wo | pct1 and pct99 |
| Pct of VA on TO | pvt=VA/TO | >0 and <= 1 when VA>1 |
| Labour cost per employee | l_emp=PC/employees | >0 and pct99 |
| Social contribution on gross wages and salaries | psc=sc/(PC-sc) | From the minimum to the maximum SC rate |
| Labour cost on Value added | l_va=PC/VA | >0 and <= 1 when VA>1 |
| Profitability | Ros=GOS/TO | >=-1 and <=1 |
| Investment per worker | inv_w=INV/wo | pct1 and pct99 |

For each indicator have been calculated Mean, Median, Quartiles Range, Inter-quartile range, Standard Deviation, Coefficient of Variation, the First percentile and last percentiles (to check anomalous values) and Skewness and Kurtosis.

Because of too many rules for the indicators and too few units in the database, meaning too many invalid records and too small set of valid donors, two of the rules were not taken into consideration (for I_va and I_emp).

### 4.3 Imputation of errors and partial non responses

When the analysis of the distribution of the above indicators make evident the presence of an outlier, each item of the indicator have been analyzed.
In this case we put to missing the value of the variable and the value of the suspected item and run the imputation procedure. Also partial non responses on the most important variables have been corrected with the imputation procedures.
We consider three type of imputation procedures:
1) Imputation by model
2) Imputation by strata (with mean value)
3) Hot deck imputation

Imputation/replacement of missing values (values which are considered as anomalous) in Republica Srpska is not conducted by means of classical methods (strata mean imputation, strata median imputation, hot-deck imputation, regression imputation and so on). Having in mind relatively small number of identified errors, method applied comprises in direct contact of survey units and entering correct values.

There was no imputation on micro data.
According to the checks of the statistical indicators in FBiH and Brčko District the hotdeck imputation on the calculated variables TO, PV, VA, IC, wo, PC, SC, TP was done on the bounded database of FBiH and District Brcko (DB) databases, because of the small number of units in DB. There was no imputation on the variables GOS, INV and employees, because of too many zeros and/or missing values and the too small final set of units (meaning also too small set of donors for the imputation).
The variable GOS was just calculated as VA-PC (50 units do not satisfy the rule for Profitability) and the variable employees was adjusted just due to the rule that wo has to be greater than employees (because wo was imputed). Some of the adjustments were done according to the rules that had to be respected during data entry (relationships between some variables and also some tables).

## 5. Estimation

### 5.1 Theoretical aspects

In the present survey, based on a complex stratified stadium sampling plan (sample design), the weight to be attributed to every unit is obtained on the basis of a procedure articulated in several steps:

in first place, an initial weight is calculated, called *direct weight (or base weight)*, determined in function of the sampling plan as the inverse of the probability of inclusion of sampled unit;
subsequently some corrective factors of the basic weight are calculated, that allow, both to correct (at least partially) the consequent distortion resulting from a totally missed answer and to estimate the condition of equality among some known population parameters and the corresponding sample estimates;
a weight is finally, determined, known as *final weight*, expressed as a product of the basic weight by the corrective factors.
In the past the estimates derived from sample based economic type investigations were essentially built in two ways:
as simple aggregation of the data sampled with the survey without trying to carry the same data to the universe;
as an aggregation of the sampled data adjusted according to the direct weights maybe adjusted with the reverse of the rate of answer.

In the most recent years, nevertheless, the research developed by ISTAT and other important National Statistical Institutes in the field of estimators has involved a substantial change of the procedure of estimate, using more complex estimators that belong to the class of calibration estimators. Such methods, that are applicable when known totals of auxiliary variables correlated to the variables that are the object of the survey are available, allow to make optimal use of all the information available.
The estimators belonging to the above mentioned class, under rather general hypothesis, are characterized by the following properties:

they are more efficient than the direct estimator, as the efficiency of the first ones is greater the greater the correlation between the auxiliary variable and the variables object of the investigation;
they are approximately not distorted in comparison to the sampling plan;
they bring to estimates of the total ones known that they coincide with the values known of such total;
they attenuate the distorsive effect due to the presence of totally missing answers;
they attenuate the distorsive effect due to the under-coverage of the list from which the sample is selected.

We remind, finally, that in the situations that generally occur in large sample surveys, the direct estimator is distorted and poorly efficient being strongly influenced by the phenomena of missed answer and under-coverage of the list of selection of the sample

#### *Symbols and parameters object of estimate*

Before illustrating the mathematical aspects of the method of estimate used, it is useful to express with set theory notation the parameters and the quantities introduced in the par. 5.1.
With reference to the elements of the population and the sample, we denote with:

U = the whole of the enterprises object of the investigation or rather the working and active enterprises during reference year;
$\alpha$ = a generic domain of interest;
$U_\alpha$ = the whole of the enterprises object of the investigation or rather the working and active enterprises during reference year, belonging to the domain $\alpha$ ;
s * = the whole of the units selected in the sample (with s * UL);
s = the enterprises selected in the sample and that responded to the survey (with s . s *)
$s_\alpha$ = the sub set of enterprises in the sample that belong to $U_\alpha$ , con $s_\alpha = s \bigcap U_\alpha$ ;
$n_\alpha$ = the number of enterprises belonging to the sample $s_\alpha$ .
Furthermore, with reference to the generic enterprise we assume that it is possible to identify it univocally with an index k, defined by the concatenation of the preceding index of h stratum and i units.
We therefore indicate with the following quantities:
$y_k$ = the value taken by the characteristic y object of the investigation on unit k;
$\lambda_k(\alpha)$ = dichotomous variable that assumes value 1 if the unit k belongs to dominium $\alpha$ and value 0 otherwise.
Through the just introduced symbology we can now define, with reference to the generic surveyed variable $y$ , the following totals that are estimated:

the total referring to the enterprises belonging to domain $\alpha$ :
b) $Y_\alpha = \sum_{U_\alpha} y_k = \sum_U y_k \lambda_k(\alpha)$ ( 5)

whose symbol $\sum_U(\cdot)$ indicates, with reference to a generic set U, the summation extended to all elements belonging to it;

c) the total referred to all enterprises operating on the national territory: $Y = \sum_U y_k$ (6)

***Estimation procedure***

Generally, the estimate $\tilde{\tilde{Y}}_\alpha$ of the dominium total $Y_\alpha$ defined by (5), obtained through the calibration method, has the following expression:

$$\tilde{\tilde{Y}}_\alpha = \sum_{s_\alpha} y_k w_k = \sum_s y_k \lambda_k(\alpha) w_k \quad (7)$$

In the same way, the estimate $\tilde{\tilde{Y}}$ of total Y is obtained through a simple sum of the totals estimated per domain:

$$\tilde{\tilde{Y}} = \sum_s y_k w_k \quad (8)$$

Regarding paragraph 10.1, the final weight $w_k$ is obtained through the product of the three factors:

$$w_k = d_k \beta_k \gamma_k \quad (9)$$

in which:

$d_k = \frac{N_h}{n_h^*}$ per k∈ $s_h^*$, h=1,…., H, indicates the direct weight, expressed as the inverse of the probabilities of inclusion;

$\beta_k$ indicates the adjustment factor for a missed answer , determined according to what is illustrated in the next paragraph;

$\gamma_k$ indicates the factor of adjustment for post-stratification, determined according to next paragraph.

Total Non Response treatment

Unit non responses that occur in the sample survey are treated considering a *correction factor* for unit non-responses. The estimate $\tilde{Y}_\alpha$ of the total of the *y* variable in the $\alpha$-th estimation domain $Y_\alpha$ is obtained as :

$$\tilde{Y}_\alpha = \sum_s y_k \, \lambda_k(\alpha) \, w_k \qquad (10)$$

in which: *s* is the sample of respondents units; $y_k$ is the total of the variable *y* for the *k*-the unit; $\lambda_k(\alpha)$ is a binary variable, observed in the survey, that equals 1 if the *k* unit belongs to the $\alpha$-th estimation domain and equals 0 otherwise; $w_k$ is the *final weight* attached to the unit.x
The final weight $w_k$ is obtained as a product of three factors:

$$w_k = d_k \, \beta_k \, \gamma_k \qquad (11)$$

in which:

$d_k$ denotes the Horvitz-Thompson weight calculated as reciprocal of the inclusion probability of the unit; if the unit *k* is included in stratum *h* (being *h*=1,…., *H*), $d_k$ is expressed as

$d_k = \frac{N_h}{n_h}$ for k∈ $h$, h=1,…., H

in which $N_h$ and $n_h$ denote respectively the total number of units in the population and the selected number of units in the sample in stratum *h*;
The factor $\beta_k$ represents the reciprocal of the *observed response rate* in given *non response correction cell* (Heltinge et al., 1997). These cells cut across design strata and are defined in order to be as much homogenous as possible with reference to the *response propensities*; if the unit *k* is included in correction cell *g* (*g*=1,…., *G*), $\beta_k$ is expressed as:

$\beta_k = \frac{n_{(g)}}{m_{(g)}}$ for *k*∈ $g$, *g*=1,…., *G*

where $n_{(g)}$ and $m_{(g)}$ denote respectively the number of selected units and number of respondent units in the non response correction cell *g*.
$\gamma_k$ denotes a *post-stratification factor*, obtained by a calibration procedure (Deville et al. 1992) which assures that, for *given domains*, the estimates of the total *number of enterprises* and the *total number of persons employed*, coincide with the known totals of the corresponding *auxiliary* variables. . The domain taken into account in the calibration procedure are defined according by the following

breakdown: Economic group of activities, employment class, entrepreneur flag and the mark for entity (or District)

### 5.2 Operational aspects

All sampling estimates are obtained using "survey" package of "R", which is specialised software for statistical computations. Among all other capabilities, it provides sampling estimates by using calibration method.

Calibration provides a way of combining survey data with aggregate data from other sources. Most commonly, data from an auxiliary sources are used to adjust survey estimates in order to make them more accurate and reduce variance. Method compensates differences between two sources (survey data and auxiliary data) by adjusting the survey estimates so that their marginal totals match control totals (from auxiliary data) on specified set of variables. New weights are assigned to the survey data using iterative procedure which minimises the size of the difference between the original weights and the new weights subject to the specified constraint. More than one control can be used.
In this way auxiliary information is actually incorporated in the new weights and obtained estimates are consistent with known information.
The main influence of calibration process is on survey variables which are correlated with auxiliary information. In other words, calibration process provide higher precision in estimated totals using new weights.

Initial (or design) weights of survey units (enterprise or entrepreneur) are calculated as inverse of inclusion probability. Subsequently, initial weight is corrected for total missing response by strata. If we do not take into account total missing response in weight calculation, estimates will include certain amount of bias, which we want to avoid as much as possible. So, for each strata, non-response corrected weight of respondent survey units is calculated in such a way that each respondent unit is representative also of non-respondent units.

Non-response corrected weight and known population totals are starting point of calibration process. The only available population totals in BiH are total number of survey units in population by strata and total employment in population by strata.
More formally, we are looking for solution for following constrained optimization problem:

$$\begin{cases} \textbf{min} \sum_{i \in s} d(w_i, a_i) \\ \sum_{j \in s_k} w_j = X'_k \\ \sum_{j \in s_k} w_j x_j = X''_k \end{cases}, \; k = 1, \cdots, 99 .$$

Where $a_i$ is non-response corrected weight, $w_i$ is calibrated weight (which is result of optimization problem), $d$ is distance function, $s$ is index set of all respondent survey units, $s_k (k = 1, \cdots, 99)$ are index sets of all respondent survey units in strata $k$ ($s_k \subset s, (k = 1, \cdots, 99)$, $\bigcup_{k=1}^{99} s_k = s$), $x_j$ ($j \in s_k$) are values of auxiliary variable collected by means of survey (total employment), $X'_k$ ($X''_k$) are known population totals by strata $k$ – total number of survey units (total employment). Finally, there are 99 strata in BiH.

The “survey” package of “R” software have implemented function for dealing with upper constrained optimization problem, which has been used with logarithmic distance function. As a result, weighted total of survey units is higher by 0.4%, compared to known total. Similarly, weighted total employment is higher by 0.4%, compared to known total, which are acceptable results.

Also, specific function is used for estimation of totals and variances (standard errors). Several alternative estimation domains have been tried. Results with the highest precision are obtained on NACE section level domain and NACE section level domain with entrepreneur flag.

**Procedure developed in R**

The calibration procedure has been developed in R-software by using the R-survey package.
The R-software has been linked with the DB by using the RODBC library.
The steps developed are the following:

Connection to the Database (linkDB <- odbcConnect("sbs_survey", uid="Admin", case="tolower")
Import a query containing sample data (strata, weights (corrected by missing response rate) and the main variables: PV=Production Value, IC=Intermediate Costs, VAL=Value Added, PC=Production Costs, MOL, INV=Investments example: “SELECT strata.code, strata.strata, ([Nh]/[n])*(([n])/[m]) AS weight, strata.cod11100, strata.PV, strata.IC, strata.VAL, strata.PC, strata.MOL, strata.INV, Pop_strat.n, Pop_strat.m, Pop_strat.Nh, Pop_strat.fh, ENTERPRISE.weight AS weight0, Pop_strat.pop_worker, section3.cod31000 AS worker ROM ((strata INNER JOIN ENTERPRISE ON strata.code = ENTERPRISE.code) INNER JOIN section3 ON (strata.code = section3.code) AND (ENTERPRISE.code = section3.code)) INNER JOIN Pop_strat ON strata.strata = Pop_strat.strata WHERE (((Pop_strat.fh)<=1));”)
Creating a data frame (df <- sqlFetch(linkDB, "strataw", rownames=NULL))
Putting the strata variable as a factor (df$strata=as.factor(df$strata))
Creating an object surveydesign with information on the Sample design (ss <- svydesign(ids=~code, weights=~weight, data=df, nest=FALSE, strata=~strata, fpc=~fh)) Creating a Vector of Known Pop. Total (df=df[order(df[,"strata"]),]; rm(totali); total0=df[order(df[,"strata"]),c("strata","Nh","pop_worker")]; tot.uniq=unique(total0); total1=tot.uniq[,c("Nh","pop_worker")]; pop.totals=as.numeric(as.matrix(total1)))
Computation of calibrated weights (cc <- calibrate(design=ss, formula=~strata+worker:strata-1, population=pop.totals, calfun="logit", bounds=c(0.001,500.0),force=T, epsilon=1e-7)
In the case of 1 PSU we get options(survey.lonely.psu="remove") getOption("survey.lonely.psu")
Creation of the final weight vector (weight_cal<-weights(cc); df_cal<-data.frame(df,weight_cal=weight_cal); df_cal$weight_cal=as.numeric(df_cal$weight_cal)
Recording the final weights in the DB (weight_calib<-data.frame(code=df$code,weight_cal=weights(cc))
weight_calib$weight_cal=as.numeric(weight_calib$weight_cal); sqlSave(linkDB, weight_calib);
Computation of estimates and sampling errors by diomain (svytotal(~worker,ss); svytotal(~worker,cc); svyby(~worker, ~ateco2, cc, svytotal); svyby(~PV, ~ateco2, cc, svytotal); svyby(~I(VAL/1000000), ~ateco2, cc, svytotal); etc.)

### 5.3 Estimation of sampling error

In order to measure precision of estimates, variances need to be estimated. Estimate and estimate of standard error (square root of the estimate of variance), are used to compute confidence interval:

$$\hat{Y} \pm c\sqrt{\hat{V}(\hat{Y})},$$

where $c$ is a constant.
Also, an estimate of coefficient of variation is expressed as percentage

$$cv(\hat{Y}) = \frac{\sqrt{\hat{V}(\hat{Y})}}{\hat{Y}} \times 100.$$

Table 5.1 show estimates of coefficient of variation of main SBS variables by NACE sections.

Table 5.1 - Estimates of coefficient of variation (%), by NACE Sections

| NACE Section | Turnover | Production Value | Value Added | Intermediate Consuptions | Personnel Costs | Total Purchase | Total Investments |
|---|---|---|---|---|---|---|---|
| H | 2.6 | 2.3 | 1.9 | 4.3 | 1.8 | 4.8 | 16.0 |
| I | 8.4 | 9.3 | 10.0 | 9.9 | 0.2 | 8.0 | 13.7 |
| TOTAL | 7.8 | 8.7 | 9.2 | 9.3 | 0.2 | 7.4 | 12.8 |

Table 5.2. show estimates of coefficient of variation of main SBS variables by NACE sections with entrepreneur flag.

Table 5.2 - Estimates of coefficient of variation (%), by NACE Sections (H,I) with entrepreneur flag (0,1)

| NACE section with entrepreneur flag | Turnover | Production value | Value Added | Intermediate Consuptions | Personnel Costs | Total Purchase | Total Investments |
|---|---|---|---|---|---|---|---|
| H0 | 4.2 | 3.1 | 2.0 | 5.9 | 1.5 | 7.3 | 16.9 |
| H1 | 3.0 | 3.3 | 3.3 | 5.6 | 2.9 | 5.4 | 38.6 |
| I0 | 8.6 | 9.4 | 10.1 | 10.1 | 0.1 | 8.1 | 13.8 |
| I1 | 6.8 | 6.6 | 6.9 | 7.9 | 26.6 | 19.4 | 31.2 |
| TOTAL | 7.8 | 8.7 | 9.2 | 9.3 | 0.2 | 7.4 | 12.8 |

## 6. Final results and future works

As regards the results of this experimental SBS survey conducted in two NACE service sections, it is important to make some introductory remarks.

First of all, it is necessary to put emphasis on the following facts: a) it is the first time that statistical institutions in B&H conducted an authentic structural survey concerning enterprises and entrepreneurs, b) it is, also, the first time that statistical institutions in B&H conducted business survey by using the sample technique, c) structural business survey for reference 2007 year is conducted as an experimental one, d) the survey comprises only two NACE sections, H – Hotels and Restaurants and I – Transport and Communications, e) all phases of survey have not completed within the deadline foreseen by the Twinning Project, f) as a consequence, there was not enough time for checking, analysis and confirmation of first round results and g) the activities on all planed stages and analyze will be continued after finishing the Project.

At the time of preparing this document, it was possible to present only selected set of rough preliminary results for some variables and indicators, just as an example and suggestion for further work. The presented results in tables and graphs have been supplied only at the section level of classification and broken down by size classes and legal status of units. However, calculation and presentation of numerous other variables and indicators, at a detailed level, are planned and foreseen after all activities related to this experimental survey are completed. .

### 6.1 Summary results for Hotels and restaurants and Transport and communications, BH

At the end of the year 2007, there were 13.093 active businesses in H and I sections in Bosnia and Herzegovina (3.161 enterprises and 9.932 entrepreneurs). These two sections involved a total of 70.115 persons employed, of which 49.587 by enterprises and 20.528 by entrepreneurs. From the total number persons employed 53.064 were paid employees (43.073 by enterprises and 9.991 by entrepreneurs).
The value of turnover generated by enterprises and entrepreneurs in these two sections amounted to 5.008 million KM, of which 4.762 million by enterprises and 246 million by entrepreneurs. Production value amounted to 4.226 million KM mostly by entrepreneurs. The value added at factor costs was 2.236 million KM; 2.128 million generated by enterprises and 108 by entrepreneurs. Gross investment amounted to 702 million KM, 695 million by enterprises and only 7 million by entrepreneurs.
The total purchases realized in 2007 in H and I sections were 226 million KM, while intermediate consumption presented 133 million KM. The Personnel costs were 2.855 million, 2.758 million by enterprises.
The share of entrepreneurs in the total number of units was three times greater than the number of enterprises. The share of entrepreneurs in the total number of employees was 19% and their contribution to the total turnover of H and I sections was about 5 %.
The value added generated by one entrepreneur was on average 10.825 KM. The average number of persons employed by an entrepreneur was 2.7.
The review of results according to the size classes in the presented tables shows the following main outcomes: the largest number of firms was registered in the first size class (1-9 persons employed), while the class of larger firms (third class) is the more representative in terms of person employed: it accounts more than 50% of total employment. As regards the main indicators it is worth to remark that turnover per worker and labour productivity are the largest by second size class (10 – 19 persons employed).
For a more detailed and peculiar analysis of these preliminary results, one can have an insight into more detailed data by sections and entities according to the annexed tables and graphs.

### 6.2 General summary and future work

As regards structural business statistics (SBS), a huge effort was spent in order to: a) improving contents of the questionnaire; b) enlarging the field of observation including small enterprises, entrepreneurs and some service activities; c) passing from a census to a sampling survey approach; d) introducing new methodological tools regarding data editing, outliers identification, imputation, estimation through calibration, evaluation of the sampling errors; e) calculation and diffusion of statistical indicators that are coherent with the ISTAT and the EU standards. The last activities concern final estimations and preparation of statistical tables.
The BiH experts should try to launch and manage a similar survey for year 2009 as well, possibly enlarging the field under observation as regards the service activities. In short, the main overall result is given by a relevant change concerning activities under observations, survey methodology and main indicators calculated, that now seem to be more in line with the EU standards.

The sampling survey concerned the industrial economic activities and the service activities ranging from division 55 (Hotels and restaurants) up to division 64 (Post and telecommunications) of the NACE Rev.1.1. A stratified random sample was planned and used, according to the idea of using a census for all the units having 20 and more person employed. As a matter of fact, this was the first attempt to use a sampling approach for picking up structural business data without a census as in the past.
On the basis of the micro-data already collected and the use of specific software able to produce estimates through the calibration strategy, experts from the Agency side carried out provisional estimates by themselves, on the basis of the software “R”. Preliminary results obtained by using the calibration procedure have been compared with those obtained using the ordinary Horvitz-Thompson (HT) estimation technique. In particular, we have verified the potential over-estimation due to non-responses comparing estimates of the number of persons employed got using calibration (that equal the true amounts derived by the original list by construction) with those derived through HT.

Response rates have been definitively calculated after re-contacts and feedbacks from some large non respondent units. The analysis of response rates was aimed at verifying the need to merge strata characterized by a too low response rate and/or too few respondents (less than 5). As a matter of fact, strata with a number of responses lower than 5 should be identified and collapsed with the nearest stratum (where distance among strata should be probably assessed on the basis of the number of persons employed). Moreover the issue of changes in the business units and problems related to the quality of the list of the population have been tackled. In fact some respondents indicates a different economic activity or a different number of workers or a different legal type. For that, each respondent has been allocated in the “right” stratum and where possible the population of firms and workers of each stratum has been adjusted. Also to better “calibrate” the final estimates to the correct value of the population. After these adjustments, the final response rates in each stratum has been calculated in terms of units and in terms of workers. Further, on the basis of the STATA software some procedures for imputation of partial non responses have been applied.

Some improvements are needed as regards the sector coverage and the preparation (and update) of a unique database at the whole State level. Of course, that does not mean that specific databases at the single Entity level can not be created and stored, but they must be completely coherent with micro-data supplied to the Agency. Moreover, it is fundamental to continue with the use of sampling techniques, also with the aim of reducing response burden. The sample surveys should be extended to all business sectors (sections C-K and MNO). It is recommended the use administrative sources as soon as it will be possible (balance sheets, fiscal data, social security data), to check the quality of responses and to reduce the statistical burden. Moreover, the links with the business register should be enforced as soon as the register at the State level is completely implemented.

## Preliminary Results

**Table 1.1** **Section H - Hotels and restaurants - Main SBS variables in values breakdowned by size clases and legal status for 2007**

**Values in 000 KM**

| Level of breakdown | Number of firms | Number of persons employed | Number of employees | Turnover | Production value | Total purchases | Intermediate consumption | Value added at factor cost | Personnal costs | Gross operating surplus | Gross investment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | ***Bosnia and Herzegovina*** | | | | | |
| **H section, total** | 7.966 | 23.720 | 15.398 | 372.083 | 302.115 | 225.872 | 133.263 | 168.852 | 122.830 | 46.023 | 48.856 |
| *H by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 7.693 | 16.927 | 8.981 | 177.847 | 133.096 | 118.259 | 51.733 | 81.362 | 73.583 | 7.779 | 5.449 |
| 10-19 persons employed | 195 | 2.686 | 2.427 | 67.050 | 46.891 | 43.760 | 28.066 | 18.825 | 15.614 | 3.211 | 21.167 |
| 20+ persons employed | 78 | 4.107 | 3.990 | 127.185 | 122.129 | 63.853 | 53.463 | 68.665 | 33.633 | 35.032 | 22.240 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 699 | 6.645 | 6.055 | 197.191 | 174.422 | 127.567 | 87.015 | 87.408 | 48.599 | 38.809 | 45.575 |
| Entrepreneurs | 7.267 | 17.075 | 9.343 | 174.892 | 127.693 | 98.305 | 46.249 | 81.444 | 74.230 | 7.214 | 3.281 |
| | | | | | | ***Federation of Bosnia and Herzegovina*** | | | | | |
| **H section, total** | 3.808 | 11.881 | 7.932 | 221.411 | 193.483 | 127.784 | 88.235 | 105.248 | 67.782 | 37.466 | 27.912 |
| *H by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 3.646 | 7.961 | 4.309 | 89.453 | 65.709 | 66.960 | 28.222 | 37.487 | 36.114 | 1.373 | 2.555 |
| 10-19 persons employed | 121 | 1.654 | 1.441 | 40.045 | 35.008 | 22.384 | 22.960 | 12.048 | 10.668 | 1.380 | 9.640 |
| 20+ persons employed | 41 | 2.266 | 2.182 | 91.913 | 92.765 | 38.440 | 37.052 | 55.713 | 21.000 | 34.713 | 15.718 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 506 | 3.937 | 3.435 | 129.484 | 125.788 | 71.914 | 58.569 | 67.219 | 31.276 | 35.943 | 26.425 |
| Entrepreneurs | 3.302 | 7.944 | 4.497 | 91.927 | 67.695 | 55.870 | 29.666 | 38.030 | 36.506 | 1.523 | 1.487 |
| | | | | | | ***Republic of Srpska*** | | | | | |
| **H section, total** | 3.792 | 11.275 | 7.277 | 143.652 | 103.151 | 93.522 | 42.997 | 60.153 | 52.954 | 7.200 | 20.720 |
| *H by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 3.683 | 8.455 | 4.534 | 82.699 | 63.255 | 47.369 | 22.079 | 41.176 | 35.801 | 5.374 | 2.687 |
| 10-19 persons employed | 73 | 1.022 | 978 | 26.835 | 11.750 | 21.310 | 5.076 | 6.674 | 4.897 | 1.777 | 11.510 |
| 20+ persons employed | 36 | 1.798 | 1.765 | 34.118 | 28.145 | 24.843 | 15.842 | 12.303 | 12.255 | 48 | 6.522 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 173 | 2.626 | 2.558 | 66.130 | 47.110 | 54.226 | 27.801 | 19.309 | 16.808 | 2.501 | 19.150 |
| Entrepreneurs | 3.619 | 8.649 | 4.719 | 77.522 | 56.041 | 39.296 | 15.196 | 40.845 | 36.146 | 4.699 | 1.570 |
| | | | | | | ***Brcko District*** | | | | | |
| **H section, total** | 366 | 564 | 190 | 7.020 | 5.482 | 4.566 | 2.031 | 3.451 | 2.094 | 1.357 | 225 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 20 | 82 | 63 | 1.578 | 1.525 | 1.427 | 644 | 881 | 516 | 365 | 0 |
| Entrepreneurs | 346 | 482 | 127 | 5.442 | 3.957 | 3.139 | 1.387 | 2.570 | 1.578 | 992 | 225 |

**Table 1.2** **Section I - Transport and communications - Main SBS variables breakdowned by size clases and legal status for 2007**

**Values in 000 KM**

| Level of breakdown | Number of firms | Number of persons employed | Number of employees | Turnover | Production value | Total purchases | Intermediate consumption | Value added at factor cost | Personnal costs | Gross operating surplus | Gross investment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | ***Bosnia and Herzegovina*** | | | | | |
| **I section, total** | 5.127 | 46.395 | 37.666 | 4.636.400 | 4.121.221 | 2.752.335 | 2.053.589 | 2.067.632 | 2.732.755 | -665.123 | 653.477 |
| *I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 4.652 | 10.164 | 5.481 | 642.652 | 503.918 | 612.432 | 390.825 | 113.094 | 67.784 | 45.310 | 46.249 |
| 10-19 persons employed | 314 | 4.452 | 4.066 | 828.428 | 690.049 | 508.419 | 349.854 | 340.196 | 40.564 | 299.632 | 128.149 |
| 20+ persons employed | 161 | 31.779 | 28.119 | 3.165.319 | 2.927.253 | 1.631.483 | 1.312.911 | 1.614.342 | 2.624.407 | -1.010.065 | 479.080 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 2.462 | 42.942 | 37.018 | 4.564.727 | 4.051.294 | 2.693.397 | 2.009.732 | 2.041.561 | 2.710.243 | -668.682 | 649.675 |
| Entrepreneurs | 2.665 | 3.453 | 648 | 71.673 | 69.927 | 58.937 | 43.857 | 26.070 | 22.512 | 3.559 | 3.802 |
| | | | | | | ***Federation of Bosnia and Herzegovina*** | | | | | |
| **I section, total** | 2.466 | 28.953 | 26.132 | 3.727.339 | 3.283.242 | 2.278.787 | 1.677.580 | 1.605.662 | 2.521.881 | -916.220 | 553.783 |
| *I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 2.139 | 5.237 | 3.141 | 433.384 | 316.558 | 457.312 | 263.816 | 52.742 | 42.585 | 10.157 | 27.080 |
| 10-19 persons employed | 219 | 3.123 | 2.764 | 712.267 | 617.366 | 411.749 | 317.268 | 300.098 | 31.426 | 268.672 | 124.930 |
| 20+ persons employed | 108 | 20.593 | 20.227 | 2.581.688 | 2.349.318 | 1.409.727 | 1.096.497 | 1.252.821 | 2.447.870 | -1.195.049 | 401.773 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 1.688 | 28.080 | 26.037 | 3.706.107 | 3.262.050 | 2.250.009 | 1.661.814 | 1.600.237 | 2.510.293 | -910.056 | 553.215 |
| Entrepreneurs | 778 | 873 | 95 | 21.232 | 21.191 | 28.778 | 15.766 | 5.425 | 11.588 | -6.164 | 568 |
| | | | | | | ***Republic of Srpska*** | | | | | |
| **I section, total** | 2.340 | 16.849 | 11.260 | 884.233 | 814.950 | 457.268 | 363.197 | 451.754 | 207.682 | 244.072 | 96.721 |
| *I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 2.196 | 4.508 | 2.239 | 193.350 | 173.274 | 144.897 | 119.347 | 53.927 | 24.031 | 29.896 | 17.129 |
| 10-19 persons employed | 93 | 1.299 | 1.272 | 111.616 | 68.166 | 92.775 | 29.591 | 38.575 | 8.866 | 29.709 | 2.685 |
| 20+ persons employed | 51 | 11.042 | 7.749 | 579.268 | 573.511 | 219.597 | 214.259 | 359.252 | 174.785 | 184.467 | 76.908 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 721 | 14.547 | 10.714 | 835.535 | 767.931 | 427.750 | 335.703 | 432.228 | 197.401 | 234.827 | 94.018 |
| Entrepreneurs | 1.619 | 2.301 | 546 | 48.698 | 47.019 | 29.518 | 27.493 | 19.526 | 10.281 | 9.245 | 2.703 |
| | | | | | | ***Brcko District*** | | | | | |
| **I section, total** | 321 | 593 | 274 | 24.827 | 23.029 | 16.279 | 12.813 | 10.216 | 3.192 | 7.025 | 2.973 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 53 | 315 | 267 | 23.084 | 21.312 | 15.638 | 12.215 | 9.097 | 2.550 | 6.547 | 2.442 |
| Entrepreneurs | 268 | 278 | 7 | 1.743 | 1.717 | 641 | 598 | 1.119 | 642 | 477 | 531 |

**Table 1.3** **Sum of sections H and I - Main SBS variables breakdowned by size clases and legal status for 2007**

**Values in 000 KM**

| Level of breakdown | Number of firms | Number of persons employed | Number of employees | Turnover | Production value | Total purchases | Intermediate consumption | Value added at factor cost | Personnal costs | Gross operating surplus | Gross investment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | ***Bosnia and Herzegovina*** | | | | | |
| **H and I section, total** | 13.093 | 70.115 | 53.064 | 5.008.482 | 4.423.337 | 2.978.207 | 2.186.853 | 2.236.484 | 2.855.585 | -619.101 | 702.334 |
| *H and I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 12.345 | 27.091 | 14.462 | 820.500 | 637.014 | 730.692 | 442.558 | 194.456 | 141.367 | 53.089 | 51.698 |
| 10-19 persons employed | 509 | 7.138 | 6.493 | 895.478 | 736.941 | 552.179 | 377.920 | 359.020 | 56.178 | 302.843 | 149.316 |
| 20+ persons employed | 239 | 35.886 | 32.109 | 3.292.504 | 3.049.382 | 1.695.336 | 1.366.374 | 1.683.008 | 2.658.040 | -975.032 | 501.320 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 3.161 | 49.587 | 43.073 | 4.761.918 | 4.225.716 | 2.820.964 | 2.096.747 | 2.128.969 | 2.758.843 | -629.873 | 695.251 |
| Entrepreneurs | 9.932 | 20.528 | 9.991 | 246.565 | 197.620 | 157.242 | 90.106 | 107.515 | 96.742 | 10.773 | 7.083 |
| | | | | | | ***Federation of Bosnia and Herzegovina*** | | | | | |
| **H and I section, total** | 6.274 | 40.834 | 34.063 | 3.948.750 | 3.476.724 | 2.406.571 | 1.765.815 | 1.710.910 | 2.589.663 | -878.753 | 581.695 |
| *H and I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 5.785 | 13.198 | 7.450 | 522.837 | 382.267 | 524.272 | 292.038 | 90.229 | 78.699 | 11.530 | 29.635 |
| 10-19 persons employed | 340 | 4.777 | 4.205 | 752.312 | 652.374 | 434.132 | 340.228 | 312.146 | 42.094 | 270.052 | 134.569 |
| 20+ persons employed | 149 | 22.859 | 22.409 | 2.673.601 | 2.442.083 | 1.448.167 | 1.133.549 | 1.308.534 | 2.468.869 | -1.160.335 | 417.491 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 2.194 | 32.017 | 29.471 | 3.835.591 | 3.387.838 | 2.321.923 | 1.720.383 | 1.667.455 | 2.541.568 | -874.113 | 579.641 |
| Entrepreneurs | 4.080 | 8.817 | 4.592 | 113.160 | 88.886 | 84.648 | 45.432 | 43.454 | 48.095 | -4.640 | 2.055 |
| | | | | | | ***Republic of Srpska*** | | | | | |
| **H and I section, total** | 6.132 | 28.124 | 18.537 | 1.027.885 | 918.101 | 550.790 | 406.194 | 511.907 | 260.636 | 251.271 | 117.441 |
| *H and I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 5.879 | 12.963 | 6.774 | 276.049 | 236.529 | 192.266 | 141.426 | 95.103 | 59.833 | 35.270 | 19.815 |
| 10-19 persons employed | 166 | 2.321 | 2.250 | 138.451 | 79.916 | 114.084 | 34.668 | 45.249 | 13.763 | 31.486 | 14.195 |
| 20+ persons employed | 87 | 12.840 | 9.514 | 613.385 | 601.656 | 244.440 | 230.100 | 371.556 | 187.041 | 184.515 | 83.430 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 894 | 17.173 | 13.272 | 901.665 | 815.041 | 481.976 | 363.505 | 451.536 | 214.209 | 237.327 | 113.168 |
| Entrepreneurs | 5.238 | 10.951 | 5.266 | 126.220 | 103.060 | 68.814 | 42.689 | 60.371 | 46.427 | 13.944 | 4.272 |
| | | | | | | ***Brcko District*** | | | | | |
| **H and I section, total** | 687 | 1.157 | 464 | 31.847 | 28.511 | 20.845 | 14.844 | 13.667 | 5.286 | 8.381 | 3.198 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 73 | 397 | 330 | 24.662 | 22.837 | 17.065 | 12.859 | 9.978 | 3.065 | 6.912 | 2.442 |
| Entrepreneurs | 614 | 760 | 134 | 7.185 | 5.674 | 3.780 | 1.985 | 3.690 | 2.221 | 1.469 | 756 |

**Table 2.1** **Section H - Hotels and restaurants - Structure of SBS variables breakdowned by size clases and legal status for 2007**

**Structure in %**

| Level of breakdown | Number of firms | Number of persons employed | Number of employees | Turnover | Production value | Total purchases | Intermediate consumption | Value added at factor cost | Personnal costs | Gross operating surplus | Gross investment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | ***Bosnia and Herzegovina*** | | | | | |
| **H section, total** | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 |
| *H by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 96,57 | 71,36 | 58,32 | 47,80 | 44,05 | 52,36 | 38,82 | 48,19 | 59,91 | 16,90 | 11,15 |
| 10-19 persons employed | 2,45 | 11,32 | 15,76 | 18,02 | 15,52 | 19,37 | 21,06 | 11,15 | 12,71 | 6,98 | 43,32 |
| 20+ persons employed | 0,98 | 17,31 | 25,91 | 34,18 | 40,42 | 28,27 | 40,12 | 40,67 | 27,38 | 76,12 | 45,52 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 8,77 | 28,01 | 39,32 | 53,00 | 57,73 | 56,48 | 65,30 | 51,77 | 39,57 | 84,33 | 93,28 |
| Entrepreneurs | 91,23 | 71,99 | 60,68 | 47,00 | 42,27 | 43,52 | 34,70 | 48,23 | 60,43 | 15,67 | 6,72 |
| | | | | | | ***Federation of Bosnia and Herzegovina*** | | | | | |
| **H section, total** | 47,80 | 50,09 | 51,51 | 59,51 | 64,04 | 56,57 | 66,21 | 62,33 | 55,18 | 81,41 | 57,13 |
| *H by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 95,75 | 67,01 | 54,32 | 40,40 | 33,96 | 52,40 | 31,99 | 35,62 | 53,28 | 3,66 | 9,15 |
| 10-19 persons employed | 3,18 | 13,92 | 18,17 | 18,09 | 18,09 | 17,52 | 26,02 | 11,45 | 15,74 | 3,68 | 34,54 |
| 20+ persons employed | 1,08 | 19,07 | 27,51 | 41,51 | 47,95 | 30,08 | 41,99 | 52,94 | 30,98 | 92,65 | 56,31 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 13,29 | 33,14 | 43,30 | 58,48 | 65,01 | 56,28 | 66,38 | 63,87 | 46,14 | 95,93 | 94,67 |
| Entrepreneurs | 86,71 | 66,86 | 56,70 | 41,52 | 34,99 | 43,72 | 33,62 | 36,13 | 53,86 | 4,07 | 5,33 |
| | | | | | | ***Republic of Srpska*** | | | | | |
| **H section, total** | 47,60 | 47,53 | 47,26 | 38,61 | 34,14 | 41,40 | 32,26 | 35,62 | 43,11 | 15,64 | 42,41 |
| *H by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 97,13 | 74,99 | 62,31 | 57,57 | 61,32 | 50,65 | 51,35 | 68,45 | 67,61 | 74,65 | 12,97 |
| 10-19 persons employed | 1,92 | 9,06 | 13,43 | 18,68 | 11,39 | 22,79 | 11,81 | 11,10 | 9,25 | 24,68 | 55,55 |
| 20+ persons employed | 0,95 | 15,95 | 24,25 | 23,75 | 27,29 | 26,56 | 36,84 | 20,45 | 23,14 | 0,67 | 31,48 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 4,56 | 23,29 | 35,15 | 46,03 | 45,67 | 57,98 | 64,66 | 32,10 | 31,74 | 34,73 | 92,42 |
| Entrepreneurs | 95,44 | 76,71 | 64,85 | 53,97 | 54,33 | 42,02 | 35,34 | 67,90 | 68,26 | 65,27 | 7,58 |
| | | | | | | ***Brcko District*** | | | | | |
| **H section, total** | 4,60 | 2,38 | 1,23 | 1,89 | 1,81 | 2,02 | 1,52 | 2,04 | 1,71 | 2,95 | 0,46 |
| *H by legal status* | | | | | | | | | | | |
| Enterprises | 5,46 | 14,53 | 33,17 | 22,48 | 27,82 | 31,25 | 31,72 | 25,52 | 24,63 | 26,91 | 0,00 |
| Entrepreneurs | 94,54 | 85,47 | 66,83 | 77,52 | 72,18 | 68,75 | 68,28 | 74,48 | 75,37 | 73,09 | 100,00 |

**Table 2.2** **Section I - Transport and communications - Structure of SBS variables breakdowned by size clases and legal status for 2007**

**Structure in %**

| Level of breakdown | Number of firms | Number of persons employed | Number of employees | Turnover | Production value | Total purchases | Intermediate consumption | Value added at factor cost | Personnal costs | Gross operating surplus | Gross investment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | ***Bosnia and Herzegovina*** | | | | | |
| **I section, total** | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 |
| *I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 90,74 | 21,91 | 14,55 | 13,86 | 12,23 | 22,25 | 19,03 | 5,47 | 2,48 | -6,81 | 7,08 |
| 10-19 persons employed | 6,12 | 9,60 | 10,79 | 17,87 | 16,74 | 18,47 | 17,04 | 16,45 | 1,48 | -45,05 | 19,61 |
| 20+ persons employed | 3,14 | 68,50 | 74,65 | 68,27 | 71,03 | 59,28 | 63,93 | 78,08 | 96,04 | 151,86 | 73,31 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 48,02 | 92,56 | 98,28 | 98,45 | 98,30 | 97,86 | 97,86 | 98,74 | 99,18 | 100,54 | 99,42 |
| Entrepreneurs | 51,98 | 7,44 | 1,72 | 1,55 | 1,70 | 2,14 | 2,14 | 1,26 | 0,82 | -0,54 | 0,58 |
| | | | | | | ***Federation of Bosnia and Herzegovina*** | | | | | |
| **I section, total** | 48,10 | 62,41 | 69,38 | 80,39 | 79,67 | 82,79 | 81,69 | 77,66 | 92,28 | 137,75 | 84,74 |
| *I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 86,74 | 18,09 | 12,02 | 11,63 | 9,64 | 20,07 | 15,73 | 3,28 | 1,69 | -1,11 | 4,89 |
| 10-19 persons employed | 8,88 | 10,79 | 10,58 | 19,11 | 18,80 | 18,07 | 18,91 | 18,69 | 1,25 | -29,32 | 22,56 |
| 20+ persons employed | 4,38 | 71,13 | 77,40 | 69,26 | 71,55 | 61,86 | 65,36 | 78,03 | 97,07 | 130,43 | 72,55 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 68,45 | 96,98 | 99,64 | 99,43 | 99,35 | 98,74 | 99,06 | 99,66 | 99,54 | 99,33 | 99,90 |
| Entrepreneurs | 31,55 | 3,02 | 0,36 | 0,57 | 0,65 | 1,26 | 0,94 | 0,34 | 0,46 | 0,67 | 0,10 |
| | | | | | | ***Republic of Srpska*** | | | | | |
| **I section, total** | 45,64 | 36,32 | 29,90 | 19,07 | 19,77 | 16,61 | 17,69 | 21,85 | 7,60 | -36,70 | 14,80 |
| *I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 93,86 | 26,76 | 19,89 | 21,87 | 21,26 | 31,69 | 32,86 | 11,94 | 11,57 | 12,25 | 17,71 |
| 10-19 persons employed | 3,97 | 7,71 | 11,30 | 12,62 | 8,36 | 20,29 | 8,15 | 8,54 | 4,27 | 12,17 | 2,78 |
| 20+ persons employed | 2,17 | 65,54 | 68,81 | 65,51 | 70,37 | 48,02 | 58,99 | 79,52 | 84,16 | 75,58 | 79,52 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 30,82 | 86,34 | 95,15 | 94,49 | 94,23 | 93,54 | 92,43 | 95,68 | 95,05 | 96,21 | 97,21 |
| Entrepreneurs | 69,18 | 13,66 | 4,85 | 5,51 | 5,77 | 6,46 | 7,57 | 4,32 | 4,95 | 3,79 | 2,79 |
| | | | | | | ***Brcko District*** | | | | | |
| **I section, total** | 6,26 | 1,28 | 0,73 | 0,54 | 0,56 | 0,59 | 0,62 | 0,49 | 0,12 | -1,06 | 0,45 |
| *I by legal status* | | | | | | | | | | | |
| Enterprises | 16,51 | 53,11 | 97,44 | 92,98 | 92,54 | 96,06 | 95,34 | 89,04 | 79,88 | 93,20 | 82,13 |
| Entrepreneurs | 83,49 | 46,89 | 2,56 | 7,02 | 7,46 | 3,94 | 4,66 | 10,96 | 20,12 | 6,80 | 17,87 |

**Table 2.3** **Sum of sections H and I - Structure of SBS variables breakdowned by size clases and legal status for 2007**

**Structure in %**

| Level of breakdown | Number of firms | Number of persons employed | Number of employees | Turnover | Production value | Total purchases | Intermediate consumption | Value added at factor cost | Personnal costs | Gross operating surplus | Gross investment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | ***Bosnia and Herzegovina*** | | | | | |
| **H and I section, total** | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 |
| *H and I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 94,29 | 38,64 | 27,25 | 16,38 | 14,40 | 24,53 | 20,24 | 8,69 | 4,95 | -8,58 | 7,36 |
| 10-19 persons employed | 3,89 | 10,18 | 12,24 | 17,88 | 16,66 | 18,54 | 17,28 | 16,05 | 1,97 | -48,92 | 21,26 |
| 20+ persons employed | 1,82 | 51,18 | 60,51 | 65,74 | 68,94 | 56,92 | 62,48 | 75,25 | 93,08 | 157,49 | 71,38 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 24,14 | 70,72 | 81,17 | 95,08 | 95,53 | 94,72 | 95,88 | 95,19 | 96,61 | 101,74 | 98,99 |
| Entrepreneurs | 75,86 | 29,28 | 18,83 | 4,92 | 4,47 | 5,28 | 4,12 | 4,81 | 3,39 | -1,74 | 1,01 |
| | | | | | | ***Federation of Bosnia and Herzegovina*** | | | | | |
| **H and I section, total** | 47,92 | 58,24 | 64,19 | 78,84 | 78,60 | 80,81 | 80,75 | 76,50 | 90,69 | 141,94 | 82,82 |
| *H and I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 92,21 | 32,32 | 21,87 | 13,24 | 11,00 | 21,79 | 16,54 | 5,27 | 3,04 | -1,31 | 5,09 |
| 10-19 persons employed | 5,42 | 11,70 | 12,34 | 19,05 | 18,76 | 18,04 | 19,27 | 18,24 | 1,63 | -30,73 | 23,13 |
| 20+ persons employed | 2,37 | 55,98 | 65,79 | 67,71 | 70,24 | 60,18 | 64,19 | 76,48 | 95,34 | 132,04 | 71,77 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 34,97 | 78,41 | 86,52 | 97,13 | 97,44 | 96,48 | 97,43 | 97,46 | 98,14 | 99,47 | 99,65 |
| Entrepreneurs | 65,03 | 21,59 | 13,48 | 2,87 | 2,56 | 3,52 | 2,57 | 2,54 | 1,86 | 0,53 | 0,35 |
| | | | | | | ***Republic of Srpska*** | | | | | |
| **H and I section, total** | 46,83 | 40,11 | 34,93 | 20,52 | 20,76 | 18,49 | 18,57 | 22,89 | 9,13 | -40,59 | 16,72 |
| *H and I by size clases* | | | | | | | | | | | |
| 1-9 persons employed | 95,88 | 46,09 | 36,54 | 26,86 | 25,76 | 34,91 | 34,82 | 18,58 | 22,96 | 14,04 | 16,87 |
| 10-19 persons employed | 2,70 | 8,25 | 12,14 | 13,47 | 8,70 | 20,71 | 8,53 | 8,84 | 5,28 | 12,53 | 12,09 |
| 20+ persons employed | 1,42 | 45,66 | 51,32 | 59,67 | 65,53 | 44,38 | 56,65 | 72,58 | 71,76 | 73,43 | 71,04 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 14,58 | 61,06 | 71,59 | 87,72 | 88,77 | 87,51 | 89,49 | 88,21 | 82,19 | 94,45 | 96,36 |
| Entrepreneurs | 85,42 | 38,94 | 28,41 | 12,28 | 11,23 | 12,49 | 10,51 | 11,79 | 17,81 | 5,55 | 3,64 |
| | | | | | | ***Brcko District*** | | | | | |
| **H and I section, total** | 5,25 | 1,65 | 0,87 | 0,64 | 0,64 | 0,70 | 0,68 | 0,61 | 0,19 | -1,35 | 0,46 |
| *H and I by legal status* | | | | | | | | | | | |
| Enterprises | 10,62 | 34,31 | 71,13 | 77,44 | 80,10 | 81,87 | 86,63 | 73,00 | 57,99 | 82,47 | 76,36 |
| Entrepreneurs | 89,38 | 65,69 | 28,87 | 22,56 | 19,90 | 18,13 | 13,37 | 27,00 | 42,01 | 17,53 | 23,64 |

**Table 3.1** **Section H - Hotels and restaurants - Main SBS indicators breakdowned by size clases and legal status for 2007**

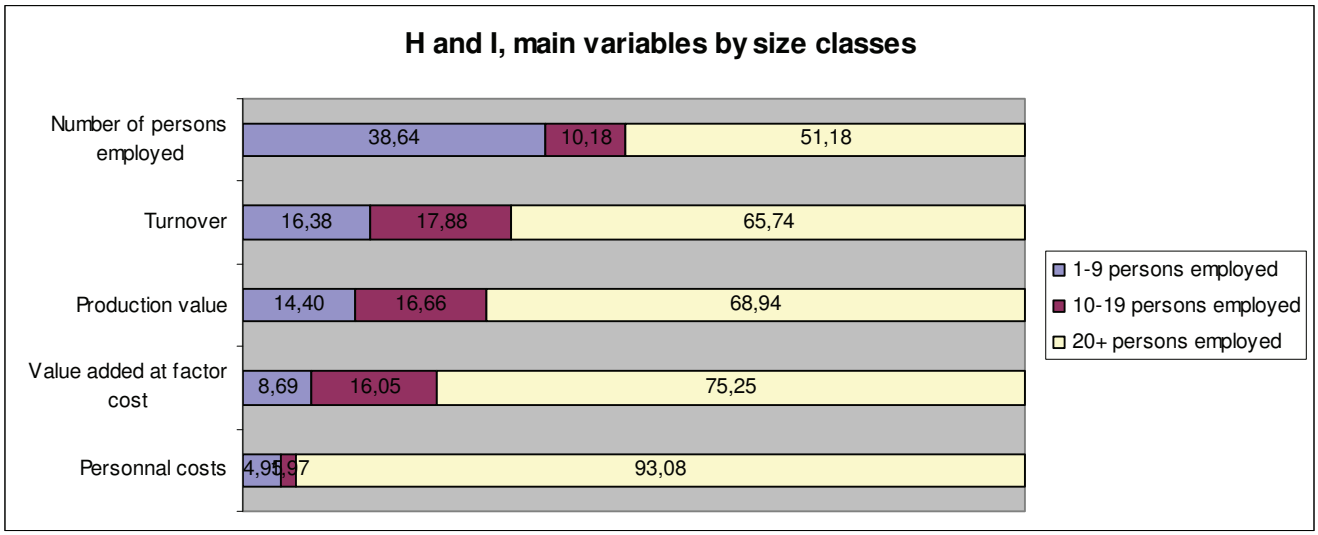
| Level of breakdown | Turnover per worker (KM) | Labour Productivity (KM) | Value Added on Turnover | Labour cost per employee (KM) | Labour cost on Value Added | Profitability | Investment per worker (KM) |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | ***Bosnia and Herzegovina*** | | | |
| **H section, total** | 15.686 | 7.118 | 0,45 | 7.977 | 0,73 | 0,12 | 2.060 |
| *H by size clases* | | | | | | | |
| 1-9 persons employed | 10.507 | 4.807 | 0,46 | 8.193 | 0,90 | 0,04 | 322 |
| 10-19 persons employed | 24.963 | 7.008 | 0,28 | 6.432 | 0,83 | 0,05 | 7.880 |
| 20+ persons employed | 30.968 | 16.719 | 0,54 | 8.429 | 0,49 | 0,28 | 5.415 |
| *H by legal status* | | | | | | | |
| Enterprises | 29.675 | 13.154 | 0,44 | 8.026 | 0,56 | 0,20 | 6.859 |
| Entrepreneurs | 10.242 | 4.770 | 0,47 | 7.945 | 0,91 | 0,04 | 192 |
| | | | | ***Federation of Bosnia and Herzegovina*** | | | |
| **H section, total** | 18.636 | 8.859 | 0,48 | 8.546 | 0,64 | 0,17 | 2.349 |
| *H by size clases* | | | | | | | |
| 1-9 persons employed | 11.236 | 4.709 | 0,42 | 8.382 | 0,96 | 0,02 | 321 |
| 10-19 persons employed | 24.211 | 7.284 | 0,30 | 7.404 | 0,89 | 0,03 | 5.828 |
| 20+ persons employed | 40.562 | 24.587 | 0,61 | 9.624 | 0,38 | 0,38 | 6.936 |
| *H by legal status* | | | | | | | |
| Enterprises | 32.889 | 17.074 | 0,52 | 9.106 | 0,47 | 0,28 | 6.712 |
| Entrepreneurs | 11.572 | 4.787 | 0,41 | 8.118 | 0,96 | 0,02 | 187 |
| | | | | ***Republic of Srpska*** | | | |
| **H section, total** | 12.741 | 5.335 | 0,42 | 7.277 | 0,88 | 0,05 | 1.838 |
| *H by size clases* | | | | | | | |
| 1-9 persons employed | 9.781 | 4.870 | 0,50 | 7.896 | 0,87 | 0,06 | 318 |
| 10-19 persons employed | 26.258 | 6.530 | 0,25 | 5.010 | 0,73 | 0,07 | 11.263 |
| 20+ persons employed | 18.975 | 6.843 | 0,36 | 6.944 | 1,00 | 0,00 | 3.628 |
| *H by legal status* | | | | | | | |
| Enterprises | 25.182 | 7.353 | 0,29 | 6.571 | 0,87 | 0,04 | 7.292 |
| Entrepreneurs | 8.963 | 4.722 | 0,53 | 7.659 | 0,88 | 0,06 | 181 |
| | | | | ***Brcko District*** | | | |
| **H section, total** | 12.443 | 6.117 | 0,49 | 11.025 | 0,61 | 0,19 | 398 |
| *H by legal status* | | | | | | | |
| Enterprises | 19.241 | 10.741 | 0,56 | 8.187 | 0,59 | 0,23 | 0 |
| Entrepreneurs | 11.287 | 5.330 | 0,47 | 12.433 | 0,61 | 0,18 | 466 |

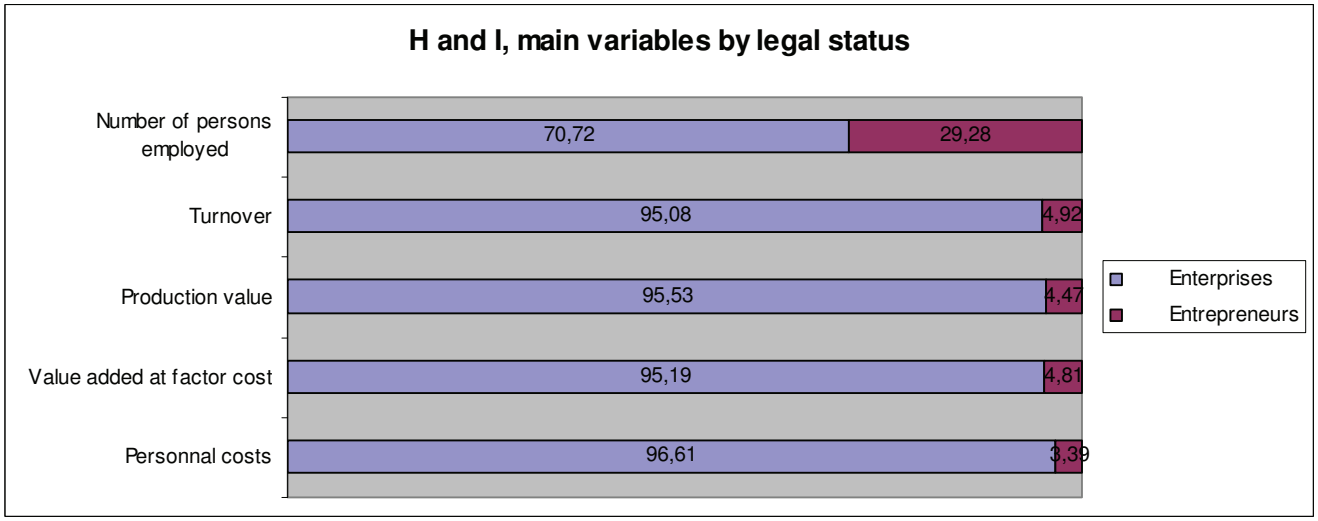
**Table 3.2** **Section I - Transport and communications - Main SBS indicators breakdowned by size clases and legal status for 2007**

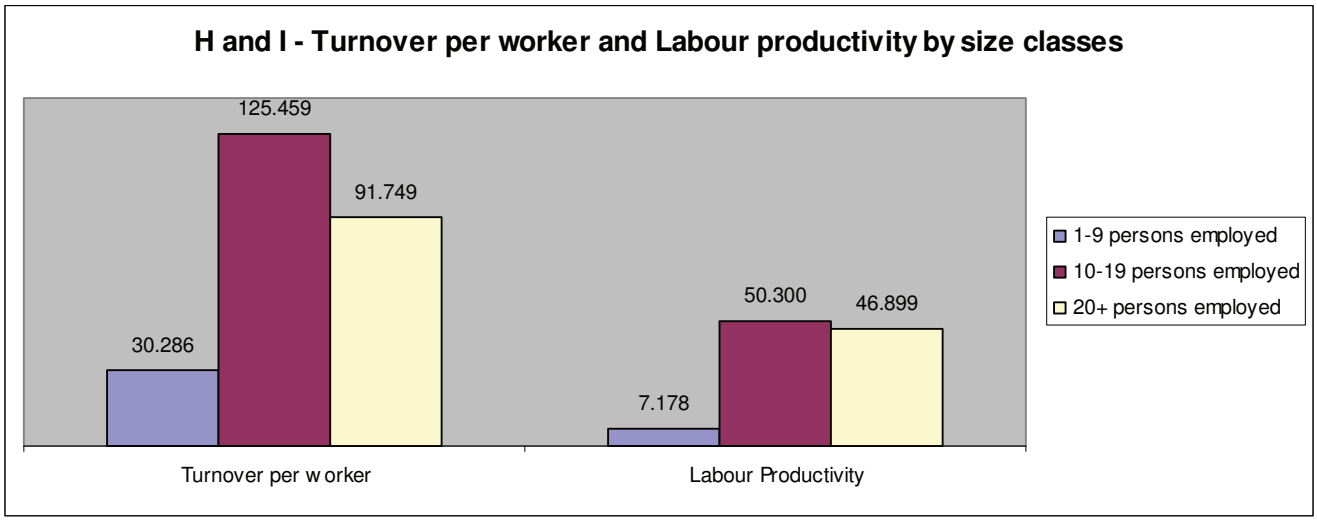
| Level of breakdown | Turnover per worker (KM) | Labour Productivity (KM) | Percent of Value Added on Turnover | Labour cost per employee (KM) | Labour cost on Value Added | Profitability | Investment per worker (KM) |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | ***Bosnia and Herzegovina*** | | | |
| **I section, total** | 99.934 | 44.566 | 0,45 | 72.552 | 1,32 | -0,14 | 14.085 |
| *I by size clases* | | | | | | | |
| 1-9 persons employed | 63.227 | 11.127 | 0,18 | 12.366 | 0,60 | 0,07 | 4.550 |
| 10-19 persons employed | 186.095 | 76.420 | 0,41 | 9.976 | 0,12 | 0,36 | 28.787 |
| 20+ persons employed | 99.604 | 50.799 | 0,51 | 93.333 | 1,63 | -0,32 | 15.075 |
| *I by legal status* | | | | | | | |
| Enterprises | 106.299 | 47.542 | 0,45 | 73.215 | 1,33 | -0,15 | 15.129 |
| Entrepreneurs | 20.759 | 7.551 | 0,36 | 34.718 | 0,86 | 0,05 | 1.101 |
| | | | | ***Federation of Bosnia and Herzegovina*** | | | |
| **I section, total** | 128.738 | 55.458 | 0,43 | 96.507 | 1,57 | -0,25 | 19.127 |
| *I by size clases* | | | | | | | |
| 1-9 persons employed | 82.754 | 10.071 | 0,12 | 13.558 | 0,81 | 0,02 | 5.171 |
| 10-19 persons employed | 228.071 | 96.093 | 0,42 | 11.371 | 0,10 | 0,38 | 40.003 |
| 20+ persons employed | 125.367 | 60.837 | 0,49 | 121.020 | 1,95 | -0,46 | 19.510 |
| *I by legal status* | | | | | | | |
| Enterprises | 131.984 | 56.988 | 0,43 | 96.414 | 1,57 | -0,25 | 19.701 |
| Entrepreneurs | 24.321 | 6.214 | 0,26 | 122.021 | 2,14 | -0,29 | 650 |
| | | | | ***Republic of Srpska*** | | | |
| **I section, total** | 52.481 | 26.812 | 0,51 | 18.444 | 0,46 | 0,28 | 5.741 |
| *I by size clases* | | | | | | | |
| 1-9 persons employed | 42.890 | 11.962 | 0,28 | 10.731 | 0,45 | 0,15 | 3.800 |
| 10-19 persons employed | 85.948 | 29.704 | 0,35 | 6.969 | 0,23 | 0,27 | 2.067 |
| 20+ persons employed | 52.460 | 32.535 | 0,62 | 22.557 | 0,49 | 0,32 | 6.965 |
| *I by legal status* | | | | | | | |
| Enterprises | 57.436 | 29.712 | 0,52 | 18.425 | 0,46 | 0,28 | 6.463 |
| Entrepreneurs | 21.159 | 8.484 | 0,40 | 18.815 | 0,53 | 0,19 | 1.174 |
| | | | | ***Brcko District*** | | | |
| **I section, total** | 41.860 | 17.225 | 0,41 | 11.644 | 0,31 | 0,28 | 5.013 |
| *I by legal status* | | | | | | | |
| Enterprises | 73.279 | 28.878 | 0,39 | 9.546 | 0,28 | 0,28 | 7.752 |
| Entrepreneurs | 6.267 | 4.026 | 0,64 | 91.452,23 | 0,57 | 0,27 | 1.910 |

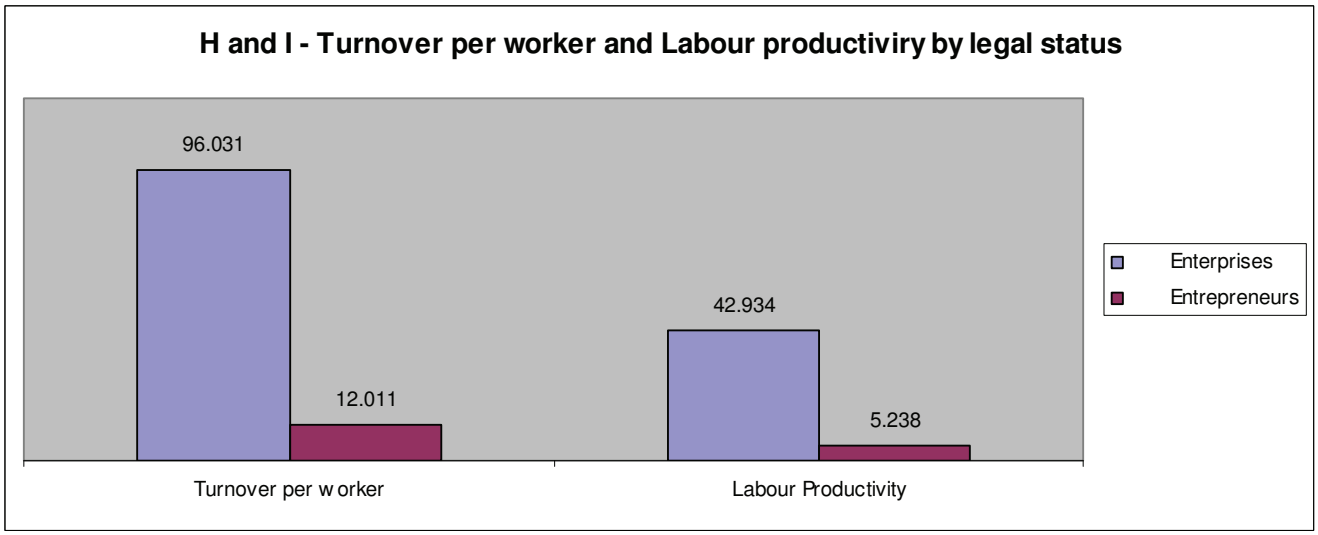
**Table 3.3** **Sum of sections H and I - Main SBS indicators breakdowned by size clases and legal status for 2007**

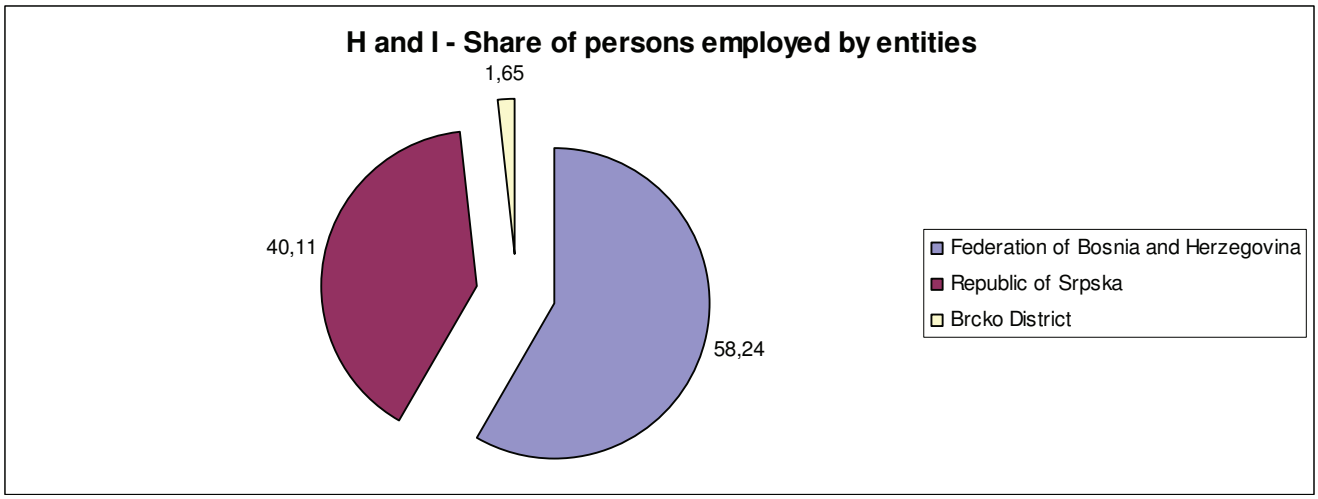
| Level of breakdown | Turnover per worker (KM) | Labour Productivity (KM) | Percent of Value Added on Turnover | Labour cost per employee (KM) | Labour cost on Value Added | Profitability | Investment per worker (KM) |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | ***Bosnia and Herzegovina*** | | | |
| **H and I section, total** | 71.432 | 31.897 | 0,45 | 53.813 | 1,28 | -0,12 | 10.017 |
| *H and I by size clases* | | | | | | | |
| 1-9 persons employed | 30.286 | 7.178 | 0,24 | 9.775 | 0,73 | 0,06 | 1.908 |
| 10-19 persons employed | 125.459 | 50.300 | 0,40 | 8.652 | 0,16 | 0,34 | 20.919 |
| 20+ persons employed | 91.749 | 46.899 | 0,51 | 82.783 | 1,58 | -0,30 | 13.970 |
| *H and I by legal status* | | | | | | | |
| Enterprises | 96.031 | 42.934 | 0,45 | 64.050 | 1,30 | -0,13 | 14.021 |
| Entrepreneurs | 12.011 | 5.238 | 0,44 | 9.683 | 0,90 | 0,04 | 345 |
| | | | | ***Federation of Bosnia and Herzegovina*** | | | |
| **H and I section, total** | 96.703 | 41.899 | 0,43 | 76.025 | 1,51 | -0,22 | 14.245 |
| *H and I by size clases* | | | | | | | |
| 1-9 persons employed | 39.615 | 6.837 | 0,17 | 10.564 | 0,87 | 0,02 | 2.245 |
| 10-19 persons employed | 157.486 | 65.344 | 0,41 | 10.011 | 0,13 | 0,36 | 28.170 |
| 20+ persons employed | 116.961 | 57.244 | 0,49 | 110.173 | 1,89 | -0,43 | 18.264 |
| *H and I by legal status* | | | | | | | |
| Enterprises | 119.799 | 52.080 | 0,43 | 86.239 | 1,52 | -0,23 | 18.104 |
| Entrepreneurs | 12.834 | 4.928 | 0,38 | 10.474 | 1,11 | -0,04 | 233 |
| | | | | ***Republic of Srpska*** | | | |
| **H and I section, total** | 36.549 | 18.202 | 0,50 | 14.060 | 0,51 | 0,24 | 4.176 |
| *H and I by size clases* | | | | | | | |
| 1-9 persons employed | 21.295 | 7.336 | 0,34 | 8.833 | 0,63 | 0,13 | 1.529 |
| 10-19 persons employed | 59.661 | 19.498 | 0,33 | 6.117 | 0,30 | 0,23 | 6.117 |
| 20+ persons employed | 47.771 | 28.937 | 0,61 | 19.660 | 0,50 | 0,30 | 6.498 |
| *H and I by legal status* | | | | | | | |
| Enterprises | 52.504 | 26.293 | 0,50 | 16.140 | 0,47 | 0,26 | 6.590 |
| Entrepreneurs | 11.526 | 5.513 | 0,48 | 8.817 | 0,77 | 0,11 | 390 |
| | | | | ***Brcko District*** | | | |
| **H and I section, total** | 27.519 | 11.810 | 0,43 | 11.391 | 0,39 | 0,26 | 2.763 |
| *H and I by legal status* | | | | | | | |
| Enterprises | 62.118 | 25.132 | 0,40 | 9.287 | 0,31 | 0,28 | 6.151 |
| Entrepreneurs | 9.451 | 4.853 | 0,51 | 16.574 | 0,60 | 0,20 | 994 |

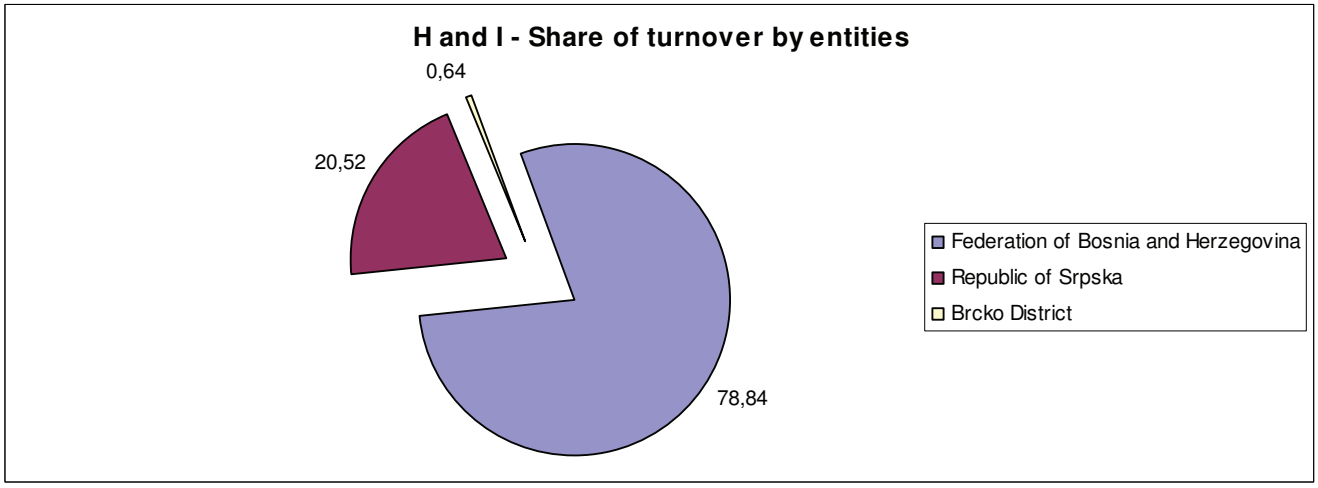

H and I, main variables by size classes
Number of persons employed
Turnover
Production value
Value added at factor cost
Personnal costs
38,64
10,18
51,18
16,38
17,88
65,74
14,40
16,66
68,94
8,69
16,05
75,25
4,95
93,08
1-9 persons employed
10-19 persons employed
20+ persons employed

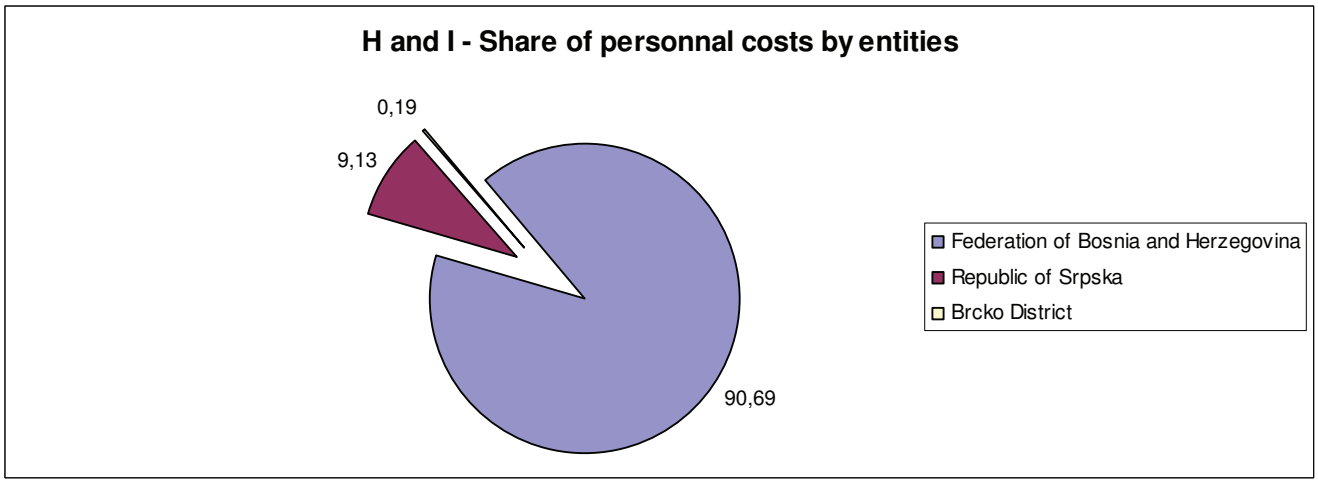

H and I, main variables by legal status
Number of persons employed
Turnover
Production value
Value added at factor cost
Personnal costs
70,72
29,28
95,08
4,92
95,53
4,47
95,19
4,81
96,61
3,39
Enterprises
Entrepreneurs


H and I - Turnover per worker and Labour productivity by size classes
125.459
91.749
30.286
50.300
46.899
7.178
1-9 persons employed
10-19 persons employed
20+ persons employed
Turnover per worker
Labour Productivity


H and I - Turnover per worker and Labour productiviry by legal status
96.031
12.011
42.934
5.238
Enterprises
Entrepreneurs
Turnover per worker
Labour Productivity


H and I - Share of persons employed by entities
1,65
40,11
58,24
Federation of Bosnia and Herzegovina
Republic of Srpska
Brcko District


H and I - Share of turnover by entities
0,64
20,52
78,84
Federation of Bosnia and Herzegovina
Republic of Srpska
Brcko District


H and I - Share of personnal costs by entities
0,19
9,13
90,69
Federation of Bosnia and Herzegovina
Republic of Srpska
Brcko District

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## APPENDIX 1 SBS DEFINITIONS AND CLASIFICATIONS

Basic EU methodological issues relating to SBS (annexes I –IV) are considered in this cheater.

The part of the methodology, as regard to definition of characteristics, was already practical applied in pilot of SBS survey that was carried out during the implementation of Twinning Project.

### 1. Legal basis concerning structural business statistics

Structural Business Statistics (SBS) are based on legal obligation. New Council Regulation No 295/2008 concerning SBS covers all market activities of the business economy with the exception of agricultural activities, which are covered by other statistics.

The initial legal base for European SBS is the Council Regulation (EC, Euratom) No 58/97, which defined the content, list of variables, coverage, classifications and other rules to follow in carrying out an SBS survey. In addition, there were other regulations which set out: definitions of SBS variables, series of data and format for their transmission to Eurostat, criteria for quality report as well as other important issues. The first year for the implementation the old SBS Council Regulation No 58/97 was 1995.

The Council Regulation No 58/97 has been amended three times. As a new amendment of the basic Regulation it was decided to recast the Regulation No 58/97 in order to obtain a new "clean" legal text. The European Parliament and Council Regulation No 295/2008 were adopted on 14.02.2008. The provisions of this Regulation are applicable from the reference year 2008 and onwards. After adoption of the SBS Recast all the necessary implementation measures were laid down.

### 2. The statistical units in structural business statistics

Several statistical units are used for the compilation of SBS. Most data series refer to the "enterprise" as a statistical unit. Other SBS data series concern the "kind of-activity units" and the "local units".

**Enterprises** - Using the enterprise as a statistical unit for most SBS data series has important implications for the interpretation of the data. Enterprises are attributed a certain activity code on the basis of their principal activity. However, the enterprise statistics refer to the all activities carried out by the enterprises with a certain activity code including their secondary activities. The SBS on enterprises should include the figures relating to all enterprises; no size class thresholds are allowed (including information on enterprises with 0 persons employed). The SBS figures should be limited to the activities on the economic territory of the reporting country; this means that all figures relating to branches abroad of the legal units should be excluded on the one hand and that information on branches of foreign legal units active on the national territory of the reporting country should be included.

**Kind-of-activity unit (KAU)** - The kind of activity unit (KAU) groups all the parts of an enterprise contributing to the performance of an activity at class level of NACE and corresponds to one or more operational subdivisions of the enterprise. The enterprise's information system should be capable of indicating for each KAU at least the value of

production, intermediate consumption, labour costs, the operating surplus and employment and gross fixed capital formation. All the costs of ancillary activities of an enterprise must be allocated to the principal and secondary activities and thus to the KAUs observed within the enterprise.

**Local unit** - The local unit is an enterprise or part thereof (e. g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. The local kind-of-activity unit (local KAU) is the part of a KAU which corresponds to a local unit.

## 3. The classifications in structural business statistics

### The NACE classification of activities

The new NACE structure (NACE Rev.2) will be applied in structural business statistics from the reference year 2008 and onwards. For previous years the NACE Rev.1.1 has been used for the collection of the data. NACE Rev. 2 is the classification of economic activities corresponding to ISIC Rev.4 at European level that was established by Regulation (EC) No 1893/2006 of the European Parliament and of the Council.

### The NUTS classification of regions

In the framework of SBS data broken down by regions is collected. For the classification of the regions EU use the NUTS 2007 classification as included in Commission Regulation (EC) No 205/2007. The NUTS is a hierarchical classification it subdivides states (country level = NUTS 1) into a whole number of NUTS 1 regions, each of which is in turn subdivided into a whole number of NUTS 2 regions and so on.

### The CPA classification of products

Some SBS data are broken down by products on the basis of the CPA classification.

## 4. Definitions of characteristics used in structural business statistics

### 11 11 0 Number of enterprises

A count of the number of market enterprises registered to the population concerned in the business register corrected for errors, in particular frame errors. Only active units which either had turnover or employment at any time during the reference period should be included. Dormant (temporarily inactive) and inactive units are excluded. This statistic should include all units active during at least a part of the reference period. It also includes local units (branches) which do not constitute a separate legal entity and which are dependent on foreign enterprises.

### 11 21 0 Number of local units

A count of the number of local units as defined in Council Regulation No 696/93 registered to the population concerned in the business register corrected for errors, in particular frame errors. Local units must be included even if they have no paid employees. This statistic should include all units active during at least a part of the reference period.

**11 31 0 Number of kind-of-activity units**

A count of the number of kind-of-activity units as defined in Council Regulation No 696/93 registered to the population concerned in the business register corrected for errors, in particular frame errors, or an estimate if this type of unit is not registered. This statistic should include all units active during at least a part of the reference period.

**12 11 0 Turnover** (Annex: I to V, VII and VIII)

Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. The rendering of services typically involves the performance by the enterprise of a contractually agreed task over an agreed period of time.

Goods produced for own consumption or investment should be excluded from turnover.

Turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the value added type taxes (VAT). VAT are collected in stages by the enterprise and fully borne by the final purchaser.

It also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice. Reduction in prices rebates and discounts as well as the value of returned packing must be deducted.

Income classified as other operating income, financial income and extra-ordinary income and revenue from the use by others of enterprise assets yielding interest, royalties and dividends and other income is excluded from turnover. Operating subsidies received from public authorities are also excluded.

**12 12 0 Production value**

The production value measures the amount actually produced by the unit, based on sales, including changes in stocks and the resale of goods and services.

The production value is defined as turnover or revenue from sales of goods and rendering of services, plus or minus the changes in stocks of finished products, work in progress and goods and services purchased for resale, minus the purchases of goods and services for resale (only for the goods and services sold during the reporting period and excluding the costs of storage and transport of the goods purchased for resale), plus capitalized production, plus other (operating and extra-ordinary) income (excluding subsidies ). Income and expenditure classified as financial or as revenue in the form of interests and dividends in company accounts is excluded from production value. Included in purchases of goods and services for resale are the purchases of services purchased in order to be rendered to third parties in the same condition.

Capitalized production includes the own-account production of all goods that are retained by their producers as investment. The latter includes the production of fixed tangible assets (buildings, etc.) as well as intangible assets (development of software, etc.). Capitalized production is unsold production and is valued at production cost. These capital goods are also included in investment.

**12 15 0 Value added at factor cost**

Value added at factor cost is the gross income from operating activities after adjusting for operating subsidies and indirect taxes.

It can be calculated from turnover, plus capitalised production, plus other operating income (including operating subsidies), plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production. The duties and taxes linked to production are compulsory, unrequited payments, in cash or in kind which are levied by general government in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production irrespective of the quantity or the value of goods and services produced or sold. Alternatively it can be calculated from gross operating surplus by adding personnel costs.

Income and expenditure classified as financial in company accounts is excluded from value added. Income and expenditure classified as interest income, dividend income, foreign exchange gain from foreign currency borrowings related to interest costs, gains on redemption and extinguishment of debt or finance costs are excluded from value added

Value added at factor costs is calculated "gross" as value adjustments (such as depreciation and impairment losses) are not subtracted.

**12 17 0 Gross operating surplus**

Gross operating surplus is the surplus generated by operating activities after the labour factor input has been recompensed. It can be calculated from the value added at factor cost less the personnel costs. It is the balance available to the unit which allows it to recompense the providers of own funds and debt, to pay taxes and eventually to finance all or a part of its investment.

**13 11 0 Total purchases of goods and services**

Purchases of goods and services include the value of all goods and services purchased during the accounting period for resale or consumption in the production process, excluding capital goods the consumption of which is registered as consumption of fixed capital. The goods and services concerned may be either resold with or without further transformation, completely used up in the production process or, finally, be stocked.

Included in these purchases are the materials that enter directly into the goods produced (raw materials, intermediary products, components), plus non-capitalised small tools and equipment. Also included are the values of ancillary materials (lubricants, water, packaging, maintenance and repair materials, and office materials) as well as energy products. Included in this variable are the purchases of materials made for the production of capital goods by the unit.

Services paid for during the reference period are also included. In this figure are payments for all work carried out by third parties on behalf of the unit including current repairs and maintenance, installation work and technical studies. Amounts paid for the installation of capital goods and the value of capitalised goods are excluded.

Also included are payments made for non-industrial services such as legal and accountancy fees, patents and license fees (where they are not capitalised), insurance premiums, costs of meetings of shareholders and governing bodies, contributions to business and professional associations, postal, telephone, electronic communication, telegraph and fax charges, transport services for goods and personnel, advertising costs,

commissions (where they are not included in wages and salaries), rents, bank charges (excluding interest payments) and all other business services provided by third parties. Included are services which are transformed and capitalised by the unit as capitalised production.

Expenditure classified as financial expenditure or as revenue in the form or interests and dividends is excluded from the total purchases of goods and services.

Purchases of goods and services are valued at the purchase price, i.e. the price the purchaser actually pays for the products, including any taxes less subsidies on the products bought excluding however value added type taxes

All other taxes and duties on the products are therefore not deducted from the valuation of the purchases of goods and services. The treatment of taxes on production is not relevant in the valuation of these purchases.

**13 12 0 Purchases of goods and services purchased for resale in the same condition**

Purchases for resale are purchases of goods for resale to third parties without further processing. It also includes purchases of services by "invoicing" service companies, i.e. those whose turnover is composed not only of agency fees charged on a service transaction but also the actual amount involved in the service transaction, e.g. transport purchases by travel agents.

When services for resale are referred to here, the services concerned are the output from service activities, rights to use predetermined services, or physical supports for services. Purchases of goods and services purchased for resale in the same condition as received are valued at the purchase price excluding deductible VAT and other deductible taxes linked directly to turnover. All other taxes and duties on the products are therefore not deducted from the valuation of the purchases of goods and services.

**13 13 1 Payments for agency workers**

Included in this figure are payments to temporary employment agencies and similar organizations supplying workers to clients' businesses for limited periods of time to supplement or temporarily replace the working force of the client, where the individuals provided are employees of the temporary help service unit. However, these agencies and organizations do not provide direct supervision of their employees at the clients' work sites. Only the payments for the provision of personnel which is not linked to the provision of a particular industrial or other non-industrial service is included.

**13 21 0 Change in stocks of goods and services**

Change in stocks (positive or negative) is the difference between the value of the stocks at the end and the beginning of the reference period. Change in stocks may be measured by the value of entries into stocks less the value of withdrawals and the value of any recurrent losses of goods held in stocks. Stocks are recorded at purchaser’s prices exclusive of VAT if they are purchased from another unit, otherwise at production cost.

Among stocks (and the change in stocks), the following breakdown can be made: stocks of finished goods, stocks of work in progress, stocks of goods and services purchased for resale in the same condition as received and stocks of raw materials and consumables.

Included are the stocks of finished products or in the course of production, which have been produced by the unit and which have not yet been sold. These products include

work in progress belonging to the unit, even if the products in question are in the possession of third parties. Equally, products held by the unit which belong to third parties are excluded.

Included are the stocks of goods and services bought for the sole purpose of reselling them in the same condition. Excluded are stocks of goods and services which are provided to third parties on a commission basis.

Included also are the stocks of raw and ancillary materials, intermediary products, components, energy, non-capitalised small tools and services which belong to the unit.

**13 21 1 Change in stocks of goods and services purchased for resale**

This variable is defined as the change in stocks at purchaser's prices exclusive of VAT between the end and the beginning of the reference period. The change in stocks may be measured by the value of entries into stocks of products purchased for resale less the value of withdrawals and the value of any recurrent losses of goods held in stocks.

Included in these stocks are goods and services bought for the sole purpose of reselling them in the same condition. Excluded are stocks of goods and services which are provided to third parties on a commission basis.

**13 21 3 Change in stocks of finished products and work in progress**

This variable is defined as the change in the value of the stocks of finished products or in the course of production, which have been produced by the unit and which have not yet been sold, between the first and last days of the reference period.

These products include work in progress belonging to the unit, even if the products in question are in the possession of third parties. Equally, products held by the unit which belong to third parties are excluded. Stocks are valued at production cost, and are valued prior to value adjustments (such as depreciation).

**13 31 0 Personnel costs**

Personnel costs are defined as the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home workers) in return for work done by the latter during the reference period. Personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions. Personnel costs are made up of: wages and salaries and employers' social security costs.

All remuneration paid during the reference period is included, regardless of whether it is paid on the basis of working time, output or piecework, and whether it is paid regularly or not. Included are all gratuities, workplace and performance bonuses, ex gratis payments, thirteenth month pay (and similar fixed bonuses), payments made to employees in consideration of dismissal, lodging, transport, cost of living and family allowances, commissions, attendance fees, over-time, night work etc. as well as taxes, social security contributions and other amounts owed by the employees and retained at source by the employers.

Also included are the social security costs for the employer. These include employer's social security contributions to schemes for retirement pensions, sickness, maternity, disability, unemployment, occupational accidents and diseases, family allowances as well as other schemes. These costs are included regardless of whether they are statutory, collectively agreed, contractual or voluntary in nature.

Payments for agency workers are not included in personnel costs.

### 13 32 0 Wages and salaries

Wages and salaries are defined as "the total remuneration, in cash or in kind, payable to all persons counted on the payroll (including home workers), in return for work done during the accounting period." regardless of whether it is paid on the basis of working time, output or piece-work and whether it is paid regularly or not.

Wages and salaries include the values of any social contributions, income taxes, etc. payable by the employee even if they are actually withheld by the employer and paid directly to social insurance schemes, tax authorities, etc. on behalf of the employee. Wages and salaries do not include social contributions payable by the employer.

Wages and salaries include: all gratuities, bonuses, ex gratis payments, "thirteenth month payments", severance payments, lodging, transport, cost-of-living, and family allowances, tips, commission, attendance fees, etc. received by employees, as well as taxes, social security contributions and other amounts payable by employees and withheld at source by the employer. Wages and salaries which the employer continues to pay in the event of illness, occupational accident, maternity leave or short-time working may be recorded here or under social security costs, dependent upon the unit's accounting practices.

Payments for agency workers are not included in wages and salaries.

### 13 33 0 Social security costs

Employers' social security costs correspond to an amount equal to the value of the social contributions incurred by employers in order to secure for their employees the entitlement to social benefits.

Social security costs for the employer include the employer's social security contributions to schemes for retirement pensions, sickness, maternity, disability, unemployment, occupational accidents and diseases, family allowances as well as other schemes.

Included are the costs for all employees including home workers and apprentices.

Charges are included for all schemes, regardless of whether they are statutory, collectively agreed, contractual or voluntary in nature. Wages and salaries which the employer continues to pay in the event of illness, occupational accident, maternity leave or short-time working may be recorded here or under wages and salaries, dependent upon the unit's accounting practices.

### 13 41 1 Payments for long term rental and operational leasing of goods

The payments for long-term rental include all charges relative to the renting of tangible goods for a period greater than one year.

Operational leases are those leases which do not transfer substantially all the risks and rewards incident to legal ownership to the lessee. Under an operational lease, the lessee acquires the right to use a durable good for a certain period of time, which may be long or short and not necessarily settled in advance. When the leasing period expires, the lessor expects to receive his good back in more or less the same condition as when he hired it out, apart from normal wear and tear. Thus the leasing period does not cover all, or a predominant part of, the good’s economic lifetime. Payments for the operational leasing

of goods relate to the cost of using the tangible goods made available to the unit through these contracts.

If all risks and rewards of ownership are, de facto though not de jure, transferred from lessor to lessee, the lease is a financial one. In financial leasing, the leasing period covers all, or most of, the economic lifetime of the durable good. At the end of the leasing period the lessee often has the option to buy the food at a nominal price.

All payments regarding financial leasing should be excluded from variable 13411. The purchase price of the good in question should be recorded under gross investments at the time of the acquisition of the goof.

### 15 11 0 Gross investment in tangible goods

Investment during the reference period in all tangible goods. Included are new and existing tangible capital goods, whether bought from third parties, acquired under a financial lease contract (i.e. the right to use a durable good in exchange for rental payments over a predetermined and protracted term) or produced for own use (i.e. Capitalised production of tangible capital goods), having a useful life of more than one year including non-produced tangible goods such as land.

All investments are valued prior to (i.e. gross of) value adjustments, and before the deduction of income from disposals. Purchased goods are valued at purchase price, i.e. transport and installation charges, fees, taxes and other costs of ownership transfer are included.

The value of goods acquired via financial lease corresponds to the market value of the good if it had been purchased in the year of acquisition only. This value is in principle known in the contract or can be estimated by summing-up the part of the installments that cover the capital reimbursement. The part of installments corresponding to the interest payments are to be excluded.

Own produced tangible goods are valued at production cost. Goods acquired through restructuring (such as mergers, take-over, break-ups, split-off) are excluded.
Purchases of small tools which are not capitalised are included under current expenditure.

Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of capital goods.

Current maintenance costs are excluded as is the value and current expenditure on capital goods used under rental and operational lease contracts. Annual payments for assets used under financial leasing should be excluded. Investments in intangible and financial assets are excluded.

Concerning the recording of investments where the invoicing, delivery, payment and first use of the good may take place in different reference periods, the following method is proposed as an objective:

Investments are recorded when the ownership is transferred to the unit that intends to use them. For the goods acquired via financial leasing the value is to be recorded at the time when the good is delivered to the lessee. Capitalised production is recorded when produced. Concerning the recording of investments made in identifiable stages, each part-investment should be recorded in the reference period in which they are made.

### 15 12 0 Gross investment in land

Included under this variable, in addition to land, are underground deposits, forests and inland waters.

Where land is purchased with existing buildings and the value of the two components is not separable, the total is recorded under this heading if it is estimated that the value of the land exceeds the value of the existing buildings. If the existing buildings are estimated to be of greater value than the land, the total is recorded under gross investment in existing buildings and structures (15 13 0). Also included here is land merely improved by leveling, the laying of pipes or by the provision of paths or roads. Land acquired through restructuring (such as mergers, take-over, break-ups, split-off) is excluded.

**15 13 0 Gross investment in existing buildings and structures**

The investment includes the cost of the existing buildings (that have been used before) and structures which have been acquired during the reference period. Where land is purchased with existing buildings and the value of the two components is not separable, the total is recorded under this heading if it is estimated that the value of the existing buildings exceeds the value of the land. If the land is estimated to be of greater value than the existing buildings, the total is recorded under gross investment in land (15 12 0). Purchases of new buildings that have never been used are excluded. Existing buildings and structures acquired through restructuring (such as mergers, take-over, break-ups, split-off) are excluded.

**15 14 0 Gross investment in construction and alteration of buildings**

This variable covers expenditure during the reference period on the construction or conversion of buildings. Purchases of new buildings that have never been used are included. Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of buildings.

Included are permanent installations such as water supply, central heating, air conditioning, lighting etc. as well as construction expenditure related to oil wells (drilling), operational mines, pipe lines, power transmission lines, gas-pipes, railway lines, port installations, roads, bridges, viaducts, drains and other site improvements. Current maintenance costs are excluded.

**15 15 0 Gross investment in machinery and equipment**

This variable covers machinery (office machines, etc.), special vehicles used on the premises, other machinery and equipment, all vehicles and boats used off the premises, i.e. motor cars, commercial vehicles and lorries as well as special vehicles of all types, boats, railway wagons, etc. acquired new or second hand during the reference period.. Machinery and equipment acquired through restructuring (such as mergers, take-over, break-ups, split-off) are excluded. Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of these capital goods. Current maintenance costs are excluded.

**15 21 0 Sales of tangible investment goods**

Sales of tangible goods include the value of existing tangible capital goods, sold to third parties. Sales of tangible capital goods are valued at the price actually received (excluding VAT), and not at book value, after deducting any costs of ownership transfer incurred by the seller. Value adjustments and disposals other than by sale are excluded

### 15 42 0 Gross investment in concessions, patents, licenses, trade marks and similar rights

Investment in concession, patents, licenses, trade marks and similar rights are recognized to be an intangible asset if and only if it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise and if the cost of the asset can be measured reliably. This requirement applies whether an intangible asset is acquired externally or generated internally.

A concession is a business operated under a contract or license associated with a degree of exclusivity in exploiting a business within a certain geographical area. For example, sports arenas or public parks may have concession stands; and public services such as water supply may be operated as concessions. The owner of the concession — the concessionaire — operates as an independent business and pays either a fixed fee, a percentage of revenue or profit, or both to the entity with the ability to assign exclusive rights for an area or facility. A concession may involve the transfer to the concessionaire of the right to use some existing infrastructure required to carry out a business (such as a water supply system in a city).

A patent is a legal title of industrial property granting its owner the exclusive right to exploit an invention commercially for a limited area and time. The patent confers its owner the right to stop others from, among other things, making, using or selling such invention without authorization. In return for the exclusive right to exploit it, the technical details of the invention are published. Patentability requires novelty, inventiveness and industrial applicability of the invention.

A licensor may grant license under "intellectual property" to do something (such as copy software or use a patented invention) without fear of a claim of intellectual property infringement brought by the licensor. A license under intellectual property commonly has several component parts, including a term, territory, renewal, as well as other limitations deemed vital to the licensor.

A trademark is a distinctive sign that can be represented graphically. A competitive tool, it is a means for industries and other businesses of attracting and retaining customers by distinguishing their goods and services from their competitors'

A Mark is used to differentiate a product or a service. Trademarks can be two-or three-dimensional and can be made up of words, pictures, colors, and/or sounds and so forth.

### 15 44 1 Investment in purchased software

Investment in purchased software are recognized as an intangible asset if and only if it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise and if the cost of the asset can be measured reliably. If the purchase of software does not meet these conditions, it is recognized as an expense when it is incurred and included in the value of variable 13 11 0 Total purchases of goods and services.

The investment in purchased software comprises its purchase price, including any import duties and nonrefundable purchase taxes, and any directly attributable expenditure on preparing the software for its intended use. Directly attributable expenditure includes, for example, professional fees for its installation. Any trade discounts and rebates are deducted in arriving at the cost.

### 16 11 0 Number of persons employed

The number of persons employed is defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers working regularly in the unit), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). It includes persons absent for a short period (e.g. sick leave, paid leave or special leave), and also those on strike, but not those absent for an indefinite period. It also includes part-time workers who are regarded as such under the laws and who are on the pay-roll, as well as seasonal workers, apprentices and home workers on the pay-roll.

The number of persons employed excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service.

Unpaid family workers refer to persons who live with the proprietor of the unit and work regularly for the unit, but do not have a contract of service and do not receive a fixed sum for the work they perform. This is limited to those persons who are not included on the payroll of another unit as their principal occupation.

### 16 12 0 Number of unpaid persons employed

The number of unpaid persons employed is defined as the number of persons who work regularly in the observation unit and who do not receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind (unpaid family workers, working proprietors not receiving a compensation in the form of wages, salaries).

### 16 13 0 Number of employees

The number of employees is defined as those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. (All persons for whom payments are booked under the heading personnel costs in the profit and loss accounts of the enterprise should be included even if in some cases no contract of employment exists).

The relationship of employer to employee exists when there is an agreement, which may be formal or informal, between an enterprise and a person, normally entered into voluntarily by both parties, whereby the person works for the enterprise in return for remuneration in cash or in kind.

A worker is considered to be a wage or salary earner of a particular unit if he or she receives a wage or salary from the unit regardless of where the work is done (in or outside the production unit). A worker from a temporary employment agency is considered to be an employee of the temporary employment agency and not of the unit (customer) in which they work.

In particular the following are considered as employees: paid working proprietors; students who have a formal commitment whereby they contribute to the unit's process of production in return for remuneration and/or education services; employees engaged under a contract specifically designed to encourage the recruitment of unemployed persons; home workers if there is an explicit agreement that the home worker is remunerated on the basis of the work done and they are included on the pay-roll.

The number of employees includes part-time workers, seasonal workers, and persons on strike or on short-term leave, but excludes those persons on long-term leave.

The number of employees does not include voluntary workers.

**16 14 0 Number of employees in full time equivalent units**

Figures for the number of persons working less than the standard working time of a full-year full-time worker, should be converted into full time equivalents, with regard to the working time of a full-time full-year employee in the unit. It is the total hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory. Since the length of a full-time job has changed through time and differs between industries, methods which establish the average proportion and average hours of less than full-time jobs in each job group have to be used. A normal full-time week must first be estimated in each job group. If possible, a job group can be defined, inside an activity, according to sex and (or) kind of work of people. Hours contractually agreed upon can constitute for employee jobs, the appropriate criteria for determining those figures. Full-time equivalent is calculated separately in each job group, and then summed.

Included in this category are people working less than a standard working day, less than the standard number of working days in the week, or less than the standard number of weeks (or months) in the year. The conversion should be carried out on the basis of the number of hours, days, weeks or months worked.

**16 15 0 Number of hours worked by employees**

The total number of hours worked by employees represents the aggregate number of hours actually worked for the output of the observation unit during the reference period.

This variable excludes hours paid but not actually worked such as for annual leave, holidays and sick leave. It also excludes meal breaks and commuting between home and work.

Included are hours actually worked during normal working hours; hours worked in addition to those; time which is spent at the place of work on tasks such as preparing the site and time corresponding to short periods of rest at the work place.

If the exact number of hours actually worked is not known, it may be estimated on the basis of the theoretical number of working hours and the average rate of absences (sickness, maternity, etc.).

**20 11 0 Purchases of energy products (in value)**

Purchases of all energy products during the reference period should be included in this variable only if they are purchased to be used as fuel. Energy products purchased as a raw material or for resale without transformation should be excluded. The figure should be given in value only.

**21 11 0 Investment in equipment and plant for pollution control and special anti-pollution accessories (mainly 'end-of-pipe' equipment)**

Capital expenditures for methods, technologies, processes or equipment designed to collect and remove pollution and pollutants (e.g. air emissions, effluents or solid waste) after their creation, prevent the spread of and measure the level of the pollution, and treat and dispose of pollutants generated by the operating activity of the company.

It is the sum of expenditure in the environmental domains: Protection of ambient air and climate, Wastewater management, Waste management and Other environmental protection activities. Other environmental protection activities includes Protection and remediation of soil, groundwater and surface water, Noise and vibration abatement,

Protection of biodiversity and landscape, Protection against radiation, Research and development, General environmental administration and management, Education, training and information, Activities leading to indivisible expenditure and Activities not elsewhere classified.

The main purpose or function of this capital expenditure is environmental protection and the total expenditure for these should be reported.

The expenditure should be reported gross of any cost-offsets resulting from the generation and sale of marketable by-products, savings made, or subsidies received.

Purchased goods are valued at the purchase price excluding deductible VAT and other deductible taxes directly linked to turnover.

**21 12 0 Investment in equipment and plant linked to cleaner technologies (”integrated technology”)**

Capital expenditures for new or adaptation of existing methods, technologies, processes, equipment (or parts thereof) designed to prevent or reduce the amount of pollution created at the source (e.g. air emissions, effluents or solid waste), thereby reducing the environmental impacts associated with the release of pollutants and/or with polluting activities.

It is the sum of expenditure in the environmental domains Protection of ambient air and climate, Wastewater management, Waste management and Other environmental protection activities. Other environmental protection activities includes Protection and remediation of soil, groundwater and surface water, Noise and vibration abatement, Protection of biodiversity and landscape, Protection against radiation, Research and development, General environmental administration and management, Education, training and information, Activities leading to indivisible expenditure and Activities not elsewhere classified.

The expenditure should be reported gross of any cost-offsets resulting from the generation and sale of marketable by-products, savings made, or subsidies received.

Purchased goods are valued at the purchase price excluding deductible VAT and other deductible taxes directly linked to turnover. The expenditure should be reported gross of any cost-offsets resulting from the generation and sale of marketable by-products, savings made, or subsidies received.

**21 14 0 Total current expenditure on environmental protection**

Total current expenditure on environmental protection is the expenditure for operating and maintaining an activity, technology, process, equipment (or parts thereof) designed to prevent, reduce, treat or eliminate pollutants and pollution (e.g. air emissions, effluents or solid waste) or any other degradation of the environment resulting from the operating activity of the company.

It is the sum of expenditure in the environmental domains: Protection of ambient air and climate, Wastewater management, Waste management and Other environmental protection activities. Other environmental protection activities includes: Protection and remediation of soil, groundwater and surface water, Noise and vibration abatement, Protection of biodiversity and landscape, Protection against radiation, Research and development, General environmental administration and management, Education, training and information, Activities leading to indivisible expenditure and Activities not elsewhere classified.

Total current expenditure on environmental protection should be reported gross of any cost-offsets resulting from the sale of marketable by-products, savings or subsidies received.

Current expenditure is the sum of “in-house expenditure” and “purchases of environmental protection services” In-house expenditure includes all current expenditure on environmental protection except purchases of environmental protection services from other units. It is the sum of labour costs, use of raw materials and consumables including energy costs and payments for operational leasing.

## 5. Data sources for structural business statistics

Data source for SBS are not only the specific statistical surveys, but also administrative sources and the Statistical Business Register. Usually, those data sources are combined to make a best cost/benefit balance between costs, quality and burden on responding enterprises.

### Business register

A Business register is the spin of a business statistics system. In fast-changing market economies the information necessary for the management of the various economic operators can no longer be collected by a business statistics system which has no efficient tool for monitoring the population movement of productive units, i.e. which does not develop a permanent register for statistical purposes.

The register in the structural business statistics system are used in 5 main ways:

a) Detection and construction of statistical units - The statistical analysis units (enterprises, Kind-of-Activity Units, Units of Homogeneous Production ) are made-up units which, although they often represent real economic structures, do not always correspond exactly to known legal or administrative units.

b) Tools for the preparation and co-ordination of surveys - The most obvious use of a register is to supply the files for conducting surveys and provide a sampling base. This purpose means that the register must be updated at least annually to take account of new units created, but also as regards the main stratification variables of surveys.

c) Source of information for demographic analysis - For several years there has been a growing demand for information on the enterprise population, its structure and its demography.

d) Tool for mobilizing administrative sources - The demand for economic information is constantly increasing, which could lead to statistical surveys imposing heavier burdens on enterprises. It is necessary to avoid approaching the same enterprise several times and asking for the same information. Above all, statistical surveys must avoid asking for information which the enterprise has already supplied to other authorities.

e) Dissemination - There is a very strong demand from all authorities and public bodies, and also from enterprises themselves, for a central reference register providing lists of enterprises with standardized identification data and a number of

criteria for classification by size and activity. A register can open possibilities of electronic data interchange (EDI) for statistical work.

**Administrative information**

With a view on reducing the burden for respondents statistical institutes can use the administrative sources for compiling some SBS variables. Possible administrative sources are company annual accounts, the information collected for tax purposes, and information from social security schemes. The availability of these sources and their use for compiling SBS differ significantly across countries. One problem often mentioned regarding the mobilization of administrative information for statistical purposes is that it is collected for units which do not correspond to statistical units.

**Surveys**

The implementation of a survey, in short, consists of the following steps: 1) Determining the sample frame, 2) Drawing the sample, 3) Collecting the data and 4) Processing and analysis of the data collected.

## 6. Transmission of SBS data

Data transmission needs to respect the technical format set in corresponding Commission Regulation. Standardization of data record structures is fundamental for efficient data processing. It is a necessary stage for providing data conforming to the interchange standards specified by the Commission (Eurostat).

Results are presented on 3 and 4- digit level of NACE, as well as according to enterprise' size based on number of persons employed. Values of SBS variables are in absolute numbers and financial data should be available in accounting system and are expressed at current prices in national currency.

## APPENDIX 2 SBS QUESTIONARE

APPENDIX 2 QUESTIONNAIRE

Statistical institutions in B&H

SBS/H&I 4 4 1 0 1 0

Legal base

**STRUCTURAL BUSINESS SURVEY**
**FOR ENTERPRISES AND ENTREPRENEURS FOR 2007 YEAR**
(QUESTIONNAIRE FOR ACTIVITIES: HOTELS AND RESTAURANTS, TRANSPORT, STORAGE AND COMMUNICATION - NACE: H & I)

**Please, read the enclosed Instruction before filling this form**

Please check the following information printed and indicate possible changes under the rows pre-printed; indicate the reasons of the changement, tick mark 1 in case of incorrect data and mark 2 in case of data really modified; in case of data modified indicate the date of the change.

**IDENTIFICATION AND STRUCTURAL DATA ON THE ENTERPRISE / ENTREPRENEUR**

1) Entreprise name _____ Code 1 or 2 ☐ Change date ☐☐ month ☐☐☐☐ year
_____

2) ID code (only for RS) ☐☐☐☐☐☐☐☐

3) Fiscal code ☐☐☐☐☐☐☐☐☐☐☐☐☐

4) Street and number _____ Code 1 or 2 ☐ Change date ☐☐ month ☐☐☐☐ year
_____

5) Municipality _____ (Municipality code) ☐☐☐☐☐ Code 1 or 2 ☐ Change date ☐☐ month ☐☐☐☐ year
_____

6) Telephone _____ Code 1 or 2 ☐ Change date ☐☐ month ☐☐☐☐ year
_____

7) Describe the main activity in as much as possible detailes [1] _____ ☐☐☐☐☐ (Cod. by statistic.)
_____

8) Specify the secondary economic activities [2], *enterprises with 20 + workers have to fill Table 11.*
I) _____ ☐☐☐☐☐
II) _____ ☐☐☐☐☐
III) _____ ☐☐☐☐☐ (Cod. by statistic.)

9) Number of local units at 31.12.2007. ☐☐☐

10) Number of persons employed at 31.12.2007. ☐☐☐☐☐

11) Status of the enterprises at the time of filling of Quest. *(circle one of the modality)*
Active 1
Closed down 2
Temporary inactive 3
from which ☐☐ month ☐☐☐☐ year

12) If the enterprises is in act of legal procedures, circle one of the following: *(circle one of the modality)*
Merging 1
Joining 2
Division 3
Separation 4
Bankrupcy 5
Liquidation 6
Without change 7
from which ☐☐ month ☐☐☐☐ year

13) Does the enterprise carry out seasonal activity? *(circle one of the modality)*
Yes 1
No 2

14) Number of months worked in 2007. ☐☐☐

15) Who fills up the accounts of the enterprise? *(circle one of the modality)*
The enterprise itself 1
The accounting association 2
The authorised accountant 3

1) Main (predominant) activity is activity iz koje se ostvaruje najveći prihod ili u kojoj radi najveći broj radnika.
2) Secondary activities are activities različite od osnovne, koje kao rezultat daju određene proizvode ili usluge.

Table 01. REVENUES FROM BUSINESS ACTIVITIES [3]

| Code | Name of items | Accounting headings FBH | Value in KM |
|---|---|---|---|
| 01.01 | Sale of own goods and/or services produced by the enterprise | 600+601 | |
| 01.02 | Resale of goods in the same condition as received | 602 | |
| 01.03 | Capitalised Production | 605 | |
| 01.04 | Subsidies on products | 630 | |
| 01.05 | Subsidies on production | 630 | |
| 01.06 | Other operating income *(non financial , non extraordinaries)* | 607 | |
| 01.07 | Change in stocks of finished products (+/-) | 12 | |
| 01.08 | Change in stocks of works in progress (+/-) | 11 | |
| 01.00 | TOTAL (01.01+ 01.02+ 01.03+ 01.04+ 01.05+ 01.06 ± 01.07 ± 01.08) | | |

Tabe 02. PRODUCTION COSTS [4]

| Code | Name of items | Accounting headings FBH | Value in KM |
|---|---|---|---|
| 02.01 | Costs of purchases of raw materials, consumables and ancillary materials | 30-301 | |
| 02.02 | Purchases value of sold goods for resale | 652 | |
| 02.03 | Purchases of energy products | 301 | |
| 02.04 | Purchases of services (02.04.01. - 02.04.14.) | | |
| 02.04.01 | - Payments of services to third parties for treatment enterprise own products/services | 330 | |
| 02.04.02 | - Payments to third parties for ordinary maintenances and repairs | 3320+3322 | |
| 02.04.03 | - Transport services | 331 | |
| 02.04.04 | - Post and telecommunication services | 333 | |
| 02.04.05 | - Advertising, promotion and exhibition | 335 | |
| 02.04.06 | - Researches and studies | 337 | |
| 02.04.07 | - Computer services, consultation, advices, accounting/auditing, legal, marketing etc. | 336-(3361+3365) | |
| 02.04.08 | - Insurance premiums | 346 | |
| 02.04.09 | - Royalties, fees to use of copyrights, patents, licence etc. | 3365 | |
| 02.04.10 | - Waste disposal charges, water services | 339 | |
| 02.04.11 | - Bank charges *(excluding interest payments)* | 347 | |
| 02.04.12 | - Payments to employment agencies and/or recruitment agencies | 3361 | |
| 02.04.13 | - Payment for enjoyment goods owned by third parties *(rents and operative leasing)* | 334 | |
| 02.04.14 | - Costs of other not mentioned services *(security, cleaning, packing etc.)* | 3323 do 3328 | |
| 02.05 | Personnel cost | 320+321 | |
| 02.06 | Amortization | 31 | |
| 02.07 | Provisions for risks and other purposes | 36 | |
| 02.08 | Other nonmaterial oparating costs (20.08.01 - 02.08.06) | | |
| 02.08.01 | - Compesation to employees *(business trip, fieldwork per diem, seperation from family etc)* | 340+(341-3413) | |
| 02.08.02 | - Cost of vocational training | 3413 | |
| 02.08.03 | - Entertainment expenses *(meal and drinks, prezents)* | 348 | |
| 02.08.04 | - Membership fees | 344 | |
| 02.08.05 | - Fees to the administrations | 3457 | |
| 02.08.06 | - Other operating costs *(non financial , non extraordinaries)* | 349 | |
| 02.09 | Taxes on the products excluding VAT and import duties | 345 | |
| 02.10 | Other indirect taxes on the production | 345 | |
| 02.00 | TOTAL (02.01+ 02.02+ 02.03+ 02.04+ 02.05+ 02.06+ 02.07+ 02.08+ 02.09+ 02.10) | | |

Table 03. CHANGE IN STOCKS OF ROW MATERIALS AND GOODS FOR RESALE (END minus START OF THE YEAR) [5]

| | | Value in KM |
|---|---|---|
| 03.01 | Change in raw materials and consumables (+/-) | |
| 03.02 | Change in goods and services for resale in the same conditions as receveid (+/-) | |

3) Data are taken over from Profit - Loss account and anallical evidence ; financial and extraordinary revenues are not included

4) Data are taken over from Profit - Loss account and anallical evidence ; financial and extraordinary expenditures are not included

5) Data are taken over from Balance Sheet, difference between beginning and end of the year

Table 04. EMPLOYMENT

| Code | Professions | | Persons employed (annual average) | | | | Number of hours worked |
|---|---|---|---|---|---|---|---|
| | | | Total | | which: women | | |
| 04.01 | Entrepeneurs, owners, cooperators | | 1 | | 2 | | 3 |
| 04.02 | Family members working in enerprise, if not paid | | 1 | | 2 | | 3 |
| 04.03 | Employees | -White collar | 1 | | 2 | | 3 |
| 04.04 | | - Blue collar | 1 | | 2 | | 3 |
| 04.05 | | - Homeworkers | 1 | | 2 | | 3 |
| 04.00 | TOTAL ( 04.01 - 04.05) | | 1 | | 2 | | 3 |

Table 05. PERSONAL COSTS

| Code | Name of items | Accounting headings FBH | Value in KM |
|---|---|---|---|
| 05.01 | Net wages and salaries paid to employees | 320, 321 | |
| 05.02 | Employees contributuions to pension and social schemes | 320, 321 | |
| 05.03 | Taxes on wages and salaries | 320, 321 | |
| 05.04 | Other compensation of employees treated as wages and salaries | 328 | |
| 05.05 | Employer's contributuions to social schemes | 320, 321 | |
| 05.00 | **TOTAL** (05.01 - 05.05) | | |
| 05.00.01 | of which: personel costs of women | | |

Table 0 6. EXTERNAL PERSONNEL AND THEIR COSTS

| Code | Kind of professional services | Number of external personnel (annual average) | | | | Number of hours worked | | Costs of external personnel in KM | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | | which: women | | | | |
| 06.01 | Agency workers and staff leasing workers | 1 | | 2 | | 3 | | 4 | |
| 06.02 | Other kind of paid external workers | 1 | | 2 | | 3 | | 4 | |

Table 07. GROSS INVESTMENT IN MATERIAL AND INTANGIBLE FIXED ASSETS

| Code | Kind of investment | Value in KM |
|---|---|---|
| 07.01. | **Total investment in material goods ( 01.01.01 - 07.01.06)** | |
| 07.01.01 | - Investment in land | |
| 07.01.02 | - Investment in existing Buildings and Structures | |
| 07.01.03 | - Investment in new Buildings and Structures | |
| 07.01.04 | - Investment in construction and alternation of Buildings and Structures | |
| 07.01.05 | - Investment in new machinery and other equipment | |
| 07.01.06 | - Investment in used (old) machinery and other equipment | |
| 07.02 | **Investment in intangible fixed assets** | |
| 07.00 | **TOTAL (07.01 + 07.02)** | |

Table 8. INVESTMENT FOR ENVIRONMENT PROTECTION *(PART OF TOTAL)* AND CURRENT COSTS - Value in KM

| Code | Name of items | Activity for environment protection | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Air protection | | Wastewater management | | Waste management | | Others activities 6) | |
| 08.01 | Investment in equipments and plants for pollution control and special anticollution accessories *(mainly end of pipe equipment)* | 1 | | 2 | | 3 | | 4 | |
| 08.02 | Investment in equipments and plants linked to dllener tecnologiy *(integrated tecnology)* | 1 | | 2 | | 3 | | 4 | |
| 08.03 | Total current expenditure on environmental protection | 1 | | 2 | | 3 | | 4 | |

6) Protection of soil and groundwater; noise and vibration abatement; protection of bio-diversity and landscape; protection of the radiations; research and development for the environmental protection; other environmental protection activities.

Table 9. OTHER DATA FOR ENTERPRISE IN ACCOUNTING PERIOD

| Code | Naziv stavke | Accounting headings FBH | Value in KM |
|---|---|---|---|
| 09.01 | VAT invoiced on total turnover | 560+561+562 | |
| 09.02 | Deductable VAT on purchases | 260 | |
| 09.03 | VAT on Import | 261 | |
| 09.04 | Export of goods and services | 212 | |
| 09.05 | Import of goods and services | 542 | |
| 09.06 | Customers in other entity | 211 | |
| 09.07 | Supplier from other entity | 541 | |
| 09.08 | Severance paid for insurance damage | 634 | |
| 09.09 | Income from rents and operative lease | 607 | |
| 09.10 | Incom from dividends and participation in profit | 613 | |
| 09.11 | Income from royalties, licenses, etc. | 6191 | |
| 09.12 | Contributions to capital stock allocated by the government and public administration | 630 | |
| 09.13 | Sales of tangible investment goods *(value of realization)* | 625 | |
| 09.14 | Direct taxes paid | 546 | |
| 09.15 | Costs for extraordinary maintenance carried out from third parties on the instrumental | 332 | |
| 09.16 | Income from interest | 612 | |
| 09.17 | Interest paid | 66 | |
| 09.18 | Total Research & Development expenditure | 337 | |

Table 10. LOCAL UNITS OUT OF THE ENTERPRISE MAIN OFFICE - *BROKEN DOWN BY ENTITIES*

| Code | Administrative Entity | No of Local Units | | Persons employed | | Personnel costs in KM | | Total revenues in KM | | Invesment in KM | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10.01 | Federation of B&H | 1 | | 2 | | 3 | | 4 | | 5 | |
| 10.02 | Republic of Srpska | 1 | | 2 | | 3 | | 4 | | 5 | |
| 10.03 | District Brcko | 1 | | 2 | | 3 | | 4 | | 5 | |
| 10.04 | TOTAL LU | 1 | | 2 | | 3 | | 4 | | 5 | |

**Table 11. LOCAL UNITS AT THE KAU - BROKEN DOWN BY ENTITIES** *(ONLY FOR ENTERPRISES WITH 20 + EMPLOYED)*

| Code | Title of the first secondary activity (Pg.1, Q. 8) | Activity code |
|---|---|---|
| 11.01. | | |

| Code | Administrative Entity | No of KAU | Persons employed, aver. | Personnel costs in KM | Total revenues in KM | Invesment in KM |
|---|---|---|---|---|---|---|
| 11.01.1 | Federation of B&H | 1 | 2 | 3 | 4 | 5 |
| 11.01.2 | Republic of Srpska | 1 | 2 | 3 | 4 | 5 |
| 11.01.3 | District Brcko | 1 | 2 | 3 | 4 | 5 |
| 11.01.0 | Total the first secondary activity | 1 | 2 | 3 | 4 | 5 |

| Code | Title of the second secondary activity (Pg.1, Q. 8) | Activity code |
|---|---|---|
| 11.02. | | |

| Code | Administrative Entity | No of KAU | Persons employed, aver. | Personnel costs in KM | Total revenues in KM | Invesment in KM |
|---|---|---|---|---|---|---|
| 11.02.1 | Federation of B&H | 1 | 2 | 3 | 4 | 5 |
| 11.02.2 | Republic of Srpska | 1 | 2 | 3 | 4 | 5 |
| 11.02.3 | District Brcko | 1 | 2 | 3 | 4 | 5 |
| 11.02.0 | Total the second secondary activity | 1 | 2 | 3 | 4 | 5 |

| Code | Title of the third secondary activity (Pg.1, Q. 8) | Activity code |
|---|---|---|
| 11.03. | | |

| Code | Administrative Entity | No of KAU | Persons employed, aver. | Personnel costs in KM | Total revenues in KM | Invesment in KM |
|---|---|---|---|---|---|---|
| 11.03.1 | Federation of B&H | 1 | 2 | 3 | 4 | 5 |
| 11.03.2 | Republic of Srpska | 1 | 2 | 3 | 4 | 5 |
| 11.03.3 | District Brcko | 1 | 2 | 3 | 4 | 5 |
| 11.03.0 | Total the third secondary activity | 1 | 2 | 3 | 4 | 5 |

**Table 12. RETROSPECTIVE DATA - YEAR 2006**

| | | Value in KM |
|---|---|---|
| 12.01. | Number of employees (annual average) | |
| 12.02. | Revenue from sales of products, services and goods in KM | |

**INFORMATION ON THE FILLING IN THE QUESTIONNAIRE AND CONTACT INFORMATION**

1) Please indicate the time spent for the filling in the questionnaire ☐☐ hours ☐☐ minutes

2) Does this enterprise has E-mail address Yes ☐ _____ No ☐
*please write address*

3) Does this enterprise has website Yes ☐ _____ No ☐
*please write address*

4) Does this enterprise interested in filling this questionnaire on-line (internet) Yes ☐ No ☐

5) Signiture of person responsible for eterprise data _____ Pfone: _____

6) Status of responsible person in business? _____
*(Owner, Director, Manager, Accountant)*

***Who should be addressed questions for eventually clarifications to?*** *to above address* ☐ / *to below address* ☐ (e.g. accountant compile)

7) Name and surname of the compiler _____ 9) Phone: _____
*(write in capital leters)*

8) Address _____ 10) Date: _____

**M.P**

**SPACE FOR YOUR COMMENTS AND SUGGESTIONS ON IMPROVEMENTS**

*Please make any comments which could help us to improve this form:*

# APPENDIX 3 DESCRIPTIONS OF CHECKINGS

**DESCRIPTION OF FORMAL, LOGICAL AND MATHEMATICAL CHECKINGS THAT SBS QUESTIONNAIRE NEEDS TO FULFILL WHEN ENTER IN MBP**

*ERROR No.: If appointed conditions are unfeasible, error has to be reported under particular No. or Code*
*TYPE OF CHECKING: forbid the input (hard) or allow the input (soft) and then to procede to the next (following) checking*

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| A: DATA ON BUSINESS ENTITY FOR WHICH THE REPORT FILES | | | | |
| 1.) | Enterprise name - pre-presed | is not checkable | | |
| | - fixed | is not checkable | | |
| | - code of change | a) possible values are: empty, 1 or 2<br>b) it is empty if the name is not fixed; 1or 2 if it is fixed | | |
| | - date of change | a) the date has to be registered if code 2 is enered.<br>b) possible years are 1996 - 2008 | | |
| | | | | |
| 2.) | MBRJ (only for RS) | is not checkable | | |
| | | | | |
| 3.) | ID code | a) it is uncheckable in FB&H<br>b) for RS checking of the first two digits (it has to be 44 or 45) and obligatory thirteen digit input | | |
| | | | | |
| 4.) | Street and number - pre-pressed | is not checkable | | |
| | - fixed | a) to divide the street from the number (to specify separated fields for input) | | |
| | - change code | a) posible values are: empty, 1 or 2<br>b) empty if there is no change of the address; 1 or 2 if it is changed | | |
| | - date of change | a) the date has to be registered if code 2 is enered.<br>b) possible years are 1996 - 2008 | | |
| | | | | |
| 5.) | Municipality - pre-pressed | is not checkable | | |
| | - fixed | a) to divide Municipality code from the name and to specify code input<br>b) code check in line with Municipality Code-list | | |
| | - change code | a) possible values are: emty, 1 or 2<br>b) it is empty if the Municipality is not fixed; 1 or 2 if it is | | |
| | - date of change | a) the date has to be registered if code 2 is enered.<br>b) possible years are 1996 - 2008 | | |
| | | | | |
| 6.) | Telephone - pre-pressed | is not checkable | | |
| | - fixed | to arrange the format | | |
| | - change code | a) possible values are: empty, 1 or 2<br>b) it is empty if the telephone is not changed; 1 or 2 if it is | | |
| | - date of change | a) the date has to be registered if code 2 is enered.<br>b) possible years are 1996 - 2008 | | |
| | | | | |
| 7.) | Description of main activity | a) text on activity description has to be entered | | |
| | - main activity code | a) activity code has to be entered<br>b) the code has to be in line with KD | | |
| | | | | |
| 8.) | Description of the first secondary activity | text on activity description does not have to be entered | | |
| | - code of the first secondary activitzšifra I sekundarne djelatnosti | a) code has to be entered only if activity description exist<br>b) if the code is entered it has to be in line with KD | | |
| | | | | |
| | Description of the second secondary activity | text on activity description does not have to be entered | | |
| | - code of the second secondary activity | a) code has to be entered only if activity description exist<br>b) if the code is entered it has to be in line with KD | | |
| | | | | |
| | Description of the third secondary activity | text on activity description does not have to be entered | | |
| | - code of the third secondary activity | a) code has to be entered only if activity description exist<br>b) if the code is entered it has to be in line with KD | | |
| | | | | |

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| 9.) | 9) Number of local units per day | a) field can be empty<br>b) data can be equal or higher than the data set out in the para 10.04.01 | | |
| | | | | |
| | 10) Number of persons employed | a) number must be greater or equal to 1 | | |
| | | | | |
| 11.) | Status of the Enterprise - modalities | a) one digit has to be entered: 1 or 2 or 3 | | |
| | - date | a) date has to be entered<br>b) possible years are 1900. to 2008 | | |
| | | | | |
| 12.) | Restructure - modalities | a) only one number from 1 to 7 can be entered<br>b) it cannot be empty | | |
| | - date | a) for modalities from 1 to 6 the date has to be entered<br>b) date cannot be entered for the modality 7<br>b) possible years are 2007 or 2008 only | | |
| | | | | |
| 13.) | Seasonal activities - YES / NO | a) 1 or 2 has to be entered; if not, then number 2 is to be entered | | |
| | | | | |
| 14.) | Number of working months in 2007. | a) if the answer for the qu. 11 is "1" then from 1 to 12 entere<br>b) if the answer for the qu. 11 is "2" or "3" than it can be empty | | |
| | | | | |
| 15.) | Who keeps the accounts | a) only one number has to be entered: 1 or 2 or 3; if it is empty, then 1 is to be entered | | |

Table 01. REVENUES FROM BUSINESS ACTIVITIES

| | | | | |
|---|---|---|---|---|
| 01.01.00 | Sale of own goods and/or services produced by enterprise | a) data has to be lower or equal to data 01.00.00<br>b) if the code in the question 11 is "1" then the data has to be higher than 0 (exeption if any of para from 01.02 to 01.06 is higher then 0) | | |
| 01.02.00 | Resale of goods in the same condition as received | a) every field can be empty;<br>b) if there is a data it has to be lower than the data in para 01.00.00 | | |
| 01.03.00 | Capitalised Production | | | |
| 01.04.00 | Subsidies on products | | | |
| 01.05.00 | Subsidies on production | | | |
| 01.06.00 | Other operating income (non financial, non extraordinaries) | | | |
| 01.07.00 | Change in stocks of finished products (+/-) | a) data can be negative, too | | |
| 01.08.00 | Change in stocks of works in progress (+/-) | a) data can be negative, too | | |
| 01.00.00 | TOTAL | a) data has to be higher than zero;<br>b) data is equal to the sum of the paras from 01.01.00 to 01.08.00 | | |

Table 02. PRODUCTION COSTS

| | | | | |
|---|---|---|---|---|
| 02.01.00 | Costs of purchases of raw materials, consumables and ancillary materials | a) if the code in the question 11 is 1, data has to be higher than zero<br>b) if it has ravenues, i.e. data in para 01.00.00 too has to be higher than zero | | |
| 02.02.00 | Purchases value of sold goods for resale | b) data lower or equal to data in para 02.00.00 | | |
| 02.03.00 | Purchases of energy products | b) data lower or equal to data in para 02.00.00 | | |
| 02.04.00 | Purchases of services | a) data lower or equal to data in para 02.00.00<br>b) data equal to the sum of the data from para 02.04.01. to 02.04.14. | | |

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| 02.04.01 | - Payments of services to third parties for treatment enterprise own products/services | a) field can be empty<br>b) if data exists it is lower than summarized data under para 02.04.00; it is equal only in the case if it is the only addend in the sum<br>c) payments to employment agencies must be equal to 06.01.04+ 06.02.04 | | |
| 02.04.02 | - Payments to third parties for ordinary maintenances and repairs | | | |
| 02.04.03 | - Transport services | | | |
| 02.04.04 | - Post and telecommunication services | | | |
| 02.04.05 | - Advertising, promotion and exibition | | | |
| 02.04.06 | - Researches and studies | | | |
| 02.04.07 | - Computer services, consultation, advice, accounting/auditing, legal, marketing etc. | | | |
| 02.04.08 | - Insurance premiums | | | |
| 02.04.09 | - Royalties, fees to use of copyrigths, patents, licence etc. | | | |
| 02.04.10 | - Waste disposal charges, water services | | | |
| 02.04.11 | - Bank charges (excluding interest payments) | | | |
| 02.04.12 | - Payments to employment agencies and/or recruiment agencies | | | |
| 02.04.13 | - Payment for enjoyment goods owned by third parties | | | |
| 02.04.14 | - Costs of other not mentioned services (security, cleaning, packing etc) | | | |
| **02.05.00** | Personel costs | a) data is equal to data under para 05.00.00 or ± 20% from it | | |
| **02.06.00** | Amortization | a) data is lower than data under para 02.00.00 | | |
| **02.07.00** | Provisions for risks and other purposes | a) data is lower than data under para 02.00.00 | | |
| **02.08.00** | Other nonmaterial operating costs | a) data is lower or equal to data under para 02.00.00<br>b) data is equal to the sum of data from para 02.08.01. to 02.08.06. | | |
| 02.08.01 | - Compensation to employees (business trip, fieldwork per diem etc) | a) data is lower then data under para 02.08.00; it is equal only in the case if it is the only addend in the sum | | |
| 02.08.02 | - Cost of vocational training | | | |
| 02.08.03 | - Entertainment expenses (meal and drinks, prezents) | | | |
| 02.08.04 | - Membership fees | | | |
| 02.08.05 | - Fees to the administrations | | | |
| 02.08.06 | - Other operating costs (non financial, non extraordinaries) | | | |
| 02.09.00 | Taxes on the products excluding VAT and import duties | a) data is lower than data under para 02.00.00 | | |
| 02.10.00 | Other indirect taxes on the production | a) data is lower than data under para 02.00.00 | | |
| **02.00.00** | TOTAL | a) data is the sum of data (02.01+ 02.02+ 02.03+ 02.04+ 02.05+ 02.06+ 02.07+ 02.08+ 02.09+ 02.10) | | |

Table 03. CHANGE IN STOCKS OF ROW MATERIALS AND GOODS FOR RESALE

| | | | | |
|---|---|---|---|---|
| 03.01.00 | Change in raw materials and consumables (+/-) | a) it can be zero<br>b) it can be negative | | |
| 03.02.00 | Change in goods and services for resale in the same conditions as received (+/-) | a) it can be zero<br>b) it can be negative | | |

Table 04. EMPLOYMENT

| | | | | |
|---|---|---|---|---|
| 04.01.01 | Entrepeneurs, owners, cooperators: - number | a) if number of employees is higher than zero, number of hours worked has to be higher than zero too, and vice versa<br>b) number has to be lower than sum in para 04.01.00, and equal only in the case if it is the only addend in the sum;<br>c) number of women has to be lower or equal to data in para 04.01.01 and lower or equal to data in para 04.00.02<br>d) number of hours worked has to be lower than sum in para 04.00.03, and e qual only in the case if it is the only addend in the sum | | |
| 04.01.02 | - of which: women | | | |
| 04.01.03 | - hours worked | | | |
| | | | | |
| 04.02.01 | Family members working in enterprise, if not paid: - number | a) if number of employees is higher than zero, number of hours worked has to be higher than zero too, and vice versa<br>b) number has to be lower than sum in para 04.02.00, and equal only in the case if it is the only addend in the sum;<br>c) number of women has to be lower or equal to data in para 04.02.01 and lower or equal to data in para 04.00.02<br>d) number of hours worked has to be lower than sum in para 04.00.03, and e qual only in the case if it is the only addend in the sum | | |
| 04.02.02 | - of which: women | | | |
| 04.02.03 | - hours worked | | | |

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| | | | | |
| 04.03.01 | Employees: white collar, blue collar: - number of employees | a) if number of employees is higher than zero, number of hours worked has to be higher than zero too, and vice versa<br>b) number has to be lower than sum in para 04.03.00, and equal only in the case if it is the only addend in the sum;<br>c) number of women has to be lower or equal to data in para 04.03.01 and lower or equal to data in para 04.00.02 | | |
| 04.03.02 | - of which: women | d) number of hours worked has to be lower than sum in para 04.00.03, and e qual only in the case if it is the only addend in the sum | | |
| 04.03.03 | - hours worked | | | |
| | | | | |
| 04.04.01 | Employees: operatives: - number | a) if number of employees is higher than zero, number of hours worked has to be higher than zero too, and vice versa<br>b) number has to be lower than sum in para 04.04.00, and equal only in the case if it is the only addend in the sum;<br>c) number of women has to be lower or equal to data in para 04.04.01 and lower or equal to data in para 04.00.02 | | |
| 04.04.02 | - of which: women | d) number of hours worked has to be lower than sum in para 04.00.03, and e qual only in the case if it is the only addend in the sum | | |
| 04.04.03 | - hours worked | | | |
| | | | | |
| 04.05.01 | Employees: Homeworkers: - number | a) if number of employees is higher than zero, number of hours worked has to be higher than zero too, and vice versa<br>b) number has to be lower than sum in para 04.05.00, and equal only in the case if it is the only addend in the sum;<br>c) number of women has to be lower or equal to data in para 04.05.01 and lower or equal to data in para 04.00.02 | | |
| 04.05.02 | - of which: women | d) number of hours worked has to be lower than sum in para 04.00.03, and e qual only in the case if it is the only addend in the sum | | |
| 04.05.03 | - hours worked | | | |
| | | | | |
| 04.00.01 | Employees: TOTAL | a) if the number of employees if higher than zero, hours worked have to be higher than zero too, and vice versa<br>b) data is equal to the sum (04.01.01+ 04.02.01+ 04.03.01+ 04.04.01+ 04.05.01);<br>c) data is equal to the sum (04.01.02+ 04.02.02+ 04.03.02+ 04.04.02+ 04.05.02);<br>d) data is equal to the sum (04.01.03+ 04.02.03+ 04.03.03+ 04.04.03+ 04.05.03); | | |
| 04.00.02 | - of which: women | e) data in para 04.00.01 can differ ± 20 % from the data in question 10 | | |
| 04.00.03 | - hours worked | | | |

Table 05. PERSONNEL COSTS

| | | | | |
|---|---|---|---|---|
| 05.01.00 | Net wages and salaries paid to employees | a) it cannot be zero if there are employees in any para from 04.03.01 to 04.05.01 | | |
| 05.02.00 | Employees contributions to pension and social schemes | | | |
| 05.03.00 | Taxes on wages and salaries | | | |
| 05.04.00 | Other compensation of employees treated as wages and salaries | a) it cannot be zero | | |
| 05.05.00 | Employer's contributions to social schemes | a) in FB&H it cannot be zero if there are employees in any para from 04.03.01 to 04.05.01;<br>b) in RS this field should be empty; if data exist the input should be allowed | | |
| 05.00.00 | TOTAL | a) if the sum (04.03.01+04.04.01+04.05.01) is higher than zero, than this data has to be higher than zero too<br>b) data is equal to the sum of data in paras from 05.01 to 05.05<br>c) data has to be equal or close to data in para 02.05 (vary ± 20%) | | |
| 05.00.01 | *of which: personnel costs of women* | a) field can be empty;<br>b) if the sum (04.03.02+04.04.02+04.05.02) is higher than zero, than this data has to be higher than zero too<br>b) data has to be lower or equal to data in para 05.00.00 | | |

Table 06. EXTERNAL PERSONNEL AND THEIR COSTS

| | | | | |
|---|---|---|---|---|
| 06.01.01 | Agency workers and staff leasing workers | a) it cannot be empty;<br>b) it cannot be empty if there are data in para 06.01.03 and 06.01.04 | | |
| 06.01.02 | - number of women | a) it can be empty;<br>b) if data exists it has to be lower than data in para 06.01.01 | | |
| 06.01.03 | - hours worked | a) it can be empty;<br>b) it cannot be empty if data exist in paras 06.01.01 and 06.01.04 | | |
| 06.01.04 | - costs | a) it can be empty;<br>b) it cannot be empty if data exist in paras 06.01.01 and 06.01.03 | | |
| | | | | |

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| 06.02.01 | Other kind of paid external workers | a) it can be empty;<br>b) it cannot be empty if data exist in paras 06.02.03 /ili 06.02.04 | | |
| 06.02.02 | - number of women | a) it can be empty;<br>b) if data exists it has to be lower than data in para 06.02.01 | | |
| 06.02.03 | - hours worked | a) it can be empty;<br>b) it cannot be empty if data exists in paras 06.02.01 and/or 06.02.04 | | |
| 06.02.04 | - costs | a) it can be empty;<br>b) it cannot be empty if data exist in paras 06.02.01 and/or 06.02.03 | | |
| Table 07. GROSS INVESTMENT IN MATERIAL AND INTANGIBLE FIXED ASSETS | | | | |
| 07.01.00 | Total investment in material goods | a) field can be empty<br>b) if data exists it has to be sum of paras from 07.01.01 to 07.01.06<br>c) data has to be lower or equal to the data in para 07.00.00 | | |
| 07.01.01 | - Investment in land | a) field can be empty<br>b) if data exists it has to be lower than data in para 07.01.00 | | |
| 07.01.02 | - Investment in existing Buildings and Structures | | | |
| 07.01.03 | - Investment in new Buildings and Structures | | | |
| 07.01.04 | - Investment in construction and alternation of Buildings and Structures | | | |
| 07.01.05 | - Investment in new machinery and other equipment | | | |
| 07.01.06 | - Investment in used (old) machinery and other equipment | | | |
| 07.02.00 | Investment in intangible fixed assetsInvesticije u nematerijalna sredstva | a) field can be empty<br>b) data has to be lower or equal to data in para 07.00.00 | | |
| 07.00.00 | TOTAL | a) field can be empty, if data does not exist in 07.01.00 and/or 07.02.00;<br>b) data has to be equal to the sum of 07.01.00 and 07.02.00 | | |
| Table 08. INVESTMENT FOR ENVIRONMENTAL PROTECTION (PART OF TOTAL) AND CURRENT COSTS | | | | |
| 08.01.01 | Investment in equipments and plants for pollution control and special antipollution accessories:<br>- Air protection | a) it can be empty<br>b) if data exists it has to exist in 07.01.00 too<br>c) sum of data (08.01.01+ 08.01.02+ 08.01.03+ 08.01.04) has to be lower or equal to data in 07.01.00 | | |
| 08.01.02 | - Wastewater management | | | |
| 08.01.03 | - Waste management | | | |
| 08.01.04 | - Other activities | | | |
| | | | | |
| 08.02.01 | Investment in equipments and plants linked to cleaner technology<br>- Air protection | a) it can be empty<br>b) if data exists it has to exist in 07.01.00 too<br>c) sum of data (08.02.01+ 08.02.02+ 08.02.03+ 08.02.04) has to be lower or equal to data in 07.01.00 | | |
| 08.02.02 | - Wastewater management | | | |
| 08.02.03 | - Waste management | | | |
| 08.02.04 | - Other activities | | | |
| | | | | |
| 08.03.01 | Total current expenditure on environmental protection:<br>- Air protection | a) field can be empty<br>b) if data exists it has to be lower than data in 02.00.00 | | |
| 08.03.02 | - Wastewater management | | | |
| 08.03.03 | - Waste management | | | |
| 08.03.04 | - Other activities | | | |
| Table 09. OTHER DATA FOR ENTERPRISE IN ACCOUNTING PERIOD | | | | |
| 09.01.00 | VAT invoiced on total turnover | | | |
| 09.02.00 | Deductable VAT on purchases | | | |
| 09.03.00 | VAT on Import | | | |
| 09.04.00 | Export of goods and services | | | |
| 09.05.00 | Import of goods and services | | | |

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| 09.06.00 | Customers in other entity | a) field can be empty; data higher or equal to zero | | |
| 09.07.00 | Supplier from other entity | | | |
| 09.08.00 | Severance paid for insurance damage | | | |
| 09.09.00 | Income from rents and operative lease | | | |
| 09.10.00 | Incom from dividends and participation in profit | | | |
| 09.11.00 | Incom from royalties, licences, ets. | | | |
| 09.12.00 | Contributions to capital stock allocated by the government and public administration | | | |
| 09.13.00 | Sales of tangible investment goods (value of realization) | | | |
| 09.14.00 | Dirct taxes paid | | | |
| 09.15.00 | Costs for exaordinary maintance carried out from third parties on the instrumental | | | |
| 09.16.00 | Incom from interest | | | |
| 09.17.00 | Interest paid | | | |
| 09.18.00 | Total Research & Development expenditure | | | |

Table 10. LOCAL OUT OF THE ENTERPRISE MAIN OFFICE - BROKEN DOWN BY ENTITIES

| | | | | |
|---|---|---|---|---|
| 10.01.01 | Federation of B&H:<br>- nuber of LU | a) it can be empty if data does not exist in any of paras from 10.01.02 to 10.01.05 | | |
| 10.01.02 | - Persons employed in LU | a) it can be empty if data does not exist in any of paras from 10.01.01 to 10.01.03 | | |
| 10.01.03 | - Personel costs in LU | a) it can be empty if data does not exist in any paras from 10.01.01 to 10.01.02 | | |
| 10.01.04 | - Total revenues in LU | a) it can be empty if data does not exist in any paras from 10.01.01 to 10.01.03 | | |
| 10.01.05 | Investment in LU | a) it can be empty;<br>b) if data exists it has to be lower than 10.04.05 | | |
| | | | | |
| 10.02.01 | Republic of Srpska:<br>- Number of LU | a) it can be empty if data does not exist in any of paras from 10.02.02 to 10.02.05 | | |
| 10.02.02 | - Persons employed in LU | a) it can be empty if data does not exist in any of paras from 10.02.01 to 10.02.03 | | |
| 10.02.03 | - Personel costs in LU | a) it can be empty if data does not exist in any paras from 10.02.01 to 10.02.02 | | |
| 10.02.04 | - Total revenues in LU | a) it can be empty if data does not exist in any paras from 10.02.01 to 10.02.03 | | |
| 10.02.05 | Investment in LU | a) it can be empty;<br>b) if data exists it has to be lower than 10.04.05 | | |
| | | | | |
| 10.03.01 | District Brcko:<br>- Number of LU | a) it can be empty if data does not exist in any of paras from 10.03.02 to 10.03.05 | | |
| 10.03.02 | - Persons employed in LU | a) it can be empty if data does not exist in any of paras from 10.03.01 to 10.03.03 | | |
| 10.03.03 | - Personel costs in LU | a) it can be empty if data does not exist in any paras from 10.03.01 to 10.03.02 | | |
| 10.03.04 | - Total revenues in LU | a) it can be empty if data does not exist in any paras from 10.03.01 to 10.03.03 | | |
| 10.03.05 | Investment in LU | a) it can be empty;<br>b) if data exists it has to be lower than 10.04.05 | | |
| | | | | |
| 10.04.01 | Total LU out of the enterprise main office:<br>- Number of LU | a) data is lower than data in question 9.<br>b) data is equal to the sum of data (10.01.01+10.02.01+10.03.01) | | |
| 10.04.02 | - Persons employed | a) data is lower than data in 04.00.01<br>b) data is equal to the sum of data (10.01.02+10.02.02+10.03.02) | | |
| 10.04.03 | - Personel costs | a) data is lower than data in 05.00.00<br>b) data is equal to the sum of data (10.01.03+10.02.03+10.03.03) | | |
| 10.04.04 | - Total revenues | a) data is lower than data in 01.00.00<br>b) data is equal to the sum of data (10.01.04+10.02.04+10.03.04) | | |
| 10.04.05 | Investment | a) data is lower than data in 07.00.00<br>b) data is equal to the sum of data (10.01.05+10.02.05+10.03.05) | | |

Total: 10.04.1 lower than data in question 9 (page 1); 10.04.2 is lower (or equal SOFT) 04.00.1; 10.04.3 lower (equal SOFT) than 05.00; 10.04.4 lower than 01.00.00; 10.04.5 lower or equal 07.00.00 (equal SOFT)

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| Table 11. LOCAL UNITS AT THE KAU - BROKEN DOWN BY ENTITIES | | | | |
| 11.01.01 | Title of the first secondary activity | a) field cannot be empty if data in question 8 exist, and if, at the same time, the number of employed (question 10) is 20 or more than 20 | | |
| 11.01.02 | Activity code | a) code has to be entered if the conditions in para 11.01.01 are fulfilled<br>b) code has to be in line with KD | | |
| | | | | |
| 11.01.11 | Federation of B&H:<br>- No of KAU | a) it can be empty if data in some of paras from 11.01.12 to 11.01.15 are missing<br>b) if data exists it has to be lower than data in 11.01.01 | | |
| 11.01.12 | - Persons employed | a) it can be empty if data in some of paras from 11.01.13 and/or 11.01.14 are missing<br>b) if data exists it has to be lower than data in 11.01.02 | | |
| 11.01.13 | - Personel costs | a) it can be empty if data in some of paras from 11.01.12 and/or 11.01.14 are missing<br>b) if data exists it has to be lower than data in 11.01.03 | | |
| 11.01.14 | - Total revenues | a) it can be empty if data in some of paras from 11.01.12 and/or 11.01.13 are missing<br>b) if data exists it has to be lower than data in 11.01.04 | | |
| 11.01.15 | - Investment | a) field can be empty;<br>b) if data exists it has to be lower than data in 11.01.05 | | |
| | | | | |
| 11.01.21 | Republic of Srpska:<br>- No of KAU | a) it can be empty if data in some of paras from 11.01.22 to 11.01.25 are missing<br>b) if data exists it has to be lower than data in 11.01.01 | | |
| 11.01.22 | - Persons employed | a) it can be empty if data in some of paras from 11.01.23 and/or 11.01.24 are missing<br>b) if data exists it has to be lower than data in 11.01.02 | | |
| 11.01.23 | - Personel costs | a) it can be empty if data in some of paras from 11.01.22 and/or 11.01.24 are missing<br>b) if data exists it has to be lower than data in 11.01.03 | | |
| 11.01.24 | - Total revenues | a) it can be empty if data in some of paras from 11.01.22 and/or 11.01.23 are missing<br>b) if data exists it has to be lower than data in 11.01.04 | | |
| 11.01.25 | - Investment | a) field can be empty;<br>b) if data exists it has to be lower than data in 11.01.05 | | |
| | | | | |
| 11.01.31 | District Brcko:<br>- No of KAU | a) it can be empty if data in some of paras from 11.01.32 to 11.01.35 are missing<br>b) if data exists it has to be lower than data in 11.01.01 | | |
| 11.01.32 | - Persons employed | a) it can be empty if data in some of paras from 11.01.33 and/or 11.01.34 are missing<br>b) if data exists it has to be lower than data in 11.01.02 | | |
| 11.01.33 | - Personel costs | a) it can be empty if data in some of paras from 11.01.32 and/or 11.01.34 are missing<br>b) if data exists it has to be lower than data in 11.01.03 | | |
| 11.01.34 | - Total revenues | a) it can be empty if data in some of paras from 11.01.32 and/or 11.01.33 are missing<br>b) if data exists it has to be lower than data in 11.01.04 | | |
| 11.01.35 | - Investment | a) field can be empty;<br>b) if data exists it has to be lower than data in 11.01.05 | | |

| CODE | Name of Item | CHECKING DESCRIPTION | ERROR No. | ERROR TYPE |
|---|---|---|---|---|
| | | | | |
| 11.01.01 | Total the first secondary activity:<br>- No of KAU | a) data is equal to the sum of data (11.01.11+11.01.21+11.01.31) | | |
| 11.01.02 | - Persons employed | a) data is lower than data in 04.00.01<br>b) data is equal to the sum of data (11.01.12+11.01.22+11.01.32) | | |
| 11.01.03 | - Personel costs | a) data is lower than data in 05.00.00<br>a) data is equal to the sum of data (11.01.13+11.01.23+11.01.33) | | |
| 11.01.04 | - Total revenues | a) data is lower than data 01.00.00<br>a) data is equal to the sum of data (11.01.14+11.01.24+11.01.34) | | |
| 11.01.05 | - Investment | a) data is lower than data in 07.00.00<br>b) data is equal to the sum of data (11.01.15+11.01.25+11.01.35) | | |

11.01 to check after the entry if it is equal to 8.1, after that the entry to the table 11.01.1-0 shoud be allowed; total: vertical sum checking; 11.01.0 lower than question 04.00; 11.01.03 lower than 05.00; 11.01.04 lower than 01.00 11.01.05 lower than 07.00.00 (for all three tables)

Table 12. RETROSPECTIVE DATA - 2006

| | | | | |
|---|---|---|---|---|
| 12.01.00 | Number of employees (annual average) | a) it cannot be empty if the answer to the question 11 is status "1", and the activity year is 2006 or earlier | | |
| 12.02.00 | Revenue from sales of products, services and goods | a) it cannot be empty if the answer to the question 11 is status "1", and the activity year is 2006 or earlier | | |

B. INFORMATION ON THE FILLING IN THE QUESTIONNAIRE AND CONTACT INFORMATION

| | | | | |
|---|---|---|---|---|
| | 1) Time needed for the filling in the questionnaire | a) hours are less than 11 (for more SOFT), minutes are from 00 to 59, | | |
| | 2.a) Does the enterprise has E-mail address | a) to plan the form for using @;<br>b) YES is 1, NO is 2 ; if it does not exist enter 2 automaticaly | | |
| | 2.b) E-mail address | a) if it is 1, the address entry is obliged | | |
| | 3.a) Does the enterprise has website | a) to plan the form for using www;<br>b) YES is 1, NO is 2 ;if it does not exist enter 2 automatically | | |
| | 3.b) Website address | a) if it is 1, address entry is obliged | | |
| | 4) Interested in filling the questionnaire on-line | a) YES is 1, No is 2, if it is empty ener 2 automatically | | |
| | 5) Person responsible phone | a) field cannot be empty | | |
| | 6) Status of responsible person | a) To code: Owner 1; Director 2; Manager 3; Accountant 4; Others 5; if it is empty enter 5 automatically. | | |
| | *6.a) Who should be addressed questions for eventually clarifications to?* | a) field cannot be empty | | |
| | 7) Name and surname of the compiler | a) field cannot be empty | | |
| | 8) Address | a) field cannot be empty | | |
| | 9) Telephone | a) field cannot be empty | | |
| | 10) Date | a) field cannot be empty | | |
| | | | | |

# APPENDIX 4 INSTRUCTIONS TO COMPILE THE SBS QUESTIONNAIRES

## GENERAL INSTRUCTIONS

The Instructions contain separate explanations only for the items from the questionnaires which could be interpreted in a different way. Detailed explanations are not provided for other items as their content is a reflection of the item heading. As an auxiliary indicator, the questionnaire contains for a majority of items a number of accounts from analytical chart of accounts under which such items are recorded in the accounting records. For some data requested it is necessary to make the additional calculations or to make the best possible estimations.

The entrepreneurs keeping a simple accounting should compile the Questionnaires on the basis of their accounting records.

The entities which experienced in the reference year some status changes should provide data on their activities for the entire year.

## TABLE 01. – INCOME FROM REGULAR ACTIVITIES

**01.01 Income on sale of own products and services –** include the total annual income obtained on the basis of the activities (sale of own final products and services). All costs charged to customers (transport, packing, insurance etc.) and all indirect taxes, excluding VAT invoiced to customers, are included. The VAT invoiced for the supply of products and services is shown in the Table 9 „Other data".

**01.02 Income on sale of goods intended for resale –** include the total annual income obtained from trade activities. Also, income obtained from resale of goods by the non-trading companies, but which from time to time sell goods, raw materials and other products without any further processing, is included. The sale net value includes all costs charged to the customer (transport, packing, insurance etc.) even when such costs are invoiced separately. Income on sale is shown without rebate, discount, excises, VAT and other taxes collected with products sold.

**01.03 Income on capitalized production – fixed assets for own needs** – represent a value of fixed assets constructed or developed for the company's own use, as well as the value of repairs and extraordinary maintenance of own plants and equipment, provided by the company itself. Validation is done by producers' prices, i.e. on the basis of the costs incurred during the works. Such costs include: costs of material needed for manufacturing, auxiliary and consumption material; costs of work and various other costs.
The mentioned costs, also, make an integral part of the costs shown in the relevant items of the Table 2.

**01.04 Subsidies on the products** (which could be shown by unit of product or service) and **01.05 Subsidies on production** (refer to the production as such and cannot be expressed by unit of product or service) **–** include only subsidies received from the sate or other public authorities in order to make effect on the level of production or price of products and services. Subsidies for the capital account and amounts related to exemption of costs for social insurance are not included. Subsidies for the capital account are shown under relevant item in Table 9.

**01.06 Other operational income** – include the income on rents, income on royalties and patents and other income on business activities not included in the financial and extraordinary income. Certain financial income is shown in Table 9.

**01.07 Changes in inventories of finished products and 01. 08 Changes in inventories of work in progress** – increase or decrease in inventories of finished products and work in progress are taken from the Profit and Loss Account.

## TABLE 02. – PRODUCTION COSTS

**02.01 Costs of procurement of raw material, materials, consumables and auxiliary materials** – include the total value of procured (not consumed) raw materials, basic materials and consumables, small inventory, tools, spare parts and auxiliary materials (packing, materials for cleaning and regular maintenance, office supplies etc.) procured during the accounting period. This item includes the costs of material related to production of investments for own use, as well as related to regular and extraordinary maintenance of fixed assets performed by the company for its own account.

The value of procurement has to be expressed without VAT invoiced by the supplier, but including the costs incurred to the place of storage. Deductible VAT for procurement of raw materials and materials is expressed under the relevant item in Table 9.

**02.02 Purchasing value of sold products without further processing** - represents the value of sold goods, calculated by purchasing value including the transportation costs and taxes on products, such are excises. The VAT is excluded from the calculation of values, and is shown under the relevant item in Table 9. Also, non-trading companies show the purchasing value of sold goods, for raw materials and other materials resold without any additional processing.

**02.03 Costs of fuel and energy** – cover the total value of fuels (electricity, gas, crude oil, petrol etc.) purchased during the reference period. Fuels purchased as raw materials or for resale in a state as purchased are not covered. Purchases are shown by purchasing value, without VAT.

**02.04 Costs of production services –** include the costs of services provided by third parties involved in: production or processing of own outputs, repairs and maintenance, installation works (except for capital assets); transportation costs (excluding those included in the values under codes 20.01, 20.02, and 20.03); telecommunication costs; rental costs, fairs, commercials and advertisement, research and development; consulting, computer, advisory, legal, accounting and similar costs; costs of license fees, patents, software, copyrights and similar; costs of insurance premiums (annual amount of premiums paid for all types of insurance: insurance against accidents, injury at work and professional diseases, insurance of motor and other vehicles, insurance of goods in transport, property against fire and other damages and other types of non-life insurance); current costs of waste disposal; costs of banking services (excluding interest rates); costs of persons employed persons through employment agencies and other contracted persons (fees for temporary contracts concluded by the employer with the intermediary agencies and physical entities); costs of rents and operational leasing (annual amount of costs based on the lease agreement for fixed assets: equipment, business, warehousing, office and other premises, land etc.) and other unspecified services (including all current expenses paid for services to third parties not included in the previous items).

**02.05 Costs of employed persons** - represent the total gross salaries and wages based on the payroll – this figure equals to cumulative figure in Table 5. „Costs of employed persons". Please see instructions annexed to Table 5.

**02.08 Other non-material operation costs** – include: costs of fees (business trip, use of own vehicle for official purposes, accommodation and meals, compensation of costs to employers and other physical entities not employed, solidarity and other payments to unemployed persons); professional training costs (including scholarships and loans for pupils and students; entertainment costs; membership costs, administrative taxes and other operational costs (all current expenditures not covered by the above mentioned items, and which do not have a character of financial and extraordinary expenditures).

**02.09 Taxes on products, excluding VAT and import duties** – include taxes on products, paid on quantity or value of products and services produced or exchanged (excluding VAT and import duties). Include: taxes on specific products, revenue stamps, legal documents, registration costs, advertisement taxes etc.
**02.10 Other indirect taxes on production** – paid on production activities regardless the quantity or value of produced products or services. They include: taxes paid on real estate or land use, buildings or other constructions used for the production activities, taxes on fixed capital use, taxes paid on provision of professional or business licenses, taxes paid on pollution of environment due to production activities etc.

**TABLE 03. – CHANGES IN INVENTORIES OF RAW MATERAL AND GOODS**

**03.01 and 03.02** Data is taken from the Balance Sheet, the situation at the beginning and at the end of the business year is valued.

**TABLE 04. – EMPLOYMENT- 04.01 do 04.04 Annual average of number of employed persons** by separate categories of employment status - is calculated in a way that a number of employed persons for each category is calculated at the end of every month and then divided by 12. This also includes the persons employed as trainees, those with definite contracts (person replacing a temporarily absent employee), seasonal workers and those employed on a part-time basis. For each category it is necessary to calculate (out of the total number) the annual average of employed women. Data on a number of employees include those who are temporarily absent due to illness, vacation, as well as those who are considered working surplus. Those employed abroad and not residents in B&H are excluded.

**04.01 do 04.04 Hours worked –** include a total number of actually worked hours during the entire year (official working hours, overtime, work on Sundays and holidays and night work) for each category by employment status. Paid hours, but not worked due to holidays, sickness etc., are excluded.

**TABLE 05. – COST OF EMPLOYED PERSONS –** cover all earnings and compensations of the employed persons for the work done and time spent in the work, contributions for social insurance charged to employees, contributions for social insurance to be paid by employers and taxes on earnings and compensations. Various components of this table, i.e. 05.01 to 05.05, provide costs analysis of employees incurred in the reference year. The total amount, code 05.00, equals to the same item in Table 2 (Gross costs of employees, code 02.05). Gross salaries and wages for women (out of the total amount) should be separately calculated.

**05.01 Salaries and wages of employed persons** – include basic salary and other similar payments not included in the basic salary (distribution of profits, overtime work, work on holidays, Sundays and national holidays, religious holidays, 13th salary and other payments and payments in kind).

**05.04 Other costs of employees considered as personal income –** cover: so-called meal allowance, transportation costs to the place of work and back, severance pay, jubilee compensations, bonus and similar. This includes all payments of compensations and all other payments to employed persons which are equal to earnings.
Costs related to the employed persons working abroad and not resident in B&H, have to be excluded from the costs of employees and included in other non-material operational costs, item 02.08 in Table2.

**TABLE 06. CONTRACTED PERSONS AND THEIR COSTS**
**06.01 and 06.02 Contracted persons and their costs** – temporary and periodical workers, contracted workers (employed via employment agencies or in another way) are not treated in the calculations in a same way as employed by the company and accordingly data on their number, hours worked and costs have to be stated separately. To calculate the annual average of a number of employed persons and hours worked, please see the Instructions with Table 04. The costs of contracted persons make a part of the production services costs (Table 02, code 02.04.12)

**TABLE 07. – GROSS INVESTMENTS IN MATERIAL AND NON-MATERIAL FIXED ASSETS** – represent costs of procurement of new and used fixed assets, maintenance costs and extraordinary repair costs on already provided capital assets (in order to extend their life or to improve the productivity). Acquisition of fixed assets (and investments in their construction) is valued by purchasing price, as invoiced by the supplier's i.e. contractors. With long-lasting contracts on construction, the investments should be recorded proportionally with the level of execution of the contracted works (preliminary situation). The purchasing price should include all indirect taxes, taxes and contributions (excluding VAT), paid for the procurement i.e. construction. Also, costs related to procurement (planning, transport, installation, testing etc.) should be included, but not those related to investment financing (paid interests, fees etc.). Advances paid for procurement of fixed assets, as well as payments for goods purchased and invoiced in the previous year are excluded. Additional corrections of the purchased value and removal of fixed assets from inventory are not included.
The fixed capital formation has to include the value of fixed assets produced by the company for its own use, as well as an extraordinary maintenance carried out by the company itself (Table 01, code 01.03). The value is determined on the basis of costs included in such production or repair, see explanations with code 01.03.
The resources obtained as a result of taking over or merging with other companies is not included.

**TABLE 08. – INVESTMENTS INTO PROTECTION OF ENVIRONMENT AND CURRENT COSTS** – investments made for environmental protection (codes **08.01 and 08.02**); if any during the reference period, represent a part of the total investments shown in Table 07. The value of investments should be classified by type of activities on the environmental protection. Current costs of the environmental protection (code **08.03**) should also be given by activities.

**TABLE 09. – OTHER DATA –** requested by this table, will be used in combination with data from the above tables, to calculate economic data and indicators providing a better insight into higher levels of statistical aggregation. The titles of majority of items (and associated accounts) describe the contents and there is no need for further explanation.

**09.13 Income on sale of material fixed assets (disinvestment) –** cover annual amount obtained from the sale of all types of material fixed assets needed for the production activities. The calculation is done on the basis of sale price, not by accounting value, after deducting all costs related to sale and transfer of ownership.

**TABLE 10. – LOCAL UNITS OUT OF THE COMPANY LOCATION BY ENTITIES (FOR REGIONAL MODULE)**

The enterprises having one or several local units operating outside the main location of the company (regardless whether registered or not) should also compile Table 10 to enable calculation of regional data. Data should be given by administrative entities, cumulative for all local units within one entity. Data should be provided on: number of local units, number of employed persons in all local units within one entity, costs of employed persons in all units, total income and investments together for all local units within one entity. Required data are a part of cumulative data, already given in tables: Table 01 Income (code 01.00); Table 04. Employment (code 04.00); Table 05 Costs of employed persons (code 05.00) and Table 07 Investments (code 07.00).

***Data given in tables 01 to 09 refer to entire company – entire enterprise. Data in this table are only a part of the total amount referring to business units located outside the main company. Therefore, if data for local units outside the main location are deducted from the total data, data on the activities in the main location will be obtained.***

**TABLE 11. UNITS BY TYPE OF SECONDARY ACTIVITY**

Data is to be compiled only by the enterprises having 20 or more employees, which gave a positive answer to a question 8 at page 1, i.e. said that they were performing one or more secondary activities. Secondary activity is an activity which differs from the basic (main) activity, resulting in products or services intended for the market. The questionnaires give the possibility to compile data for three different secondary activities (the most important for the enterprise). The basic criteria for grouping of units are the same type of secondary activity, and then the location where the secondary activity is implemented (administrative entity). This means that all units implementing the same secondary activity are firstly grouped together under one title, and data are further distributed by entity in which such activity is implemented and are shown only as cumulative for the entity. Data should be provided for the three secondary activities, not more, and it are not important whether they are really registered, it is important that the activity implemented differs from the basic activity. These data represent a part of already shown data for the enterprise as a whole.

Data refer to: a number of units, number of employees in all units having same secondary activity (total and within one entity), costs of employees, total income and investments. Data requested are a part of cumulative data, already shown in the tables: Table 01 Income (code 01.00); Table 04. Employment (code 04.00); Table 05 Costs of employed persons (code 05.00) and Table 07 Investments (code 07.00).

***Data given in tables 01 to 09 refer to the company as a whole - entire enterprise. Data in this table represent only a part of the total amount related to secondary activities. If data for all secondary activities are deducted from the total data, data on basic (main) activity of the enterprise throughout all locations will be provided.***

**TABLE 12. RETROSPCTIVE DATA FOR THE ENTERPRISE / COMPANY FOR 2006**

**12.01** A number of employed persons (annual average) for the previous year are calculated in the same way as for the reference year (see instructions for Table 04 Employment, code 04.00)

**12.02** Income on sales of products, services and goods for the previous year is calculated in the same way as for the reference year. (See instructions for Table 01 Income from regular activities, code 01.00)