

**TWINNING CONTRACT**

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

**Bosnia-Herzegovina**



**FINAL  
MISSION REPORT**


**on**

**Structural Business Statistics**

**Component no 1.2.5 activity**

Mission carried out by  
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24<sup>th</sup> June – 28<sup>th</sup> June 2013

		 <b>STATISTICS DENMARK</b>

***IPA 2008***

## Abbreviations

BiH	Bosnia-Herzegovina
BHAS	BiH Agency for Statistics
BRC	District of Brcko
FIS	Federation Institution for Statistics
RSIS	Republic Institution for Statistics
SBS	Structural Business Statistics
SBR	Structural Business Register
FS	Financial Statements
NA	National accounts
KAU	Kind of Activity Unit
LKAU	Local Kind of Activity Unit
LU	Local unit

## 1. Executive Summary

The mission was carried out under the component 1. business statistics and sub-component 1.2 Structural business statistics of EU Twinning Project BA 08-IB-FI-03. Expected activities were analysis of using administrative data (FS) in the production of SBS, discussion about transmission SBS data to Eurostat, preparing quality report and post-survey activities. Consultation consisted of five days of discussions in small expert group.

### Use of Administrative data

BiH has made analysis of using FS administrative data to form the SBS variables. The conclusion of the analysis and discussion was that SBS can be produced by using variables from FS data. It is recommended that BiH proceed with using FS data as the basis of SBS production. SBS sample can be made smaller as a result. It should be noted however, that all variables cannot be produced from FS data and own inquiry should be continued. Planning and implementing administrative data based SBS production will take time and human resources to set up. In the longer run the variables received from FS data should be removed from SBS questionnaires and automatic and selective editing applied to the new system.

### Entrepreneurs in SBS statistics

At the moment entrepreneurs are not included in the SBS statistics. SBR have information on entrepreneurs, although all information is not currently available, namely a part of NACE codes and number of employees. When SBR is updated in the near future then SBR could be used as the frame. It is important that the variables NACE, number of employees and status of activity are stored and updated in BiH SBR. BiH is also studying the possibility to get financial data on entrepreneurs from administrative sources.

Primarily it is recommendable to attain the financial data of entrepreneurs from administrative sources. If this cannot be accomplished then there are two possibilities; Either do a joint sample survey with NA and estimate the entrepreneurs from the survey or use the SBS survey to estimate the variables for entrepreneurs by means of imputation. SBS variables could be imputed from SBS survey, using number of employees and NACE as auxiliary information.

### Miscellaneous topics

In addition to the question of entrepreneurs, the connections of SBS and NA was discussed. NA has variables and needs very close to the SBS characteristics. In Finland SBS is the basis of the business sector NA figures. It should be studied if a similar arrangement in BiH would be possible. This would require co-operation between NA and SBS in BiH and initiative from BHAS.

Confidentiality rules for the SBS were discussed. Primary rules must be made, but domination rule would require some software solution as the work needed would be quite large to do manually. Secondary encryptions should also be made to the data.

Consultants received analysis of NACE changes and non-response characteristics. Also detailed information of NACE changes was received concerning Federation. NACE changes were quite large, but CV's were mostly not. CV's showed one activity, which indicated significantly greater CV's than other activities. But this seemed not to be very important activity. So it is better to flag the problematic activity as unreliable and then it's perhaps not

necessary to do post-stratification. It must be noted here that sampling people of BiH were not able to attend the mission, therefore indepth analysis could not be conducted.

## **2. Assessment and results**

### **General assesment of the coverage of SBS BiH**

Coverage of BiH SBS system in relation to the demands of the SBS regulation and SBS series was discussed. BiH fulfills the requirements of the regulation annexes I-IV very well; Activity coverage is complete as the inquiry has been expanded to cover activities J, L, M, N, S in addition to previous C, D, E, F, G, H, I activities. Regional series and kind-of-activity series can also be made based on current production. The largest undercoverage at the moment is entrepreneurs, which are not included in BiH SBS.

### **Use of Administrative data**

BiH has made an analysis of using Financial Statements administrative data from tax authorities as a basis of the production of SBS variables. Analysis consisted of a list of all the relevant variables of the SBS regulation and how those variables could be produced by FS data by exact formulas. The conclusion of the analysis and discussion was that most of the SBS variables can be produced by using variables from FS data. Some of the variables, most notably the breakdown of turnover and costs, cannot be recieved from FS data. For this reason SBS inquiry should be continued. The inquiry can be reduced significantly, however, as the variables received from FS can be removed from questionnaires and the size of the sample can be cut down. This would reduce the response burden of the enterprises and improve the cost effectiveness of SBS production.

The content of FS data has also been harmonized between entities by tax authorities, which will improve the usability of the data. Also the timeliness of FS data proves no difficulties. Entitieds receive the data on May, very adequately early before the preliminary SBS should be delivered.

It is recommended that BiH proceed with using FS data as the basis of SBS production. SBS sample can also be made smaller as a result. It should be noted however, that all variables cannot be produced from FS data and own inquiry should be continued. In the longer run the variables of FS data should be removed from SBS questionnaires and automatic and selective editing implemented. Planning and implementing administrative data based SBS production will take time and human resources to set up.

### **Entrepreneurs in SBS statistics**

At the moment entrepreneurs are not included in the SBS statistics, the frame or the sample, and are the largest component causing undercoverage in the SBS statistics. Currently business register does contain entrepreneurs, but only information of their address and NACE code at two digit level is stored. Business register has, however, plans to add the number of employees to the register in near future. Also national accounts collects information about entrepreneurs through a sample. NA of both Federation and Srpska sample the entrepreneurs and estimate their total contribution to the economy by estimation based on the sample, NACE code and number of employees of the entrepreneurs. For Srpska it was estimated that around ten percent of value added in the economy comes from entrepreneurs. Number of

employees is received from the labour statistics. BiH is also studying the possibility to get financial data on entrepreneurs from administrative sources.

Possibilities to introduce entrepreneurs to the SBS were discussed. In any case, it is advisable to discuss and resolve the situation with NA. Whatever the information source is, NA and SBS should use the same source. Primarily it is recommendable to attain the financial data from administrative sources. If this cannot be accomplished then there are two possibilities. Either do a joint sample survey with NA and estimate the entrepreneurs from the joint survey or use the SBS survey to estimate the variables for entrepreneurs.

Estimation could be based on the NACE class and number of employees of the entrepreneurs. By means of imputation, for example donor imputation, the SBS variables could be obtained with this auxiliary information. This would introduce some bias, because of the assumption that a similar size company in the same NACE class would be similar to an entrepreneur in the same size and NACE class. Whether this assumption is true could be studied by doing a test estimation and then examine the estimates with those of the current NA estimates from the questionnaire of entrepreneurs.

## **National Accounts and SBS**

In addition to the question of entrepreneurs, the connections of SBS and NA was discussed. NA has variables and needs very close to the SBS characteristics. In Finland SBS is the basis of the business sector NA figures. It should be studied if a similar arrangement in BiH would be possible. This would require co-operation between NA and SBS in BiH and some initiative from BHAS.

## **Data transmission and quality report**

Problems with the data transmission to Eurostat were discussed. BiH has made the series for the delivery, but tau Argus has not been adopted. BiH has by law the responsibility to do confidentiality checks with two rules. If the delivered domain has 1-2 observations then the data must be made confidential. If the domain has over three observations, but over 85 percent of the value comes from single enterprise, then the value must be encrypted.

Primary rules must be made, but domination rule would require some software solution as the work needed would be quite large to do manually. Secondary encryption and its methodology was also discussed in detail. Secondary encryptions should also be made. One and safest option is to use tau Argus, although the use of the software would require a lot of resources. One option to do the secondary encryptions is manually, but then the more complex relations might go unnoticed.

Quality report of SBS was presented and partly filled during the mission with consultants and BiH SBS experts. During the process many aspects of the SBS production and methodology was discussed.

## **Post-stratification and calibration**

Consultants received analysis of NACE changes and non-response characteristics. Also detailed information of NACE changes was received from FIS. NACE changes were quite

large, but CV's were mostly not. CV's showed one activity, which indicated significantly greater CV's than other activities. But this seemed not to be very important activity. So it is better to flag the problematic activity as unreliable and then it's perhaps not necessary to do post-stratification. It is to be noted that the NACE changes could be unusually high, because NACE revision 2 was implemented in the year 2011. Consultants also presented a solution to make post-stratification in an easy way, if BiH decided later to adopt post-stratification methods.

Sampling people of BiH were not able to attend the mission, therefore more indepth analysis of post-stratification could not be conducted.

### 3. Conclusions and recommendations

*The recommendations from this mission are*

1. *BiH should proceed with the plan of using FS data as the basis of SBS production. First a more detailed analysis should be made, before proceeding to actual implementation.*
2. *Administrative data sources for entrepreneurs should be examined as a primary solution to get SBS information about them.*
3. *Estimation of SBS variables for entrepreneurs through sample survey (with NA) or SBS survey should be examined as a secondary solution.*
4. *Co-operation with the NA about the production and use of SBS should be further developed.*

### 4. Topics for the next meeting, action 1.2.6

*The next mission in this component will be mission 1.2.6 from the plan. This mission will take place in the period late November – early December 2013.*

*The main activities during this mission will be*

1. *Entrepreneurs in the SBS*
2. *Methodology documentation for SBS*
3. *Discussion of transmission to Eurostat*
4. *Summary of the activities and results of SBS component*

*It was agreed that, as homework,*

- *Methodology documentation for SBS*

## Annex 1. Terms of reference

<p style="text-align: center;"><b>Structural Business Statistics</b>  <b>24th to 28th of June 2013</b>  <b>Terms of Reference - Activity 1.2.5</b>  <b>EU Twinning Project BA 08-IB-FI-03</b>  <b>Institute for Statistics of Republica Srpska, Veljka Mladenovića 12d, Banja Luka</b></p>	
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Component 1	Business statistics 1.1. Statistical Business Register <b>1.2. Structural Business Statistics</b> 1.3. Construction Statistics 1.4. Retail Trade Statistics 1.5. Tourism Statistics
Component 2	Houshold Budget Survey
Component 3	Institutional Capacity 3.1. Long term strategy 3.2. Metadata and classification system development 3.3. Promotion of dissemination

### Benchmarks

- A) Sample designed (of 2011 reference year) improved by 3rd project quarter
- B) Questionnaire sent out for SBS survey (2011 reference year) by 4th project quarter
- C) Annual SBS results analysed by 8th project quarter
- D) Annual SBS survey methods documented 8th project quarter

### 1.2.5. Activity

Follow up on SBS survey 2011 as reference year

#### The expected activities are:

- Analysis of using administrative data (FS) in the production of SBS
- Discussion about Transmission SBS data to Eurostat
- Preparing Quality report for SBS
- Post-survey activities
- Preparation of list of topics for the next mission

### Expected output

- ✓ Recommendations for the use of existing administrative data for the production of SBS variables
- ✓ Prepared draft document of Quality report for SBS
- ✓ Mission report – summarized and detailed version completed
- ✓ General and detailed activity plan and draft ToR for the next mission prepared and agreed by all partners (BHAS-DB, FIS, RSIS participants, experts and RTA)

### List of participants

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