

TWINNING CONTRACT

BA 15 IPA SR 01 17

Support to the reform of the statistics system in Bosnia and Herzegovina



MISSION REPORT

Activity 2.B.6:
Use administrative data sources for STS production

Component 2: Business Statistics
Sub-component 2.B.6: Administrative data sources – Analysis of VAT data

Mission carried out by
Jasna Pugar , Croatian Bureau of Statistics

11-14 June 2019

Version: Final

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List of Abbreviations

| | |
|---------|--|
| BHAS | Agency for Statistics of Bosnia and Herzegovina |
| BiH | Bosnia and Herzegovina |
| CBBH | Central Bank of Bosnia and Herzegovina |
| ITA BiH | Indirect Taxation Authority of BiH |
| EC | European Commission |
| EU | European Union |
| FBiH | Federation of Bosnia and Herzegovina |
| FIS | Institute for Statistics of Federation of Bosnia and Herzegovina |
| MS | EU Member State |
| RSIS | Institute for Statistics of Republika Srpska |
| RTA | Resident Twinning Adviser |
| ToR | Terms of Reference |

Executive Summary

The purpose of the first mission was to assess the current situation in BiH regarding the production of Short-term business turnover indicators for Bosnia and Herzegovina and to make an overview of currently available administrative data sources in BiH. Also, the aim of this mission was to introduce participants from all three statistical institutions in BiH with experience of Croatian Bureau of Statistics (CBS) in their work on using administrative data for production of STS indicators, to present best practices and EU requirements and recommendations on this matter.

Main purpose of this activity is to establish a methodological basis for using administrative data (VAT database) for compilation of STS indicators according to the current EU STS Regulation and forthcoming FRIBS requirements.

Furthermore, the purpose was to make a draft activity plan for use of administrative VAT data in production of STS turnover in BiH. Finally, some practical aspects such as limitations in access of VAT database of ITA BiH and data exchange of individual data between the state and the entity statistical institutes were discussed.

1. General comments

This mission report was prepared within the EU Twinning Project *Support to the reform of the statistics system in Bosnia and Herzegovina*. It was the first mission to be devoted to sub-component 2.B.6: *Administrative data sources – analysis of the quality of existing VAT data* within Component 2: *Business Statistics* of the project. The overall purpose of the mission was to assess the current situation regarding production of STS statistics in BiH and to make agreement on main actions which have to be taken in order to start with using administrative data for production of STS indicators in BiH.

The specific objectives of the first mission were:

- Assessment of current situation, challenges and development of STS surveys in BiH
- Presentation of good practices in EU Member States for production of STS variables by using administrative data sources
- Overview of available administrative data sources in BiH relevant for STS production in BiH
- Discussion on main characteristics of administrative (VAT) data from ITA BiH, possible limitations
- Presentation of activities carried out through ad-hoc consultancy on VAT data and main findings
- Preparation of draft activity plan

The consultant would like to express her thanks to all officials and individuals met for the kind support and valuable information provided during the stay in Bosnia-Herzegovina which highly facilitated the work of the consultant.

The views and observations stated in this report are those of the consultant and do not necessarily correspond to the views of EU, BHAS, FIS, RSIS, CBBH, Statistics Denmark, INSEE, Statistics Finland and Croatian Bureau of Statistics.

2. Assessment and results

The focus of this mission was to assess the current situation related to production of STS indicators in BiH and to investigate how this process can be improved by using available administrative data sources. Having in mind complexity of administrative structure of BiH and availability of administrative data sources at different administrative levels (state, entity, cantonal, municipal level), this activity will be primarily focused on using VAT data currently available only in BHAS.

The following topics were achieved during the first mission:

- Current status of STS production in BiH assessed
- Knowledge gained on best practices of EU Member States regarding use of administrative data sources in STS production
- Overview of available administrative data sources in BiH relevant for production of STS indicators made
- Characteristics of administrative (VAT) database for BiH examined
- Previously implemented activities on VAT data for BiH discussed
- Draft activity plan adopted
- Input provided to the ToR of next activity

2.1. Current status in production of STS indicators in BiH

During the mission, BC participants presented the list of STS indicators currently produced for BiH, STS indicators delivered to Eurostat in regular monthly/quarterly periodicity and organisation of production process in all three statistical institutions in BiH. Main limitations in current STS production in BiH are: traditional way of data collection (paper questionnaires), use of different IT solutions across STS surveys in three statistical institutions for production of STS indicators, huge response burden on reporting units, etc. BC participants expressed their willingness to work on modernize STS production in BiH. It was agreed that the main focus in next period should be on implementation of valuable administrative data sources for partial or total replacement of survey data in production of STS indicators. By introducing administrative data, statistical institutions in BiH would significantly reduce burden on reporting units, increase the coverage of units in the survey, reduce the costs of conducting the surveys, costs of statistical offices and improve the overall quality of STS indicators in BiH. Still, STS labour indicators (wages and salaries, employed persons and hours worked) across the four annexes of EU STS Regulation 1165/98 are not fully harmonized with STS definitions and are not delivered to Eurostat, even they are published by all three statistical institutions in BiH. Special topic discussed during the mission was on implementation of KAUs in STS surveys, especially taking into account the requirements of new FRIBS Regulation. In this respect, a number of issues were discussed and further clarified and suggestions were given by the expert.

Expert presented EU requirements on production of STS indicators with focus on production of monthly turnover indicator. Also, experiences of CBS on modernisation of STS production system by development of web data collection, use of administrative data sources in production of STS indicators as well as development of IT system for STS production have been presented during the mission.

2.2. Overview of available administrative data sources in BiH

During the mission, currently available administrative data sources have been examined. It was concluded that there are limited number of administrative data sources available in BiH that are suitable for using in production of STS indicators in BiH. The most of administrative data sources are available on the entity (or lower administrative levels in BiH). At the entity level, valuable data sources for STS production are administrative databases on labour indicators (wages and salaries, persons employed, social contributions, etc.) owned by Tax Authorities of FBiH, RS and Brcko District of BiH. The most valuable administrative data source at the state level is the VAT database owned by Indirect Taxation Authority of BiH (ITA BiH). BHAS has the access to VAT database in monthly periodicity and the data on financial turnover from VAT database, while the entity statistical institutes don't have access the VAT database. In BHAS, data are available for the previous (reference) month and the last 12 months (13 months in total). Data are available on 22nd in the current month which is in line with deadlines for publication of monthly STS indicators according to Regulation. Furthermore, VAT database contains the data on entrepreneurs which are currently not covered through STS surveys in BiH. During the mission, expert presented work carried out through IPA 2015 ad-hoc activity on introducing VAT turnover data into SBR BiH and STS production. The results of this activity are presented and discussed in details during the mission. Results of rough VAT analysis, level of revisions, cleaning process (negative and duplicate values) are presented. It was concluded that this analysis represents solid basis for further and more detailed analysis of VAT database, matching this data with survey data from the entity statistical institutions in BiH. Expert's recommendation is that analysis of VAT database on more detailed level is needed in order to get clearer picture on comparability of survey and admin data (at most detailed level of aggregation – NACE level or strata level), impact of entrepreneurs data on total results and significance of differences in indices calculated from survey and VAT data. Expert's opinion is that this activity should be conducted in joint work of representative of all three statistical institutions in BiH. In this respect, permanent Working Group on use of administrative data sources in production of STS indicators in BiH should be established.

Expert will provide support in making detailed analysis of VAT turnover data and its comparison with available survey data.

2.3. Development of draft activity plan

During the mission, BC participants and MS expert prepared draft activity plan which comprises main activities that should be conducted by the end of this Project.

DRAFT ACTIVITY PLAN WITH TIMETABLE

| Action | Deadline | Responsible person/institution |
|---|-----------------|---------------------------------------|
| Establishing of Standalone Workgroup for using administrative data source for production of STS indicators focusing on VAT turnover | June 2019 | BHAS, FIS, RSIS |
| Solving the access to individual data from statistical surveys and VAT database UINO BiH between the three statistical institutions in BiH | December 2019 | BHAS, FIS, RSIS |
| Preparation of VAT database for the years 2017 and 2018 on monthly periodicity | Mid July 2019 | BHAS |
| Preparing of the available data from respective STS surveys on turnover for 2017 and 2018 in monthly/quarterly periodicity | Mid July 2019 | BHAS, FIS, RSIS |
| Cleaning of the VAT database at individual level | End July 2019 | BHAS, expert |
| Matching/confronting of the aggregated administrative and statistical data at the 4-digit level of NACE and/or activity stratum | August 2019 | BHAS, FIS, RSIS |
| Analysis of the results obtained from the VAT database, comparison with the results of the surveys for all three statistical institutions (ITI, IPC, Distributive Trade and Other Services) | August 2019 | BHAS, FIS, RSIS, expert |
| Analysis of the impact of inclusion of VAT data on entrepreneurs, other statuses of enterprises and entrepreneurs in the SBR | August 2019 | BHAS, expert |
| Rough calculation of indices from admin data and comparison with published indices (2-digit of NACE activity and higher levels of aggregation) | September 2019 | BHAS, FIS, RSIS, expert |
| Detailed analysis of discrepancies/inconsistencies found in the results from both sources | II mission | BHAS, FIS, RSIS, expert |
| Identification of influential KAU in order to meet future requirements of FRIBS regulations in STS area, analysis of available SBS/STS data | December 2019 | BHAS, FIS, RSIS, expert |
| Defining the procedures for introducing administrative data into the production process of STS indicators in BiH: <ul style="list-style-type: none"> - data collection and integration, - data cleaning (negative values, missing values), - matching the data, - validation, - detection of outliers, - imputation methods, - data aggregation from different sources, - calculation of indices, - data dissemination, - data transmission | January 2020 | Expert, BHAS, FIS, RSIS |
| Producing a draft version of the guidelines for use of admin data in the production of the STS indicators for | February 2020 | BHAS, FIS, RSIS |

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| BiH | | |
| Drafting a final activity plan for the use of VAT data in order to produce the STS turnover indicator | February 2020 | BHAS, FIS, RSIS |
| Preparing a project application for the development of an appropriate IT solution for using the admin data for the production of STS indicators in BiH | March 2020 | BHAS, FIS, RSIS |
| Production of the final version of guidelines for usage of admin data in the production of the STS indicators for BiH | March 2020 | BHAS, FIS, RSIS |

3. Conclusions and recommendations

During the mission, a number of important topics were discussed. BC participants made overview of current practices in production of STS indicators in BiH. It was concluded that this production process should be significantly improved in the following areas: data collection method, introduction of administrative data sources for STS production, coverage, implementation of KAUs and development of appropriate IT solution. Expert's recommendation is that the first step in this modernization process should be establishment of permanent Working Group on use of administrative data sources in production of STS indicators in BiH. A draft activity plan was prepared. Expert's recommendation is that the issue of access of the entity statistical institutes in BiH to VAT database have to be solved as soon as possible as precondition for making analysis and possible replacement of survey data with VAT data in production of STS turnover indicators for BiH. In parallel, it is crucial to establish regular exchange of individual data between three statistical institutions in BiH. In this way, it will be possible to implement all stages of conducting statistical survey by combining data from the surveys and administrative data sources. Additionally, expert's recommendation is that it would be extremely important that members of Working Group on use of administrative data for STS production visit one of EU NSIs. Recommendation is to visit EU NSI which have advanced experience in using different sources (combining data) for production of STS indicators as well as IT solution which supports their use for statistical purposes.

What to do before the next mission

| Action | Deadline | Responsible person/institution |
|--|---------------|--------------------------------|
| Establishing of Standalone Workgroup for using administrative data source for production of STS indicators focusing on VAT turnover | June 2019 | BHAS, FIS, RSIS |
| Solving the access to individual data from statistical surveys and VAT database UINO BiH between the three statistical institutions in BiH | December 2019 | BHAS, FIS, RSIS |
| Preparation of VAT database for the years 2017 and 2018 on monthly periodicity | Mid July 2019 | BHAS |
| Preparing of the available data from respective STS surveys on turnover for 2017 and 2018 in monthly/quarterly periodicity | Mid July 2019 | BHAS, FIS, RSIS |
| Cleaning of the VAT database at individual level | End July 2019 | BHAS, expert |
| Matching/confronting of the aggregated | August 2019 | BHAS, FIS, RSIS |

| | | |
|---|----------------|-------------------------|
| administrative and statistical data at the 4-digit level of NACE and/ or activity stratum | | |
| Analysis of the results obtained from the VAT database, comparison with the results of the surveys for all three statistical institutions (ITI, IPC, Distributive Trade and Other Services) | August 2019 | BHAS, FIS, RSIS, expert |
| Analysis of the impact of inclusion of VAT data on entrepreneurs, other statuses of enterprises and entrepreneurs in the SBR | August 2019 | BHAS, expert |
| Rough calculation of indices from admin data and comparison with published indices (2-digit of NACE activity and higher levels of aggregation) | September 2019 | BHAS, FIS, RSIS, expert |

Topics for the next mission

The overall subject is analysis of VAT data and their potential use in STS production process:

- Discussion on preconditions for use of admin (VAT) data for statistical production of STS in BiH, how data can be shared and the way forward
- Presentation of main findings of performed analysis of aggregated VAT data for BiH at the different levels of NACE Rev.2 for enterprises and entrepreneurs;
- Agreement on further steps on VAT data analysis between three statistical institutions in BiH
- Preparation of individual/aggregated survey data for further analysis and comparison with VAT data, by size of enterprises, by territory and other characteristics;
- Presentation of methodological aspects and reflections of introducing administrative data sources in official statistical production process;
- Discussion on processes to be established for integrating VAT data and survey data for the purpose of compilation of STS in BiH

Next mission planned: October/November 2019.

Annex 1. Terms of Reference**Terms of Reference****EU Twinning Project BA 15 IPA ST 01 17****Component 2: Business Statistics****11-14 June 2019****BHAS – Zelenih beretki 26, Sarajevo****Activity 2.B.6: Assessment and current status of STS.
How to use administrative data sources for STS production****1. Result for the activity**

- Knowledge gained on how to use administrative data sources for STS production

2. Purpose of the activity

- Assessment of current situation, challenges and development of STS surveys in BiH
- Presentation of good practices in EU Member States for production of STS variables by using administrative data sources
- Overview of available administrative data sources in BiH relevant for STS production in BiH
- Discussion on main characteristics of administrative (VAT) data from ITA BiH, possible limitations
- Presentation of activities carried out through ad-hoc consultancy on VAT data and main findings
- Preparation of draft activity plan

3. Expected output of the activity

- Current status of STS production in BiH assessed
- Knowledge gained on best practices of EU Member States regarding use of administrative data sources in STS production
- Overview of available administrative data sources in BiH relevant for production of STS indicators made
- Characteristics of administrative (VAT) database for BiH examined
- Previously implemented activities on VAT data for BiH discussed

- Draft activity plan adopted
- Input provided to the ToR of next activity

4. Participants

Agency for Statistics of BiH (BHAS)

- Fahir Kanlić, Head of Department for Industry and Construction Statistics
- Alen Bajramović, Head of Department for Services Statistics
- Radomir Mutabdžija, Senior Officer in Department for Industry and Construction Statistics

Institute for Statistics of Federation of BiH (FIS)

- Edina Dulić, Senior Advisor for Construction Statistics
- Merima Hadžalić, Senior Advisor for Business Services
- Ademira Velicanin, Senior Advisor for Home Trade Statistics,
- Nasiha Imsirovic, Senior Advisor for Industry Statistics and
- Damir Omanovic, Senior Associate for Industry Statistics.

Institute for Statistics of Republika Srpska (RSIS)

- Jelena Glamočika, Head of Services Statistics Department
- Danica Babić, Senior Statistician for Structural Business Statistics

MS Experts

- Jasna Pugar, Croatian Bureau of Statistics

Twinning Project Administration

- Katja Møller Hjeltvang, RTA
- Đemka Šahinpašić, RTA Assistant

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| Agenda |
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Location: BHAS, Sarajevo, Zelenih beretki 26, 1st floor

| Time | Day | Place | Event | Purpose / Details |
|--------------------|----------------------|--------------|----------------------------|--|
| 09:00-11:00 | 11 June Tuesday | Hotel | MS expert | Preparation for the activity |
| 12:00-15:30 | 11 June Tuesday | BHAS | Meeting with BC Experts | BC presentation on the current situation regarding Current status of STS production in BiH |
| 9:00-12:00 | 12 June Wednesday | BHAS | Meeting with BC Experts | Assessment of current situation, challenges and development of STS surveys in BiH Presentation of good practices in EU Member States for production of STS variables by using administrative data sources |
| 13:00-15:30 | 12 June Wednesday | BHAS | Meeting with BC Experts | Overview of available administrative data sources in BiH relevant for STS production in BiH Discussion on main characteristics of administrative (VAT) data from ITA BiH, possible limitations |
| 9:00-12:00 | 13 June Thursday | BHAS | Meeting with BC Experts | Presentation of activities carried out through ad-hoc consultancy on VAT data and main findings |
| 13:00-15:30 | 13 June Thursday | BHAS | Meeting with BC Experts | Preparation of draft activity plan |
| 09:00-12:00 | 14 June Friday | BHAS | Meeting with BC Experts | Agreement on summary mission report Conclusions and next steps |

Signatures

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

Date: 14 of June 2019

Component leader, BHAS

Component leader, FIS

Component leader, RSIS

RTA

MS Expert