TWINNING CONTRACT

BA 17 IPA ST 01 20

Further Support to the Reform of Statistics System in Bosnia and Herzegovina

MISSION REPORT

Activity 3E: Activity 3E: Use of administrative VAT turnover data for production of STS turnover indices in Bosnia and Herzegovina I

Component 3 - Administrative Data Sources

Mission carried out by
Ms. Ulla Elina Virtanen, Statistics Finland
Mr. Ville-Matti Pilviö, Statistics Finland

29 November – 02 December 2022

Version: Final

Expert contact information

Ville-Matti Pilviö
Statistics Finland
Helsinki, Finland
Email: ville-matti.pilvio@stat.fi

Ulla Virtanen
Statistics Finland
Helsinki, Finland
Email: ulla.virtanen@stat.fi

Table of contents

List of Abbreviations

BHAS	Agency for Statistics of Bosnia and Herzegovina
BiH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
EC	European Commission
EU	European Union
FBiH	Federation of Bosnia and Herzegovina 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

Funded by the European Union

FURTHER SUPPORT TO THE REFORM OF STATISTICS SYSTEM IN BIH

STATISTICS DENMARK   SCB   Statistics Finland

1. General comments

This mission report was prepared within the EU Twinning Project "Further Support to the Reform of the Statistics System in Bosnia and Herzegovina". It was the fifth mission to be devoted to the Administrative Data Sources Component of the Project.

The purposes of the mission were:

- Experiences in using administrative data sources for production of STS indices presented by Statistics Finland
- IT solution used for current STS production in Statistics Finland
- Overview of current STS production of STS turnover indices in Bosnia and Herzegovina
- Discussion on methodology currently used for calculation of STS turnover indices in BiH and new requirements in accordance with new EBS Regulation No. 2019/2152 for STS
- Presentation of conducted activities on analysis of VAT data from ITA BiH conducted by BHAS
- Preparation of detailed Plan of activities for Component 3 – Administrative data sources, Activity: Use of administrative VAT turnover data for production of STS turnover indices in Bosnia and Herzegovina
- Current situation regarding data exchange between three statistical institutions in BiH
- Preparation of the list of activities that will be conducted prior the next mission
- Preparation of ToR for next activity
- Preparation of Mission report for the first mission

The consultants would like to express their thanks to all officials and individuals from Bosnia and Herzegovina met for the kind support and valuable information, and which highly facilitated the work of the consultant.

This 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, Statistics Finland, Statistics Sweden and The Italian National Institute of Statistics.

2. Assessment and results

The purpose of the first mission in this activity was to assess the current situation with regards the production of STS statistics in BiH. Currently STS is produced by three statistical institutions using surveys. National STS turnover statistics are reported to Eurostat at monthly and quarterly frequency. The transitional period for complying with the EBS regulation concerning STS turnover ends 2024 after which reporting frequency should be monthly. The time for achieving the needed results to meet the requirements of the EBS regulation is already very short. The lack of resources has delayed this work. Assisting the beneficiary meet the increased frequency requirement and integrating VAT administrative data in this process is the overall objective of this activity.

STS surveys are currently carried out in paper format and no electronic solutions exits. The three statistical institutes are responsible for their own STS production, and these are aggregated for national statistics by BHAS.

At present VAT administrative data is delivered monthly to BHAS but has yet to be utilized in the production process. Currently RSIS and FIS do not have access to this data resulting in their use of VAT administrative data for STS production not possible.

National VAT turnover has been compared to survey turnover by NACE classes. Its suitability to compliment and even replace parts of the current survey data collection seems very promising.

The IT infrastructure currently consists of many technologies developed over many years. IT resources are scarce in most NSI's but this is especially true for the statistical institutes in BiH. Many IT solutions do not provide access to the code by subject matter specialists and even small modifications are difficult and can take a long time. Different STS statistical surveys do not have a common technology base and have separate production systems which have been independently developed.

During the mission, the representatives of the three statistical institutes agreed that they would like to develop common methodologies and production systems whenever possible. Due to limited IT resources, the ability to carry out minor changes in the existing code base to adapt to changes was considered important. It was suggested that the R-Program might be a suitable common solution for future IT architectures (free, widely used in statistical production, existing modules can be adopted for local use to mention a few of its strengths).

Requests for VAT data sets in BHAS are made to the IT department without direct access to the databases, further burdening IT resources for even routine statistical productions processes.

3. Conclusions and recommendations

Numerous important topics were discussed during this first mission. These discussions have resulted in identifying a common vision forward with regards methodology, delivery and technology for the production of STS statistics in BiH. Following missions should assist in moving forward towards these objectives.

BC participants analysed turnover data on national aggregate level at several NACE categories. It was concluded that figures generally showed good correlation between the two sources. Some discrepancies were found which need further investigation. The results should be updated using the latest available data.

Modern statistical production systems are not fully implemented at state and entity level. Further harmonisation is also needed between all three statistical institutes.

Electronic data collection methods are not applied for STS production in BiH but would result in increased efficiency of limited resources. Data is collected in a very traditional way, causing significant burden to respondents. Also, statisticians are using a lot of time every month with data entry, which could be used more efficiently.

IT development work is currently ordered either from the IT department or outsourced. Very little coding is carried out within the statistical departments. This also results in difficult and slow changes to the current code base. The R-Program allows efficient concept testing solutions as well an ever increasing ecosystem of free-to-use statistical modules. Many MS NSI's have recently made the move to strongly increase their use of the R-Program. This will also standardize and expand the ready code

base. BiH statistical institutions should investigate is this a logical way forward for their IT development needs.

In order to proceed with the work, a direct access to sql databases without having to request datasets individually from the IT department should be made available.

It is extremely important to ensure also RSIS and FIS have access to the VAT administrative data at unit level so that this can be used to compliment or even partially replace STS survey requirements in the production process, reducing response burden, cost of surveying as well as freeing up effective working time of the staff of all three statistical institutions.

4. What to do before the next mission for the BC Counterpart

Action	Deadline	Responsible person
Read Only direct access to the VAT data stored on the central SQL server (data input into the R-Program)	Before Mission 2	BHAS STS and IT staff
Updated comparison of VAT Turnover with survey Turnover time series including both total values and year-on-year growth rates	Sent to all participants Feb 2023	BHAS STS staff
Clarification of sharing policy of individual level STS turnover data between the three statistical institutions	Before Mission 2	STS staff of all 3 statistical institutions
Readiness for individual level comparison of Survey and VAT Turnover	Before Mission 2	STS staff of all 3 statistical institutions
Presenting the used methods for utilising VAT data in the compilation of STS turnover statistics in Statistics Finland	During Mission 2	MS Experts (Ulla Virtanen)
Importing a sample VAT dataset and excel sheet into the R-Program, an actual data processing step and exporting results to Excel (example script)	During Mission 2	MS Experts (VM Pilviö)

Annex 1. Terms of Reference for the current mission

<div style="border:1px solid black">

Terms of Reference

EU Twinning Project BA 17 IPA ST 01 20

Component 3 – Administrative data sources
29th November (10 a.m.) – 2nd December (noon) 2022

On-site meeting
Venue: Agency for Statistics of Bosnia and Herzegovina, Zelenih beretki 26
Room: 1st Floor

</div>

Activity 3E: Use of administrative VAT turnover data for production of STS turnover indices in Bosnia and Herzegovina I

1. **Mandatory results**

Analysis of available monthly/quarterly statistical data and monthly VAT turnover data from Indirect Taxation Authority of Bosnia and Herzegovina (ITA BiH) conducted

Revised methodology for calculation of STS turnover indices in Bosnia and Herzegovina by using statistical and monthly VAT turnover data developed

Experimental calculation of STS turnover indices for Industry, Construction, Trade and Services for Bosnia and Herzegovina based on available administrative data sources performed

Indicator / Relevant Milestones / Internal deadlines:

> Methodology for using administrative data in production of STS turnover indices for Bosnia and Herzegovina prepared

2. **Purpose of the activities planned for the first mission**

- Experiences in using administrative data sources for production of STS indices presented by Statistics Finland
- IT solution used for current STS production in Statistics Finland
- Overview of current STS production of STS turnover indices in Bosnia and Herzegovina

- Discussion on methodology currently used for calculation of STS turnover indices in BiH and new requirements in accordance with new EBS Regulation No. 2019/2152 for STS
- Presentation of conducted activities on analysis of VAT data from ITA BiH conducted by BHAS
- Preparation of detailed Plan of activities for Component 3 – Administrative data sources, Activity: Use of administrative VAT turnover data for production of STS turnover indices in Bosnia and Herzegovina
- Current situation regarding data exchange between three statistical institutions in BiH
- Preparation of the list of activities that will be conducted prior the next mission
- Preparation of ToR for next activity
- Preparation of Mission report for the first mission

3. **Expected output of the activity**
- Experiences of Statistics Finland in use of administrative data sources presented
- Methodology currently used in production of STS turnover indices in BiH explained and discussed
- Results of conducted of VAT database through previous projects presented
- Detailed Plan of activity on use of VAT turnover data for production of STS turnover indices for BiH prepared
- Data exchange between three statistical institutions in BiH discussed
- Mission report prepared
- ToR for the next mission/activity defined

Annex 2. Topics for the next mission

- Hands on work for finding the reasons for discrepancies between the VAT and survey data. This involves studying the data on unit level which should be available for all statistical institutes and those NACE activities covered by EBS regulation.
- Presenting the used methods for utilising VAT data in the compilation of STS turnover statistics in Statistics Finland.
- Importing a sample VAT dataset and excel sheet into the R-Program, an actual data processing step and exporting results to Excel (example script).

Proposed next Mission Dates:

28.03-31.03.2023 Mission 2 option 1 Sarajevo

06.06-09.06.2023 Mission 3 option 1 Banja Luka

Annex 3. Persons met

BHAS:
Mr. Fahir Kanlić, Head of Department for Industry and Construction Statistics
Mr. Alen Bajramović, Head of Department for Services Statistics
Ms. Maja Hadzi-Stojanov, Senior Officer, Department for Services Statistics

FIS:
Ms. Ademira Veličanin, Senior Adviser for Home Trade Statistics
Ms. Ajdina Jerkovic, Junior Associate for Construction Statistics

RSIS:
Ms. Andrea Erak Latinovic, Head of Department for Industry, Construction and Energy Statistics
Ms. Sanela Borojević, Senior Statistician

MS experts:
Ms. Ulla Virtanen, Statistics Finland
Mr. Ville-Matti Pilviö, Statistics Finland

RTA Team:
Mr. Niels Madsen, RTA
Ms. Larisa Muslimović, RTAA
Mr. Haris Imamovic, Interpreter

Signatures

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

Date:

_____
Component leader, BHAS

_____
Component leader, FIS

_____
Component leader, RSIS

_____
RTA

_____
MS Expert

_____
MS Expert