TWINNING CONTRACT

AZ/16/ENI/ST/01/19 (AZ/53)

Support to the State Statistical Committee and the State Tax Service under the Ministry of Economy to strengthen collection, harmonization, analysis, publishing and dissemination of business statistics

MISSION REPORT

Activity 4.4.B

Activity Title: Developing imputation for SBS

Component 2: The production of business statistics/ SME statistics in terms of content and organization is upgraded

Mission carried out by

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1-4 March 2022

Via Webex Videoconferencing app

Version: Final

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List of Abbreviations

AD	Administrative Data
ASAN	State Agency for Public Services to Citizens of Azerbaijan
AZ	Azerbaijan
BC	Beneficiary Country
EBS	European Business Statistics
EC	European Commission
ESS	European Statistical System
EU	European Union
MLSP	Ministry of Labour and Social Policy
MS	EU Member State
NACE	Nomenclature générale des Activités économiques dans le Communautés européennes NACE is the industrial classification of units dealing in economic activities
NSI	National Statistical Institute
RS	Remote Sessions
RTA	Resident Twinning Adviser
SRSU	State Register of Statistical Units
SSC	State Statistical Committee
STS	State Tax Service under the Ministry of Economy
ToR	Terms of Reference

1. General comments

This mission report was prepared within the EU Twinning Project "Support to the State Statistical Committee and the State Tax Service under the Ministry of Economy to strengthen collection, harmonization, analysis, publishing and dissemination of business statistics". It was the first mission to be devoted to redesigning business statistics in Azerbaijan within Component 4 of the project.

The purposes of the mission were developing imputation for SBS with these expected outputs:

- Building understanding on imputation needs and possibilities
- Developing imputation methods for SBS
- Plan for testing the methods
- Mission report

The consultants would like to express their thanks to all officials and individuals met for the kind support and valuable information which they received during the Remote Sessions with Azerbaijan and which highly facilitated the work of the consultants.

The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of EU, SSC, STS, SME-Agency, Statistics Finland, Statistics Lithuania, Statistics Netherlands, Statistics Denmark and HAUS.

2. Status at the beginning of the mission

- There is no unit imputation or item imputation for SBS. Need for it was recognized in mission 4.3.A. A list of all variables on the questionnaire for SBS and the computational rules on it is available to the consultants. Data structure is yet unknown.

3. Status of mission results

- At the beginning of the mission, the participants started up by recapping the previous mission results, since the project had been paused for several months. Focus was on previous results on imputations.

- It is concluded that item imputation will be of little value for SBS in Azerbaijan since most issues are immediately covered by editing rules when the respondent fills in the questionnaire. For the variables on balance sheets not all editing rules are on the questionnaire, but it doesn't take much time to correct this. Therefore, methods and recommended R functions have only been shortly presented.
- It is recognized that unit imputation can be of great value for SBS in Azerbaijan because all units will be in aggregates, you can have an early look at aggregates and less effort can be put in obtaining response of every single unit in the sample.
- An example for unit imputations in excel was worked out and it is showed that R is a much better tool for imputations.
- It is noted that turnover from STS is available for most units as auxiliary information to improve unit imputations.
- A method for unit imputation in R is worked out.
- Test data for this method twind general recommendations on testing software have been presented.
- At the end of the mission the data structure for SBS in Azerbaijan is still not completely known. Therefore it was not yet possible to run the R code and see how the method for unit imputation works out on the actual data.

- We looked at computational rules in the Netherlands for SBS to see what additional rules might be worthwhile for Azerbaijan.

4. Sustainability of the achievements

This mission showed a strong intention to start making unit imputations in the production of SBS statistics. Studies with actual data (next mission) will have to confirm this intention. Once this intention is confirmed BC will have to incorporate software for unit imputations in regular SBS production process for a sustainable result.

5. Recommendations for the future (short and long term)

Short term:

- BC will send data structure for SBS in Azerbaijan.
- Consultants will alter R code for unit imputation to make it work with this data structure.
- R code for unit imputations will be provided to BC and BC will try to run it.
- If some help is needed in running the code that will be in mission 4.4.C.
- BC needs training in R (different mission).
- BC can implement additional computational rules in control tables. We will look further into that in mission 4.4.C.

Long term:

- BC can incorporate software for unit imputations in regular SBS production process.
- Once a flow of tax data is available and BC can complement SBS by using these tax data then item imputation may be useful to correct tax data and fill in missing variables.

6. Identification of needs for additional support

- BC will need additional support to get R code for unit imputation running (mission 4.4.C).
- And for validating aggregates and detecting influential underlying business units (mission 4.4.C).

7. Outstanding issues

- Delays in getting access to full datasets of STS for profit tax, income tax and simplified tax declaration is causing that in this component only a rough outline for that process can be made.

- No system is in place at SSC to edit SBS-data. If any influential wrong unit imputations may occur, they can't be manually edited.

Annex 1. Terms of Reference

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Terms of Reference

EU Twinning Project: AZ/16/ENI/ST/01/19 (AZ/53)

Support to the State Statistical Committee and the State Tax Service under the Ministry of Economy to strengthen collection, harmonization, analysis, publishing and dissemination of business statistics

Component 2:   The production of business statistics/ SME statistics in terms of content and organization is upgraded
1-4 March 2022 Hosting institution: Remote mode

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Activity 4.4.B: Developing imputation for SBS
Result 4: Business Statistics in Azerbaijan redesigned
Indicator of Achievement:
4.1.4 The use of administrative information maximized to reduce response burden and costs associated with operational aspects of surveys.

Prerequisite: 4.3.A, Need for imputation phase recognized in previous activities. Information on structure of the data delivered to STEs before the activity.
This activity will be carried out in 4 Remote Sessions, replacing a 4 Working Day's mission.
Purpose of the activity

Result 4: Business Statistics (BS) in Azerbaijan redesigned - Developing imputation for SBS

Expected Outputs of the Activity

Building understanding on imputation needs and possibilities
Developing imputation methods for SBS
Plan for testing the methods
Mission report

Resources

State Statistical Committee (SSC)
Mr. Nuru Suleymanov, Department of National Accounts and Macroeconomic Indicators Statistics, Head of Department
Ms. Sevinj Fattahova, Enterprise statistics sector, sector manager
Ms. Ilaha Babayeva, Chief Advisor, Department of National Accounts and Macroeconomic Indicators Statistics
Mr. Turgut Shahmarli, Leading Advisor, Department of National Accounts and Macroeconomic Indicators Statistics

State Tax Service under the Ministry of Economy (STS)
Mr. Telman Mammadov, Chief State Tax Inspector, Economic Analysis Main Department
Mr. Elvin Alizada, Chief State Tax Inspector, Economic Analysis Main Department

MS Experts
Mr. Guus von de Burgt, Statistics Researcher, Statistics Netherlands (remotely)
Ms. Elina Ikola, Senior Statistician, Statistics Finland (remotely)
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Twinning Project Administration
Mr. Ville-Matti Pilviö, RTA

Ms. Gultakin Babayeva, RTAA
Mr. Tarlan Arzumanov, Language Assistant

1-4 March 2022 - Agenda

Day/Time	Place	Event	Purpose / Details
Tuesday 10-13	Remote	Session 1	Examining imputation needs and possibilities Homework in afternoon
Wednesday 10-13	Remote	Session 2	Developing imputation methods for SBS Homework in afternoon
Thursday 10-13	Remote	Session 3	Developing methods continued Plan for testing the methods Homework in afternoon
Friday 10-13	Remote	Session 4	Identifying next steps Tasks to be completed before next activity Next activity content Main findings to an activity report