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

Component 3: Capacity of the SSC, the STS and the SME Agency staff improved

Activity 6.2.B

Activity Title: Training Workshop: Analysis and forecasting techniques for SME data and statistics

Mission carried out by

Mr. Henri Luomaranta, Statistics Finland (remotely)

Mr. Samu Hakala, Statistics Finland (remotely)

Mr. Timo Laukkanen, Statistics Finland

13-17 December 2021

Onsite Mission

Version: Final

Expert contact information

Mr. Henri Luomaranta
 Head of Statistics (Methodology and Coordination), Statistics Finland
Email: henri.luomaranta@stat.fi

Mr. Samu Hakala
 Quarterly National Accounts, Statistics Finland
Email: samu.hakala@stat.fi

Mr. Timo Laukkanen
 CL1, Senior Statistician, Statistics Finland
Email: timo.lakkanen@stat.fi

Table of contents

List of Abbreviations

AZ	Azerbaijan
BC	Beneficiary Country
EBS	European Business Statistics
ESS	European Statistical System
EC	European Commission
EU	European Union
GVC	Global Value Chains
MDL	Micro Data Linking
MS	Member State
NACE	Nomenclature générale des Activités économiques dans le Communautés européennes NACE is the industrial classification of units dealing in economic activities
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
TiVA	Trade in Value-Added
ToR	Terms of Reference

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"

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 workshop to be devoted to Analysis and forecasting techniques for SME data and statistics within Component 3, Result 6 within Activity 6.1 of the project.

The purposes of the mission were:

- Improving the capacity of SSC, State Tax Service under the Ministry of Economy and SME Agency staff on statistical design, analysis, reporting and dissemination

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 hybrid (simultaneously on-site and remote) sessions, and which highly facilitated the work of the consultants.

This 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

Activity 6.2.B was carried out on onsite missions and focused on better description of the SME enterprises in Azerbaijan.

- One of the overall Twinning project goal is the better description of the SME enterprises in SSC, STS and SME Agency. The goal of the training was to introduce the participants latest developments in these domains as well as show how new and old statistical techniques could improve the quality and timeliness of the SME statistics.
- Participants were aware of some of the specific ESS recommendations already in the beginning of the workshop.
- Time series analysis and seasonal adjustment techniques were not applied in large scale in the (statistical) sectors where the participants work. There are some individuals in SSC who apply these to their daily work but unfortunately they were not present in the meetings. Participants had no prior experience using JDemetra+ tool.
- Participants had no prior experience on nowcasting and forecasting techniques, nor Micro Data Linking and Global Value Chains

3. Status of mission results

- Overall ESS system concerning the economic and business statistics were presented for achieving a complete, non-scattered view to the system. The 'data flow' from source statistics (such as SBR or SBS) to National Accounts and Balance of Payments were presented. Participants can now better link and understand separate statistical domains to this overall 'big picture'.
- Time series analysis and seasonal adjustment methodology and techniques were introduced and presented during the mission. Along with this important theoretical framework, practical demonstrations were carried out on JDemetra+. These demonstrations showed what different aspects must be considered before applying the seasonal adjustment to different time series. Participants know now the basics of the time series analysis and seasonal adjustment and can seek more information if these topics are relevant to their daily work.

- The theoretical framework of the nowcasting and forecasting techniques were presented. Existing studies, projects and their results were examined during the meeting. Participants understand now different elements in these techniques and if needed, can study the topics further.
- Along with the theory, the existing nowcasting studies and projects were presented during the meetings. Connecting the use of extremely complex techniques to very understandable results showed how these techniques can, if applied adequately, create new insights to data and improve the overall quality of the results. Practical demonstrations were provided using the JDemetra+ tool and R.
- For developing a better understanding of the SME firms in the economy, a focus was on providing the statistical framework in which SMEs link to other domains, such as national accounts and across different business statistics. One day was devoted to analysing how international trade, dynamics of enterprises and value chains are all policy relevant aspects, and necessary for developing the analysis and data on SMEs. The session developed a way for correctly position and analyse SMEs role in the economy. Data sources, methodological aspects, and demonstrations of statistical outputs were provided.
- After the mission it was found out that some SSC persons who did not participate this event, would have been very interested about the seasonal adjustment and JDemetra+ demonstration. The project has already delivered the workshop material to these persons.
- Mission report

4. Sustainability of the achievements

All parties agreed on the Activity analysis. Should the need arise, adjustments can be made later through the rolling work plan.
- Participants should install JDemetra+ and R to their computers for enabling the trials with the time series and learning more about these topics.

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

In the short run
- Installing the JDemetra+ software to personnel computers would make it possible to study time series analysis, seasonal adjustment, forecasting and other issues further. JDemetra+ is open-source freeware, governed by Eurostat.
- Current users of JDemetra+ who carry out seasonal adjustment should play a tutorial role for persons who are new in this field.
- In addition, the R software should be installed. This open-source and free software provides a great steppingstone for developing data analysis capacity and facilitates linking data across domains.
- For developing the analysis of SMEs, there should be a consultation about data needs from users, and a catalogue of possible data sources and possible analytical outputs would be useful considering the presented microdata linking (MDL) framework used in the European statistical system.

In the long run
- If time series analysis, nowcasting and forecasting techniques are deemed desirable for participating organisations, some special effort (projects, co-operation with methodological unit and sectors, co-operation with universities) should be organised for enabling this. Sophisticated techniques and methodologies are quite challenging to implement in different processes and usually need extra support from the persons already familiar with the subjects.
- For developing the analysis of SMEs, it would be useful to form long-lasting partnerships with data users and academia. These partnerships should try to ensure that there is enough demand from users, and develop understanding of the policy implications of the new data. This will in turn help in securing financing and the necessary investments in the statistical infrastructure that allows an integrated view on SMEs and on the business economy overall.

6. Identification of needs for additional support

- No extra support at this stage is needed.

7. Outstanding issues

- No other outstanding issues arose during the mission

Annex 1. Terms of Reference

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

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 3:   Capacity of the SSC, the STS and the SME Agency staff improved

13-17 December 2021 Hosting institution: SSC

</div>

Activity 6.2.B: Training Workshop: Analysis and forecasting techniques for SME data and statistics
Result 6: Capacity of SSC, State Tax Service under the Ministry of Economy and SME Agency staff on statistical design, analysis, reporting and dissemination improved

Indicator of Achievement:
6.1.2 The training plan developed and delivered for use of analysis and forecasting techniques for SME data and statistics

Prerequisite: 6.2.A
This activity will be carried out in 5 Working Day.
Purpose of the activity

Result 6: Capacity of SSC, State Tax Service under the Ministry of Economy and SME Agency staff on statistical design, analysis, reporting and dissemination improved

Expected Outputs of the Activity

- Training to participants for use of analysis and forecasting techniques for SME data and statistics that meet Eurostat requirements
- Change of views and experiences between experts, open expert discussions with Q&As
- Capacity building of beneficiary agencies and competence of beneficiary experts improved
- Relevant individual participant training needs identified and improved

Resources

State Statistical Committee (SSC)
- Mr. Turgut Shahmarli, Leading Adviser, National Accounts Statistics Department
- Mr. Boyukaga Israfilov, Head of Sector, Industry Statistics Department
- Ms. Solmaz Movlamova, Senior Advisor, Trade Statistics Department
- Ms. Arzu Sofuyeva, Senior Advisor, Service Statistics Department
- Mr. Arif Huseynov, Leading Advisor, Agriculture Statistics Department
- Mr. Hamid Kalantarli, Leading Advisor, Coordination of Statistical Works & Strategic planning dept.
- Ms. Nargiz Chalabi, Advisor, Coordination of Statistical Works and Strategic planning department

State Tax Service under the Ministry of Economy (STS)
- Mr. Telman Mammadov, Chief State Tax Inspector, Economic Analysis Main Department
- Mr. Arzu Huseynov, State Tax Inspector, State Registration Main Department
- Ms. Aynur Suleymanova, Senior State Tax Inspector, Tax Declarations & Desk Audit Main Department
- Mr. Mirza Abdullayev, Chief State Tax Inspector, SME Main Department
- Mr. Farhad Sadiqov, Senior State Tax İnspector, SME Main Department

Small and Medium-Sized Enterprises Development Agency
- Mr. Elchin Kazimov, SMB friend, Analytics and coordination department division/Leading specialist
- Mr. Khalil Khalilov, Baku SMB friend, SMB friend department/specialist
- Ms. Farida Karimova, G2B and B2B services department/specialist
- Mr. Toghrul Mahmudov   , Access to knowledge and skills of SMB/Senior Specialist
- Mr. Fuad Alikperov, Division of market access support for SME/Specialist

MS Experts
- Mr. Henri Luomaranta, *Head of Statistics (Methodology and Coordination), Statistics Finland*
- Mr. Samu Hakala, *Team Leader, Quarterly National Accounts, Statistics Finland*
- Mr. Timo Laukkanen, *CL1, Senior Statistician, Statistics Finland*

Twinning Project Administration
- Mr. Ville-Matti Pilviö, RTA
- Ms. Gultakin Babayeva, RTAA
- Mr.   Tarlan   Arzumanov,   Language   Assistant

Agenda   (13 – 17 December 2021)

Day/Time	Place	Purpose / Details
Monday 10-13	SSC	Opening, welcome, introduction, course content & goals, participants wishes, Introduction to Eurostat BR/BS system & Questions and discussion.
Monday 14-17	SSC	Data sources and compilation of SME data: Data sources for SME/ BR / SBS & Compilation of the BR and SBS, Questions and discussion & Summary.
Tuesday 10-13	SSC	Data analysis techniques, timeseries analysis and seasonal adjustments, Questions and discussion.
Tuesday 14-17	SSC	EU recommendations: Data analysis and seasonal adjustments & JDemetra+ demonstration, Questions and discussion & Summary.
Wednesday 10-13	SSC	SME forecasting and nowcasting techniques: Dynamic factor models, SME forecasting and nowcasting and other advanced forecasting techniques, Questions and discussion.
Wednesday 14-17	SSC	Demonstration of forecasting and nowcasting models: Dynamic factor models with Jdemetra+ & Advanced forecasting techniques with R, Questions and discussion & Summary.
Thursday 10-13	SSC	Microdata linking and Input & Output models in firm heterogeneity and Global Value Chain analysis; Henri Questions and discussion.
Thursday 14-17	SSC	Demonstration of using i/o models in calibration: Firm heterogeneity and GVC indicators, Questions and discussion & Summary.

Friday 10-13	SSC	Summary of Days 1 - 4, Q&A session & discussion.
Friday 14-17	SSC	Pending issues; Participant feedback (course questionnaire to be filled, oral feedback to instructors), instructor feedback to participants & distribution of course certificates.