TWINNING PROJECT

Support to Development Process in the State Statistics Service of Ukraine with the Objective to Enhance its Capacity and Production

Ukraine

MISSION REPORT

on

Component 10: Sample Survey

Activity 10.1: Assessment of the current situation

Mission carried out by Daliute Kavaliauskiene, Statistics Lithuania

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Insee National Institute of Statistics and Economic Studies
Measuring, understanding

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Table of contents

List of Abbreviations

ToR	Terms of Reference
SSSU	State Statistics Service of Ukraine
SL	Statistics Lithuania

Executive summary

The activities of component 10.1 will help SSSU to develop methodologies for implementation of sample surveys.

The overall purpose of the mission was to jointly become familiar with:
- Expert of SL – the current state of statistical surveys in business statistics at the SSSU;
- Experts of SSSU – experience of European statistical services in conduction statistical surveys in business statistics;
- Discussion on organizational and methodological approaches used to assess statistical survey data quality.

The activities in this mission included:
1. Discussions of the current and planned policies and practices for development of survey sampling methodology and implementation of sampling methods in business statistics.
2. Presentation of SSSU staff on draft methodology on sample surveys in business statistics applied at the SSSU.

The overall conclusion is that very good working relations have been established and an agreement on the main concepts regarding the organizational and methodological approaches to planning and implementation of a selected sample survey has been reached.

The next activity 10: Study visit to Statistics Lithuania 25-27 June.

1. General comments

This mission report was prepared within the Twinning Project „Support to Development Process in the State Statistics Service of Ukraine with the Objective to enhance its Capacity and Production". It was the first mission to be devoted to Sample Survey within Component 10 of the project. The mission is aimed at defining a working plan which will form the base for the further implementation of the project in this statistical area.

The concrete objectives of the mission were:
- discuss the methods used to conduct sample surveys applied by the SSSU
- discuss the system of sample surveys and basic sampling methods in business statistics applied in the EU countries
- discuss the draft methodology on sample surveys in business statistics applied at the SSSU
- draft a working plan for a pilot sample survey in business statistics

The expert would like to express many thanks to all officials and individuals met for the kind support and valuable information which we received during the stay in Ukraine, and which highly facilitated the work of the expert.

The views and observations stated in this report are those of the expert and do not necessarily correspond to the views of EU, SSSU or Statistics Lithuania.

2. Assessment and results

The assessment was carried out in accordance with the following topics:

2.1. Methods used in SSSU to conduct business surveys
2.2. Draft methodology on sample surveys in business statistics applied at the SSSU

The participants from SSSU Department for Statistical Methodology and the expert from SL introduced each other and went through the program for ensuring common understanding of the ToR, especially the expected results.

2.1. Methods used in SSSU to conduct business surveys

There are 116 surveys conducted at SSSU, 28 of them – in business statistics. 15 business surveys are based on complete enumeration (all enterprises have to provide statistical data), cut off sample is used in 7 business surveys and the rest 6 surveys are sample surveys or mixed (sample and complete enumeration). The software used – SPSS, FOXPRO and BUILDER.
Subject matter divisions are responsible for methodology and conduction of business surveys.
Department for Statistical Methodology plays the coordinating role. Old software used in subject matter divisions and big amount of data to collect and process makes the survey process very time consuming and expensive. For example, about 400 thousands of enterprises have to fill in the questionnaire of investments; about 70 thousands participate in the quarterly survey on services and so on. Only about 20% of respondents provide the data electronically. It is very important to implement random sampling methodology as soon as possible.
There are all possibilities to do that. Statistical Business Register can be used as a sampling frame. Division of mathematic processing methods and analysis of statistical data has qualified specialists to make data analysis and produce estimates. The lack of experience is the main problem at the moment.

2.2. Draft methodology on sample surveys in business statistics applied at the SSSU

The document provides general description of methods used in sample surveys of the most statistical institutions. It includes: construction of survey population, analysis of the population and survey variables, stratification procedures, data editing and imputation, estimation and calculation of sampling errors. It is important that a list of terms and definitions is prepared. Hopefully it will be elaborated and extended in the future. References to methodological documents of Eurostat and SSSU are given at the end of the document.
Remarks and proposals concerning definitions, structure of the document and presentation of the material were given during the discussion.
Revised document will be provided to the expert by e-mail.
Appearance of such a document is very important now because survey sampling has no traditions and is quite a new form of statistical practise at SSSU. It could be useful for statisticians to better understand the specific of sample surveys.

3. Conclusions and recommendations

During the mission, some important organizational and methodological issues were discussed concerning implementation of sampling methods in surveys of business statistics. The recommendations mentioned below should be seen as supplementary initiatives to facilitate the process which have already been initiated.

A detailed plan for designing and conduction a pilot survey in business statistics (possibly in service sector) was developed. It will take a year to prepare and conduct the pilot survey, then take lessons from it and make some improvements. The real sample survey should be started in 2016. The possible risks and ways to deal with them were discussed during composition of the plan. However some recommendations could be mentioned separately:

1. All statistical business surveys should be based on Statistical Business Register and no other sampling frames should be allowed. It is very important for comparability and consistency of statistical information.
2. The methods and the sources used for updating the Statistical Business Register should be revised. The Statistical Business Register should also benefit from statistical data collected during statistical surveys.
3. Special attention should be paid to non-response. "Empty" questionnaires without indicated reasons of non-response can make a negative influence to the quality of estimates. More efforts of local statistical offices are needed to find out the reasons of non-response during the data collection.
4. It is recommended to familiarize survey managers and specialists from local statistical offices with the main features of sampling surveys, especially paying attention to data collection and estimation.

Annex 1. Terms of Reference

European Union Twinning Project

Support to Development Process in the State Statistics Service of Ukraine with the Objective to Enhance its Capacity and Production

Twinning No.: UA/13/ENP/ST/38

Terms of Reference

for a short-term mission to the State Statistics Service of Ukraine

Component 10. Sample methodology
Activity 10.1. Assessment of the current situation

General information

Statistics Denmark in partnership with INSEE France, Statistics Lithuania, Statistics Finland, Statistics Sweden, Central Statistical Bureau of Latvia, Central Statistical Office of Poland, Italian National Institute of Statistics (ISTAT) and Statistical Office of Spain (INE) is leading the EU-Twinning project on "Support to Development Process in the State Statistics Service of Ukraine with the Objective to Enhance its Capacity and Production" in Ukraine. The beneficiary is the State Statistics Service of Ukraine.

This activity is implemented under the Component *10 Sample methodology*

The purpose of this component is to improve Ukraine's sample surveys methodology by aligning it with the European requirements.

Purpose of the mission

Mission's priority purpose is to familiarize with the methodology of conducting surveys in business statistics.

Expected results

- The EU expert will get familiarized with the current methodology of statistical observations in business statistics in Ukraine, including sampling methods applied by the SSSU.
- The EU expert will get familiarized with the current situation concerning quality of statistical observations, conducted by the SSSU.
- The EU expert will learn about the methods and procedures used construct sample design.

The tasks to be performed by the SSSU in order to facilitate the mission

The SSSU experts will outline the current practice of conducting sample surveys in business statistics as well as basic sampling methods used in the SSSU, and will familiarize the EU expert with the issue concerning assessment of statistical surveys data quality.

Activities

Approximate scheduling:

Day 1	10:00 - 17:00
1.04.2014	Discussion of general issues and Mission program.
	Familiarization with the current state of statistical surveys in business statistics at the SSSU.
	Familiarization with the EU experience in conducting statistical surveys in business statistics.
	Questions and answers.
Day 2	10:00 - 17:00
2.04.2014	Introduction to methods of conducting sample surveys applied by the SSSU.
	Introduction to the system of sample surveys and basic sampling methods in business statistics applied in the EU countries.
	Questions and answers.
Day 3	10:00 - 17:00
3.04.2014	Presentation of methodological guidelines on sample surveys in business statistics applied by the SSSU.
	Discussion on basic methods and procedures of constructing sample design.
	Discussion on practical use of data array to compile sample design and outlining findings and results to be discussed during the next mission.
	Questions and Answers
Day 4	10:00 - 17:00
4.04.2014	Familiarization with the current situation concerning assessment of statistical surveys data quality. Provision of recommendations for the preparation and

approval of the standard report on the quality of statistical survey.

Introduction to organizational and methodological approaches used to assess statistical surveys data quality in the EU countries.

Discussion, conclusions and recommendations.

Annex 2. Persons met

SSSU:

Mr Yuriy Ostapchuk, Director, Department for Statistical Methodology, Component Leader

Ms Anna Rozumna, Deputy Director, Department for Statistical Methodology

Mr Anton Tovchenko, Head of Division of mathematic processing methods and analysis of statistical data

Ms Olena Tymofeyeva, Head of Unit for Generation of Statistical Observation Populations

Mr Glib Tyhonov –Leading Specialist – Economist of Division of mathematic processing methods and analysis of statistical data

Mr Olexiy Tkachenko - Leading Specialist – Economist of Division of mathematic processing methods and analysis of statistical data

Mr Anton Pereguda – Leading Specialist – Economist of Division of mathematic processing methods and analysis of statistical data

Annex 3. **Working plan on designing and conduction a pilot sample survey on business statistics**

№	Main task	Woks to be done	Term	Responsibility	Possible risks
1.	**Selection of the survey to conduct**	Real business survey has to be selected where changes in methodology are most reasonable and sampling methods could be implemented	**10 April 2014**	Department for Statistical Methodology	
		Main criteria of selection: - Burden on respondents and institutional costs - Characteristics of the survey (for example, number of variables to estimate, level of detail of the information needed, e.t.c.) - Quality of the sampling frame (clear definition of the survey unit, availability of additional information, e.t.c.) - Subjective criteria (personal interest of the survey manager to change the methodology of the survey, e.t.c.)			
2.	**Definition of goals of the sample survey**	- To make of list of variables to estimate - To find out the level of detail of the information needed - To define the key variables	**17 April 2014**	Department for Statistical Methodology, Subject matter unit	It is possible that very detailed information will be required. It can be a problem to ensure the qualitative estimates.
3.	**Construction of sampling frame**	- To make a list of enterprises from Statistical Business Register according to the definition of the sampling frame	**30 April 2014**	Division of mathematic processing methods and analysis of statistical data	Can be problems to decide on the real status of enterprise

		of the survey - To link any available additional data (for example, current survey data, administrative data, e.t.c) - To check availability and reliability of data on key variables in the frame (for example, NACE code, number of employees, income, e.t.c.) -			(active, non active).
4.	**Construction of the sampling plan**	Conduct simulations on available data aiming at: - Exploration of variability of the key variables - Determination of stratification variables - Estimation of sample size needed - Determination of the number of strata - Determination of the boundaries of the strata		Division of mathematic processing methods and analysis of statistical data	
5.	**Preparatory work for data collection**	To inform the local statistical offices, responsible for data collection, about the future sample survey (possibly making some presentations about essential aspects of sample survey data collection)		Department for Statistical Methodology	
		To deal with the problem of "empty questionnaires" aiming at finding out reasons of non-response.		Department for Statistical Methodology	
6.	**Selection of the sample**	Select the real sample for the pilot survey based on the most updated version of the Statistical Business Register	**December 2014**	Division of mathematic processing methods and analysis of statistical data	
7.	**Discussion of the firs results of the**	- To compare the results of the sample survey with results of the usual survey	**April 2015**		

	pilot sample survey	- To analyse differences of the results and their reasons - To analyse sampling error and possible ways of its reduction			
8.	**Preparatory work for the real sample survey**				