

Meeting of the Group of Experts on Business Registers organized jointly by UNECE, Eurostat and  
OECD

Brussels, 21-23 September 2015

**Name of author :** *Marijana Popovic-Roncevic, MSc.*  
*-Head of statistical registers and classifications department*

**Organization:** Statistical Office of Montenegro

**Session No. IV**

**Name of Session:** *“The role of statistical business registers in the modernization of the  
statistical production and services – GSBPM, GSIM, data warehouse, use of new data  
sources, including big data”*

**Title:** Challenges of SBR modernization with respect to specific statistical subjects  
(restricted access, confidentiality, ...) in Statistical office of Montenegro

## **I Statistical Business Register in Montenegro**

### **Current situation**

Statistical Business Register of Statistical Office of Montenegro was created in early year 2007. A few years ago, Statistical Business Register has served only as directory for finding a list of legal and statistical units and their addresses. Its main function was to provide identity numbers and contact details for the implementation of statistical surveys.

Today Statistical Business Register is the main source for selection process of observation units for most statistical surveys. It is the basis and framework for statistics which provides information on a country's economy and contributes to the description of the situation and development of the economy by providing a basis for the delineation and definition of the population. It covers all active business entities carrying out activity in the territory of Montenegro. An important area of Statistical Business Register application is that it provides a data comparison between countries due to standardization of definitions, variables, units, etc.

Statistical business register is composed of two parts: the administrative and statistical part.

The administrative section consists of:

- legal units, and

Statistical section consists of statistical units such as:

- Enterprise (the biggest number of cases in BR are where is legal unit = enterprise but lately we had more cases where is more than one legal unit create an enterprise).
- Local units and
- Enterprise Groups

There is always a consistency between these two parts of the registry. Administrative sources and different statistical surveys are used for updating this register. Statistical Business Register provides the link between administrative data input and statistical data output.

## **II The sources of the register maintenance**

Maintenance of statistical business register is not a single process. It is continuous activity. The frequency of the register maintenance is a crucial point in the timeliness of the register.

We maintained our statistical business register from different source with different periodicity. In that case the most frequently used source determines the frequency of the register maintenance. The register sources can be administrative registers, register surveys, feedbacks from survey results and other sources.

The main sources of the statistical registers are the administrative sources. Everything because we need to have less response burden. For the our Business Register, the most important source is the Tax Authority register. Except this register we, also, use Central

register of business entities and Central Bank register. Also, we have signed Agreements of understanding with Montenegro Business Alliance and Montenegrin Employers Federation. We plan to have this kind of agreement, also, with Post office. In Montenegro the registration is operated by a so called "one-window" system where the unit is recorded in one authority and other authorities connected to the "one-window" and the statistical register can see and use directly the registration information.

Second source for maintaining of Business register are business register surveys. We have two BR surveys: Survey for medium and large enterprises and Survey for legal units which has local units. The primary purpose of these surveys is to collect information to update business register information. They can be used to control the quality of the business register, to get information on the activity of the units or the changes of their certain attributes. Also, we use this surveys because we don't have available administrative source for this information which are very important.

Very important for maintenance of business register are feedbacks from statistical surveys. The data collection is built on the survey frame that is based on the register. During the data collection phase, accessing the respondents might reveal the error of the survey frame attributes, the changes of the address, name, the activity state, activity type or other attributes of the respondents. The same feedback can be gathered from questionnaires returned.

We ,also, use Internet, web pages and yellow pages for business register maintenance.

### **III Quality**

There are many definitions of quality, but maybe in this case the best to define quality as "the degree to which a set of inherent characteristics fulfills requirements."

Considering business register's specifications, just defining and measuring quality is different. At start, it can be told that statistical business register is a quality register when it satisfies user's needs. It is known that there are numerous and various users of statistical business register, thus, their needs are also different.

Users can be:

- internal and
- external.

Internal users refer to statistical surveys which use statistical business register as a framework, while external users refer to numerous state institutions, non-governmental organizations, business associations and natural persons who use aggregates data.

The fact that this register is mostly updated from administrative sources tells that its quality very much depends on the quality of administrative sources themselves and the coherence of their variable definitions with the statistical definitions; therefore, quality of statistical surveys depends on the quality of business register.

Irregular update of data obtained from administrative sources reduces the quality of statistical business register in the sense that in the register required, for conducting statistical surveys, accurate and precise data , especially data related to the following address and activity code.

Before the initial talk about quality indicators, it is necessary to make an overview of sources used for updating statistical business register during different time periods. An analysis of administrative sources, suitable for use regarding specific variables, was performed at the beginning of statistical business register implementation process.

Four leading administrative sources were recognized:

- Department of Public Revenues,
- Health Insurance Fund,
- Central Register of Business Entities and
- Central Bank of Montenegro.

The situation is slightly different today. Aiming to reduce the load of statistical units and, therefore, their lack of response, we have established cooperation with business associations which maintain data regarding the population of entrepreneurs in Montenegro. Beside administrative sources, feedback gained from different statistical surveys is also used for statistical business register update.

Table 1. The most commonly used sources for update

	The most commonly used sources	
	Primary source	Secondary source
<b>Legal unit</b>	Central Register of Business Entities	Tax Authority
<b>Enterprise</b>	Tax Authority	Statistical surveys-SBR survey, SBS, survey about wages and earnings, Central Bank
<b>Local unit</b>	SBR survey	Feedback gained from different statistical surveys
<b>Enterprise group</b>	SBR survey	Central Bank

Quality of statistical business register is determined by three factors:

- administrative systems used as a register ground base;
- system offering options to prove the quality in coverage, variable content and consistency;
- data processing performed within the register;

Statistics gained from registers has high quality only if the system has good coverage, contains great number of important variables and main relations which exist between them. If register has good content, well defined units and almost complete coverage, then it represents very good ground base for producing statistics.

Third factor which determines the quality of register is data process defined at the beginning of register creation. The way population within register is defined, the way variables are defined and the way data are entered and/or processed.

In our Business Register we have defined different variables for different units:

- identification;
- stratification;
- demographic;
- relational.

For legal unit there are only identification and relational variables, as follows:

- Identification

- identity number;
- the name of the unit;
- address;
- the name of the responsible person;
- form of organization;
- type of ownership;
- capital;
- the status of activities;
- links with other registers;
- legal registration date.

- Relational

- the registration number which is associated with other registers and
- identity number of the enterprise that is controlled by the legal unit.

The data for all these variables are taken from administrative sources. Beside each name is a source of information and the date to which data refers. Also, in order to enable tracking of demographic changes, there is a field which checks every kind of change occurred during the "life" of the unit.

Identity number of the legal unit has 8 digits and is taken from administrative sources. It was produced by the module 11 and used by all administrative bodies, which greatly facilitates linking data from different sources.

For the statistical unit enterprise - includes the following variables:

- Identification

- identity number;
- the name of the unit;
- address;
- number of local units;
- number of units KAU;
- name of the executive director;
- name of the owner;
- status of activity.

- Stratification

- identification code of the primary activity;
- description of the primary activity;

- identification of first secondary activity;
- description of first secondary activity;
- identification code of ancillary activity;
- description of ancillary activity;
- the activity sector;
- the institutional sector;
- number of employees;
- financial exchange;
- VAT paid;
- assets;
- class size enterprises;
- % stake.

Also, in addition to any data for these variables is the source and the date on which the data refers .

- Demographic

- The date of legal registration;
- The date of commencement of the activity;
- the date of end of some or all activities ;

- Relational - identification number of the legal unit

- Relation of belonging

The relationship between legal units and enterprises which unit manages and the relationships between the enterprise and certain statistical units where enterprise carries out activities must be time marked and accurately described. (relationship commencement date, relationships end date, a description of the relationship ) .

Description of the relationship between legal units and enterprises - these relations can be described in one of the following ways:

- The owner - manager;
- Manager who is not the owner;
- Owner who is not the manager ;
- Additional legal intermediary company.

The first two modes correspond closely to relationship where one legal unit is the main legal representative of the company. It is necessary to check whether the company has such a close relationship with only one legal unit.

- Relation of control

Although the statistical business register mainly focuses on enterprises and their local units, the fact that companies are parts of the group must also be taken into account. Belonging to a group is an important criterion for analyzing stratification enterprise performance. Group has a number of enterprises that are directly or indirectly controlled by the same legal unit , control hereby means the power to setup managers of legal unit which operates the activity of enterprise.

Group dimensions are marked with the relationship between legal units rather than the relationship between enterprises. However, this solution has its drawbacks in terms of time monitoring of the group since legal unit at the forefront of the group may change over time. Therefore, it is more useful, which is done in our case, to introduce the Group in the statistical business register as an explicit unit with its own identity number.

Each enterprise in the statistical business register has one "fictitious" local unit which is the headquarters of company - enterprise. Other local units are the actual units. For the statistical local unit in the statistical business register there are following variables:

- Identification

- identity number of the local unit;
- the name of the local unit (if needed);
- municipal - code and the name of the municipality;
- settlement - code and name of the settlement;
- registered office of the enterprise - street and number;
- the address for receipt of mail - street and number;
- telephone number;
- fax number;
- e-mail address;
- web address;
- activity status.

Also, in addition to any data for these variables there is the source and the date to which data refers.

- Stratification

- Number of employees
- Activity codes of activities carried out.

- Demographic

- date when the local unit was founded;
- date of termination of the unit.

- Relational

- registration number of the enterprise to which the unit belongs

A statistical unit - Group of enterprises in the statistical business register includes the following variables:

- Identification

- identity number of the group;
- identity number of the head of the group;...(if in Montenegro and if abroad)
- The name of the group;
- type of group (National/foreign)
- address;
- e-mail address;

- Web address;
- activity status.

- Stratification

- Primary activity at the group classification level
- Secondary activity at the group classification level;
- Number of employees;
- Consolidated exchange;

- Demographic

- date of the establishment of the group;
- date of termination of the group.

- Relational

- the country in which enterprises that belong to the group are located;
- identity number of the enterprise that is the direct owner of the enterprise in the country;
- identity of the enterprises belonging to the group ;
- names of enterprises belonging to the group ;

Following this review there are 71 variables in statistical business register.

Statistical business register is largely different from statistical survey because it is something that is continually reworked and updated.

#### IV General process model

1	2	3	4	5	6	7	8
<b>ANALYSIS OF NEEDS AND REQUESTS</b>	<b>SURVEY DESIGN AND PREPARATION</b>	<b>SELECTION OF OBSERVATION UNITS</b>	<b>DATA COLLECTION</b>	<b>STATISTICAL DATA PROCESSING</b>	<b>DATA ANALYSIS</b>	<b>DISSEMINATION AND STORAGE OF STATISTICAL DATA</b>	<b>SURVEY DOCUMENTATION AND EVALUATION</b>
Determining data needs	Planning of resources and determining the list of activities with deadlines	Preparation of data sources for sampling frame preparation	Preparation for data collection	Editing of administrative data sources	Time series analysis	Updating of outputs	Preparation of survey documentation
Studying of sources	Defining of survey results	Sampling frame preparation	Taking over administrative sources	Micro-level editing	Analysis of adequacy and confirmation of results	Presentation of results	Collection of information for quality assessment
Verification of methodology	Preparation of the methodology for selecting observation units	Selection of observation units	Data collection and communication with reporting units	Integration of data sources	Interpretation of results	Publication	Process evaluation
	Preparation of statistical data processing methodology	Address list	Data capture	Imputation		User support	
	Organisation of cooperation with other institutions and planning takeover of administrative sources			Deflation		Storage of statistical aggregates	
	Questionnaire design and testing			Weighting		Storage of statistical microdata	
	Preparation of materials for communication with reporting units			Calculation of statistical estimates (aggregation)			
	Pilot survey design and implementation			Macro-level editing			
				Table preparation			
				Statistical data protection			



This process is used in our office every time when we started with surveys. We always try to hear user needs and to analyze where we can find available this data. Our very important goal is to have less response burden. Very important step in the first phase of this process is preparing and verifying methodology.

Also, we have very strict rules for sample and questionnaire design. Also, it is necessary to plan the use of financial and material resources.

We must be very well prepared in sense that we know what are our inputs and which are expected results.

After the taking a sample and making a list of units we need to try to have contact with units because it will give us more possibilities in data collection. For different surveys we use different ways of collecting data. For example for Survey about medium and large enterprises we used e-mail addresses and sent all questionnaires on that way. Also, we had a feedbacks from enterprises on e-mail.

## **V. Challenges of SBR modernization with respect to specific statistical subjects (restricted access, confidentiality,**

The role of statistical business registers in the process of modernization of business statistics is very important. In front of us are large changes which we need to do in this process. When we speak about modernization of business register we can say that we have one advantage because we have unique ID number and it is good possibility for matching data from different sources.

We recognized some new possible data sources and in near future we will analyze quality of data from them and maybe we will change priority rules.

In this last quarter of 2015 we will start to use new changed application for business register with new tools. This application will give us possibility for example for self-selection of sample

We, also, need to improve efficiency and timeliness of data in business register. Quality of the data from administrative sources is not well enough and we decided that after our surveys we will send them information and suggestions how they need to improve the quality.

Business register becomes "gateway" for business data. One of possibilities is to have more than one satellite registers. At the beginning of our work on Business register we made efforts to standardize definitions and terminology inside our office and, also, with other institutions which are or possible administrative sources.

The biggest our challenge is implementation and work on geospatial data in business register. Our problem is because this work is not depending of us and we must wait for Real Estate Administration that they make address register.

We have very strict rules for data confidentiality and access to the Business Register. Micro data can be used by researchers but only without identifier.

Our Business Register methodology define different right for access for different statistical surveys.