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QUALITY IMPROVEMENT OF THE SLOVENIAN BUSINESS REGISTER

Aleksandra Lešnjek, Melita Matek
Statistical Office of the Republic of Slovenia
aleksandra.lesnjek@gov.si, melita.matek@gov.si

Overview

Slovenia decided for register-based statistics in the 1970s following predominantly the Nordic model of setting up and keeping registers. Because of the needs for informatised and centrally kept data, the Statistical Office of the Republic of Slovenia (SORS) has set up three base administrative registers: the register of territory, the population register and the business register. These three registers represent the basic administrative core of data on the territory, population and business entities. Because of increased needs for setting up and keeping statistical registers for various observation units, after 1997 SORS transferred the mentioned three registers to other authorised national institutions and started developing EU harmonised statistical registers that enable quality and comparable dissemination of data on various observation units. The paper describes the administrative business register, which represents the basic input for the statistical business register, and activities carried out within Phare 2002 – Data Collection project with the purpose to improve the quality of the statistical business register of Slovenia.

I. Administrative Business Register of Slovenia (ABR)

The ABR is the main source for the Statistical Business Register. The history of the Slovenian Administrative Business Register (ABR) goes back to 1976 when the Register of Organisations and Communities was set up. Later on in 1985 the Common Register of Craftsmen was set up with the main purpose to provide users with the relevant data on sole proprietors. Since then, the legislation has been changing and both registers have been adapting to the law as required. In 1995 the new Business Register of Slovenia Act was adopted which indicated the obligation to keep and maintain centrally the record in the ABR of all business entities registered on the territory of the Republic of Slovenia, regardless of their legal or institutional form with the exception of family farms and private households. Since July 2002 the ABR has been kept by the Agency of the Republic of Slovenia for Public

and Legal Records and Services (AJPES). In this way SORS passed from the keeper of the ABR to the user of its data, receiving them on a daily basis for statistical purpose.

Units of the ABR

<u>Business entities</u>

A business entity is an ABR unit that performs registered profit or non-profit activities or activities defined by a foundation regulation or document on the territory of the Republic of Slovenia. Business entities are of two kinds:

1. *Legal persons* are entities that obtain the status of legal persons with the entry into the constitutive register/record or by law. Legal persons can obtain rights and assume obligations, can be owners of movable property and real estate, and can sue or can be sued.
2. *Natural persons* are individual private entrepreneurs (sole proprietors) and other natural persons that permanently and independently perform various exclusively profit activities on the free market.

Every business entity has its own form of organisation (legal organisational form), which is based on one of the legally determined legal organisational forms. At the end of 2004 there were 97 different legal organisational forms of business entities in the ABR.

<u>Affiliates and other parts of business entities (PBE)</u>

PBE are parts of legal and natural persons. They are organisational, legal, business, accounting, production or technological units that perform various activities as business entities on the same location or the same or different activities at an address other than the business entity headquarters. They can be registered at the primary register body, they can be reported by business entities themselves or there is a public interest for them to be kept in the ABR.

<u>Affiliates of foreign business entities (PBE-F)</u>

PBE-F are parts of foreign legal persons that perform activities on the territory of the Republic of Slovenia, are registered or there is a public interest for them to be kept in the ABR. Primary register bodies for registration of these units are district courts.

Sources and maintenance of the ABR

According to the Business Register of Slovenia Act, all registry bodies are obliged to provide data on registration, changes and cessations of business units to the ABR currently. That is why the coverage of the ABR is very good (almost 100%). There are more than forty primary registers – sources of data for the ABR and they comprise institutions as well as the laws. The majority of data are provided to the Business Register on copies of administrative decrees and filled-in forms of registration, some data are exchanged on-line or on other electronic media. Governmental units that are not registered at the registry bodies are entered and updated on the basis of national regulations. Data from various primary register bodies on business entities and their parts are daily centrally collected and kept in the ABR

(OLTP Oracle database). AJPES assigns a unique identification number (ID) to each unit of the ABR upon its registration, which is not changed until the unit ceases to operate. When the unit ceases to operate, this ID is not used to denote other units. The identification number is the linking element among all primary registers and other administrative records (banks, chambers, tax office, etc.). Data from the ABR - except for personal identification numbers of entrepreneurs, founders or representatives - are public and accessible to all users under equal conditions. Data from the ABR are used for administrative, statistical, commercial, analytical and other purposes.

II. Analytical Statistical Business Register (SBR)

As regards definitions, administrative units in the ABR do not always agree with statistical units as defined by the regulation on statistical business registers EEC 1286/93. Until 2003 the ABR was used as administrative and statistical register. With the below presented project on the improvement of the quality of statistical units that SORS carried out in 2003/2004, the best possible harmonisation in the field of statistical units and keeping the prescribed attributes for them were provided. The above mentioned project comprises the following activities that are briefly described later on:

1. Transformation of legal units into active enterprises
2. Inclusion of missing attributes for statistical units
3. Improvement of observing some existing attributes

1. Transformation of legal units into active enterprises

Legal units – as regards the conformity of definitions in the ABR and the SBR (Statistical Business Register), we have determined that each business entity that is the subject of entry into the ABR represents a legal unit in the SBR. In this case the transformation of units is 1:1. Every business entity in the ABR represents a legal unit in the SBR.

Enterprises – methodologically, only active enterprises are important and useful for statistical purposes. An active enterprise[1] is defined as a legal unit that in the observation year proved that it has either employment or has created turnover on the basis of appropriate sources stated hereinafter.

1.1. Results of transformation of legal units into active enterprises

The observation period was the reference year 2005. The scope of units comprises all units that were registered in the ABR on 31 December 2005 and units that administratively ceased to operate during 2005. The share of legal units that do not fulfil the criteria of an active enterprise was 20%. More than a half of statistically inactive legal units were identified in personal services and trade.

Chart 1: Number of legal units and active enterprises, Slovenia, 2005

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[1] The transformation of legal units into enterprises is currently at 1:1, with only some legal units that fulfil the activity criteria becoming enterprises. Complex enterprises are not defined in this project, since experience of some EU Member States shows that it is best and simplest to profile them after the register of groups of enterprises is going to be set up.
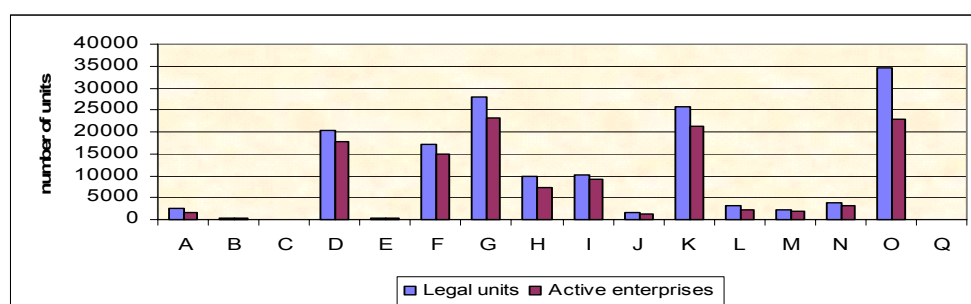
1.2.   Difficulties in transformation

The main difficulties in the process of transformation of legal units into active enterprises were encountered in sections A, B, L, M, N and O. The ABR covers all registered legal units, irrespective of the section of activity (A-O). CR 696/93 in Section IV explains that criteria used in the private sector are by analogy valid also for government bodies and private non-profit institutions. In the project of the quality improvement the same activity criterion was used for determining all active enterprises, irrespective of their section of activity. We are aware that in the first phase the active enterprises from sections of activity C-K are mostly harmonised and comparable among EU countries, for other sections the need for the harmonized definitions of the status of activity and definition of the turnover are very demanding. There is a question for example when a non-profit association should be treated as an active enterprise? For now we treat it as an enterprise if it has either turnover or employment during the reference year, but is it done in this way by all EU countries? Sections M, N and O are obligatory to keep in the register this very day, but harmonized rules for their treatment at EU level are still missing. In addition to non-profit organizations, those sections cover also the largest and most important units of public enterprises that operate in the field of education, health and other personal services.

1.3.   Transformation as an impact on the dissemination of the data

It is important to define the scope of active population correctly since the majority of economic indicators related to enterprises are derived from this population not only in the field of business register but also in the field of SBS and Business Demography statistics. In the case of Slovenia the estimated average number of employees and turnover per enterprise would increase on average by 26% in comparison with the indicator calculated from the total population of registered legal units. On the whole, the difference might not be very critical; however, it can become critical when indicators are calculated at detailed levels where deviations can be high and consequently the interpretation of results can be irrelevant and misleading.

Table 1: Transformation as an impact on economic indicators, Slovenia, 2005

NACE	Average number of employees per unit		Average turnover (1000 EUR) per unit		% of increase
	Legal unit	Enterprise	Legal unit	Enterprise	
A	2,8	4,8	222	382	72
B	0,7	0,9	56	69	24
C	28,1	30,4	1571	1703	8
D	11,3	12,9	1027	1173	14
E	26,2	33,8	4678	6041	29
F	3,3	3,8	269	307	14
G	3,6	4,3	770	932	21
H	2,7	3,7	115	155	35
I	4,6	5,1	461	507	10
J	14,0	17,9	1296	1664	28
K	2,3	2,8	211	253	20
L	16,7	24,3	34	50	46
M	27,0	30,9	170	195	14
N	13,1	15,3	200	234	17
O	0,7	1,0	40	60	52
Total	4,7	5,9	412	517	26

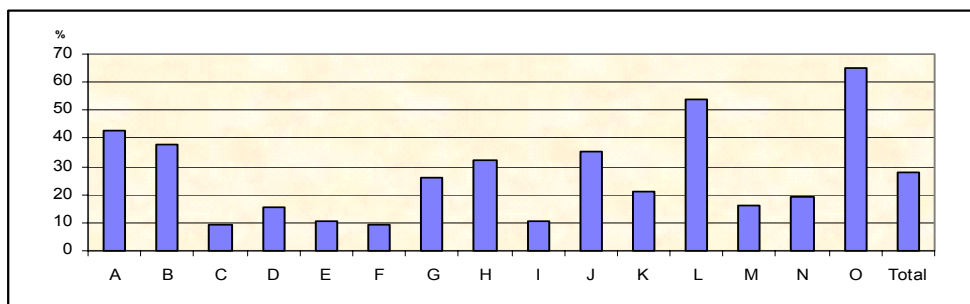Chart 2: Share of increase of indicators from Table 1, by NACE, Slovenia, 2005

Table 2: Share of enterprises, by the fulfilment of the activity criteria, by legal form, Slovenia, 2005

	Total	Natural persons	Companies	Other legal persons
Turnover	25	32	20	48[2]
Employment	12	78	17	5
Turnover & employment	63	57	39	4

Two thirds of the total number of active enterprises had employment and turnover during the reference year 2005, 25% of them had only turnover (of those almost 48% were associations and trade unions) and 12% had only employment during the reference year. The scope of active enterprises is harmonized with the requirements for the SBS and Business Demography, which should enable us to make harmonized and comparable statistics of enterprises. From the total population of active enterprises, 2.7% stopped performing their activity during 2005, but they indicated turnover or employment during 2005 and were in the scope of observation. Those units represent 0.9% of the total number of employees and 0.2% of the total turnover. From the users point of view it is important to have harmonized and comparable scope for SBS, Business Demography and Business Register purposes and indicate the active population in the comon way.

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[2] *Of 48% of other legal forms, associations and trade unions prevailed with a 95% share.*

Local units – there are many administrative parts of legal units in the ABR that are broken down in terms of location and activity and that in principle meet the definitions of LKAU more than they meet the definitions of LU. In addition, administrative units recorded in the ABR are often statistically inactive, since they present only some sort of fictitious organisational structures of enterprises for which there is a public administrative interest to be kept in the ABR. In view of the administrative situation described above, we have defined appropriate methodological criteria according to which LU represent various locations of an active enterprise. Locations of the active enterprise are defined with various addresses up to the level of a house number. The activity of a local unit was determined with employment on the location of the active enterprise, with headquarters of the active enterprise not employing people being an exception. The principal activity of an LU was defined as the predominant activity on the location in terms of persons employed compared to the sum of individual administrative units with the same activity. The methodological definition of transformation means that one or more administrative parts of legal units entered into the ABR could form only one LU. The impact of transformation of administrative local units into statistical ones is very much the same as in the case of active enterprises. Due to the extensiveness of the paper the detailed results on local units are not presented.

2. Inclusion of missing attributes for statistical units

The ABR does not include all the attributes prescribed by EU regulation. Some of them were added in the SBR by applying a new source or they were automatically derived from the already available data.

2.1. Legal unit

During 2003, SORS set up the Trade Register, which enables identification of enterprises reporting for Intrastat. The key for linking with the ABR is the enterprise identification number.

2.2 Enterprise

Secondary activities of enterprises were defined as activities employing more than 10% of employees in activities that differ from the principal activity of the enterprise at the level of subclasses. They were automatically derived from the available data on employment in other parts of legal entities. Since the threshold criteria for secondary activities were quite high, the result was that only 1% of enterprises had identified secondary activities. The majority of them were registered in trade, education and industry.

Enterprises registered in trade had secondary activities in hotels&restaurants, industry and other subclasses within trade. Enterprises registered in industry had secondary activities in trade, hotels&restaurants, business services and other subclasses within industry. Enterprises registered in education had secondary activities in hotels&restaurants, health&social work and other subclasses within education.

2.3 Local unit (LU)

Secondary activities of the LU were defined as activities performed by the active enterprise on the location in addition to the principal activity and employing at least one person. In most cases the source for determining these data was the Statistical Register of Employment

(SRDAP). For data on whether an LU is performing activities that are auxiliary for the enterprise, we have established that at the moment SORS does not have an appropriate source that would enable the identification of such data. For the statistical purpose, in the future these data could only be obtained with a special survey. However, such a survey for LU is not planned for the near future since it is not a priority task at the moment.

3. Improvement of observing some existing attributes

3.1 Data on employment

In accordance with available sources, we have established that the following sources on employment could be used for the SBR:

Enterprise:
1. SRDAP (Statistical Register of Employment) – priority 1
2. ZAP survey (monthly statistical survey on wages and persons in paid employment at legal persons) – priority 2
3. AFS (annual financial statements of legal persons and private entrepreneurs) – priority 3
4. Statistical imputation of missing data

Local unit:
1. SRDAP (Statistical Register of Employment) – priority 1
2. ZAP survey (monthly statistical survey on wages and persons in paid employment at legal persons) – priority 2

The previous practice of showing data on employment was mostly based on monthly (usually on 31 December) data from SRDAP. In accordance with recommendations, yearly average of employment for units was not calculated and missing data were not statistically imputed. According to the new methodology, we have anticipated several possible sources following the priority list. If a unit does not have employees according to priority 1 source, the next priority source is taken into account. The list of sources for individual types of statistical units differs and is greater for enterprises (4 sources). In this task the method of imputing missing employment for enterprises was defined.

SRDAP

The Statistical Register of Employment was set up in 1986 on the basis of the census of persons in paid employment with the purpose to replace costly censuses. It is the central database of persons in employment which includes the category of employees and self-employed persons that have compulsory pension and disability insurance and health insurance or are employed. SRDAP does not cover the categories of persons in employment working occasionally under contracts for work, royalties or for direct payment, unpaid family workers and self-employed persons not paying insurance.

Most data on persons in employment in SRDAP are from administrative records used for statistical purposes. In order to avoid double collection of the same data and decrease the

costs, in 1987 common methodological principles were adopted between keepers of administrative records and national statistics. SRDAP is updated monthly with data from M forms, i.e. registration of data for the introduction and monitoring of records on pension and disability insurance and health care. SRDAP is thus the result of combining data form primary records for statistical purposes. The observation unit is a person who has pension, health and disability insurance. For every person the attribute in which unit (legal unit or part of the legal unit) of the ABR the person is employed is kept in SRDAP. Employment according to SRDAP is kept by administrative units of the ABR. As regards the extent and definition of the source, SRDAP is priority 1 for data on employees and data on persons employed for active enterprises and LU. Data per unit are calculated as annual averages.

ZAP survey

The monthly survey covers legal persons with more than 3 employees. ZAP is priority 2 as the data source for employees in active enterprises (legal persons) and LU. Data per unit are calculated as annual averages.

AFS (annual financial statements)

Since 2002 annual financial statements of legal persons include data on average number of employees in the accounting period, so this source is priority 3 for data on enterprises.

Imputation

Within the project, the method of imputing missing data was developed for the number of employees and the number of persons employed for enterprises.

With the inclusion of all available sources in the SBR, the employment data on employees (persons that have pension, health and disability insurance) can be provided. Data on persons employed are composed by the data on employees and self-employed persons. For now data on unpaid family workers are not included in the number of persons employed since they are not present in any available source used.

3.2 Turnover

In accordance with available sources, we have established that for the purpose of the SBR the following sources could be used for data on turnover of enterprises:

1. Annual financial statements (5 different types) – priority 1 for legal and natural persons
2. Income tax declaration – priority 2 for natural persons
3. Statistical reports of insurance companies
4. Statistical imputation of missing data

The previous practice of showing data on turnover of enterprises was based on the use of one type of annual financial statements, which enabled presentation of turnover only for companies. According to the new methodology, we anticipated several possible sources for identifying turnover of enterprises. The priority of a source is the same as for sources of data on employment. The contents and items in various sources differ by type of enterprise and source. Within the project we defined individual items that represent turnover in an individual source according to Eurostat methodological recommendations.

AFS (annual financial statements)

Legal persons are legally obliged to prepare annual financial statements depending on the legal organisational form. We distinguish between the AFS for companies, for individual private entrepreneurs, for legal persons governed by public law – institutions, for legal persons governed by public law – government bodies, for legal persons governed by private law – non-profit organisations and for societies. Since the AFS are based on accounting standards, we decided that this source is priority 1 for determining turnover of enterprises that are obliged to prepare these reports. Difficulties obtained through this action were related to appropriate definition of items that should be combined from the AFS in order to meet the EU requirement for turnover (sale of goods, material and performed services in a reference year). It was impossible to derive harmonized turnover in the AFS for non-profit organizations like associations, foundations, trade unions, religious organizations, etc. Their turnover is by definition more like total income since it comprises also membership fees, subsidies and other incomes.

Income tax declaration

This type of reports has to be submitted to the Tax Administration by individual private entrepreneurs and other natural persons, which is thus priority 2 for individual private entrepreneurs who for any reason did not submit annual financial statements and priority 1 for other natural persons for which income tax declarations are the only source from which it is possible to obtain data on turnover.

Statistical reports of insurance companies

In accordance with the annual program of statistical surveys, these reports have to be transmitted to SORS by insurance companies and are the only source for them.

Imputation

Within the project, the method of imputing missing data for enterprise turnover was developed.

3.3 Principal activity

Enterprises

The previous practice was mostly that each administrative legal unit represented an active enterprise and that the enterprise was classified into the principal activity in the same way as the legal unit. Since in the ABR legal units are registered in accordance with administrative requirements, sometimes they are misclassified. Administrative activity can often reflect administrative needs and not actual activity of an enterprise. To this end, three monthly statistical surveys of enterprises were defined within the project, namely on hotels and restaurants (GO/M), trade (TRG/M) and services (STOR/M). Results of reporting were used to improve the quality of classifying enterprises by principal activity in the SBR. With this action we started to use feedbacks from surveys to update the principal activity of the enterprise and plans for future are to increase the use of surveys rapidly with the purpose to improve the quality of SBR data.

<u>LU</u>

When a local unit is composed of several administrative parts of a legal unit, the principal activity of the LU was determined with regard to the activity that employs the greatest number of employees on location, which improved the administrative classification that did not take into account this criterion.

III. Setting up a new Information System for Business Statistics

Slovenia has a relatively well developed infrastructure of public records and administrative registers. The development of administrative registers and their interoperability is a strategic orientation of the country. One of the most important users of administrative sources of data is the national statistical system, which can be considered as a register-based system. The Statistical Office of the Republic of Slovenia (SORS) is the responsible institution for the implementation and operation of business statistics at national level. The statistical surveys are part of regular data production of SORS. Different phases of statistical work process, from data collection and data editing to data analysis and data dissemination, have to be integrated to form an efficient system. Statistical infrastructure has to be either set up anew and implemented or adequately revised and up-graded and functionally integrated with the statistical work process.

Therefore, during 2007 and 2008, SORS will be engaged in the project called Information System for Integrated Statistical Processing for Business Statistics with the aim of preparing new and upgrade existing solutions which will cover the statistical production process from survey design and data collection to the data editing, statistical analyses and aggregation/estimation.

1. Description of the project

The project will improve the existing process of business statistics in the whole data production chain. The integrated system of business statistics will enable combined use of different data sources and different collection channels, merging and combining them into one coherent system that will allow decreasing the reporting burden on the respondent side. The system will further provide the environment and solutions for improved manual and automatic data editing and statistical imputations, using adequate data frames existing in the system including the ability to analyse the impact of individual and mass imputation. On the other hand, it will allow further improvement of some data quality components. Namely, the metadata on data quality will be established and monitored along the whole process from the data collection to the dissemination stage. The process metadata will be stored and analysed in order to monitor and manage the statistical process and to increase the efficiency of the system.

The main purpose of the project is to set up a fluent and flexible statistical process from methodology and survey design to data dissemination in order to improve the timeliness and the quality of statistical data and to increase the capacity to respond to emerging statistical demands from the Government of Slovenia and the EU. The whole project is divided into four main components:

➢ Survey design module (for questionnaire and other metadata design).

> ➤ Data collection module (for respondent management, questionnaire dispatching and multi-modal data collection (using paper forms and different electronic reporting channels), storing data in input database and dispatching collected primary and secondary data to the statistical processing system).

> ➤ Statistical business register (for maintaining statistical data on enterprises according to EU legislation and national requirements for different statistical uses: supporting enterprise statistics according to different criteria, providing respondents lists (i.e. lists of reporting units), etc.).

> ➤ Statistical processing module (for processing of the business statistics surveys in a flexible and effective way; the solution will support processing of data using specialized statistical and commercial tools, access to data in different phases and process monitoring and control, simplify usage of special software).

All project components would functionally be integrated and be able to interact with other statistical (infrastructural) environment. The infrastructure needs to be improved for smooth survey processing according to the statistical requirements. The integrated information system will enable combined use of both survey data and administrative data and facilitate the decrease of the burden on reporting units. This system will also improve data quality by enabling the tracking of a unit record from data capture, throughout editing to final aggregation stage. Meta-information on data quality will be managed and monitored by pre-defined quality indicators. The system will provide the environment for improved imputation of missing data items and units (through the use of alternative data already present in the system) along with the ability to analyse the impact of individual and mass imputation on statistics. The process metadata will be stored and organised in order to enable monitoring of the statistical process and to increase the efficiency of the system.

2. Development of the new Statistical Business Register

The project the Information System for Integrated Statistical Processing for Business Statistics includes the development of the new Statistical Business Register; i.e. the development of software applications for transaction management of a database of mandatory (obligatory) units pertaining to the statistical business registers in line with the European and national requirements in this area, the development of software applications for the definition and preparation of lists of respondents for individual statistical surveys and an upgrade adaptation of the existing software solutions linked to the statistical business register (register of the enterprise groups, business demography, analytical SBR database and data warehouse of companies).

Data sources for the development of this module are different administrative and statistical data (the Business Register of Slovenia, the Statistical Register of Employment, statistical surveys, etc.). These sources will be used for the initial loading of the new Statistical Business Register as well as for its regular updating after its implementation.

The new Statistical Business Register will function as a source of information for all business register statistics and other statistics and as a central source for lists of respondents. The register will function as a transaction database of statistical units of observation on the basis of available administrative and statistical sources with the possibility to store and use active and historic information on units of observation. The basic functionalities of the new register will be:

- introduction of a new statistical identifier (STID) which will allow us to follow up statistical units according to the EU statistical continuity rules,

- the possibility to follow up daily centrally and continuously the main changes of the reporting units during their period of operation (status of activity, main activity code, demographic changes, names, headquarters, contact data, etc.),

- maximum use of feedback from the surveys in combination with other available administrative and statistical databases (sources),

- central source for definition and preparation of lists of respondents for individual business statistical surveys on the basis of definition of different parameters, processing information and feed-back information from units of observation. The lists of respondents will be suitable for further processing and storage (active and historic data),

- improving the quality of the list of respondents and decreasing the number of non-respondents,

- integration with the Statistical Enterprise Groups Register,

- analytical reviews of data (information on statistical units) in the register according to different criteria (including response burden and reporting in different surveys).

The new EU regulation on statistical business registers requires obligatory records on groups of companies or associations of legal units. Therefore, it is necessary to set up a software solution for keeping record on enterprise groups. The Statistical Enterprise Groups Register (EGR) will function as a transaction database of statistical units of observation on the basis of available administrative and statistical sources (the Statistical and Administrative Business Register, the Court Register, data from the Central Securities Clearing Corporation, the Bank of Slovenia, statistical surveys, data from the European Enterprise Group Register, other national statistical registers, etc.).

Enterprise groups will be identified on the basis of an algorithm taking into account the ownership structure data relations and control of units observed. The EGR is going to be integrated in the business statistics IT environment. There will be a strong relation between the EGR and the new Statistical Business Register. Besides the integration of domestic and truncated groups (part of multinational group on national territory), the EGR will support the integration of units operating (registered) also outside of the Republic of Slovenia with the purpose to keep record on multinational enterprise groups that are required by the new regulation.

With this approach the EGR will enable identifying the enterprise groups (domestic, truncated and multinational), keeping record of all variables and changes in groups and supporting the use of this information for analytical, statistical and dissemination purposes according to different criteria (variables in the register).

In line with these functionalities the new Statistical Business Register will fulfil the majority of EU and national requirements and became a strong basis for Business Statistics.

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