



Implementation of the statistical business register in the statistical production process in SURS

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Abstract

Slovenia finished the project of developing the statistical business register (SBR) as a basis for the business statistics in 2016. This multiyear project resulted in the development of three sub-processes. The first process that was established was central management and creation of all units missing from the administrative business register at the level of the basic building block of the SBR – local kind of activity unit. The second process that was developed was central management of main statistical activity code for large units. The third process established centrally was management of demographic and insolvency events. In addition, two procedures allow SURS to have a common statistical identifier for statistical units and to determine relations between statistical units.

At the end of 2015 SURS also started with the project for the implementation of the new SBR functionalities in the statistical production processes. A special group was created with participants from several sectors of the NSI to determine the influence of SBR implementation from methodological and technical aspects. Testing was done on some surveys and the inventory of all effects on the general process was prepared. The important lesson learned was that a close cooperation between the SBR and surveys is necessary in the implementation phase and later on. In some cases the result of the implementation was an upgrade to the SBR.

With the establishment of the SBR the work was not done. The implementation of its functionalities impacts almost all phases of the statistical production process. With the restricted resources the implementation will be done gradually and in some cases the step-by-step approach is used. There is a constant need to upgrade the SBR system in order to fulfil its role as a backbone for all the statistics that use statistical units. For that one of the key principles is cooperation between the SBR and surveys.

Introduction

The Statistical Office of the Republic of Slovenia (SURS) has a long tradition with register-based statistics. The first administrative business register (ABR) was set up by SURS in 1976. The advantage of this is still seen today as the ABR has many statistical elements (e.g. activity code, institutional code). In 2002 the maintenance of the ABR was transferred to another institution – Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES), which now updates the register on a daily basis. The ABR has detailed information on all legal units (including subsidiaries of foreign legal units) and their local parts. This source is also the main part of the statistical business register (SBR), which was established in 2004. The SBR went through a major renovation that took place during the period of five years (2011–2016). As a result of this renovated the SBR is now prepared on a monthly basis and covers three centrally managed sub-processes (demographic and insolvency events, statistical activity, creation of missing units) and has two important centrally managed technical functionalities (statistical identifier for units and relations between units).

By the end of 2015 first results of the SBR became operational and a special internal task force for the implementation of new SBR functionalities in the statistical production process launched a project to set up the SBR as a backbone not only for some business statistics but for all statistics using statistical units. This paper tries to show that there is a constant need for minor adjustments of the SBR system and that a key to maintain the backbone role is good cooperation and constant flow of feedback information from surveys back to the SBR. To make the SBR more useful, a need to train potential users seemed important. In this document some upgrades of the SBR are listed and explained, followed by main orientations for the implementation of SBR functionalities in the statistical production process. An example of adaptations needed in one survey is given at the end.

1 Examples of minor upgrades of SBR

One of the important features when renovating the SBR was knowledge that the world is changing rapidly so there is a constant need to make adaptations. The system of the SBR was thus developed in a way that allows adjustments. With the implementation of SBR functionalities in surveys a need for several adaptations occurred (either due to the implementation itself or due to the changes in the environment). Some were implemented as soon as possible, while others were gathered and introduced annually at the beginning of next year. This chapter describes some adaptations that were done at the beginning of the implementation phase.

1.1 Demographic events and insolvency procedures

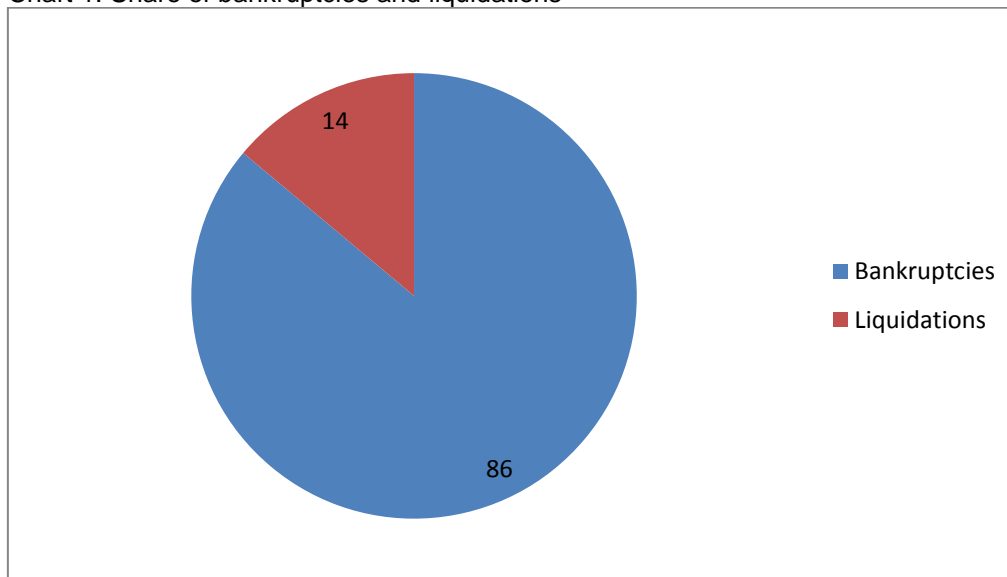
With the sub-process of central management of demographic and insolvency events information from administrative sources is used to determine the correct continuity (successor) of the statistical unit and to detect some insolvency problems that may influence the production process. For this information from administrative sources and some additional algorithms were introduced and appropriate standard statuses for units were used. When this sub-process was prepared data on demographic events and insolvency procedures from the administrative source were compared to similar data from surveys. While comparing the data for the same period analyses showed that the data from the administrative source were of a better quality and in addition the administrative source had a full coverage.

The information on standard statuses is prepared on a monthly basis and is available 20 days after the end of the month. But with the implementation of the SBR it was discovered that statuses were not prepared in time for some short term statistics. Since some data from administrative sources were available on a daily basis, statuses for demographic and insolvency events are now defined on a weekly basis and some preliminary files are prepared every week with the information on the demographic and insolvency events of the previous week. This information is then used in some short term statistics.

In addition to the insolvency events, the need occurred to better determine what kind of insolvency event is in place. At the beginning the SBR only had one kind of insolvency event that covered all insolvency procedures. On average there are more than 3,400 cases with insolvency procedures on an annual basis. Some surveys further separated insolvency

procedures into bankruptcies and liquidations. Since data in the administrative source allowed the split up, this was implemented.

Chart 1: Share of bankruptcies and liquidations



With further feedback from the survey there was a need to further split bankruptcies. Only few bankruptcies have a special permission to continue with the production. But since it is very important to determine whether income from units in bankruptcy is from production or from the sale of inventories or assets the administrative source was further analysed. It was discovered that further split into bankruptcies where the production has stopped and bankruptcies where the production has continued was possible. This was then introduced at the beginning of a new year.

Another change that demanded adaptation of the system was a new demographic event that emerged in the administrative source. Within mergers there was a special case of cross-border merger. Since in that case we do not have a successor in our country, a new status was introduced and implemented.

1.2 Statistical activity

Central management of main statistical activity is organized through a special internal group of experts addressing potentially wrong main activity code of the units. The main activity code is determined already in the ABR but due to various (mainly administrative) reasons some units have wrong activity codes. Comparing the data from surveys and all other available data the correct statistical activity code is determined for the unit.

Some units that were under the inspection of correct activity code were also part of the profiling exercise. Combining experiences resulted in change of the methodology for determining the statistical activity. Previously each legal unit was addressed separately, but with the change the entire enterprise group is taken into account in order to determine the correct activity of individual legal units.

Another update of the methodology for statistical activity came from further combining sub-process of statistical activity with sub-process of demographic events. All units that participated in the demographic event and had a statistical activity different from the official activity were reviewed in the statistical activity group in order to determine if the statistical activity is still valid.

1.3 Missing units

The ABR already has local kind of activity units (LKAUs) but in some cases important LKAUs are missing in the ABR. Centralized sub-process for the creation of missing LKAUs (so-called fictitious units) was developed in order to prepare additional LKAUs that are then used in surveys. To each of those additional units a statistical identifier (SIR) is given. At the beginning

fictitious units were determined only at the level of LKAU. But in some cases the questionnaires were sent to units that were even lower than LKAU (e.g. same activity and same address). Those units were then centrally managed as quasi-fictitious units and SIR was given to them.

When the implementation of SIR in the international trade in goods statistics was considered there were some legal units (foreign companies) that were not registered in the ABR but were part of the ITGS (as part of the European concept). The same units were found also in administrative sources that came from the Tax Authority. Those units were not part of the ABR but were part of the tax register and had tax numbers. At first the file with SIR and registration number from the ABR was enlarged with tax numbers. Latter it was decided to treat units from tax data with no registration number from the ABR as quasi-legal units and they were added to the central file with all SIR numbers in order to receive SIR themselves.

2 Main orientations for the implementation of SBR functionalities

For the implementation of SBR functionalities a separate project started when major functionalities of the SBR became operational. For one year both projects (implementation and establishment) were running in parallel. A special group was created with participants from several sectors of the NSI in order to determine the influence of SBR implementation from methodological and technical aspects. Testing was done on some surveys and the inventory of all effects on the general process was prepared. Focus was on the implementation of unique identifier (SIR), implementation of statistical activity, use of demographic statuses and use of activity. For each of the phases and sub-processes of the general production process the group prepared positions and recommendations. Since the implementation had different influence depending on the survey periodicity, separate recommendations were given taking into account maturity if needed.

One of the important aspects that helped the implementation was training of users. Several channels were used for that purpose. SURS organized internal courses, one for the SBR and one for statistical units. SURS also has an intranet page where a special section was dedicated to the SBR and its implementation. Along with a detailed methodological description of the SBR system a shorter version of some definitions and functionalities was prepared. Special e-mail addresses were created for communication and internal applications for two sub-processes (demographic events and fictitious units) were developed.

It was discovered that main adaptations in the surveys would be needed due to the implementation of SIR. The recommendation was to implement SIR as a key in all phases of the statistical process if possible. The only exception was the phase of gathering the data where it was decided that SIR will not be part of the questionnaires, as it is an internal identifier. As the implementation of SIR as a key had a major impact on the production process, it was recommended to introduce SIR as an attribute and use it as a key only for new surveys or when there is a bigger revision of a survey. It is important also to implement SIR on all administrative sources that are used in the surveys.

Statistical activity was implemented in many surveys. Statistical activity is part of a master sampling frame prepared from the SBR, so all the surveys that used either the master sampling frame or the SBR itself as a frame considered statistical activity. For other surveys the recommendation was to use data on statistical activity either from the master sampling frame or from the SBR itself. The implementation of statistical activity was recognized as one of the factors that could have influence on the published data.

Demographic statuses were not available soon enough for some short term statistics. After further research the recommendation was to keep demographic statuses as part of the questionnaire for the short term statistics. But later in the phase of data processing demographic statuses from the SBR should be taken into account even for short term statistics. For the annual or multiannual surveys demographic statuses from the SBR should be taken into account in all the phases. The questionnaires for annual and multiannual surveys could thus be shortened as demographic statuses could be dropped from those questionnaires.

The status for the activity determines if units are active or not. The criteria of turnover, employment or investment are used for determining activity. Since the information on status for

the activity is available on a yearly basis and at the end of the year for the previous year, this information comes too late for all short term statistics and many other annual statistics as well. It was decided that status for the activity will be taken into account only for those annual statistics that are available after the end of the year and are connected with the SBR (e.g. structural business statistics, business demography).

3 Main experiences from the implementation of SBR functionalities – the case of short term trade survey

For the implementation of SBR functionalities one annual and one short term survey were determined in order to test the implementation of the SBR in real terms.

Implementation of the SBR functionalities in the annual survey was a small challenge. Due to the fact that sampling of the reporting units was made on the basis of the SBR, all the SBR functionalities were used. One challenge was the implementation of the statistical identifier SIR. The main goal is to use SIR as the only key for data processing. After the review of the statistical process model and the process of preparing data for the annual survey, the group for the implementation of the SBR proposed that at this stage SIR is implemented as the attribute and is part of data. As the part of data in the future when SIR will be implemented as the main key, we will be able to connect historical data with new data and switch to SIR as the main key for calculating data, updating data from the SBR and preparing cross-sectional statistics.

Most of the expert group's work focused to the monthly survey. For testing the implementation of SBR functionalities the monthly survey on retail trade was chosen. The specialty of the chosen survey is that it is based on the administrative data and on the data from the field. Also for the chosen survey data are collected via a web questionnaire or a paper questionnaire.

At the first stage, the expert group got acquainted with the entire process of preparing the data for the selected monthly survey. In the next steps, a timetable was prepared on how to test where and how the SBR functionality could be implemented without major interventions in the existing process.

During the testing the test bases were prepared and in parallel with regular data processing, data processing was performed using SBR solutions. We tested the use of monthly data from the SBR on demography of reporting units and the use of information on activity of reporting units. The biggest benefit is that we can use SBR data for administrative units. In the past we lost all administrative units which were subject to demography. Now the SBR provides all necessary data to maintain monitoring of administrative units that are included in the survey at the beginning of the year. The testing of SIR as the only key for processing data is still ongoing.

The final phase of testing is still ongoing, but the first conclusions are known. The SBR as the main source for business statistics has many benefits. It provides updated regular monthly data of the reporting units, if they are active, what is the activity of the reporting unit and all the demography of the reporting unit that is included in the survey. In the future the plan is to implement step by step all SBR functionalities in all statistical business surveys and that SIR will be the only key for data processing.

Conclusion

With the establishment of the SBR the work is not done. Every day changes and their implementation demand constant adaptation of the SBR in order to fulfil its role of a backbone. On the other hand, the implementation of functionalities of SBR impacts almost all phases of statistical production process of surveys. With various players involved, SBR implementation can only be done gradually and in some cases the step-by-step approach must be used. To achieve all that an important factor is cooperation between the SBR and its users. Training of users also has an important role.

References

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