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Role of Business Registers

SBR as the center of the processes for producing economic statistics

1 Introduction.

The INEGI performs different projects to meet the demands of information on economic statistics, among which are: Economic and Agricultural Censuses; National Economic Surveys; the System of National Accounts, as well as the Consumer Price Index and the Producer Price Index

In order to obtain the results of these projects INEGI uses various means to capture data, as collecting information on-field, applying questionnaires via the internet or e-mail, Web-sites through which the informant interactively performs updates, in addition to the utilization of administrative registers.

Before the creation of the Statistical Business Register (SBR), the Censuses were the basis for the different projects of economic statistics production, since they practically cover all the economic activities throughout the national territory¹.

For the case of the Economic Censuses, which are held every five years since 1930, we have used a strategy that consists of capturing in a questionnaire, the data from every establishment where the economic activity takes place. This has allowed INEGI to obtain geo-referenced information, thus forming the statistical and geographic infrastructure that has been used for the production of a wide variety of statistical studies of general and specific themes, with different levels of geographical breakdown, to the extent permitted by the principle of confidentiality.

Previously, establishments did not receive a follow-up between one Economic Census and another, meaning that during the on-field operation the economic information on the establishments was captured during the exhaustive on-site visit (systematic and ordered), assigning a new identifier to every questionnaire, different to the one used in the previous census, even though it was the same establishment.

In the case of surveys, the sampling frame is comprised of establishments detected by the latest Economic Census, complementing it with updated directories that were obtained from external sources.

¹ The Economic Censuses have full coverage in urban areas and a study through probabilistic sample is performed in rural areas.

The first version of the SBR was created by INEGI in 2010, which was possible thanks to the staff's experience, to international recommendations, the harnessing of Information and Communications Technology (ICT) development as well as to the geo-reference of each establishment.

Now, the main data on establishments is concentrated in the SBR and it is the sole repository where all the updating is concentrated, both from internal and external sources, therefrom all directories and frozen frames are extracted from it for all projects, including the Economic Censuses

This paper briefly describes the main characteristics of the SBR of Mexico and the advantages that have been obtained from its creation.

2 The SBR of Mexico.

The SBR of Mexico is a unique repository of information on the establishments that includes identification variables: name of the establishment and business name; location variables: address, in a consistent format according to the technical standard of addresses, including the geographical coordinates: latitude and longitude; economic variables, such as personnel employed and incomes, which are necessary for the statistical survey design.

The basic statistical unit in the SBR is the establishment, which is uniquely identified through the Statistical Business Code (establishment CLEE-) at establishment level; this code is used by all of INEGI's projects to identify the same establishment.

The SBR also identifies the multi-establishment enterprises, through the same enterprise-CLEE that is assigned to all the establishments that share the same business name, the parent company and branches of every enterprise have been identified.

The main objectives of the SBR are:

- 1) To follow up on each establishment using the same CLEE to update the changes detected in every one of them, keeping a historical record of such movements in order to facilitate completion of longitudinal and demographic studies.
- 2) To provide directories and frozen frames for the different projects and surveys carried out by the INEGI, using the same establishment-CLEE and company-CLEE.
- 3) To be a bridge between different institutions and areas of INEGI in order to increase the statistical supply by combining information from internal and external sources.
- 4) To produce a database for establishments: identification, location, economic activity and stratum of personnel employed, for the publication of the National Statistical Directory of Economic Units (DENUE), application that enables consulting information on establishments in the exact place where the activity is carried out.

The SBR was created in 2010 with the establishments that were collected during an exhaustive on-site visit performed during the collection of the 2009 Economic Censuses² and every establishment was assigned with a unique identifier (CLEE) for their monitoring through time.

² The subsequent incorporation of the economic units of the agricultural sector is considered.

During the inter-census period 2010-2014, the SBR was partially updated through:

- The on-field work carried out for the collection of the monthly and annual operations of the National Economic Surveys, as well as special surveys performed by INEGI.
- The on-field operation for updating establishment segments, for example for the largest establishments in the country.
- The use of administrative registers.

The SBR was completely updated with the results of the 2014 Economic Censuses.

From 2015 to date, updating activities similar to the previous inter-census period have been performed with the intention of maintaining the SBR current.

The SBR will be completely updated with the results of the next Economic Censuses that will be conducted in 2019.

3 The SBR as the center of the processes for producing economic statistics.

3.1. Role of the SBR as the generator of frozen frames and directories.

Before the creation of the SBR, the different areas at INEGI collecting information on establishments managed their own databases, incorporating directories from other sources, and during the on-field work the updates were registered in their own files without sharing them. This was the situation until the next Economic Censuses were performed, since all projects replaced their databases with the Census results, repeating the cycle every five years.

Now, all directories from other sources update only the SBR and directories and frozen frames are extracted from it, so the same information source is used by all projects; at the end of each project, the SBR is updated with the results obtained on-field.

One of the main advantages obtained from the creation of the SBR was during the performance of the 2014 Economic Censuses, since for the first time in the census history, establishment's directories collected in the previous census were used and included the updating performed in the inter-census period 2010-2014. During the development of the on-field operation, every establishment was followed-up through the CLEE, updating data on surviving establishments, detecting deaths and identifying births.

After updating the SBR in 2014, annual updates have been performed on different establishment segments, the most recent was held from July to August this year.

Given that the SBR is the only repository where all the information on economic units is updated, therefrom the frozen frames are extracted for the design of the National Economic Surveys, for special surveys, as well as for the ones performed to obtain the Producer and Consumer Price Indexes. This has brought several advantages for all projects involved, such as:

- There is a centralized control in the updating process based on information from internal and external sources; similarly standard criteria are applied for determining the incorporation of births, identifying survivors and deaths.

- The SBR is updated in turn with the results obtained on-field for the establishments that are part of the different samples, so there is feedback on the SBR and from there towards all projects.
- Data on any establishment are unique at certain moment, this means that all projects consider the same data for each establishment; previously there was the possibility that the various projects would have different data on the same economic unit.
- The various projects that collect information on economic units: establishments or enterprises, use the identifiers registered in the SBR; previously, each project used their own, hindering the comparison and linking activity of information on the same economic unit in different projects.
- The directories of the selected sample contain consistent information, according to the SBR standards; for example, all establishments have their address registered according to the technical standard of addresses.
- The directory for the performance of the 2019 Economic Censuses will be obtained from the SBR.

3.2. The role of the SBR as the basis for longitudinal studies.

The fact that the establishments collected during the 2009 Economic Censuses are registered in the SBR and that they were monitored in 2014 through the CLEE, allowed as mentioned before, to identify the surviving establishments, and also capture the births and register the deaths. This task was not easy due mainly to the smaller establishments, since they are highly mobile; however it was successfully performed, thanks to the staff's experience and to the ICT resources currently available.

The continuity rules recommended by the Eurostat-OECD were applied to identify survivals, analyzing the variables: business name, address and economic activity; in case of a change in no more than one of these three variables, the establishment is considered a survivor; otherwise, the death of the previous establishment and the birth of a new one is considered. The surviving establishments keep the same CLEE, a new one is assigned to births and the one belonging to the deaths is never used again, registering the date of the event.

Surviving establishments, births and deaths detected in the period 2009-2014 were identified this way, thereby the SBR is the basis for the performance of longitudinal studies in this period, since it is possible to link the information on each establishment through the CLEE from the 2009 and 2014 Economic Censuses, allowing among other things, to know the characteristics of surviving establishments, as well as births and deaths, all with different economic and geographic breakdown levels, which could be done at high detail, thanks to the extensive coverage of the Economic Censuses.

3.3. The role of the SBR as bridge between different sources of information.

Internally, thanks to the use of the CLEE in all institutional projects, it is now possible to link the information of various projects for different purposes, among which the following stand out:

- Updating the SBR with data provided by informants in other projects.
- Allows having a control of the establishments that are part of the various projects and having elements to reduce burden on informants.

- It is possible to establish comparisons and know the evolution of the establishments from which information is captured through the various projects of INEGI, at different moments.
- The statistical potential is incremented, since it is possible to combine information from internal sources to increase statistical supply.

Externally, INEGI works closely with governmental institutions with the purpose of harnessing the administrative registers for statistical purposes. The joint work consists of reviewing the conceptual and informatics differences in order to make the harmonization that allows relating data on administrative units with statistical units. After that, the linking activities are performed to associate the administrative registers with the units in the SBR, assigning the same CLEE in both sources to the linked registers.

These are continuous tasks that have required the commitment of all the institutions involved, since there are goals for short and medium term.

In the short term, INEGI defined a strategy to form a sample with the largest establishments in the country that were collected during the 2014 Economic Censuses, which was called Master Sample and all the linkage efforts were aimed at it with the administrative registers from various governmental institutions. The Master Sample consists of 5% of the establishments in the SBR and accounts for about 85% of revenue.

The main achievements in the linkage tasks of the Master Sample have been with the Federal Electricity Commission and with the Tax Administration Service, leading to significant progress, including the following:

- The Electric Power Consumption Indicator has been built with the consumption records provided by the CFE, allowing the estimation of the Monthly Index of the Industrial Activity for the manufacturing sector with 30 day anticipation through an econometric model.
- Currently about 85% of establishments from the Master Sample are linked with SAT's tax records, which allows establishing statistical comparisons between data reported to SAT and to INEGI; furthermore, work is being carried out in the construction of new or more timely economic statistics to support decision-making.
- The linkage of the Master Sample (INEGI)-CFE-SAT provides wide possibilities of statistical exploitation.
- Governmental institutions, for their part, benefit from these linking tasks, since INEGI provides them with data included in the SBR and that are public, such as:
 - Economic Activity Class according to the North American Industrial Classification System (NAICS), allowing the possibility of producing statistics under standard classificatory and establishing national and international comparisons.
 - The address, according to the technical standard of addresses makes it possible to have these data in a complete and organized way.

In the medium term, it is intended that the administrative registers held by the various governmental institutions use the CLEE as the unique and common identifier of their administrative units, since

there is no public identifier with these features at the time. The common use of the CLEE would facilitate information exchange and thereby potentially increase the capacity of producing economic statistics and the ability of updating data on the establishments, reducing the burden on informants. For this purpose, the linking tasks have been extended towards the establishments that are not part of the Master Sample.

4 Conclusions.

The fact of having comprised the SBR of Mexico has implicated a change in the way of visualizing the projects that produce economic statistics, since from its creation, the SBR is origin and destination of all projects.

The INEGI considers it is necessary to continue with the consolidation and strengthening of the SBR, widening the possibility of incrementing the exploitation of administrative registers, for this reason the Institute will continue its standardization and linkage work with new sources of information, purposefully working with governmental institutions with the intention of unifying formats, forms and other capturing tools to increase the possibility of sharing information and reducing burden on informants.

5 Future work

The main challenges for the SBR in the short term are:

- Linking a greater number of SBR registers with administrative registers from external sources through the CLEE
- Perform work with other external sources that have administrative registers, in order to leverage their statistical potential and for it to be used with the purpose of updating other establishment segments.
- Keep the SBR updated in inter-census periods with the highest number possible of economic units, using information from other administrative registers, with information directly obtained from Municipal and State Governments, conducting research in newspapers, specialized magazines, chambers, associations and other sources.

In the medium term, to incorporate the economic units of the agricultural sector, with the purpose of having complete economic coverage.

In the long term:

- For the CLEE to be the unique, common and public identifier with which all the government agencies identify every establishment.
- For the SBR to be the basis that facilitates the performance of studies related to the demography of the establishments.