

**28<sup>th</sup> Meeting of the Wiesbaden Group on Business Registers  
The Hague, Netherlands, 2 – 6 October 2023**

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***Assessment of the Statistical Business Register of Mexico based on the Maturity Model***

**Abstract**

The Statistical Business Register of Mexico (RENEM, by its acronym in Spanish) was created in 2009 based on the results of the Economic Census of that year. Since then, it has been used by INEGI-Mexico as the only source of updated information from which sampling frames on economic units and directories are obtained for the various field operations. Moreover, the SBR has a part that is made public to all users, which combines information from satellite images, aerial photographs and cartography to locate the establishments in the place where their economic activity is carried out. It also provides basic information on the establishments, such as the legal name, address, type of economic activity, latitude, longitude, as well as social media and contact information. This public part of the SBR is the National Directory of Economic Units (DENUE, by its acronym in Spanish).

The SBR is fully updated every five years based on the results of the Economic Censuses, and for the segment of the most relevant economic units, the update is carried out annually. The annual updates are based on field operations carried out by INEGI-Mexico for different business surveys, and through the verification of administrative records and field operations. The SBR of Mexico contains information at the establishment and enterprise level, and INEGI is currently working on the study of truncated enterprise groups (i.e., having units only in Mexico).

The SBR is the backbone for producing business statistics at INEGI-Mexico, and its database contains basic information, both current and historical. Likewise, it is linked to several datasets from other economic statistics programs such as Economic Censuses, National Economic Surveys, Special Economic Surveys, and Price Indices, which are also useful for updating it.

This experience of INEGI-Mexico is proposed for discussion at the workshop in session 5 of the 28<sup>th</sup> Wiesbaden Group meeting. The evaluation of the SBR will be carried out in the seven dimensions considered by the SBR Maturity Model: a) Legal and institutional framework, b) Data sources, c) Maintenance and update, d) Coverage, e) of the SBR, e) IT environment, and f) Interoperability, with the aim to receive insights and feedback that will surely be useful for improving the current progress of Mexico on this matter.

## **I.- Introduction**

According to the draft of the Manual on the Maturity Model for Statistical Business Registers, one of the most important characteristics of a Statistical Business Register is that it has the capacity to reflect, as far as possible, the real world of businesses and thus constitute the backbone of the statistical system. To achieve this, it is essential to have permanent updating procedures, and in this regard, the self-assessment questionnaire of the Statistical Business Register is a very useful tool to measure and assess the state of maturity of the Business Register in different aspects.

Therefore, this document describes a general overview of the Statistical Business Register of Mexico (RENEM, by its acronym in Spanish), and specifically shows the assessment results on each of the seven dimensions of the Maturity Model for establishing the way forward to improve it in some areas of priority.

## **II.- Main characteristics of the Statistical Business Register of Mexico**

The Statistical Business Register of Mexico was created in 2009 and it constitutes the backbone of the processes for producing economic statistics by fulfilling two fundamental functions: integrating basic information –current and historical– of all businesses located in Mexico, information provided by statistical and administrative sources, into a relational database for statistical purposes only and being the main source of information for other economic statistics programs. The SBR integrates and relates the information on the characteristics of all the statistical units in a database, including their changes over time (historical record).

As the backbone of all programs for economic statistics and as the only source of updated business information, the main users of the SBR are the units of General Directorate of Economic Statistics at INEGI. So, the SBR is useful for:

- Generating the frozen frames for the design of business survey samples and the directories for capturing information from the different economic statistics programs.
- Integrating and linking data from public and private statistical and administrative sources
- Producing statistics by combining its data with other statistical and administrative sources.
- Publishing information of the businesses in Mexico and including their geographical coordinates in the National Directory of Economic Units (DENUE by its acronym in Spanish).
- Producing information on business demography through longitudinal studies.

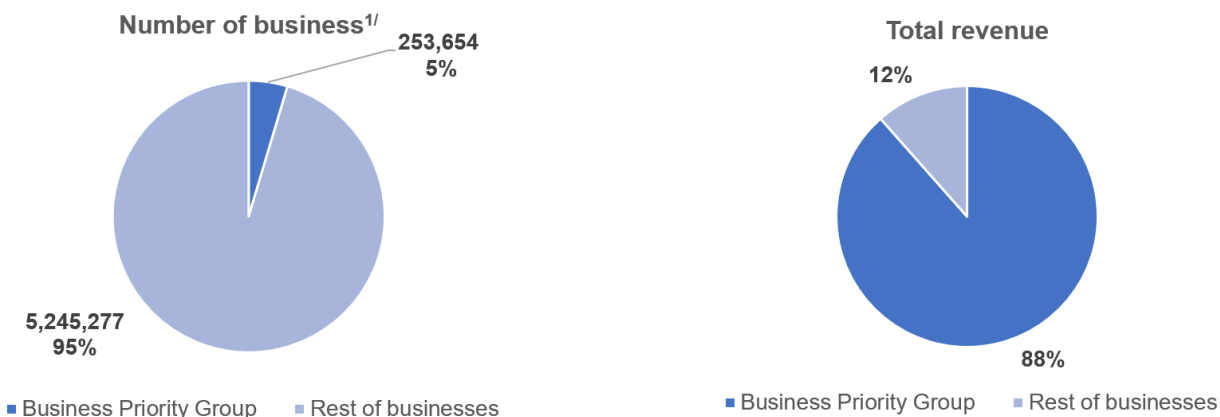
Based on international recommendations the SBR of Mexico also complies with the following characteristics:

- It is a structured database with basic information on the characteristics of all businesses and the relationships between them including historical records.
- Includes unique identifiers for ensuring that economic units are easily identified and are not duplicated.
- Have a time stamp, that is, record the date on which changes to the SBR are made, namely, the day, month and year in which data is updated, and know through which information program updated information is obtained.
- The public part (DENUE) is published considering that data from individuals is confidential and is not disseminated or shared in a nominative form with other agencies.

Regarding the composition of the SBR, it is made up of two subsets of economic units, that are: a) The Business Priority Group, which includes the largest companies in the country according to their revenue, participation in the digital economy, for being part of strategic sectors of the economy (as the energy sector), those that develop international trade, as well as businesses that participate in an enterprise group, among others, and b) The subset of the rest of the businesses, which are mostly micro, small, and medium-sized.

The following graphs show as of November 2022, that the Business Priority Group represents 5% of all businesses in the SBR, nevertheless it contributes with 88% of the total revenue.

## Participation of the Business Priority Group: Number of businesses and revenue.



<sup>1/</sup>Number of businesses are referred to as the active establishments, which are the basic unit of observation in the SBR (update: November 2022)

The multidimensional approach of the self-assessment questionnaire for determining the maturity level of the Statistical Business Register of Mexico allowed the identification of strengths and improvement areas. In this sense as a starting point, since it is important to define a program to implement actions for its improvement

- The main updating source of the SBR are the Economic Censuses, these are carried out every five years, and the update is comprehensive both for the most important businesses (those that are part of the Business Priority Group) and for the rest of businesses as well.
- In the intercensal periods, the update of the SBR mainly focuses on the group of the most relevant businesses, based on the necessary field operations to collect data for Business Surveys, Price Indices, and verifying the businesses identified in the administrative records that are provided by other agencies, such as the Mexican Revenue Agency and the Public Enterprise that provides electricity in the country (CFE, by its acronym in Spanish).
- The self-assessment questionnaire for the Statistical Business Register is mostly oriented towards the Business Priority Group of the SBR.

Prior to this evaluation, the team of the Directorate of Economic Statistics at INEGI discussed on the expectation of the results, so the objective was oriented toward recognizing the maturity level of the Statistical Business Register of Mexico, by applying the self-assessment questionnaire to identify strengths and opportunity areas and define a program to implement actions for its improvement. The results of the self-assessment in the seven dimensions of the Model are covered, nevertheless this document focuses on some specific aspects of the SBR of Mexico with the aim to highlight them based on this evaluation.

### **III.- Evaluation of the SBR of Mexico**

Regarding the first dimension on the **Legal and institutional framework**, there are two basic elements in Mexico which explicitly establish the relevance of the SBR, as well as its update: a) The Law of the National Statistical and Geographic Information System, and the Technical Standard for the Incorporation and Updating of Information in the Statistical Business Register of Mexico.

The Law of the System establishes the existence of the SBR as part of the information infrastructure and its general characteristics. It also states that its use is mandatory to organize the administrative records from which Information of National Interest can be obtained. Moreover, the Law explicitly mentions the principle of confidentiality necessary for maintaining the SBR. On the other hand, the Technical Standard, regulates the incorporation and update of the information contained in the SBR.

In addition, INEGI-Mexico also establishes Memorandums of Cooperation for facilitating the access to data with the aim to also update the SBR (i.e., registers from the Mexican Institute for Social Security), and these Memorandums provide supplementary elements to accordingly connect the Law of the Information System with specific legal frameworks from other public agencies.

So, based on the above comments and the answers provided to the questionnaire, the SBR is in **Advanced stage** for this dimension.

In the case of the second dimension on **Data sources for the SBR**, INEGI-Mexico uses the Economic Censuses, which fully update the SBR every 5 years; Business surveys that collect monthly information to update the SBR, National Price Indices, visiting establishments monthly and capturing changes in businesses, which are reflected in the SBR; and the administrative records annually received by INEGI, enable the identification of new businesses.

It is important to note that all the information provided by establishments from all the mentioned sources are verified through on-field operations and are included in the SBR once it is confirmed that there is no

duplication with any other economic unit. Therefore, based on these characteristics and the answers provided, the SBR is in **Early stage** for this dimension.

Regarding the third dimension on **Maintenance and update of the SBR**, in Mexico the Economic Censuses provide a full update of the SBR (it covers the two subsets previously explained: The Business Priority Group and the rest of the economic units), and it is carried out every 5 years. In fact, next year INEGI-Mexico will fully update the SBR with the 2024 Economic Census.

In other years -when the information provided by the Censuses has not been available-, the update is partial and derived from Surveys (including the collection of prices), as well as from administrative records, which are received regularly. This updating is focused to the Business Priority Group; in other words, the update is aimed at businesses that play a key role in the Mexican economy and are also useful for the National Accounts' calculations.

According to the Generic Statistical Business Process Model (GSBPM), the SBR update goes through a process that includes designing, processing (validation, cleaning, revision of consistency), as well as information analysis.

The update of the SBR includes a set of variables with data on identification, location, economic classification, number of employees and total revenue; moreover, in terms of demography, the births, deaths and changes are recorded in the surviving units. With all these elements and the answers provided to the questionnaire, the SBR is in **Mature Stage** for this dimension.

Regarding the fourth dimension on **Coverage of the SBR**, the observation units currently included in the SBR of Mexico are establishments and enterprises. Financial and non-financial corporations, government offices in general, as well as non-profit institutions serving households are included.

The variables for each of these units include the address, geographical coordinates of every observation unit, start-up year, number of employees in each establishment, activity carried out (based on the use of the North American Industry Classification System, NAICS which is comparable with ISIC rev 4), among others. Moreover, the SBR's database contains fields that identify whether the records are active or inactive.

The conceptual design of the SBR responds to several international recommendations. Furthermore, through the unique identifier, which is the Statistical Business Code (CLEE by its acronym in Spanish), it is possible to link records with other internal and external datasets, such as the Economic Censuses, Business Surveys or Custom Declarations. Additionally, the public part of the SBR, which is the National Directory of Economic Units (DENUE), enables the geolocation of establishments with the highest disaggregation level of industry (six digits of NAICS, which is the activity class).

So, based on these elements and the answers provided to the questionnaire, the SBR is in **Advanced stage** for this dimension.

In the case of the fifth dimension on **Use of the SBR**, for Mexico it is the basis for annually producing the sampling frame for business surveys, with the characteristics they are customized and standardized with. Moreover, it is important to note that double counting issues are limited; however, cases are analyzed for their deletion in both the SBR and the sampling business frame.

On the other hand, its public part (DENUÉ) is valuable for the SBR itself, since DENUÉ is available on INEGI-Mexico's website, and it has become a mean to also update the SBR since business owners ask to be registered or simply to update their published information.

The SBR has also been helpful for microdata linking with other data sets, and it has allowed the development of new statistical products by INEGI-Mexico. Examples of these are the Profile of exporting manufacturing companies and Exports by State. These products are the result of linking business and trade statistics.

With the answers provided to the questionnaire and the described aspects on the characteristics of the SBR, it is in **Advanced stage** for this dimension.

The sixth dimension on **IT Environment** considers that the SBR of Mexico includes organized information in a database made up of related tables that contain information for every economic unit, and the systems have been developed to collect information (electronic questionnaires) and to process it after the capture. Some of the processes still require manual review by the staff working in the analysis of the SBR to apply the necessary corrections.

The SBR is integrated into a system that facilitates the preparation of the products generated from it, such as the frozen frame, DENUÉ, and the directories for the on-field operations of the Economic Censuses, Surveys and Price Indices. Therefore, based on the answers to the questionnaire and these characteristics, the SBR is in **Early stage** for this dimension.

Finally, regarding the seventh and last dimension of the self-assessment that is the **Interoperability of the SBR**, it is important to highlight that the SBR of Mexico receives updated information from its sources through a data import process that requires constant human intervention for review and validation.

Furthermore, there is a unique identifier (CLEE) that enables identifying the units within INEGI-Mexico's economic statistics programs and linking them to develop other statistical products (as it was pointed out, those that link business and trade statistics).

For a successful match among the SBR and external records, it is necessary to carry out a cleaning and homologation process of the information provided by other agencies to facilitate the task of connecting the datasets.

So, based on these elements and the answers provided to the questionnaire, the SBR is in **Advanced stage** for this dimension.

#### IV.- Conclusions

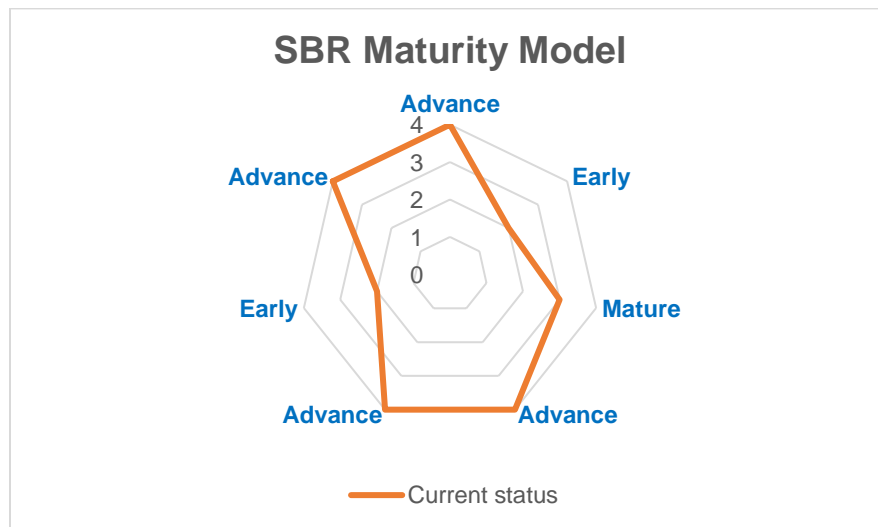
The result of the assessment indicates that **the overall maturity level of the SBR of Mexico is *Mature***. Nevertheless, it is important to note that this result is based on the subset of the Business Priority Group since it is annually updated, and the Economic Censuses provide a full update of the SBR every five years.

#### Evaluation result

Dimension	Description	Current status	Level
1	Legal and institutional framework	4	Advance
2	Data sources for the SBR	2	Early
3	Maintenance and update of the SBR	3	Mature
4	Coverage of the SBR	4	Advance
5	Use of the SBR	4	Advance
6	IT Environment	2	Early
7	Interoperability	4	Advance



## Result chart



As pointed out, the Business Priority Group is updated through several sources that provide information from field operations, such as Business Surveys, Investigation carried out for Price Indices purposes, the verification of registers provided by other government agencies, as well as the updates provided directly by business owners through DENUE.

With this scenario it is important to improve the scope to update the SBR beyond the Business Priority Group on annual basis, so for that reason INEGI-Mexico is elaborating Memorandums of Cooperation with government agencies to access data on micro, small and medium enterprises (MSME). Moreover, the feasibility to undertake some surveys during intercensal periods, such as the Business Demography Study that was carried out during the years of the pandemic by COVID-19 and oriented towards the MSME is being analyzed.

In addition to the aspect mentioned above, it is also important to highlight the need to conclude the SBR General Management System to strengthen the routines for updating the register based on field operations on every establishment.

Regardless of these two priorities, INEGI-Mexico is investigating some Enterprise Groups for their profiling and inclusion in the SBR as observation units, as well as keeping up the work to link the SBR with other datasets for producing new experimental statistics and enriching the analysis on emerging topics, such as gender in business and trade statistics.