

IMPLEMENTATION OF THE NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) IN MEXICO

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Background

In November 1993, INEGI joined to the works that the United States and Canada were developing to construct a new classification of economic activities, based on the concept of the production function: the North American Industrial Classification System (NAICS).¹

The new classification is used by Mexico, the United States and Canada for all the production and analysis of economic statistics, in substitution of the classifications previously used in the three countries.

Objectives

Besides the intention to achieve comparability between the statistics of Mexico, Canada and the United States, NAICS was constructed with the objective to unify for the first time the economic statistics generated in all of INEGI's areas, so that the data generated by each one of them are complementary and comparable.

Reaching such objectives has requirements: the integral implementation of the new classification through the joint work between the producers of statistical information; the participation of the experts who cooperate in the update of NAICS and the users interested in its improvement.

Commitments of the areas that produce economic information at INEGI

NAICS implantation implies the adoption, on part of all the areas that produce economic information at INEGI, not only of a new set of industry codes and names, but of the whole conceptual framework that sustains the new classification. The adoption must be integral and the work between the areas must have permanent character if it is wanted that the results of the diverse projects can be compared to each other and maintain consistency and complementariness among them.

To adopt the same conceptual framework means, among other important aspects, to use the same observation units; the same classification criteria; the same concepts in the same way, and to name different concepts in different form, by agreement between all the areas. For example: before NAICS, in Trade Surveys the concept of "establishments with commercial activity" comprised only establishments that performed the "product transaction (buy-sale) without transformation" while the Economic Census, besides including establishments that made the transaction without transformation, also included those that carried out only one part of the process: the purchase or the sale and, in fact, what the areas denominated as "Trade" was different for each one. In general, the

¹ The *North American Industrial Classification System Mexico, 2002* Manual contains the classification's background, principles and criteria; the explanation of its structure; titles and descriptions of the categories; correspondence tables with SCIAN (SCIAN stands for NAICS in Spanish) Mexico 1997 and some annexes to define possible imprecisions.

SCIAN Mexico 2002 is available in INEGI's website, "Información Estadística" section, "Metodologías" link, in the "Clasificadores y directorios" section, as Sistema de Clasificación Industrial de América del Norte.

implementation of NAICS will result in the respect for common standards constructed and agreed to by all the areas within the framework of the new classification, which will allow the homogenization of the procedures in the process of producing economic statistics and the comparability and complementariness of the data.

Strategies to implement NAICS

The unification of the economic statistics under NAICS requires coordinated actions to obtain the implantation that guarantees such homogenization. During the meeting of the United Nations Expert Group on International Economic and Social Classifications, held in December 2003, the creation of groups assigned to the work on classifications and their methodology was recommended. In Mexico, the Economic Classifications Subdirection, that depends on the National Accounts and Economic Statistics General Direction, centralizes the work on economic classifications and is responsible of coordinating the implementation of NAICS in the Institute and of promoting its implementation in all the organizations related to the matter.

The existence of different classifications for different projects at INEGI had allowed that the changes to classifications responded to very specific necessities, in agreement with criteria designed by independent areas. Thus, the implementation of a single classification of activities for diverse projects implied for the Institute the challenge of constructing a classification system with the necessary characteristics to cover the requirements of all the projects, and the responsibility to carry out the implementation process of the classification so that its functionality in each one of them is guaranteed.

Central actions of the Economic Classifications area to implement NAICS

INEGI coordinates the Statistics National System. In this case, it is the custodian of SCIAN in Mexico by means of the work performed by the Economic Classifications Subdirection, which promotes the following actions tending to NAICS implementation.

1. Identification of the economic classifications that had been in use, and definition of which are the central classifications (those used before NAICS in each one of the areas of the Institute in agreement with their field of application) for projects whose subject matter is the same, for example the Mexican Classification of Activities and Products (CMAP in Spanish) that was of generalized use in the Economic Census and the surveys.
2. Identification of the correspondence tables² that are required to relate NAICS to the national classifications used in the past by each one of the projects. Determination of which tables would be released to the public and which would be of internal use. Correspondence tables between SCIAN and CMAP were produced.

² Correspondence tables are tables of equivalence between two classifications and can help in comparisons towards the past, since they only link economic activities included in both classifications at theoretical level, but not the very data. That is to say, in the correspondence tables a certain NAICS economic activity can be linked with one of the economic activities of the other classification or with parts of some of its activities, for example of the CMAP (Mexican Classification of Activities and Products).

3. Identification of the correspondence tables that are required to be able to relate NAICS to similar international classifications. The correspondence table between SCIAN México and the international classification of reference: the International Standard Industrial Classification of All Economic Activities, Revision 3.1 (ISIC Rev. 3.1) and ISIC Rev. 3 of the United Nations was prepared.
4. Formation of working groups to review the correspondence tables with the purpose of generating official tables endorsed by each one of the areas that use them. The correspondence tables that have been constructed up to the moment between SCIAN and other classifications are the following ones: SCIAN 97-CMAP 94; SCIAN 97-SCIAN 2002; SCIAN 97-SCNM 93 (Sistema de Cuentas Nacionales de México 1993); SCIAN 97-CIIU-3; SCIAN 2002-SCNM 93; SCIAN 2002-CIIU 3.1; SCIAN 2002-NACE 1,1 (the last one is still under construction). Also, correspondence tables between NAICS and classifications designed for specific purposes are being constructed by the own users. Furthermore, the construction of correspondence tables between classifications of different nature is carried out, for example, between SCIAN 97 and CPC (Central Product Classification) 1,0, as well as between CPC 1,1 and the codification of the National Survey of Household's Income and Expenses (ENIGH in Spanish), these last ones required to be applied in some projects of the Institute.
5. Supervision and participation in the redesign of product catalogues and alphabetical product catalogues in agreement with the new classification, as well as its update. The products were relocated if the classification category to which they corresponded underwent modifications when NAICS was constructed. In addition, the product catalogues for the Economic Censuses 2004 have received feedback from the development work of the North American Product Classification System (SICPAN in Spanish).³ Taking as a basis the 35 product lists corresponding to NAICS sectors 51, *Information*; 54, *Professional, Scientific and Technical Services*, and 56, *Administrative and Support, Waste Management and Remediation Services*, product catalogues for 67 national industries of those sectors researched during Phase 1 of NAPCS were produced. At this moment the analysis of the information collected on products in the 2004 Economic Census is about to start.
6. Identification of which are the projects that require the use of classifications derived from NAICS (operative classification) and validation of their construction. At the moment the projects that have required the preparation of operative classifications are the Census of Population and Housing, ENIGH and the National Survey of Urban Employment (ENEU in Spanish). It is worth noting the Economic Classifications Subdirection was in charge of the production of the Economic Census operative classification, named *Economic Census SCIAN Mexico, 2002*.
7. Revision of the progress in NAICS implementation and of the work schedules for each project. To the date, the projects that have generated economic information under NAICS structure are the 1999 and 2004 Economic Censuses, the 2000 General Census of Population and Housing and the 2000 and 2002 National Survey of Households' Income and Expenses. The different economic surveys, the System of National Accounts and the Direction of Input-Output (responsible for the Input-Output Table), are in process of implementing NAICS.

³ The North American Product Classification System (NAPCS) is under construction upon an agreement between Mexico, Canada and the United States.

8. Custody that INEGI's projects apply NAICS according to the classification's criteria of construction. The homogenization of concepts, criteria and standards in general and the complementariness of the information depend largely on taking up the criteria accepted by all the areas and published in SCIAN Mexico 1997 and SCIAN Mexico 2002 versions; for that reason it is important to maintain a close relation between the area in charge of NAICS construction at INEGI and the different users who implement it. Due to the 2004 Economic Census, works of conceptual homologation and the homologation of classification codes between the Economic Censuses and the different surveys were carried out. In these works one detected that the classification differences obeyed to diverse factors such as: the use of different observation units, different classifying criteria and differences to interpret the contents of NAICS categories.
9. Training activities. The depth of the change is evident, the very definition of a great amount of economic activities and their limits changed. For a project to adopt NAICS, it is necessary to train the personnel who works in the area, both on structure/content of the categories of the classification as on its conceptual framework. For the implementation of NAICS, training has been carried out for the higher management of the Institute as well as for personnel of the areas that perform the projects; for example, personnel of the Economic Census, the Monthly and Annual Manufacturing Surveys, Services Survey, Trade Survey, the Construction Survey, etcetera. In addition, taking into account that NAICS will be more important upon the publication of the 2004 Economic Census and that public and private institutions will be more interested in implementing it, remote advanced training courses on this classification are being designed in order to satisfy the necessity on its knowledge and handling. An automatic search system is also being designed, in which the user will be able to identify in which NAICS national industry a specific economic activity is classified, and the search can be done by activity, establishment or product.
10. Consulting services. For the production of comparable data by the organizations that generate economic statistics, it is necessary to respect the established conceptual framework in NAICS and to define each case of classification in agreement with that frame. Besides carrying out the training courses, the Subdirection addresses requests of the areas with respect to doubts on economic classifications and methodology. For the 2004 Economic Census, answers to classification doubts were given through an automated module of questions and answers.

As for requests of external organizations, INEGI has attended requests on economic classifications of diverse institutions, such as: the Tourism Secretary, the Tributary Management System (SAT in Spanish), the Consumer Federal Office of Advocacy (PROFECO in Spanish), industrial chambers, researchers, private institutions and other users interested in the matter.

It is worth noting that information and collaboration meetings have been held with the Coordination of Public Policies of the Presidency of the Republic; with secretaries of economic development of the states, and with employees of the Bank of Mexico.

Actions by INEGI's areas to implement NAICS

NAICS implementation requires a great amount of work by the areas to make all the tasks that are needed upon the change of classification. The substitution of the previous classification with NAICS is not a simple process, because a change of classification has repercussion in most of the aspects that must be considered for the collection and publication of economic statistics. The different strategies raised are based on the identification and grouping of the different economic activities. Therefore, the implementation of the new classification forces areas to:

1. Redefine their thematic and sectorial coverage.
2. Determine the detail level with which NAICS will be used. Not in all projects the NAICS national industry level is used to publish; according to the nature and scope of the project, the industry, industry group, subsector or sector level is chosen, provided parts of the defined categories are not taken and added with other new categories, and that the statistical projects that present information at the industry group or some other superior level of aggregation mention it specifically. In other words, all the areas that generate information maintain their right to publish data using the most convenient aggregation according to their objectives, but respecting the restrictions that are agreed to between all areas. ENIGH and the Census of Population published their information at the sector level, and even joined some sectors in a single category.
3. Define the observation units. These should be agreed between all the areas based on the study universes of the projects, taking in consideration their coincidences and differences, as much in coverage as in objectives. For example, if for a certain sector of activity the Economic Census used the "establishment" observation unit, by means of which the economic unit is classified in agreement to its main activity, it would not be valid that some survey or the System of National Accounts used for that same sector the "establishment as homogenous unit of production" observation unit, which considers economic activities developed within a same physical location and under the control of a single proprietary organization or controller as independent observation, since it would generate inconsistent data between the sources.

It might be that the study universe is wider in a project than in other one, in which case the former perhaps has the necessity to use an additional observation unit to cover the part of the universe that is not object of the other program. But at least for the common part of that universe, the observation unit must be the same if one wants to obtain consistency between the projects.

4. Use the same classification criteria. Among the aspects about which agreements were achieved one can highlight:
 - The definition of the main activity of the observation unit.
 - Limits between activities.

- To decide what should be done when in the same establishment activities of different sectors are developed (define in which cases more than a questionnaire will be applied; when a certain priority will be given to an activity over another one).
 - Decide what should be done in the cases of integration (horizontal or vertical) of establishments.
5. Redesign the samples. The necessity to redesign the samples used by the surveys should be emphasized, because the criterion with which they are constructed is that they are representative of at least 80% of the value of total production for each national industry that is decided to include in the sample; with the change of classification, establishments currently in the samples not necessarily cover that percentage.
 6. Redesign the instruments of data collection (enumeration index cards, questionnaires, among others). The definition and design of the questionnaires that were applied to companies and establishments depended partially on NAICS implementation.
 7. Redesign products and inputs catalogues for the new NAICS industries, and also for the alphabetical product catalogues and generic activities lists.
 8. Define instruments that would allow users to establish historical data comparisons. Determine the detail level to reconstruct series according to NAICS and how many years back they are going to cover. In addition, the implementation process requires a transition phase (preparation of parallel data series) in which both the classifications used before NAICS and the information based on that classification are shown, in such way that one will have the possibility to compare data on two or more different dates based on one classification or other.
 9. Update the data processing, revision and analysis procedures.
 10. Adapt the capture and data validation system.
 11. Adapt tabulations for data presentation.
 12. Carry out training activities. Since classifications —as daily use instruments— are very familiar for the personnel involved in all phases of any project that generates economic statistics, NAICS training for personnel is a preponderant goal in the implementation plans within every area.

From the point of view of INEGI data users, the change of classification will have a sizeable impact, which is the reason why special emphasis will be put on the training of personnel involved in user's attention and in the preparation of NAICS workshops for users.

NAICS adoption means, in short:

- To directly use the new classification, not by means of correspondence tables; that is to say, use agreed categories exactly as they have been defined, and not to create different categories in any situation. NAICS replaces previous classifications; the only valid way to rearrange information according to another classifier is because of special requirements, for example, with the ISIC structure, in order to be comparable with other countries.
- To look for greater integration between areas: every adopted rule should be the product of the combined work by the areas, and this work should be permanent, it is not going to finish once the classification construction is over. On the other hand, to adopt the agreed rules between all areas equals to accept that particular rules that affect the comparability and complementariness between projects can not be produced.
- In order to secure the homogeneity both in conceptual and classification aspects, all the criteria agreed between areas will be explicitly explained in the publication of the new classification. In the same way, in each project's data publications the procedure followed in terms of classifications, criteria and chosen levels of the classification should be explained.

INEGI's commitments to society

INEGI's work in relation to NAICS is to consolidate its use within the institution and to work with persistence in spreading it, until attaining that other institutions -either producers or users of information- in the country also adopt it, and then it is possible to say that for the first time in the history of the country the economic statistics are generated based upon a single classification: the SCIAN Mexico.

In order to diminish the impact of the change of classification and the consequent rupture of time series, INEGI will publish during a certain period the data not only under NAICS, but also under the classification that each project had been using. In addition it will publish correspondence tables between NAICS and each one of the classifications that were used before NAICS, which may help to make comparisons towards the past.

Since the first NAICS version was the result of a joint work of the diverse INEGI areas that either use or generate statistical information (censuses, surveys, system of national accounts) and of the society (investigators, chambers, associations, economic units of the public and private sectors), in each one of the reviews of the classification the proposals of changes are taken into account and those that are appropriate are included in the new version of the classification.

Furthermore, since it was decided that NAICS had a process of permanent update, because it will be revised every five years, NAICS users are informed of the changes incorporated between versions.

Conclusion

The participation of the Economic Classifications area in the design and development of NAICS, as well as in its implementation in the different INEGI projects, has been excellent from any perspective, because the approach between the "maker" and the "implementer" allows to closely know the information necessities of the users; it is possible to evaluate the functionality of the classification criteria and the effectiveness of the training strategies, the identification of the classification problems in field, the precisions that are necessary to do in the descriptions of the classification, the necessity to design collateral tools that allow to solve classification doubts in field. In short, "to live the experience of applying the classification" intensifies the commitment to improve it more and more and it induces us to know in a more precise way the evolution of the economic activities.

ANNEX 1. INEGI projects users of NAICS

National Economic Census

Mexico's National Accounts System

Surveys in establishments and companies (monthly and annual):

Monthly and annual manufacturing surveys

Services Survey

Trade Survey

Construction Survey

Survey on Business Economic Activity

Surveys in Households:

National Survey of Household's Income and Expenses

National Survey of Urban Employment

General Census of Population and Housing

Agriculture Census

Other basic statistics projects:

Mining and Metallurgical Industry Statistics

Maquila Export Industry Statistics

Other derived statistics projects:

International Commerce Statistics

Social and Demographic Statistics

As well as all INEGI's products that make reference to the economic activity and that are nurtured from the data obtained in the cited projects.