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"Implementing the SNA 2008 in Mexico's SUT and IOT for the base year 2008"

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Abstract

This paper addresses the National Institute of Statistics and Geography (INEGI) experience in the compilation of the Supply and Use Table (SUT) and Input-Output Table (IOT) for the benchmark year 2008 for the Mexican System of National Accounts.

It has been decided to use fixed base year, the most recent base year has been published in the mid-2013. Within the compilation of SUT it has been implemented the international recommendations of the SNA 2008, the G-20 and the IMF ROSC for Mexico.

Local law since 2008, established to shorten the switch of the benchmark to 5 years; on the other side there have been efforts to keep publishing the annual series, short-term and regional indicators of Mexican SNA based on the later benchmark year 2003, to improve the availability of data for the users of official statistics.

In order to implement the international recommendations, the SUT and IOT compilation was performed by direct methods with a high level of detail in the process of balance, also different sources of information were added.

The new annual, short-term and regional macroeconomic indicators series of the Mexican SNA have as a benchmark the SUT and IOT for 2008; time series horizons have been extended with the benchmark year to 2003 in the annual series, and up to 1993 in the Quarterly series.

It has also been established a calendar with two annuals versions to accelerate the availability of statistics of the Mexican SNA in an environment of a policy of revision of figures in INEGI. Mexico has also share information classified into World KLEMS project.

In accordance to North American International Trade Agreement (NAFTA), Mexico shares the North American Industrial Classification System (NAICS) as Activity Classification, so that SUT and IOT 2008 has been integrated and published with the NAICS 2007 version and for the first time published at 4 digit level of disaggregation giving 262 Products and Activities.

From the open 58 items set in the 44 SNA 2008 recommendations, 37 were implemented in the benchmark 2008 year. The subjects are related to Non Financial Assets, Government and Public Sector, Financial Services, Rest of the World, Ancillaries Activities, Informal and Illegal Activities.

In addition, an Industry-by-industry input-output table was elaborated. This table aims to help National Statistics' users to monitor economic activities with secondary products. As concluding remark, the institutional effort to improve the database's quality and quantity is part of the exchange experience and the future challenges to improve the SUT and IOT into the framework of international recommendations.

The SUT and IOT are the beginning of the end of the cycle of actualization that starts with the NAICS revision and followed by the economic Census. It has been planned to change the base year for 2013, and the process is on the run, the paper also documents the steps to accomplish this goal.

Introduction

The 2008 System of National Accounts (SNA 2008) establishes a conceptual and accounting framework, it is used to create a macroeconomic database, suitable for the analysis and the evaluation of the performance of the economy.

The purpose of this paper is to show the progress in the implementation of the recommendations proposed by the 2008 SNA and the results for 2008, the most recent Base Year; the later improves the countable practices and the international comparability on the treatment of statistical information as part of a continuous progress. This work included the consultation with specialized users of the System of National Accounts of Mexico (SNAM).

The system is a conceptual and accounting framework; it can be used for quantifying macroeconomic variables: production, income, consumption, accumulation, and the balance sheets and flows of financial assets and liabilities, as well as non-financial data for the analysis and evaluation of the economy.

The SNAM presents annual results in two perspectives by economic activity and institutional sector. The first aims to get 2008 as the base year of statistical calculations for developing the SNAM, which is exhaustive reviewed in order to take into account the correct sources of information for upgrading the productive structures, the temporal and geographic coverage, as well as the valuation at current and constant prices.

The second approach is a new treatment in the National Accounts, which starts its study through economic circuit by institutional sectors: households, government, rest of the world, divided into financial and non-financial corporations. The approach for institutional sectors begins by identifying the production and generation of primary income by institutional sector and proceeds to identify the distribution of income flows, transfers, taxes, general government expenditure, factors of production payments, consumption, accumulation, changes in the value of assets, etc.

The update of the SNAM began with the development of Symmetric Supply and Use Tables (SUT) and Input-Output Tables (IOT) for 2008. This process incorporated the recommendations of the new 2008 SNA manual [1] ; the observations made by the IMF mission were reflected in the "Report of the Observance of Standards and Codes" (ROSC); additionally the 2007 North American Industrial Classification System 2007 (NAICS 2007) was consulted.

The next scheme shows the 2008 base year implementation process and the importance of the IOT within the generated information workflow.

Scheme 1. 2008 SNAM: Elaboration and Implementation
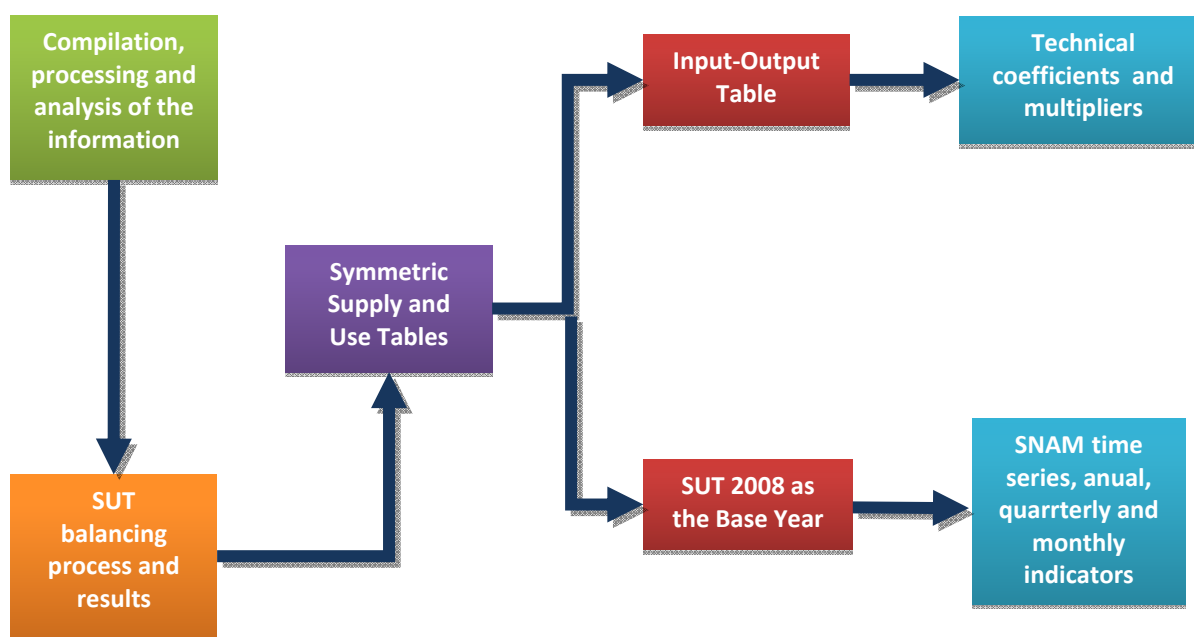
Opportunities on the 2008 SNA implementation

In order to evaluate the implementation of the 2008 SNA, the OECD has applied a survey to its countries members, which included practical and conceptual questions about the 2008 SNA application, the adjustment of the institutional sector and the financial and non-financial accounts requirements.

In line with the survey results, there are different scheduled dates for the implementation of the 2008 SNA.

Prepare and Implement 2008 as the base period for the SNAM's update

The SNA update consists in adopting a new base year by developing the supply and use tables, and a symmetric Input-Output Table which is referred to 2008 and it has been published on August 2013. This process alludes to national and international guidelines:

- The System of National Accounts (2008 SNA);
- The FMI Report on the Observance of Standard and Codes (ROSC);
- The 15th G-20 Requirement (Balance Sheet);
- The requirements derived from public surveys done to 2012 SNAM users.

The general process is shown on Scheme 2, it presents the SNAM results.

Scheme 2. General Considerations for the implementation of 2008 as the base period
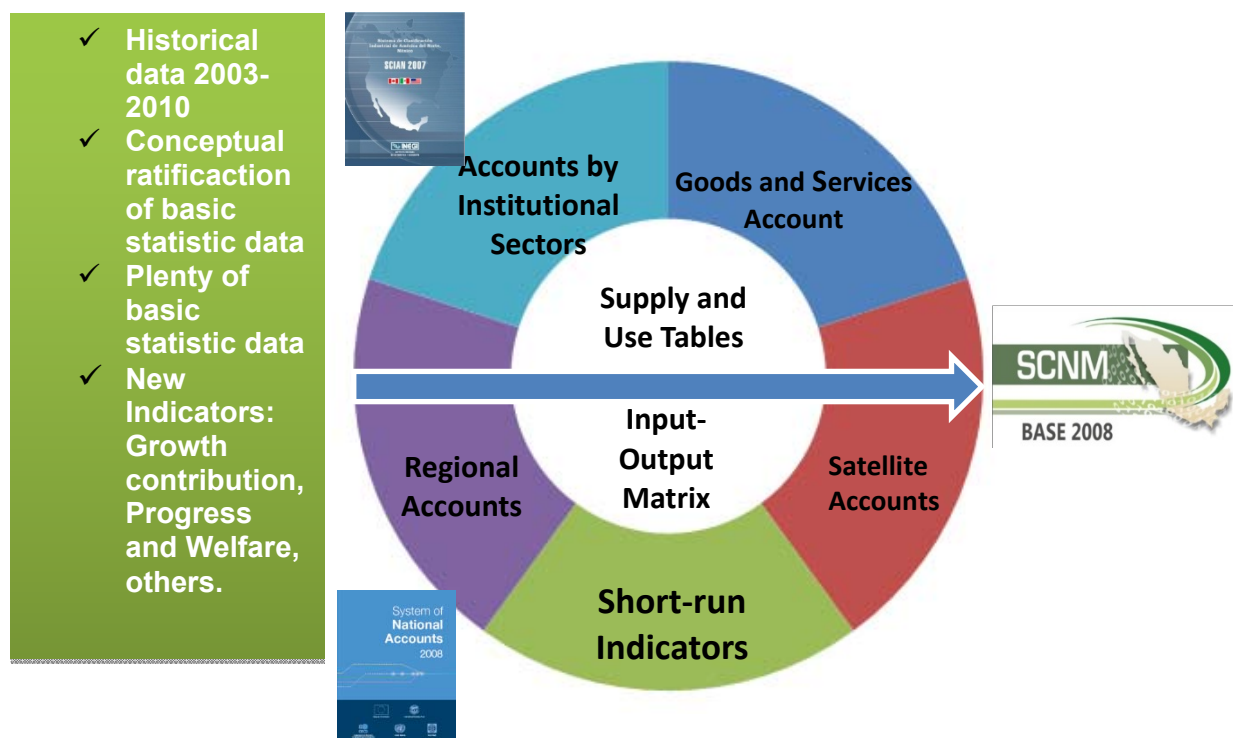
Methodology for applying 2008 as a base year

The process of changing the Base Year begins with the compilation of supply and use tables (SUT) and Input –Output Tables (IOT) to the reference period; this process demands detailed disaggregation of available data for the base period. The SUT record the way the household activities and the imports provide or supply goods and services, their distribution and their intermediate and final use.

These tables implied the construction of a group of production and income distribution by industries accounts: establishment groups, which production is homogeneous and they give additional information on labor, on its distribution by industries and by occupational level, as annual average compensations received and the productivity of persons employed.

2008 BASE

The 2008 SUT are the basis to develop the Account of Goods and Services, the Public Sector Macroeconomic Indicators and the Accounts by Institutional Sectors, combined to state and local governments, short-run calculation by federative entity and satellite accounts.

Scheme 3. Methodology of 2008 as Base Year
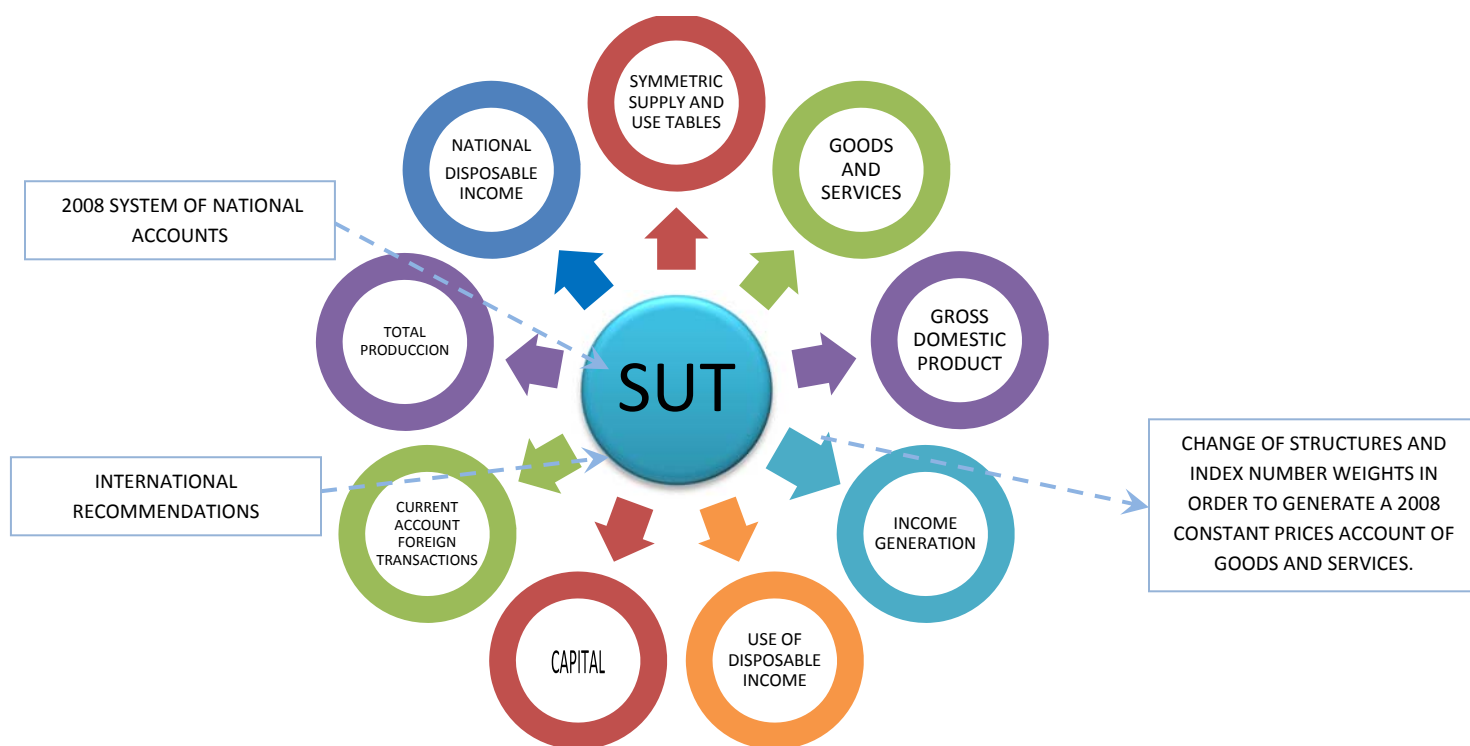
2008 as the new base year

The base year is the period used on statistics to highlight quantitative and monetary characteristics of economic transactions. The purpose to employ a base year on the economic analysis is to evaluate in a comparative way the performance of the Mexican Economy and its sectors, measured at constant prices.

First of all, an evaluation of 2008 as the base year of the SNAM data was made. The main criterion for this decision was the economic and social stability presented through this year: a moderate economic growth (1.22%), a single-digit rate of inflation similar to previous years (6.53%), and also without highly significant political and natural events occurred during the year.

Another main criterion took into account was de availability of information sources.

Scheme 4. Information Sources consistent with NAICS 2007
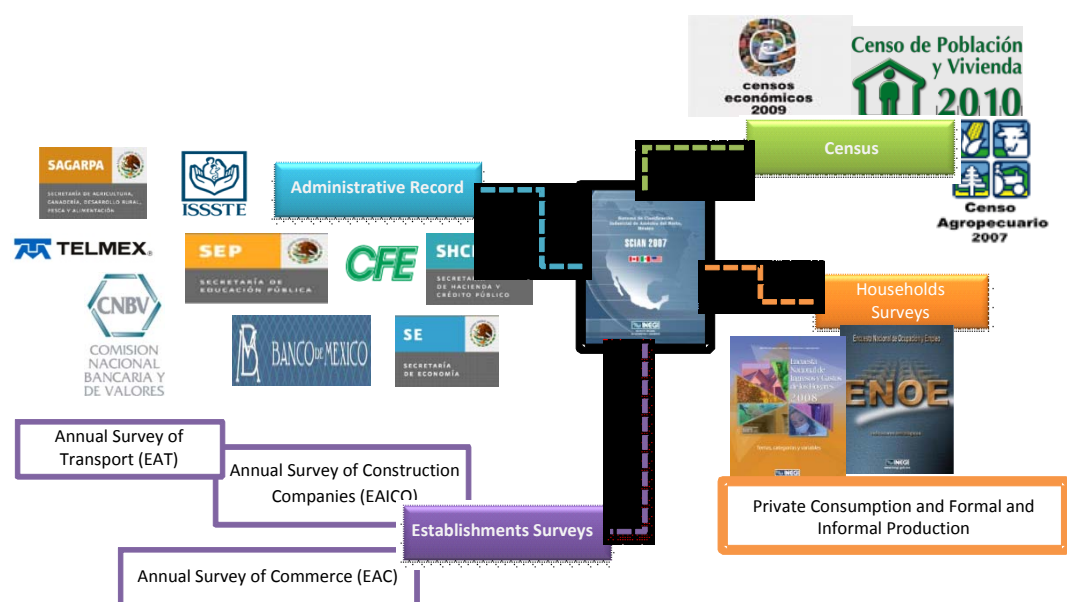
Additionally, as a result of the North American Free Trade Agreement (NAFTA), Mexico obtains a classification system which is consistent with the ones of the United States and Canada; it is updated every 5 years and is represented by the – 2007 NAICS ; in the same line, Mexico has a General Taxes of Import and Export Standard (TIGIE-NAICS).

Beside the reasons to select 2008 as the base year of the SNAM data it is important to be timely in the adoption of the recommendations on the five-year update of the SNAM base year; it allows updating the database for measuring the economy in presence of economic, institutional and technological changes. In addit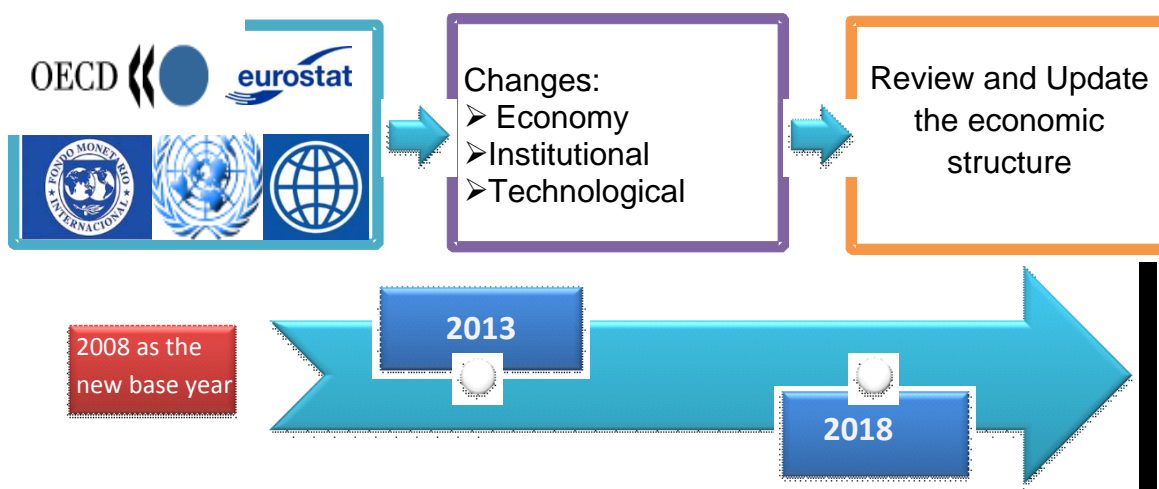ion, it allows to review and update the economic structures and also allows the five-year update of 2013 and 2008 as base periods. As it is mentioned previously, it was a priority to implement the national and international guidelines.

Scheme 5. The adoption of the recommendations on the five-year update of the SCNM base year

Changes from 1993 SNA to 2008 SNA

The 2008 SNA maintains the theoretical framework of the 1993 SNA, the SNA update includes new concepts, it covers the fields of recent progress in the economies and it goes deeper on imperative factors and clarifies the treatment and the record of a large range of topics. Even more, the SNA update adapts the accounts to the evolution of the economies, the research and development (R&D) progress and the growing needs of SNA users.

It is required to put emphasis on the recommendation to incorporate the IOT from the symmetric SUT as a significant innovation of the 2008 SNA.

The revision process of the 2008 SNA was based on a group of 44 recommendations which were accepted and agreed at an international level. Each recommendation was discussed and the final result was incorporated to the 2008 SNA all contents. The following list is integrated by topics:

Table 1. 2008 SNA Recommendations

RELATED TOPICS TO NON FINANCIAL ASSETS
9.- Research and Development (R&D)
10.- Patented entities
11.- Originals and Copies
12.- Database
13.-Other intangible fixed assets
14.- Costs of ownership transfer
15.- Costs of financial services
16.- Government and non market producers: Costs of own assets
17.- Mineral exploration
18.- Right to use/exploit non-produced resources between residents and no resident.
19.- Military Expenditures
20.- Land Improvements
21.- Contracts, leases and licenses
22.- Goodwill and other intangible non-produced assets.
23.- Obsolescence and consumption of fixed capital
24.- Public and Private Partnerships (PPPs) (including buy-own-operate-transfers (BOOT]) schemes)
26.- Cultivated assets
27.- Classification and terminology of assets
28.- Amortization of non-produced assets
29.- Assets boundary for non-produced intangible assets
30.- Definition of economic assets.
31.- Water as an asset.

TOPICS FOR THE GOVERNMENT AND THE PUBLIC SECTOR
6b.- Allocation of the output of Central Banks.
7.- Taxes on holding gains.
25e.- Non-resident SPEs controlled by government.
34.- Government transactions with public corporations: earnings from equity investment and capital injections.
35.- Tax revenue, uncollectible tax and tax credits.
36.- Public/private/government sectors delineation.
37.- Granting and activation of loan guarantees

FINANCIAL SERVICES TOPICS
1.-Repurchase agreement.
2.- Employers pension schemes
3.- Employees stock options.
4a.- Non-performing loans
4b.- Valuation of loans and deposits; write-off and interest accrual on impaired loans.
38c.- Application of accrual principle to debt in arrears.
5.- Non-life insurance.
6ª.- Financial Services

FINANCIAL INSTRUMENTS
42. - Retained earnings of mutual funds , insurance companies and pension funds
43ª.- Treatment of indexed debt instruments
43b. - Debt indexed to a foreign currency

43c. – Interest at concessional rates.
43d. - Fees payable on securities lending and gold loans
44. - Financial assets classifications.
RELATED TOPICS TO THE REST OF THE WORLD
25c. - Treatment of multi-territory enterprises.
25d. – Non-resident unincorporated units.
38ª.- Change of the economic ownership (as term).
38b. - Assets, liabilities and personal effects of individuals change residence ("migrant transfers").
39b. - Predominant centre of economic interest (as term).
39c. - Residence of entities with little or no physical presence.
39d.- Non-permanent workers.
40.- Goods for processing.
41.- Merchanting.
RELATED TO UNITS
25ª Ancillary Units
25b.- Holding companies, special purpose entities, trusts
INFORMAL AND ILLEGAL ACTIVITIES
32.- Informal Sector
33.- Illegal Activities
OTHER ISSUES
8.- Interest under high inflation

The recommendations are numbered from 1 to 44 alluding to the order which they were added to the list, but the numbering scheme does not include any particular group. First, the topics are presented by number, then they are gathering by its contents, and finally a list which includes individual topics ordered by number is presented.

The total number of International Recommendations (IR) are 44, the difference of recommendations between this paper and the total number is 14; the explanation consists in the gathering of some recommendations by their contents. (See Table 2)

The year 2008 as a base period implies an effort for the research of data treatment and sources of information which seeks to implement the 44 Recommendations. In table 2 accounts for the implemented recommendations with available data for its treatment.

Table 2. 2008 SNA Recommendations applied to the SNA of Mexico

GUIDELINE	TOPICS	APPLIED
Non Financial Assets	22	18
Government and Public Sector	7	6
Financial Services	8	7
Financial Securities MBP	6	0
Rest of the World MBP	10	3
Auxiliary Units	2	2
Illegal and informal activities	2	1
Other Topics	1	0
TOTAL	**58**	**37**

Public Survey for 2008 as a Base Year

On April and May 2012 a Public Enquiry on 2008 Base Year Change was conducted with the purpose of incorporating opinions from users and informants about the information services that INEGI provides. 160 public servants and 76 Public and Private Institutions have participated on the Public Enquiry. See Graph 1 to know Public Enquiry results.

Graph 1. Public Survey Results for 2008 as a base year

- Adopted Proposals
- Questions and comments dealt at the meeting
- Non-feasible proposals

57, 70%

13, 16%

11, 14%
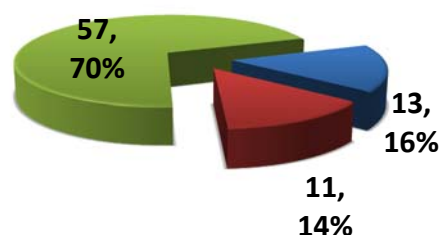
According to the results of the public survey, users and informants' proposals on INEGI's products are listed on the left side of Table 3; on the right side, the proposals adopted in the SNAM.

Table 3. A list of Adopted Proposals

Proposed	Adopted
Interpolated Annual Series of the GDP – from 1993-.	To elaborate historical annual data of the production accounts: 2002-2011 series published in 2013 and the 1993-2012 series in 2014.
It is necessary to publish monthly series of manufacturing production; it must be classified by goods (Intermediate, final and capital consumption) in order to identify the use of the total production.	Published, on August 2013, the destination of manufacturing production.
To publish more detailed information of the Gross Fixed Investment Indicator: machinery and domestic and imported equipment.	September 2013. Dissemination of machinery and equipment data.
To have a better itemization of the GDP by Federative Entity.	November 2013. Data dissemination by NAICS subsectors activities -according to the statistical and calculation limits-.

Main results on 2008 as the base year

The 2008 Change Base Year (CBY) objective is to improve SNAM statistics in order to have a general outlook on the evolution of the national economy; it is required to have necessary data which gives information on current and structural changes to achieve this goal.

For this reason, the SNA must not be restricted over a single year. According to Scheme 6, monthly, quarterly and annual indicators series on a new basis, coherent and comparative data must be available to the users.

Scheme 6. Results of 2008 as the Base

2003-2012 SNA Short Run and Annual Series. New Basis

To calculate the GDP by industry
To calculate the GDP by Federative Entity   To calculate Satellite Accounts

Monthly Indicators

- Industrial Activity
- Economic Activity Global Indicator
- Gross Fixed Investment
- Monthly State Manufacturing Indicator
- Monthly State Indicator of Electricity

Quarterly Indicators

- Quarterly Gross Domestic Product
- Quarterly Supply and Use Tables
- ITAEE*
- ITAT**

Annual Indicators

- Goods and Services Accounts
- Macroeconomic Indicators of the Public Sector
- Accounts by Institutional Sectors
- State and local Governments
- GDP by federative entity

* ITAEE, Spanish acronyms for *Indicador Trimestral de la Actividad Económica Estatal (Quarterly indicator on State Economic Activity)* and ITAT *Indicadores Trimestrales de la Actividad Turística (Quarterly indicator on Tourism Economic Activity).*

For the first time, regular products are timely published in the short-run. In the same line, data work along with 2003 series and 2008 as a base period were timely published.

Table 4 and 5 shows 2013 and 2014 data dissemination timetable.

Table 4. 2013 Dissemination Timetable

2013 Timetable

Current Information Dissemination Timetable

Description	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Press Release Indicators												
Industrial Activity (Monthly) O/c/	11th Nov	11 (Dec)	12 (Jan)	11 (Feb)	10 (Marc)	11 (Apr)	12 (May)	9 (June)-20 (June)	11 (July)	11 (Aug)	11 (Sept)	12 (Oct)
Quarterly State Economic Activity Indicator ITAEE (Quarterly)	30 (3rd)			29 (4th)			30 (1st)			30 (2nd)		
Global Indicator of the Economic Activity (Monthly)	10 (Oct)-24 (Nov)	18 (Dec)	25 (Jan)	25 (Feb)	17 (Mar)	25 (Apr)	25 (May)	20 (Jun)	25 (July)	24 (Aug)	21 (Sept)	
Quarterly Indicator of the Tourist Activity (Quarterly)		19 (3rd)			20 (4th)			16 (1st)				23 (2nd)
Gross Fixed Investment (Monthly)	10 (Oct)	8 (Nov)	8 (Dec)	8 (Jan)	8 (Feb)	6 (Mar)	10 (Apr)	7 (May)	6 (June)	8 (July)	8 (Aug)	6 (Sept)
Constant Prices GDP (Quarterly)		18 (4th)			17 (1st)			20 (2nd)			21 (3rd)	
No Press Release Indicators												
Electricity by Federative Entity (Monthly) f/	17 (Sept)	13 (Oct)	8 (Nov)	8 (Dec)	8 (Jan)	6 (Feb)	5 (Mar)	7 (Apr)	6 (May)	8 (June)	6 (July)	6 (Aug)
Global Demand and Supply of goods and services (Quarterly)			19 (4th)			19 (1st)			19 (2nd)			18 (3rd)
State Manufacturing Production (Monthly)	17 (Sept)	13 (Oct)	8 (Nov)	8 (Dec)	8 (Jan)	6 (Feb)	5 (Mar)	7 (Apr)	6 (May)	8 (June)	6 (July)	6 (Aug)
Current Prices GDP (Quarterly)		25 (4th)			23 (1st)			20 (2nd)			21 (3rd)	

Note: - Press bulletin is disseminate at 8:00 hs of the publication date
( ) – Information Reference Month
c – August 20th Indicator's figures. Alluding to 2008 SNA new basis. Not to be disseminate on press bulletin
f – No informative note is made
O – Appropriate figures
SOURCE: INEGI

Table 5. 2014 Dissemination Timetable

2014 Timetable
Current Information Dissemination Timetable

Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Press Release Indicators												
Manufacturing Production by State	17 (Sep)	6 (Oct)	6 (Nov)	7 (Dec)								
Electricity by State	17 (Sep)	6 (Oct)	6 (Nov)	7 (Dec)								
National Consumer Price Index 2a. fortnight and monthly	9 (Dec)	7 (Jan)	7 (Feb)	9 (Mar)	8 (Apr)	9 (May)	9 (Jun)	7 (Jul)	9 (Aug)	9 (Sep)	7 (Oct)	9 (Nov)
National Producer Price Index	9 (Dec)	7 (Jan)	7 (Feb)	9 (Mar)	8 (Apr)	9 (May)	9 (Jun)	7 (Jul)	9 (Aug)	9 (Sep)	7 (Oct)	9 (Nov)
Gross Fixed Investment	10 (Oct)	10 (Nov)	11 (Dec)	8 (Jan)	9 (Feb)	10 (Mar)	10 (Apr)	8 (May)	10 (Jun)	8 (Jul)	10 (Aug)	10 (Sep)
Industrial Activity	10 (Nov)	11 (Dec)	8 (Jan)	9 (Feb)	10 (Mar)	10 (Apr)	8 (May)	10 (Jun)	8 (Jul)	10 (Aug)	10 (Sep)	6 (Oct)
Monthly Indicator of Private Consumption in the Internal Market			18 (Dec)	14 (Jan)	14 (Feb)	12 (Mar)	11 (Apr)	12 (May)	12 (Jun)	13 (Jul)	13 (Aug)	15 (Sep)
Monthly Indicator of Industrial Activity by State					19 (Jan)	13 (Feb)	14 (Mar)	14 (Apr)	15 (May)	14 (Jun)	14 (Jul)	15 (Aug)
National Consumer Price Index 1a. fortnight and monthly	23 (Jan)	24 (Feb)	24 (Mar)	24 (Apr)	22 (May)	24 (Jun)	24 (Jul)	22 (Aug)	24 (Sep)	23 (Oct)	24 (Nov)	23 (Dec)
Global Indicator of economic activity	9-27 (O-N)	21 (Dec)	25 (Jan)	25 (Feb)	23 (Mar)	24 (Apr)	24 (May)	21 (Jun)	24 (Jul)	24 (Aug)	21 (Sep)	23 (Oct)

Merchandise Trade Balance of Mexico (timely)	27 (Dec)	26 (Jan)	27 (Feb)	28 (Mar)	26 (Apr)	27 (May)	25 (Jun)	27 (Jul)	26 (Aug)	27 (Sep)	26 (Oct)	26 (Nov)
Merchandise Trade Balance of Mexico (revised)	9 (Nov)	10 (Dec)	10 (Jan)	9 (Feb)	9 (Mar)	9 (Apr)	10 (May)	11 (Jun)	9 (Jul)	10 (Aug)	10 (Sep)	10 (Oct)
Sector Indicators Manufacturing	29 (Nov)	27 (Dec)	28 (Jan)	29 (Feb)	29 (Mar)	26 (Apr)	29 (May)	28 (Jun)	29 (Jul)	28 (Aug)	27 (Sep)	23 (Oct)
Main indicators construction companies	31 (Nov)	28 (Dec)	31 (Jan)	30 (Feb)	30 (Mar)	30 (Apr)	31 (May)	29 (Jun)	30 (Jul)	31 (Aug)	28 (Sep)	19 (Oct)

QUARTERLY			
National Survey of Occupation and Employment	February 12 (4o. Quarter)	May 13 (1er. Quarter)	August 13 (2o. Quarter)	November 12 (3er. Quarter)
Gross Domestic Product at constant prices	February 21 (4o. Quarter)	May 23 (1er. Quarter)	August 21 (2o. Quarter)	November 21 (3er. Quarter)
Global Supply and Demand for Goods and Services	March 20 (4o. Quarter)	June 19 (1er. Quarter)	September 19 (2o. Quarter)	December 22 (3er. Quarter)
Gross Domestic Product at current prices	February 21 (4o. Quarter)	May 23 (1er. Quarter)	August 21 (2o. Quarter)	November 21 (3er. Quarter)
Quarterly Indicator of the State Economic Activity	January 30 (3er. Quarter)	April 30 (4o. Quarter)	July 30 (1er. Quarter)	October 30 (2o. Quarter)
Quarterly Indicator of the Tourist Activity	February 17 (3er. Quarter)	May 9 (4o. Quarter)	August 6 (1er. Quarter)	November 6 (2o. Quarter)

First results of 2008 Base Year are shown in table 6 and they were published on August 20th 2013.

Table 6. August 2013 Publications

PRODUCT
2008 Supply and Use Tables
2008 Symmetric Input-Output Matrix
Goods and Services Accounts 2003-2011; Base Year 2008
Macroeconomic Indicators of the Public Sector, 2003-2011; Base Year 2008
Accounts by Institutional Sectors, 2003-2011; Base Year 2008.
State and Local Governments, Current and Accumulation Accounts. Accounts of Production by destination, 2003-2011; Base Year 2008.
Industrial Activity, 1993-2013; Base Year 2008. Series updated up to June 2013.
Global Indicator of the Economic Activity, 1993-2013; Base Year 2008. Series updated up to June 2013.
Quarterly Gross Domestic Product at Constant Prices, 1993-2013; Base Year 2008. Series updated up to Second quarterly 2013.
Gross Domestic Product at Current Prices, 1993-2013; Base Year 2008. Series updated up to Second quarterly 2013.
Gross Domestic Product by Federative Entity, 2003-2011; Base Year 2008.
Economic and Ecological Mexican Accounts, 2003-2011; Base Year 2008.
Satellite Account of Non-remunerated work of Mexican Households, 2003-2011; Base Year 2008.
Satellite Account of Mexican Nonprofit Institutions, 2003-2011; Base Year 2008.

In addition to this, the dissemination of other products applying the 2008 base year were published from September to December 2013.

Table 7. Publications from September to December 2013

PRODUCT	PUBLICATION DATE
Gross Fixed Investment. 2008, 1993-2013 Base Year. June 2013	**Sept 6th**
Quarterly Supply and Use. 2008, 1993-2013 Base Year. 2013 Second quarterly	**Sept 19th**
Monthly State Indicator of Electricity. 2008, 2003-2013 Base Year. June 2013	**Oct 8th**
Monthly State Manufacturing Indicator. 2008, 2003-2013 Base Year. June 2013	**Oct 8th**
Tourism Satellite Account for Mexico. 2008, 2003-2011 Base Year	**Oct 25th**
Quarterly State Indicator of the Economic Activity. 2008, 2003-2013 Base Year. 2013 Second Quarterly.	**Oct 30th**
Health Satellite Account for Mexico. 2008, 2008-2011 Base Year.	**Nov 15th**
Quarterly Indicators of the Tourism Activity. 2008, 2003-2013. 2013 second quarterly.	**Dec 23rd**

Furthermore, the last year continue the series of new publications based on the Base Year 2008.

Publications from 2014

PRODUCT	PUBLICATION DATE
Ecological Economic Accounts of Mexico 2012, preliminary, Base Year 2008	**February 26th**
Satellite Account Unpaid Work Household of Mexico 2012, preliminary, Base Year 2008	**March 20th**
Satellite Account of Tourism of Mexico, 2012, preliminary, Base Year 2008	**April 28th**
Good and Service Account 2012, reviewed, Base Year 2008	**May 06th**
Satellite Account Non-profit Institutions of Mexico 2012, preliminary, Base Year 2008	**May 20th**
Macroeconomic Indicator of the Public Sector 2012, reviewed, Base Year 2008	**May 26th**
Satellite Account Health Sector of Mexico 2012, preliminary, Base Year 2008	**June 5th**
Account for Institutional Sector 2012, reviewed, Base Year 2008	**June 30th**
State Governments and Locals Governments, Current Account and Accumulation. Production Account for finality 2012, reviewed, Base Year 2008	**June 30th**
Gross Domestic Product for Federative Entity 2012, reviewed, Base Year 2008	**July 28th**
Supply and Use of Gross Fixed Capital Formation 2003-2012, Base Year 2008	**July 30th**
Measuring of the Informal Economy 2003-2012, Base Year 2008	**July 30th**
Development Input-Output Matrix 2012, Base Year 2008	**September 5th**

Good and Service Account 2013, preview, Base Year 2008	**September 12th**
Macroeconomic Indicator of the Public Sector 2013, preview, Base Year 2008	**September 30th**
Account for Institutional Sector 2013, preliminary, Base Year 2008	**November 25th**
State Governments and Locals Governments, Current Account and Accumulation. Production Account for finality 2013, preliminary, Base Year 2008	**November 27th**
Gross Domestic Product for Federative Entity 2013, preliminary, Base Year 2008	**December 8th**
Economy Account and Ecological of Mexico	**December 17th**
Satellite Account of Unpaid Labor 2013, preliminary, Base Year 2008	**December 26th**

As a brief, the INEGI has increased the amount of publications and shorten the periodicity of publication dates to satisfy the necessities of SNAM users.

The importance of the IOT in the 2008 as the base period

The Input-Output Table (IOT) is a complement of SNA tables. Its purpose is to describe the current magnitudes of inter-sectoral economic transactions based on the production levels of each economic sector; it should be noted that OIT is built directly from the Supply and Use Tables (SUT); in this sense both tables are related schemes. The IOT is equivalent to the SUT: both of them present the information of the national system of production and it is designed to easily establish sectoral interrelation; despite the similarities with the SUT, the particular algebraic characteristics of the IOT[2] made it a suitable tool to estimate the effect of the relative prices's modifications and the capital and labor requirements against variations in the production and in the demand.

According to the above mentioned, the IOT is an analytical and important instrument used in the analysis, research of policymaking, economic planning and in another purposes:

1. Know and describe sectoral-interrelations;

2. Show the availability and the final use of goods and services during a specific year;

3. Cost Structure: Buy of inputs and payment to the factors of production, Leontief production function (complementary goods);

4. Costumer-supplier chains: the interdependence between different economic activities;

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[2] In the IOT each activity produces only one product.

5. The OIT allows examining -under the assumption of the static model and the short run- the consequences on each sector in the face of a change in the final demand;
6. The OIT allows identifying the participation of the factors of production in the value creation;
7. In the same way to the SUT -given the requirements of more disaggregated inputs and factors of production- the IOT allows to suggest the improvement of census and surveys.

The construction of IO tables in México is shown in a chronological order (Scheme7). It is important to say that the implementation of 1993 SNA has modified the use of IOT in an international level, becoming just an auxiliary accounting table of the System of National Accounts rather than the focus of any base year. However, the official construction of IOT in an open economy following Leontief's model has been resumed in México during the last years.

Scheme 7. IOT's Chronological Evolution in México

Banco de México (interinstitutional group), supported by the National Income Department of the Central Bureau of Netherlands Statistics, 1953 SNA.

Dirección General de Estadística DGE INEGI, supported by the UN, compiled under the SNA 1968 framework.

Local institutions: SPP, DGE, INEGI and supported by the UN ECLAC. SNA 1968 framework. Its basis was 1970, 1975 IOT and the annual SNAM calculus of the year of study applying RAS methodology.

INEGI, Basic Prices SUT , production accounts , implementation of the 2008 SNA recommendations.

INEGI, SNA 1993. From a basic prices SUT built through production accounts.

INEGI, Basic Prices IOT , production accounts , RAS Method adjusted assuming all SNAM levels..

Banco de México (interinstitutional group), supported by the UN, 1947 SNA.

Local institutions: SPP, INEGI and supported by the UN ECLAC. SNA 1968 framework. This IOT is a 1970 IOT update

Local institutions: SPP, INEGI and supported by the UN ECLAC. SNA 1968, Modifications on the PEMEX strategic activities treatment; new basis for the SNAM.

| 1950 | 1960 | 1970 | 1975 | 1978 | 1980 | 2003 | 2008 | 2012 |

Producer Prices, 45 branches of economic activity, CASCNM, ISIC.

814 class of economic activity 2007 NAICS, Economic Census with expanded questionnaires.

Producer Prices, 32 branches of economic activity, SNAM Activities Classification CASCNM (Spanish acronym)linked to the International Standard Industrial Classification ISIC.

Producer prices, census information, 72 branches of economic activity, CASCNM, ISIC.

750 class of economic activity 2002 NAICS, Economic Census and Supplementary Surveys.

259 branches of economic activity 2007 NAICS, Goods and services accounts.

Historically, Mexico's IOT were built following Wassily Leontief's Input-Output Model. Generally, IO Tables with the unique solutions model; IOT explains the structural interdependence between each productive sector (intermediate demand) and the final use of the goods and services produced by these industries in a bi univocal way. The assumption of *homogeneity* refers to an industry which produces just one product; this hypothesis is not available in the SUT: it is said on the Leontief production function that each industry produces just one product with a unique input-structure.

In brief, the process for integrating the Symmetric Tables derives from the SUT built by product order (rows) and industry order (columns), then it is necessary to make equivalent the order Industry-by-Industry or Product-by-Product. The Supply Table must be adjusted in order to present only the main product. In the Use Table Inputs associated to Secondary products are transferred to the activity that generates it as a main product, considering its cost-structure.

The industry technology and the commodity technology assumptions are used according with each model. Scheme 8 shows the lineup process of each one.
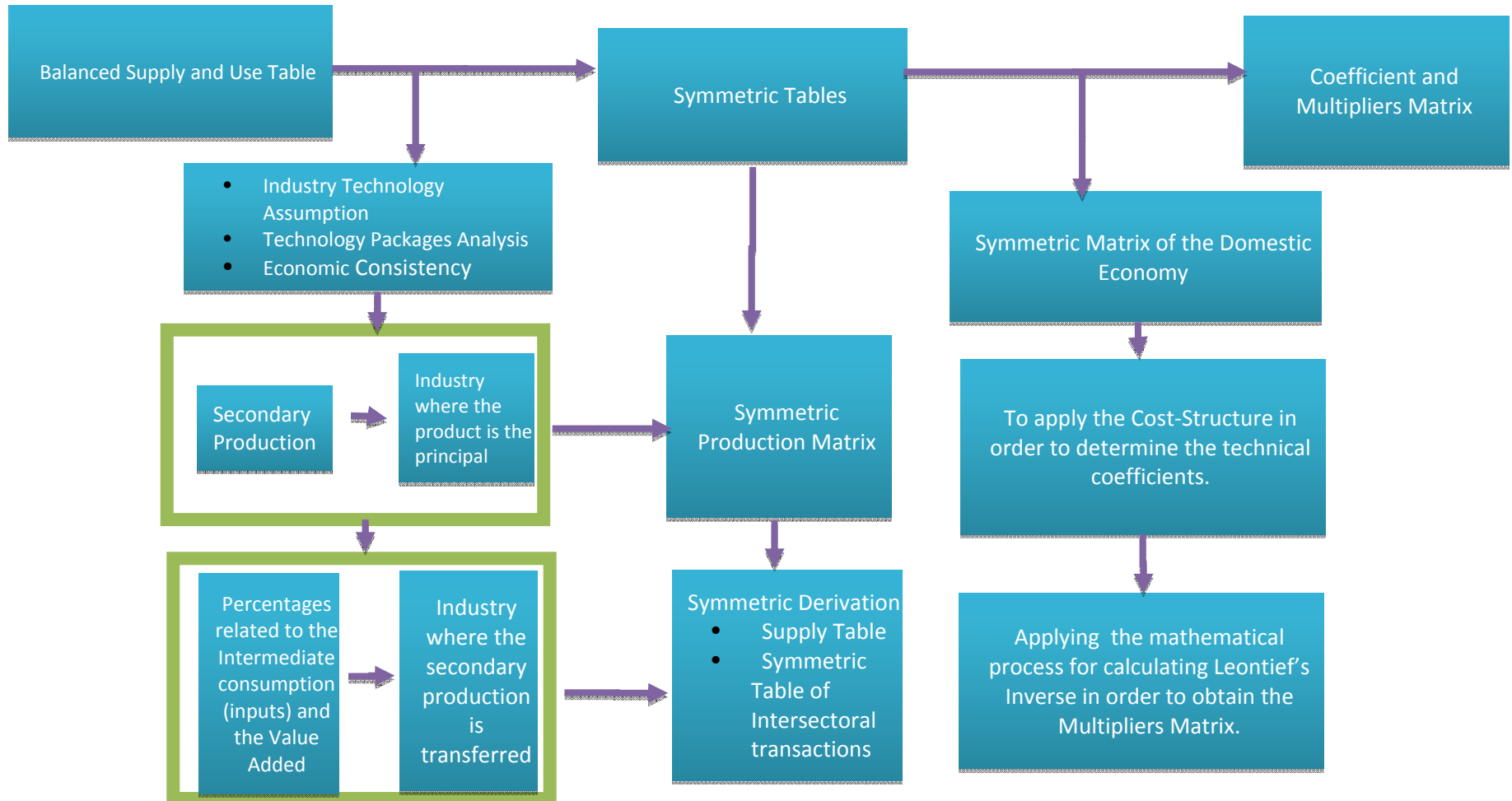
It is important for the Symmetric Tables integration process that SUT were squared and determined by type of economic opening:

1) Product-by-Product, this model calculates the impact of a final demand of products on the production of products. In Mexico, this particular model is compiled by expert analysis, where inputs from secondary activities are manually transferred to main activities. This is considered the most crafted IOT compiled in INEGI.
2) Industry-by-Industry, this model calculates the impact of a final demand of industry outputs on the outputs of industries. This model is however of almost no interest to analyst since final demand is rarely in terms of industry outputs. This IOT is compiled according to mathematical procedures listed in the Eurostat Manual.[3]

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[3] EUROPEAN COMMISSION, Eurostat Manual of Supply, Use and Input-Output Tables, Methodologies and Working papers, European Commission and Eurostat, Luxembourg, 2008.

Scheme 8. Symmetric IO Table of Coefficient and Multiplier Matrix

```
Balanced Supply and Use Table  ──►  Symmetric Tables  ──►  Coefficient and Multipliers Matrix
        │                                 │                          │
        ▼                                 │                          ▼
• Industry Technology                     │              Symmetric Matrix of the Domestic
  Assumption                              │                        Economy
• Technology Packages Analysis            │                          │
• Economic Consistency                    │                          ▼
        │                                 ▼              To apply the Cost-Structure in
        ▼                        Symmetric Production     order to determine the technical
┌─────────────────────────┐       Matrix                 coefficients.
│ Secondary   Industry    │          │                          │
│ Production  where the   │ ──►      │                          ▼
│             product is  │          ▼              Applying the mathematical
│             the         │   Symmetric Derivation    process for calculating Leontief's
│             principal   │   • Supply Table          Inverse in order to obtain the
└─────────────────────────┘   • Symmetric             Multipliers Matrix.
        │                       Table of
        ▼                       Intersectoral
┌─────────────────────────┐     transactions
│ Percentages  Industry   │
│ related to   where the  │ ──►
│ the          secondary  │
│ Intermediate production │
│ consumption  is         │
│ (inputs) and transferred│
│ the Value               │
│ Added                   │
└─────────────────────────┘
```

SNA Recommendations implemented on the 2008 SUT and IOT elaboration

The treatment of each economic activity considered in 1993 SNA and the other one proposed for the 2008 SNA and its effects on the 2008 CBY is shown on Table 8.

Table 8. Accounting Treatment suggested by 1993 and 2008 SNA

1993 SNA	2008 SNA (implemented)	Effects
Research and Development ● **Intermediate Consumption (IC)**	● **Gross Capital Formation (GCF)**	∇ IC ∆ GCF 1.16% ∆GDP 0.27%
Software Programs and Database ● **IC** ● **GCF**	● **GCF**	∇ IC ∆ GCF 0.13% ∆ GDP 0.03%
Intellectual Property Assets ● **IC**	● **GCF**	∇ IC ∆ GCF 0.027% ∆ GDP 0.006%
Mineral exploration ● **CI**	● **GCF**	∇ IC ∆ GCF 4.93% ∆ GDP 1.14%
Entertainment, literary or artistic originals ● **IC**	● **GCF**	∇ IC ∆ GCF 0.027% ∆GDP 0.06%
Military Equipment ● **IC**	● **GCF (Weapons)**	∇ IC ∆ GCF 0.011 ∆ GDP 0.003%
Auxiliary Activities of Production Units ● **An integral part of the establishment it serves.**	● **Separated Establishments** ● **Principal Activity Industrial**	**Unit (a) ∇ IC** **The GDP is redistributed regionally**
FISIM Distribution ● **It is calculated by de**	●**FISIM Consumption distributed between users**	∆ IC ∆ FC ∆ X ∆ M ∇ **Gross Aggregate**

1993 SNA	2008 SNA (implemented)	Effects
remainder of the interest receivable and the Interest payable.	(lenders to borrowers) ● IC enterprise, FC households, M, X	Value (GAV) ∆ GDP Final Demand Current Account

SNAM: Changes and Improvements

In this section, it is briefly mention the SNAM main changes and improvements:

1) Conceptual approval of surveys in establishments according to the definitions given by the 2008 SNA. For this purpose, a feedback work was made within the INEGI in order to incorporate as such as possible the necessary concepts about cost, production, compensation of employees, assets, foreign investment, etc.

2) North American Industrial Classification System 2007 (NAICS) was officially adopted in order to arrange basic and derivate statistics. Since its implementation in 1997, the NAICS makes equivalent the industrial classifications among Mexico, Canada and the United States.

3) As in 2003 as the later base period, in 2008 as a base year, costs were identified by generating a relevant amount of production accounts (814) by artisanal, global production for exports and industrial production segments; and by small, medium and large establishments.

4) Incorporation of the employed staff by positions, the non-remunerated employed staff, and another corporate name staff.

5) From the intensive use of information from the 2009 Economic Census a distribution of costs of Auxiliary Units at each establishment by federative entity was made.

6) To have a detailed analysis by tariff item (product) level and motion, as well as the use of variables for the valuation of imports, it was to use the database of Foreign Trade generated by the Dirección General de Aduanas, Banco de Mexico, Secretaría de Economía and INEGI.

7) "PEMEX Extraction Rights" was analysed on 2008 basis as a property income of the Extraction of Petroleum and Natural Gas activity.

8) Services related to primary and secondary activities are included as secondary production in the same activities on the SU Tables and SNAM, while the MIP, both production and the cost incurred in obtaining it form part of the respective service activities.

SNAM Products to 2014

Additionally to the traditional products offered by the SNAM, there were new products:

1. Backward projection of 1993-2012 Goods and Services Account, 2008 basis.
2. The classification of the General Government expenditure by objective and government level, 2003-2012 series.
3. Realization of the capital measures by activities –ordered by the NAICS- and institutional sectors, 1993-2012 series.
4. Integrating Household Institutional Sector Accounts based on the 2003-2012 National Household Accounts.
5. Monthly Indicator of Domestic Market Private Consumption
6. Monthly Indicator of the Industrial Activity by Federative Entity
7. 2003 IOT, 2008 basis
8. "Origin-destination Tables" for the Gross Fixed Capital Formation 2003-2011

Conclusions

The United Nations (UN) system urges the improvement of basic economic statistical systems of each country; in the same way, the UN seeks to achieve the coherence and the harmony between sectoral statistics of another macroeconomic frameworks and national accounts. The UN also recognizes countries particular circumstances. Because of this, México, through the INEGI, is trying to be at the forefront of the implementation of the 2008 System of National Accounts.

The Base Year 2008 updated the SNAM –it reflects the evolution of the Mexican economy-. For this reason, a great effort has been accomplished in order to

implement and modified the treatments suggested by the 2008 SNA, this will allow a higher international harmony, the maintenance of the effort of pioneering in the implementation of the 2008 SNA and other international recommendations in line with the international statistical framework.

It is necessary to emphasize that the 2008 CBY involves a major effort in the generation of statistics since it requires a great amount of information that must be reviewed until it can be a fundamental tool to build the SUT. These tables and the 2008 SNAM temporal series are the basis for the IOT construction.

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