Working Party on National Accounts

Global manufacturing industry: the Mexican case

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GLOBAL MANUFACTURING INDUSTRY: THE MEXICAN CASE

Abstract

The global Manufacturing industry for the Mexican case has a significative impact on the productive relations and exchange of industrial processes between resident and non resident businesses. Although this phenomenon is identified in a conceptual manner, it is not in practice, due to the data requirements that are beyond the scope of data collection of current questionnaires and customs reports. At the same time, México, in order to identify this phenomenon, needs to take into consideration the multilateral relations occurring now in its industrial environment, within the context of a globalized economy.

Objective

Identify within the context of the global manufacturing in the Mexican case, the impact on the production and exchange relationships of the industrial processes carried on by resident and nonresident enterprises. Starting from the different multilateral relationships and production arrangements carried on.

Overview

The economic phenomena of the global manufacturing industry has a significant impact on exports value added, therefore on global value chains, being the main reason of why this document was elaborated, which aims to analyze the various typologies of arrangements and agreements carrying on in Mexico, between resident and non resident units engaged in the industrial transformation process. The approach given to this phenomena covers two sides, one refers to businesses that demand industrial processes to their foreign subsidiaries or hire supporting services in another country; the second one refers to domestic units that supply these supporting services as subsidiaries of a foreign holding company or as suppliers of some kind of a complementary service for the treatment of goods for processing for foreign units. The latter is the, one intended to be approach in this document for the mexican case.

In addition, it is important to consider those units without a direct production link to foreing firms, limiting this link to the demand and supply of intermediate inputs, used in their industrial processes, taking advantage of the tax benefits offered by the government within the frame of promoting exports, thus, it is necessary to include this kind of units which also contribute in a significant way to the exports value added within the mexican manufacturing industry global chains.

Therefore, the challenge to be assumed refers to the identification of those units mentioned above, which will be classified as producers for a third party and own producers, the first are involved in goods for processing activities, and the latter transform their own goods, this producers share a common characteristic: the significant amount of imported inputs or foreign value added embodied in their production process, on the other hand is worth mentioning that there are economic activities highly focused on selling to foreign markets, whose contribution to global value chains is null, such as the production and exports of the alcoholic beverage “tequila” and the exports of handcrafts, since their intermediate inputs have a domestic origin, namely, the production of “tequila” is subject to regulation that requires all intermediate inputs to be domestic and the low tech characteristics of the handicrafts produced.
Therefore, the global manufacturing industry, has its origin on the disintegration of non-core activities, in other words, activities that are not part of the core activities of the companies and may be moved to another territorial location, with the aim to gain access to foreign markets, being the reason why multinational enterprises transfer more parts of their production process to other countries.

This phenomenon is characterized by the growing economic significance of Multinational Enterprises (MNE's), as a result of free trade and commercial agreements growth between countries or unions of countries, implying with this, a great number of commercial arrangements between residents and non residents units which results in a more globalized economy1.

These arrangements carried on by Multinational Enterprises may be between subsidiaries of the same enterprise or with other companies via outsourcing of the production process. One example of this is the case of the Mexican manufacturing industry where the synchronization with the US economic cycles has become more evident. The latter is shown in the next chart, where we can observe the industrial activity index of Mexico and the US for 1980-2009; from 1994 with the implementation of the North American Free Trade Agreement (NAFTA), the synchronization is highly evident.2

Another measurement issue arises from the practice of transfer prices, where an enterprise “sells” (transfers) inputs or goods to its subsidiaries but does it at non significant economic prices. Also, there is the businesses practice to search for comfortable environments, namely, looking for low tax legislations. This may produce misleading data on country income. Thus, these transfer prices are known only to the company, not being available for the measurement of the economic activity, creating an undervaluation or an overvaluation of the economic activity.

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1 Based on the definition presented in the document prepared by statistics Netherlands “In-depth review on global manufacturing”

The MNE’s are engaged in several economic activities and the production arrangements where they participate are also numerous, this means that they can engage in practices where they own the final good and the entire production process is conducted in their subsidiaries or in external facilities; also, they may only be the suppliers of the “blueprints” to the manufacturing of the final good or they may be engaged directly in the production process.

**Mexican case**

*Cross-border arrangements in global manufacturing, according to: Balance of payments Manual, 6 (BPM6)*

In the new manuals for compiling international statistics, global manufacturing is mentioned. With the trend toward a more globalized economy, there has been a growth in cross-border production arrangements. These arrangements involve different aspects of production processes being partly or wholly undertaken by affiliates or outsourced to unrelated entities. Main kinds of arrangements in México:

a) **Re-exports.** Re-exports may be very significant in economies that are international hubs for trading, transshipment, and processing that does not change the physical form of the goods (such as packing and labeling).

b) **Goods under merchanting.** While sometimes used for simple wholesaling, merchanting also arises when parent companies acquire ownership of the goods from their own manufacturing affiliates for reselling to wholesale affiliates or other customers, without taking possession on the goods.

c) **Manufacturing services on physical inputs owned by others** and the associated movements of goods under these processing arrangements.

d) **Free trade zones** and other special zones.

The BPM6 describes the manufacturing services on physical inputs owned by others like processing arrangements”.

**The 2008 SNA**

“The 2008 SNA mentions global manufacturing only in the context of “Merchanting”, though it later says that, under “Merchanting”, the goods should be sold on in the same condition in which the merchant acquired them”.4

Also, the system of national accounts manual 2008 requires the register of this transactions to be made necessarily by the change of ownership of the goods, thus, distinguish between economic and legal owner, especially in the case of the intellectual property products since most of the times there is no change of ownership of the goods, nevertheless this is difficult to identify since this transactions can be made intra-firm as transfer prices non economically significant. Likewise due to the restrictions that may exist to share information, it is easier for an enterprise to give the “blueprints” about the making of the product to his subsidiaries rather than hiring an independent contractor and having to share classified information.

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3 Extracted from “Impact of globalization on national Accounts” Chapter 8

**México in the global manufacturing**

In the next figures the multilateral relationships between the multinational enterprises with their subsidiaries and nonresident subsidiaries are shown. The first figure shows the relations of a foreign nonresident MNE with Mexican producers, the second figure shows the relations of the Mexican MNE with foreign nonresident producer units.

**Foreign multinationals enterprises**

![Diagram of foreign multinationals enterprises]

**Mexican multinationals enterprises**

![Diagram of Mexican multinationals enterprises]
Sources of information

Manufacturing, Maquila and Export Service industry (IMMEX)

This is a program which allows the temporary imports of goods and services needed in an industrial process, destined to the elaboration, transformation or repair of merchandise of foreign origin, imported temporarily to be exported or to render a exports service, without being subject to the tariffs and fees stipulated. Also, it captures and processes the statistical information of 5,300 manufacturing units. The significance of the IMMEX is based on the contribution it makes to the employment levels in the country, since 1.9 million people are employed in these manufacturing units under IMMEX and, on the other hand, these units produce almost two thirds of the total exports of the country.

Manufacturing Industry Monthly Survey (EMIM)

In January 2007, the implementation of the manufacturing industry monthly survey (EMIM) began, which encompasses in a sample of over 11,000 economic units those establishments that produce for own account or for others without taking into account the promotion programme applied to them. This sample includes around 5,000 units under IMMEX.

The conceptual framework applied both in IMMEX and EMIM allows homologating statistical data and identifying the kind of production carried on by these establishments, within the context of the manufacturing industry as a whole, underlining the significance of those units under IMMEX.

2009 Economic Census

It presents data on establishments, classified with the North American Industry Classification System NAICS 2007, related to the producing units identified as highly focused on selling to foreign markets.5

Foreign Trade Statistics (ECE)

It presents the value of imports and exports of goods and services by tariff fraction classified using the TIGIE (Tariff of the general taxation of imports and exports Law, in the making). Its main source of data is the customs authority.

During the analysis of these sources of information an issue was identified for the measurement of this phenomenon, due to the design of current questionnaires and customs reports, they cannot supply the data required to identify global manufacturing, however the basic characteristics of the data will be use to evaluate how far can we go with this data taking into account our main purpose.

Actions to be taken

As was mentioned earlier above a redesign of the basic statistics questionnaires is needed as can be the economic census and industrial surveys and the customs data in order to identify those units under the characteristics of global manufacturing, also more research is needed to identify other types of producers that could be left beside which is feasible due to the various types of production arrangements that MNE’s can make.

5 Nevertheless they cannot report if their activities are related to goods for processing, they report gross income and sales not broken down by type of transaction.
The previous will help to identify the contribution of Mexico in value added terms and therefore in the international value chains.

Taking into account that the system of national accounts 2008 requires the recording of these transactions to be based on the change of ownership principle, thus, distinguishing between economic and legal owner of the goods is a key subject.

Therefore it is necessary to generate statistical tables to identify an approximation of the measurement of the global manufacturing industry in the context of world economy. The Mexican industrial activities will be reflected in their synchronization with the manufacturing of products from the rest of the world.

**Criteria to calculate the value added in foreign trade**

It would be useful to identify the origin of the goods and their contribution to international trade value added. Therefore INEGI is making a first approach into the measurement of the manufacturing exports value added, by the generation of supplementary tables that will reflect the exports value added of the transformation industry. Showing the results according to the origin of the economic activities that generated the value added and as a consequence their destiny in the exports.

As an example and as a preliminary approach the next tables are presented:

<table>
<thead>
<tr>
<th>Table 1</th>
<th>SUPPLEMENTARY TABLE 1.1</th>
<th>TOTAL ECONOMY</th>
<th>SUPPLY OF GOODS AND SERVICES SECTOR</th>
<th>THOUSANDS OF PESOS AT PURCHASE PRICE OF YEAR 2008</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>NO.</th>
<th>SECTOR</th>
<th>PRODUCTIVE SECTORS</th>
<th>IMPORTS OF GOODS AND SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>AGRI CULTURE</td>
<td>MANUFACTURING</td>
</tr>
<tr>
<td>1</td>
<td>AGRICULTURE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>MANUFACTURING</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>SERVICES</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>PROCESSING INDUSTRY</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>TOTAL</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Adjustment C.I.F./F.O.B.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Resident purchases on the foreign</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>TOTAL PRODUCTION BY PRODUCTIVE ACTIVITY AT BASIC PRICES</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
As shown in the tables above, it is necessary the generation of imports and exports vectors of manufactured goods of foreign origin, broken down by product in gross terms. These vectors should be discounted from the supply-use of goods and services, in order to generate the global manufacturing value added. By economic activities a calculation of the components used in the manufacturing process is required: imports of goods consumed in the transformation industry and the exports value added of the transformation industry at basic prices.

Final considerations

- It is necessary that the official foreign trade statistics better reflect the characteristics of the new global economic environment.

- Making a good use of the available data in order to not generate a greater burden for the respondents, and not to make more expensive the production of official statistics

- Also it is necessary to promote integral schemes of statistics generation that could combine customs and no customs data sources
It is important to evaluate the needs of the specialized users in order to enrich the methodological scheme of the measurement of the value added, considering also the requirements that this users may have.

The research done in Mexico at elaborating this paper has been useful to identify the challenges in measuring the global manufacturing in the context of a globalized economy, where the Mexican industrial activities will be more synchronized with the activities carried on worldwide. It is recognized that, in the new statistical standards, the issue of global manufacturing is mentioned however, these standards do not elaborate much on it. Thus it is of a great importance to have an international guide to helpstandardize the measuring methods for this phenomenon.