PRODUCTIVE DISARTICULATION AND DOMESTIC VALUE ADDED CONTENT IN MEXICAN MANUFACTURING EXPORTS

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Summary

The internationalization of production has been increasing in last decades, particularly in some branches of the manufacturing sector. As a result, exports with a high content of imports are a growing part of international trade.

In countries taking part in an internationally fragmented production system, this has caused two interconnected processes:

a. A growing difference between value of exports and domestic value added content in them.

b. A weakening of the linkages between exports and the rest of the economy because a growing part of the input content of exports is not domestically produced.

An important part of Mexico's manufacturing sector is incorporated into internationally fragmented production processes.

The 2003 input-output matrix for the Mexican economy distinguishes between the total and the internal economy (the first includes the part of the economy integrated in international production networks and the second excludes it). Additionally, these matrixes are divided in two: one, including imports and the other, without them.

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This information allows us to know the domestic value added content in manufacturing exports, divided in direct and indirect value added, for the domestic economy and for the processing exports sector.

Introduction

The relationship between exports and economic growth has been the subject of both theoretical and empirical research. Four main ways through which export pushes economic growth have been identified: competition in international markets encourages the achievement of greater efficiency of production (Bhagwati and Srinivasan, 1979; Feder, 1983, Kohli and Singh, 1989; Krueger , 1980). Second, exports promote specialization and economies of scale, leading a greater benefit from them (Helpman and Krugman, 1985). Third, firms engaged in exports tend to introduce technical progress, which has spillover effects for the rest of the economy (Grossman and Helpman, 1991). Finally, exports, by bringing foreign currency, help to overcome the external constraints on growth (Thirlwall, 1979). These ideas were used to argue that countries following an export-led growth strategy will tend to grow faster than those which do not. Moreover, several studies have argued that manufacturing exports are the main contributors to growth as there the global demand for these products is dynamic, the good behavior of their prices and the possibilities of incorporating technical progress that stem from having a major manufacturing export sector.

These arguments found fertile ground in many countries given the high dynamism of some Asian economies which, according to these views, is derived from the impetus given to manufacturing exports, which had been the crucial force that promoted the growth of their economies. This issue has gained additional relevance in the current context of deep economic crisis that continues to affect most of the world, which is leading many countries to try increase exports.
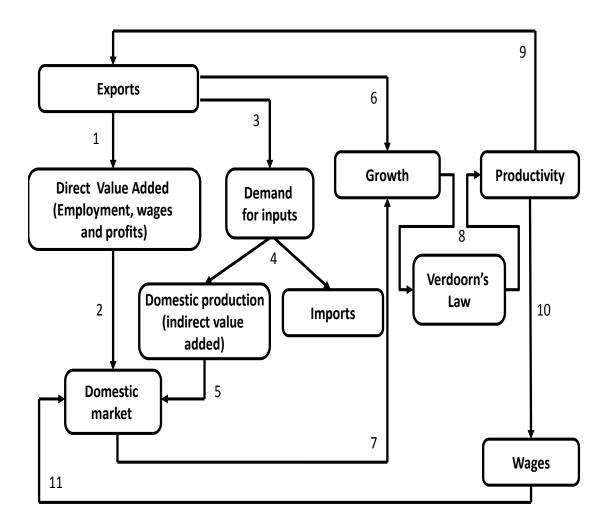
These ideas spread in Latin America since the eighties of the past century, which led to the opening of the economies of the region and to promote exports. Mexico has shown, in recent decades, a high export growth and a remarkable change in the composition of exports in favor of manufactures, especially those of medium and high technology. However, the long-term

growth of the Mexican economy has been clearly insufficient. The main objective of this study is to help to explain this paradox.

One answer to this problem, which has already been discussed in previous papers, lies in the fact that export growth has stimulated the import of inputs, which has caused a low export multiplier effect on the dynamics of the economy (Cervantes, 2008, Moreno-Brid et al., 2005, Ruiz Napoles, 2004). This work fits into this perspective but in a broader way, distinguishing between the generation of direct and indirect revenues from exports. The subject is approached from the point of view that the leverage effect of domestic demand may come from the expansion of exports, in an attempt to overcome the conventional approach that opposes export-led growth to domestic demand-driven growth (eg., Eatwell, 1998: 737-738) and the position in the controversy that has arisen since the beginning of the century with regard to the economies of East Asia, which has now spread to China, which has argued the need for these economies to move towards domestic-led growth (Palley, 2002 and Razmi and Blecker, 2008). On the other hand, among those who, referring to countries in Southeast Asia, such as Felipe (2003: vii) claim that "in the end, it is about achieving a golden combination between export-led growth and domestic demand-led growth" or as Felipe and Lim (2005: 4) "... the best periods seem to be those when domestic and net exports exhibit significant and continuous growth or Improvements ...", put, in the opinion of the authors of this paper, not enough emphasis on the complementarity that may exist between growing exports and the expansion of the domestic market.

This paper is based on a different approach. We postulate that the virtuous circle between exports and economic growth is reinforced if the expansion of the export sector pushes the expansion of the domestic market. While the dynamics of the economy may be marked by the behavior of exports, we start from the idea that not necessarily the expansion of exports is an alternative to domestic demand driven growth, but that growing exports can simultaneously contribute to expand domestic demand, allowing the growth of the economy driven by both: external and internal demand. However, the realization of this possibility depends on the characteristics of the export sector. Based on the analysis of Mexican exports, we seek to contribute to answer the

question of the characteristics of exports so that they become an engine for growth.

The various channels through which exports can contribute to economic growth through the revitalization of the domestic market are shown in the figure 1. On the one hand, exports, create employment, wages and benefits (1).The direct value added contained in exports creates demand for consumer´s and capital goods, which, according to the proportion that is covered by domestic production, contributes to expand the domestic market (2). Second, export production requires inputs (3). On condition that that a higher proportion of these intermediate goods are provided by local suppliers (4), there will be a higher level of employment, wages and benefits indirectly generated by the export sector (5). In other words, exports contribute to greater global demand and output in two ways: On the one hand, because it is a component of aggregate demand and the multiplier effect that the increase in exports has on other components of global demand. On the other, because the increase in exports requires more inputs, which, if produced within the country, encourages the production of the sectors producing them, generating a multiplier effect from its expansion. Therefore, output growth becomes a direct consequence of the expansions of exports (6) and the expansion of the domestic market as an indirect result of exports through the direct income generated by them and the demand for intermediate inputs embodied in exports (7). Moreover, if Verdoorn's Law is true (8), productivity growth allows to increase the price competitiveness of exports (9) as well as wages (10), which in turn, drives the domestic market (11). In this way the economy enters a virtuous circle of demand driven growth.

Figure 1. Exports and Domestic Demand

In this paper we will only refer to the relations shown in Figure 1 that are mediated by the value added contained in exports. Our aim is to provide an estimate of the domestic value added content in Mexican manufacturing exports.

This problem has become particularly important because the changes that have been occurring in recent decades in the system of international division of labor in the manufacturing industry. In particular, the fragmentation of the production process in phases, taking place in various countries, has led to a new vein of analysis to quantify the contribution of exports to economic growth. Since in many economies the import content of export goods has increased and

also part of the imported goods can contain products that had previously been exported by the same economy that is importing, concerns have arisen about the magnitude of the domestic value added contained in exports and imports, which are different to the value of these flows (Kranendonk and Verbruggen, 2008; Akyüz, 2010; Cappariello Breda, 2008, Koopman et al., 2008, He and Zhang, 2010; Loschky and Ritter, 2006, Breda, Cappariello and Zizza, 2007, Chen et al., 2008). This problem is particularly important in countries whose export sector is closely involved in the global production sharing system, in which exports are characterized by high import content. This has recently led to the development of methodological approaches to estimate the domestic value added content of exports segmenting the economy into two sectors: one consisting of the activities within the global production sharing system and the other, which constitutes the rest of the economy (Chen, X., Cheng, LK, Fung, KC and Lau, LJ, 2005, Koopman, Wang and Wei, 2008; Daudin, G., Rifflart, C. and Schweisguth, D., 2009; He, D. and Zhang, W., 2010).

Mexico is amongst the countries that have joined the global production sharing system. This makes particularly important to estimate the domestic value added content in Mexican manufacturing exports. Thus, contribute more accurately to understand the real contribution of exports to Mexico´s economic growth.

The structure of the paper is as follows: section I describes briefly the line of reasoning that has followed the literature on the relationship between exports and economic growth from the point of view of the channels through which exports can contribute to the expansion of domestic demand and, therefore, to economic growth. It is also pointed out the new perspective to address the issue, which is in the context of intensifying global production sharing. Section II describes the method used to estimate the domestic value added content in Mexican manufacturing exports. Section III presents, in a summarized way, the changes that Mexico's export sector has experienced and the significant divergence between the dynamics of exports and production, which have occurred in recent decades. The fourth part is devoted to present the estimation of the domestic value added content in exports, an element that determines the extent to which exports create a dynamic domestic markets that pushes the

whole economy. One of the characteristics of Mexico's export sector which determines that its effect on growth has been small, despite its dynamism, is precisely the fact that the country's value added in manufacturing exports is small. The paper ends with the conclusions of the paper.

I. Exports, domestic demand and growth

Adam Smith pointed out that as foreign trade expands the market, helps to increase production through exports which, in turn, allows further division of labor, which, in his perspective, is a key element to increase the wealth of nations. In Smith´s own words, foreign trade "…carries out the surplus part of the produce of their land and labour for which there is no demand among them, and brings back in return for it something else for which there is demand…By means of it, the narrowness of the home market does not hinder the division of labour in any particular branch of art or manufacture from being carried to the highest perfection. By opening a more extensive market for whatever part of the produce of their labour may exceed the home consumption, it encourages them to improve its productive powers, and to augment its annual produce to the utmost, and thereby to increase the real revenue and wealth of the society (Smith, 1776 I: 413)

The conventional way throughwhich economists have addressed the relationship between exports and growth from the perspective of demand has to do with the effect of exports on the components of global demand. Both directly, because exports are a component of global demand, as well as indirectly, through the multiplier effect that exports have on other components of global demand. This perspective is present in the concepts of foreign trade multiplier (Harrod, 1933) and super -multiplier (Hicks, 1950), which add to the effect that exports have output through the foreign trade multiplier the fact that increments in exports allow the expansion of other components of the autonomous demand to the point in which the increase of imports equals the initial increment of exports. This aspect also appears in both Thirlwall (1979) and Kaldor (1981) when they estimate the growth of output generated by a given rate of export expansion, which is mediated by increasing imports. This idea was expressed by Kaldor as follows: "From the point of view of any particular region, the

'autonomous component of demand' is the demand emanating from outside the region, and Hicks' notion of 'super-multiplier' can be applied so as to express the doctrine of the foreign trade multiplier in a dynamic setting. So expressed, the doctrine asserts that the rate of economic development of a region is fundamentally governed by the rate of growth of its exports." (Kaldor, 1970: 318). Furthermore, he applies the same principle to developing countries: "The spread of industrialization in developing countries, if successful, involves following an 'outward strategy' which leads to the development of export potential and not just to import substitution..." (Kaldor 1981: 341).

The estimate of the contribution of exports to growth based on these ideas does not consider the new face of the international division of labor in stages of the production process of some products which has led to the emergence of potential important differences between the value of exports and the domestic value added content in them. The same can be said about imports as part of their value may include value added generated in the country if the imported inputs were produced by the importing economy (Kranendonk and Verbruggen, 2008 and Akyuz, 2010).

II. Method for calculating the domestic value added content of exports

The input-output matrix allows us to quantify the domestic value added content in manufacturing exports; the domestic value added can be divided into two parts: the direct value added, equivalent to the revenues directly generated by export activity, and the indirect value added, which corresponds to the income that is contained in domestically sourced inputs which are incorporated into exports.

Furthermore, the matrix for Mexico, prepared by the National Institute of Statistics and Geography, with data from 2003 (INEGI, 2008), permits separate estimates for the processing exports industry and for the rest of the export activities, named internal economy by the INEGI.

Our estimation follows the methodology used by Koopman et al. (2008) and He and Zhang (2010) to calculate the domestic value added content in China's manufacturing exports. In these works exports are divided in "ordinary

exports" and "processing exports", which have different intensities of imported inputs. These concepts are equivalent to those of exports from the "internal economy" and from the "*maquiladora* industry" used in the matrix for Mexico.

The domestic value added content of exports is decomposed into two parts, the first one generated by exports of the internal economy and the other one, by exports from the *maquiladora* industry.

The direct and indirect value added content in exports of the internal economy is estimated from the value added multipliers represented in equation (1), and the direct and indirect value added generated by exports of the *maquiladora* industry is estimated trough equation (2).

$$M^{EI} = A_V^{EI}(I - A^{EI})^{-1} \tag{1}$$

$$M^{IME} = [A_V^{EI}(I - A^{EI})^{-1} A^{IME} + A_V^{IME}] \tag{2}$$

In (1), M^{EI} is a matrix of coefficients of the value added content in the exports of the internal economy. In (2), M^{IME} represents the coefficients of value added in the exports from the *maquiladora* industry.

A_V^{EI} is a diagonal matrix of added value coefficients of the internal economy whose main diagonal elements are obtained by dividing the total value added by the subsector between the gross product of it; $(I - A^{EI})^{-1}$ is a Leontief inverse matrix, obtained from the direct input coefficients of the internal economy, thus subtracting the intermediate consumption of the *maquiladora* industry as this sector doesn't produce intermediate inputs, only use them.

In equation (2), A_V^{IME} is a diagonal matrix of direct added-value coefficients generated by the *maquiladora* industry, obtained by dividing the total added value for each subsector between the gross product which, in the maquiladora industry equals their exports. And A^{IME} is a matrix of intermediate inputs coefficients demanded by the *maquiladora* industry.

When adding up the columns of the numbers obtained from the matrix M^{EI}, the value added multipliers of the exports of the internal economy for each subsector are obtained. And the sums of each of the columns of the matrix M^{IME} represent the added value multipliers for exports.

Thus, the proposed methodology allows us to know how the exports of a particular sector affect the value added in other sectors through the demand for intermediate inputs.

III. Mexico. Dynamism and change in the composition of exports with slow growth

Since the eighties of the 20th century, Mexico has tried to follow an export-led growth strategy based on manufacturing exports. It will be seen that, indeed, they have grown, but have not managed to become the growth engine of the country.

III.1. Total exports

Trade liberalization began in 1987, the year in which the country joined the GATT. Between 1992 and 2008, total exports of the country expanded dramatically, from 46.2 to 291 billion dollars in a period of 16 years. The average annual growth rate of exports was 9.6 percent in the period 1989-2006; 5.8 between 1989 and 1993, and 14.1 in the period 1994-200. This led to a significant increase of the export coefficient, which rose from 13 to about 27 percent between 1992 and 2008 (see figure 2).
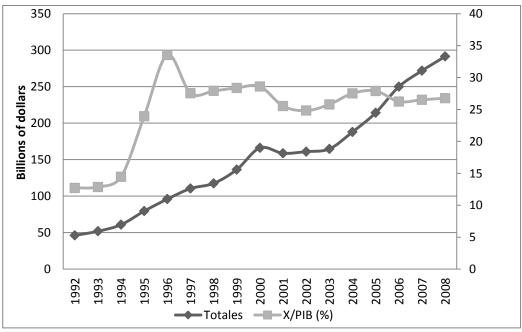
Figure 2. Total exports and export coefficient

Source: Bank of Mexico (2009)

III.2. Change in the composition of exports

The export growth occurred simultaneously with the change in their composition, so that in 2008 the manufacturing exports reached 231 billion dollars, that is 79 percent of total exports (see figure 3).
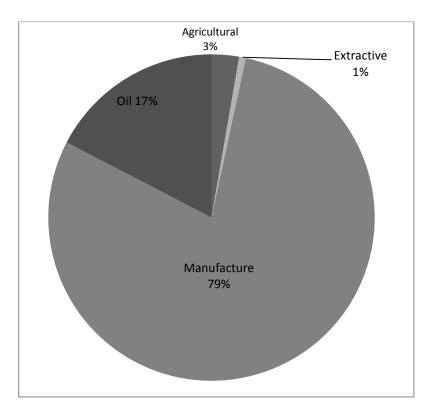
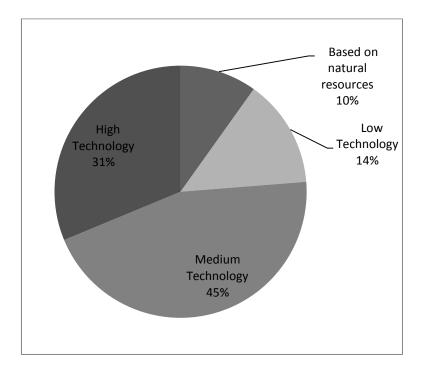**Figure 3. Exports by type of goods (2008; percentages)**

Source: Bank of Mexico (2009)

III.3. Manufacturing exports by technological level

Figure 4 shows the composition of industrial exports by technological level, which falls into the categories of natural resources based products or low, medium or high technology products. It is noted that the decisive weight falls on the high and medium technology industrial products, which since the early nineties have represented about 60 percent of industrial exports of the country. However, these data should be viewed with caution, because the classification of exports is made according to the technological level of each product, and may-well happen that a country is specialized in the

technologically simple production process of a high-tech product. This is particularly important to consider in countries where large part of manufacturing exports are engaged in the global production sharing system, in which, as seen below, Mexico actively participates.

Figure 4. Industrial exports by technological content (2006; shares of total industrial exports)

Source: CEPAL (2008)

Failure to consider the particularity of the countries' manufacturing export profile highly integrated into the global production sharing system can lead to misunderstandings. For example, Myro et al. (2008: 38 and 40), who classified the manufacturing exports of OECD countries in 3 groups -advanced, intermediate and traditional- according to the dynamics of demand and technological intensity, highlights that in 2005, 41 percent of Mexico's manufacturing exports fall into the first group, 39 percent into the intermediate and 25 percent into the category of traditional exports. The same data for Germany are 21, 55 and 23 percent, respectively, and the data corresponding to Japan are 32, 55 and 13 percent, respectively. In sum, these figures would indicate that the international integration of Mexico through manufacturing

exports is more advanced in terms of technology and the dynamic of the world demand than that of these two major exporting powers. Not only this, but also, according to the sophistication of its exports, Mexico should grow more (Hausmann et al., 2007), and according to the adaptability index, Mexico exhibits as it has the appropriate specialization. We think that these statements do not take into account the stage of the production process of high-tech products in which Mexico has specialized.

Despite the extraordinary performance of manufacturing exports since the eighties, the gap between exports and output has expanded steadily in recent decades (see figure 5). This fact, raised by Palma (2005), was particularly perceptible in the nineties of the past century, when exports grew at an average annual rate of 12.5 percent while the product was expanding at a rate of 3.4 percent (World Bank 2011).
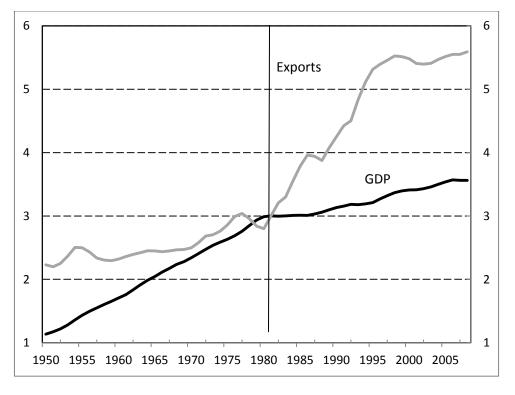
Figure 5. Mexico's GDP and exports

Source: author's calculations based on INEGI and PEMEX

IV. Estimation of the domestic value added content in Mexico's manufacturing exports

Given that the characteristics of manufacturing exports from the internal economy and the *maquiladora* export industry determine that the value added content in them is very different in magnitude and in the proportion of it directly and indirectly created, we first present a brief description of the shares that these sectors have in the country's manufacturing exports as well as in the most important branches of them.

IV.1. Manufacturing exports of the internal economy and the *maquiladora* industry

Table 1 shows the composition of the country's manufacturing exports by subsector, showing details of the three branches contributing to two thirds of them whether they come from the *maquiladora* export industry or the internal economy. The most important features are the following:

- Most of the manufacturing exports come from the *maquiladora* industry (62 percent of total).

- Three sectors provide the bulk of manufacturing exports: electronic industry (29 percent of total exports); electrical equipment (9 percent) and transportation equipment (28 percent). Together, they contribute 66 percent of the value of country's manufacturing exports.

- However, these sectors are radically different in the degree of integration to the national economy: while 88 percent of exports of the electronics industry and 81 percent of the electrical equipment industry come from the *maquiladora* industry, in the case of transport equipment, 58 percent corresponds to the internal economy.

- The rest of the manufacturing exports accounts for 35 percent of the exports of the sector, from which 49 percent is generated by the internal economy and 51 percent by the *maquiladora* industry.

Table 1. Composition of manufacturing exports 2003 (million pesos)

Subsector	Total		Internal Economy		Processing Exports		Percentages	
	Exportaciones	%	Exportaciones	%	Exportaciones	%	Internal Economy	Processing Exports Industry
Computer and Electronic Product Manufacturing	385 317	29	47 741	9	337 576	41	12	88
Transportation Equipment Manufacturing	366 969	28	211 203	42	155 766	19	58	42
Electrical Equipment, Appliance, and Component Manufacturing	122 366	9	23 135	5	99 231	12	19	81
Subtotal three sectors	874 651	66	282 078	56	592 573	72	32	68
Rest of manufacturing	460 514	35	225 015	44	235 499	28	49	51
Total exports	1 335 165	100	507 093	100	828 072	100	38	62

Source: author's calculations based on INEGI (2008), Matriz de insumo-producto 2003

IV.2. Domestic value added in manufacturing exports

Table 2 shows the basic information regarding this topic. The most relevant conclusions to be drawn from it are the following:

- Domestic value-added accounts for 42 percent of the value of exports. This proportion is significantly higher in the exports of the domestic economy (75 percent) than in the *maquiladora* industry (22 percent).

- The contribution to the domestic value-added content in manufactured exports of the domestic economy is twice as large as that of the *maquiladora* industry (67 vs. 33 percent), which contrasts with the contribution of these sectors to the value of manufacturing exports (38 and 62 percent, respectively).

- The three most important sectors in terms of their contribution to manufacturing exports account for 54 percent of the domestic value added content in them (in contrast to the 66 percent share in manufactured exports). This gap is significantly narrower for the domestic economy than for the *maquiladora* industry: (52 vs. 56 percent

of the value of exports and domestic value added in the internal economy and 59 vs. 72 of exports and domestic value added in the maquiladora industry).

- The contribution of the most important sectors in terms of exports and domestic value added is markedly different: while transport equipment accounts for 28 percent of manufacturing exports, their contribution to domestic value added content in them is 32 percent; in the electronic industry these indicators show the opposite relationship: its contribution to manufacturing exports reaches 29 percent, while it creates only 14 percent of the domestic value added content in manufacturing exports. This difference is particularly wide in the *maquiladora* electronic industry: it contributes with 41 percent to the exports of the *maquiladora* industry and with 25 percent to the domestic value added generated by this sector of the economy.

- In order to qualify these data, we present the coefficients of domestic value added content in Chinese exports for 2002. The ratio of domestic value added to total exports amounted 47 percent. In Mexico, the domestic value added content in total exports reaches 55 percent, significantly higher than the coefficient for manufacturing exports due to the fact that agricultural products, mining and oil and the manufacturing sectors that process materials from these branches are characterized by a high domestic value added. In the domestic economy and the *maquiladora* industry these data are 84 and 23[4] percent, respectively.

- The differences between the two economies in terms of the ratio of domestic value added to exports in the three sectors which make the greatest contributions to Mexico's manufacturing exports are significant in the case of the transport equipment. In Mexico, the coefficient for transport equipment is 50 percent, in the electronics industry, 21 percent, and in electrical equipment, 34 percent. In the Chinese economy (2002)

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[4] These data refer to the domestic value added content as weighted average of total exports, manufacturing and nonmanufacturing.

these coefficients of domestic value added equal to 38, 24, and 35 percent respectively (Chen et al., 2008: 14).

- The relationship between domestic and export value of the internal economy is substantially higher than in the *maquiladora* industry. For transport equipment this ratio is 68 in the internal economy and 25 in the *maquiladoras*. For China, the figures are 49 and 27 percent respectively. In the Mexican electronic industry, these proportions rise to 71 (internal economy) and 14 percent (*maquiladora industry*), and in China are 42 and 20 percent respectively; finally, in the electrical equipment manufacturing industry this ratio is 76 (*internal economy*) and 24 (*maquiladora industry*), whilst in China these amounted to 51 and 26 percent, respectively (Chen et al., 2008: 14). To sum up, in all these cases, the proportion of domestic value added content of Mexican exports is significantly higher than in the Chinese exports when they come from the internal economy, while Chinese exports of the processing exports industry have a greater share of domestic value added than the Mexican ones, except for electrical equipment. Considering the weight of *maquiladora* exports in the Mexican economy, this helps to explain the divergence between the behavior of exports and output in both economies.

- As discussed, the value added generated by industry can be divided into direct, corresponding to factor income directly paid by the sector (the item of the input-output matrix called gross value added), and indirect, which is equivalent to the incomes contained in the inputs demanded by the industry in question. At the same time, the indirect added value can be domestic, in the event that these inputs are domestically produced, or incomes for other countries if the inputs are imported. In the case of export activities, this means that if they are highly related to the rest of the economy, on the side of the purchases of inputs, the domestic multiplier effect from exports activities increases. In the case of Mexico's manufacturing exports, 53 percent of domestic value added content in

them is direct. This proportion is somewhat higher in exports generated by the domestic economy (50 percent) than in the *maquiladora* industry (40 percent).

Table 2. Domestic Value Added Content in Manufacturing Exports (million pesos)

	Direct Value Added (DVA)			Indirect Value Added(IVA)			Total Value Added (TVA)		
TOTAL MANUFACTURING INDUSTRY									
Subsector	Pesos	% Total´s DVA	% Sector's VA	Pesos	% Total´s IVA	% Sector´s VA	Pesos	% Totals´s VA	TVA/X (%)
Transportation Equipment Manufacturing	100,446	33	55	82,294	31	45	182,741	32	50
Computer and Electronic Product Manufacturing	48,505	16	60	32,520	12	40	81,024	14	21
Electrical Equipment, Appliance, and Component Manufacturing	23,002	8	55	18,576	7	45	41,578	7	34
Subtotal three sectors	171,953	57	56	133,390	50	44	305,343	54	35
Rest of Manufacturing	128,596	43	50	130,820	50	50	259,416	46	56
Total Value Added	300,549	100	53	264,210	100	47	564,759	100	42
INTERNAL ECONOMY									
Subsector	Pesos	% Total´s DVA	% Sector's VA	Pesos	% Total´s IVA	% Sector´s VA	Pesos	% Totals´s VA	TVA/X (%)
Transportation Equipment Manufacturing	74,718	39	52	69,678	37	48	144,396	38	68
Computer and Electronic Product Manufacturing	20,878	11	62	12,934	7	38	33,812	9	71
Electrical Equipment, Appliance, and Component Manufacturing	9,398	5	54	8,153	4	46	17,551	5	76
Subtotal three sectors	104,993	55	54	90,766	48	46	195,759	52	69
Rest of Manufacturing	84,452	45	46	98,734	52	54	183,185	48	81
Total Value Added	189,445	100	50	189,499	100	50	378,945	100	75
PROCESSING EXPORTS INDUSTRY									
Subsector	Pesos	% Total´s DVA	% Sector's VA	Pesos	% Total´s IVA	% Sector´s VA	Pesos	% Totals´s VA	TVA/X (%)
Transportation Equipment Manufacturing	25,728	23	67	12,616	17	33	38,344	21	25
Computer and Electronic Product Manufacturing	27,627	25	59	19,585	26	41	47,212	25	14
Electrical Equipment, Appliance, and Component Manufacturing	13,604	12	57	10,423	14	43	24,027	13	24
Subtotal three sectors	66,960	60	61	42,624	57	39	109,584	59	18
Rest of Manufacturing	44,144	40	58	32,087	43	42	76,231	41	32
Total Value Added	111,104	100	60	74,711	100	40	185,815	100	22

Source: author's calculations based on INEGI (2008), Matriz de insumo-producto 2003

Conclusions

1. The purpose of this paper was to contribute to explain the fact that although in recent decades Mexican exports have shown signs of extraordinary dynamism and maturity, little has it contributed to the overall growth of the economy

2. This is based on the fact, according to the perspective followed in this paper, that the expansion of manufacturing exports is insufficiently linked to the domestic market, which is explained by the domestic value added, both direct and indirect, content in exports..

3. It has been estimated that the value added content in exports represents 14 percent of total value added of the economy while the exports coefficient, with respect to gross production, is 20 percent. This gap is even wider for the manufacturing industry, which has been the most dynamic export sector of the Mexican economy: nearly forty percent of the sector's output is sold in foreign markets, but the value added content in exports represents only 28 percent of the value added by the sector.

4. This proportion is even lower (10 percent) in the *maquiladora* export industry, which accounts for 62 percent of Mexican manufacturing exports.

5. A key part of the explanation of the low domestic value added in manufacturing exports lays in the fact that indirect value added represents a low proportion of the value added content in exports, which is the result of the weak linkages of export activities with the rest of the national economy, especially with the same manufacturing activities.

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