

The competitiveness in the textile and clothing industry in Mexico 1980-2008^α

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ABSTRACT: The textile industry is one of the most important sectors in the Mexican economy in terms of employment, economic units and generated gross added value. In this context, the promotion of the sector takes special importance as a mean to achieve its revival, which will affect not only the sector itself but the country's trade balance, among other benefits. The aim of this article is to denote the export competitiveness of the textile sector in Mexico, facing Chinese competition in the global context. For which two methodologies will be used: the first is the balance-flow index (V_{ij}), which assumes that the trade pattern of the products reflects the relative costs and differences in quality and service factors, the second will be the Analysis of Market Constant Share Method (MCS), which allows to decompose the growth of exports and to study their behavior in order to assess the extent to which structural and competitiveness factors explain their performance over a determined period of time. An index interpretation can have an overview of the situation in the textile competitiveness. In this context, we conclude that China's presence in markets represents a major shock on the capacity to attract FDI from the Mexican textile industry.

KEYWORDS:

- International Trade
- Competitiveness
- Imports and Exports
- Revealed Comparative Advantages
- Market Constant Share

La competitividad de la industria textil y de la ropa en México 1980-2008

RESUMEN: La industria textil, es uno de los sectores más importantes en la economía mexicana en términos de empleo, unidades económicas y valor agregado bruto que genera. En este contexto, cobra especial importancia la promoción del sector como vía para lograr su reactivación, lo que repercutirá no sólo en el sector en sí mismo, sino en la balanza comercial del país, entre otros beneficios. El objetivo de este artículo es denotar la competitividad de las exportaciones del sector textil en México, frente a la competencia de China en el contexto mundial. Para la cual se utilizarán dos metodologías: la primera será el índice balanza-flujo (V_{ij}), la cual supone que el patrón comercial de los productos reflejan los costos relativos, así como las diferencias de los factores en calidad y servicio; la segunda será el Método de Análisis de Participación Constante del Mercado (MCS), el cual permite descomponer el crecimiento de las exportaciones y estudiar su comportamiento con el fin de evaluar el grado en que los factores estructurales y de competitividad explican su desempeño en un periodo de tiempo determinado. La interpretación de un índice permite tener un panorama general de la situación imperante en la competitividad textil. En este contexto, se concluye que la presencia de China en los mercados representa un choque importante sobre la capacidad de atracción de IED del sector textil mexicano.

PALABRAS CLAVE:

- Comercio Internacional
- Competitividad
- Importaciones y Exportaciones
- Ventajas Comparativas Reveladas
- Participación Constante de Mercado

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I. Introduction

The textile industry is one of the most important sectors in the Mexican economy in terms of employment, economic units and generated gross added value. However, in recent years the figures from Mexico have been affected, reflecting certain stagnation in its growth and reducing its participation in international trade due to loss of competitiveness against other competing countries, China mainly, with whom it competes strongly in the sector and especially in the main destination of Mexican products, the United States.¹

In this context, the promotion of the sector as a way for its revival takes special importance, which will have an impact not only in the sector itself, but in the country's Trade balance, among other benefits. In addition, the new paradigms that point to the importance of understanding and analyzing the participatory interaction of stakeholders at different levels seem relevant: micro, meso, macro and meta, in order to raise the level of competitiveness, efficiency and equity of the socio-economic system.

According to data provided by the Ministry of Economy (SE), in Mexico the textile and clothing industry activity meant the fourth more dynamic activity in the manufacturing sector,² because it generated an average

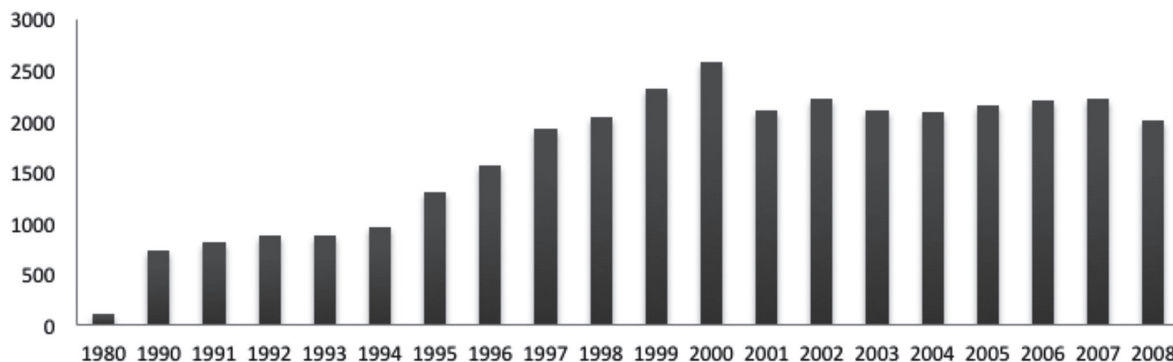
1.5% of the gross domestic product and the 7.1% of the manufacturing gross domestic product during the period from 1994 to 2004. In terms of occupation, during the same period, it generated about average 17.5% of national employment and 2.4% average of gross fixed investment of the manufacturing sector.³

The strategic position of the textile industry in the national context, as well as its relationship with other industrial sub-sectors, made the Mexican Government consider the chain fibers-textile-dress, as one of the 12 priority areas with a view to develop programs of sectorial competitiveness.⁴

As shown in the graph above, the textile branch was benefited since the opening of the country to international markets, Mexico did not show a more aggressive attitude in capturing new markets, but it focused on the sale of its production in one only country, the United States.⁵

It should be mentioned that the cost of labor is a factor of disadvantage. The Autonomous Technological Institute of Mexico and the Center for Competitiveness Studies (2004), provide comparative information of the costs of the Mexican labor in the clothing sector for 2002, which is 3.6 times higher than in China (2.45 USD/hour in Mexico, against 0.68 USD/hour in China), which leaves the country out of competition as to costs.

Graphic 1
Textile Exports: Mexico (1980-2009) bd.



Source: Own elaboration based on data obtained from the WTO 2010.

¹ J. Martínez and O. Neme, "La inserción de China y México en la Economía Internacional", in Roldán E. (Coord.), *Las relaciones económicas de China, OMC, México, Estados Unidos, Taiwán y la Unión Europea*, Asociación Mexicana de Estudios Internacionales, Ed. Plaza y Valdés, México, 2003.

² Belem Dolores Avendaño Ruiz, "Globalización y competitividad en el sector hortofrutícola: México, el gran perdedor", in *El Cotidiano*, núm. 147, México, 2008, pp. 91-98.

³ Secretaría de Economía (SE), *Inversión Extranjera Directa en la Industria Textil*, Dirección General de Inversión Extranjera, México, 2002-2010: www.economia.gob.mx [March, 2011].

⁴ *Idem*.

⁵ Carlos Rodríguez and Lizbeth, Fernández, "Manufactura textil en México: Un enfoque sistemático", in *Revista Venezolana de Gerencia*, Vol. 11, número 35, Maracaibo, 2006.

China is also a competitor of Mexico in foreign investment in this industrial activity, by the low cost of labor and other inputs, thus Mexico must seek strategies to increase its attractiveness as a recipient of foreign capital.⁶

According to the SE, the textile sector presents internal problems associated to the low use of technology (which explains the lack of industrial development and the business concentration in the activity of confection), high cost of electricity, low levels of productivity, enormous difficulties to focus production to preferences and trends of the international market as well as the lack of credit to invest, since the sector is considered as high risk for investment due to the above.⁷

In addition to this, there is the limited capacity of companies in the sector to innovate and design finishes, textures and cuts in fashion, which has impeded their efficient integration into the international market. Other external factors affecting the sector are the increasing imports of clothing from China, India and Egypt, among other countries, as well as the promotion of piracy and the smuggling of lower price garments and also the trade agreements that Mexico began to develop with New Zealand, South Korea, China and Australia. These factors have led to the displacement of domestic demand towards the external market, resulting in lower sales of domestic products, and therefore, lower incomes for Mexican producers.⁸

As a result of competition at international level and the growing demands of the market, the textile and clothing sector evolved from a production based in manufacture towards a total production.

Meanwhile, the textile industry in China is one of the oldest in the world and part of its productive growth is associated with its entry into the WTO. Since then, it has concentrated in the textile and clothing industry. Even though, its entrance was subject for the members of the Commission to establish special conditions for the entry of their products to the Chinese market, it also resulted in measures that allow temporarily limitation for the import of Chinese products. Among these are:⁹

- The extension until end of 2008 of the special safeguard clause for textiles of the ATV.
- A minor expansion of textile share also set in the same agreement
- A special safeguard mechanism specific to imports from China, which governed until end of 2013.
- A special standard for the determination of dumping, which allows the use of prices from other countries as the standard of comparison, while it is considered that in the Chinese sector currently under investigation does not prevail conditions of a market economy, clause that expires in 2016;

- Inconsistent restrictions with the WTO rules adopted temporarily by other countries for Chinese imports, as part of bilateral negotiations for China's accession to the WTO.

Despite all these conditioning elements, in 2003 the textile and clothing industry developed a deep restructuring in order to adapt to market conditions and greater competitiveness. This modernization caused that textile and apparel exports to represent approximately 25% of the world market. More than 5500 companies benefited from foreign investment resources. This situation has led to China as the leading world importer of textile machinery. The main suppliers are companies from Germany, Japan, Italy, Switzerland and Korea.

II. Methodology of the products of the textile industry competitiveness

It is important to measure the competitiveness of export flows of a country in the global market through indirect indicators, as an example of this; the revealed comparative advantage index can be used.

One of the methodologies used to measure competitiveness at macro, meso and micro, is proposed by Vollrath (1991),¹⁰ which consists in calculating an index to measure the revealed comparative advantages (or competitive advantage) known as Revealed Comparative Advantage Index (IVCR), obtained from:
$$IVCR = \frac{VCE}{VCI} \cdot \frac{X}{M - r}$$
 where VCE represents the revealed comparative advantage in exports calculated from and VCI = revealed comparative advantage from imports obtained of : X represents exports, M the imports, r the world minus the country under analysis and n the trade of all goods minus the a good. This involves the measurement

⁶ Eduardo Arceo, "Sector textil y confección. Oportunidades de Alianzas Estratégicas con Asia", *Bancomext*, México, 2003: www.Bancomext.com, June 15, 2012.

⁷ Secretaría de Economía (SE), "Inversión Extranjera, Directa en la Industria Textil", *Dirección General de Inversión Extranjera*. México, 2002-2010: www.economía.gob.mx [March, 2011].

⁸ M. Arroyo and L. Cárcamo, "Estrategias de mercado para la competitividad del sector textil y de la confección", Caso de estudio Original Mexican Jean Co. presentado en el *Congreso Internacional de Negocios*. ITSON, México, 2008.

⁹ OMC, Estadísticas de Comercio Internacional, 2001: http://www.wto.org/spanish/res_s/statis_s/its2001_s/its01_toc_s.htm

¹⁰ Vollrath, T., "A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage", in *Weltwirtschaftliches Archiv*, 1991, pp. 264-280.

of proportion of a specific product in total exports of the country in relation to a share of that product in the market.

Therefore, depending on the type of relations the VCE or VCI will be greater or less than zero, reflecting a greater or lesser performance, respectively, shown by the other goods and the performance of the rest of the world. Since the VCR distinguishes between a specific item and the rest of traded goods in the economy, and between the country and the rest of the world, it eliminates the double counting between products and countries, as well, since for the calculation of this index data of imports and exports is used, it takes into account both the demand and supply of products.¹¹

To explain the value of VCR, it should be considered that a greater VCR than zero identifies products with revealed comparative advantage, and generally shows that the country's exports exceed imports ($X / M > 1$). Conversely, a negative value indicates revealed comparative disadvantage, and usually implies that imports exceed exports ($X / M < 1$). This index is comparable across products, so that the higher the VCR of a product is, the more favorable competitive position it has in the international market.

For this study case, it will be used as a base the industrial competitiveness index from Rendon and Morales (2000),¹² which builds on the one proposed by the United Nations Industrial Development Organization (UNIDO), in the year of 1985, and is used to measure a country's industrial competitiveness, based on the Revealed Comparative Advantage Index (IVCR).

The index developed by Rendon and Morales (2000), allows measuring the competitiveness of manufactured products by trade flows data, known as revealed comparative advantage index of balance-flows (V_{ij}), which is a valuable contribution in the methodology field to measure the comparative advantage of an industry. The following formula allows the calculation and is described below:

$$V_{ij} = \frac{x_{ij} - m_{ij}}{\left(\left(\frac{X + M}{2}\right)_j \left(\frac{X + M}{2}\right)_w\right)}$$

¹¹ Joaquín Arias Segura and Oswaldo Segura Ruiz, *Índice de ventaja comparativa revelada: un indicador del desempeño y de la competitividad productivo-comercial de un país*, Instituto Interamericano de Cooperación para la Agricultura (IICA), 2004.

¹² A. Rendón and T. Morales, "La competitividad industrial. Su medición" en *Política y Cultura 13*, Verano, México, 2000.

Where:

V_{ij} = revealed comparative advantage index of balance-flows

i = group of products at industrial, branch or class level

j = country

w = world total

m_i = total import of product i

x_i = total export of product i

M = total import of manufacture

X = total export of manufacture

The balance-flow index (V_{ij}), assumes the trade pattern of products reflecting the relative costs and differences in the factors of quality and service, building itself with the trade balance of the branch or industrial class analyzed, which is weighted with the product of the average trade flow of manufacturing sector in the country and the relative weight of global trade flow in the same branch or industrial class.

It should be noted that the denominator of each index is formed by the product of the factors. The first is the average trade flow of the domestic manufacturing sector and the second is the relative value of the average trade flow industrial sector (branch or class) in the world, measured against the average trade flow of manufacturing at the same level.

To calculate the average trade flow factor of the domestic manufacturing sector requires the values of exports and imports in this sector. Its calculation is the sum of the value of exports plus imports per year.

The second factor requires information on the world trade in manufactures and global textile trade. To calculate the average global trade flows in the manufacturing sector of the textile industry, we proceed the same way as for the average of trade flows of the domestic manufacturing sector.

The result of V_{ij} corresponds to the position of revealed comparative advantage presented by the sector. This allows locating products with capacity to successfully face up to foreign competition.

So, considering the situation of the textile industry and in order to illustrate the calculation of competitiveness in the industrial sector using the revealed comparative advantage index balance-flows, data is going to be applied from Mexican and Chinese textile industry for the period from 1980 to 2008.

The index applied to the textile sector in particular are:

Mexico

$$V_{texm} = \frac{x_{texm} - m_{texm}}{\left(\left(\frac{X + M}{2}\right)_m \left(\frac{X + M}{2}\right)_w\right)}$$

Where:

tex = textile industry
m = Mexico

China

$$V_{texch} = \frac{x_{texch} - m_{texch}}{\left(\left(\frac{X + M}{2} \right)_m \frac{\left(\frac{x_{tex} + tex}{2} \right)_w}{\left(\frac{X + M}{2} \right)_w} \right)}$$

Where:

tex = textile industry
ch = China

For both index:

w = world total
m_i = total of textile imports for the industry
x_i = total of textile exports for the industry
M = manufacture imports
X = manufacture exports

Should be taken into consideration that competition between similar products is reflected in the buying and selling operations, these are made by comparing solely market prices. Therefore, in this work Vij index is calculated using data at constant prices (based in U.S. dollars).

Other elements that make the analysis develops at constant prices are: 1) The existence of international information on imports and exports of the textile industry at constant prices in U.S. dollars, 2) The opportunity to standardize the accounting of the trade flows from Mexico and China, 3) Ease to build, for the period of study, a common monetary base, to express at constant prices the imports and exports of the countries participating in the global textile trade.

Moreover, the Analysis Method of Market Constant Share (MCS) allows to decompose the growth of exports and to study their behavior in order to evaluate the degree in which competitiveness and structural factors explain their performance in a given period of time.¹³ The factors that show these changes include global demand for exports, the geographical destination, the composition of the product and changes in the competitiveness of the country.

Leamer and Stern followed the method proposed by Tyszynski (1951) and introduced three more reasons why the performance of exports is limited: the first related to the composition of products export, the second linked to the distribution of export market and the last referring to the competitiveness.¹⁴ It was later revised by Richardson (1971), who analyzed the constraints theoretical and

empirical limitations presented by the method. Several authors have submitted improved versions, extending the decomposition in order to solve these constraints (for example: Jepma, 1989).¹⁵

The change of exports from a country to a market is determined with the following expression:

$$\Delta q = S_{j0} \Delta Q_j + \Delta S_j Q_{j0} + \Delta S_j \Delta Q_j$$

Where:

Δq = change of exports from a country to a given market.

$S_{j0} \Delta Q_j$ = *Structural effect*. It represents the expected change in exports, if it's kept constant the country's initial participation in the world market and the U.S. market. If it is positive it indicates that the growth in demand for this product positively affects the growth of exports.

$\Delta S_j Q_{j0}$ = *Competitiveness effect or residual*. It represents the part of the change in exports, which can be attributed to changes in competitiveness that have occurred throughout the period. If it is positive, it means that the country gained competitiveness, and if it is negative it loses competitiveness.

$\Delta S_j \Delta Q_j$ = *Interaction effect or second order*. It measures the influence of the interaction between changes in the participation of market, with changes in demand.

A second level of decomposition in each of these three effects is broken down in two resulting in 5 effects:

$$\Delta q = S_{j0} \Delta Q_j + (S_{j0} \Delta Q_j - S_{j0} \Delta Q_j) + \Delta S_t Q_{j0} + (\Delta S_j Q_{j0} - \Delta S_t Q_{j0}) + (Q_{t1} / Q_{t0} - 1) \Delta S_j Q_{j0} + (Q_{t1} / Q_{t0} - 1) \Delta S_j Q_{j0} + [\Delta S_j \Delta Q_j - (Q_{t1} / Q_{t0} - 1) \Delta S_j Q_{j0}]$$

$S_{j0} \Delta Q_j$ = *Growth effect*. It measures the part of the growth of exports from a country that can be attributed to the increase in the global demand for that product. It is the hypothetical change in exports, which could have happened if the participation of an exporter on the world market had remained constant during the period.

¹³ A. Rendón T. Morales, "La competitividad industrial. Su medición", in *Política y Cultura* 13, Verano, México, 2000.

¹⁴ *Idem*.

¹⁵ C. J. Jepman, "Extensions of the Constant-Market-Shares Analysis With an Application to Long-term Export Data of Developing Countries", in: *The Balance Between Industry and Agriculture in Economic Development*. J.G, 1989, pp. 129-143.

$(S_{j0} \Delta Q_j - S_{i0} \Delta Q_j) = \text{Market effect}$. It is further change expected in export, if the exporter keeps its initial participation in the U.S. market during the period. Positive it indicates that the country in question tends to concentrate its exports in markets that grow quickly.

$\Delta S_t Q_{j0} = \text{Pure residual effect}$. It represents the part of the hypothetical change in exports, attributable to changes in competitiveness in general.

$(\Delta S_j Q_{j0} - \Delta S_t Q_{j0}) = \text{Static structural residual effect}$. It represents the part of the hypothetical change in exports, attributable to changes in specific competitiveness in the U.S. market.

$(Q_{t1} / Q_{t0} - 1) \Delta S_j Q_{j0} = \text{Second pure order effect}$. It measures the interaction between changes in the participation of an exporter in the U.S. market and changes in the level of global demand.

$[\Delta S_j \Delta Q_j - (Q_{t1} / Q_{t0} - 1) \Delta S_j Q_{j0}] = \text{Dynamic structural residual effect}$. It measures the interaction between changes in the participation of an exporter in the U.S. market and changes in the level of demand for this.

Where:

- S = (percentage) market share of a specific country
- Q = volume of exports of the competitor countries group exporting to the market of reference (the standard)
- Δ = change of the variable at time
- 0 = start period
- 1 = end of period
- $S_1 = S_0 + \Delta S$
- S_t = participation of a country in the world market
- Q_t = exports of the group of countries to the world market

III. Results

Analyzing the values of indexes, they show that in the period 1980-2008, Mexico presents negative values throughout the series, which would indicate a “no revealed comparative advantage”, which could translate into a loss of competitiveness along the calculation, which would indicate at the same time the limited capacity

and presence in the country in the trade flows of goods belonging to the textile sector which coincide with the results obtained in previous works, mainly highlighting Chiquiar, Fragoso and Ramos France (2007),¹⁶ where Mexico apparently does not exhibit comparative advantage in relation to China.

Meanwhile, China's positive results indicating a gain of positive competitiveness in the textile sector, which can be explained by trade liberalization. Presents a decentralization of foreign trade activities, along with a number of undertakings authorized to carry out trade activities that increased from late 1970s, thus, where there were only a few (12 approximately), tens of thousands today. Many of them are privately owned.

An example of the little or null competitive advantage by Mexico is located in the period between 1980 and 1985, before the Mexican commercial opening, it obtained values ranging from - 0.07 to - 0.01, which would explain that the economy was not in a perfect state of competition in their textile products yet.

It should be noted that the textile activity was affected by the crisis of 1982, when lowering production in a 4.8% since in 1981 it had grown 5.8%. However, this situation was reversed in 1985 when this indicator grew 2.7% due to Mexico joined the GATT, laying the bases for the development of international trade of readymade garments when negotiating the tariff reduction with countries like United States and Canada. Being part of GATT also attracted businesses such as manufacturers, distributors and retailers who came to the country to take advantage of the low costs of production and distribution.

Since 1985, a gradual, but still negative recovery in competitiveness started in the sector. However, it is in 1990 when a loss of competitiveness occurs again, which was increasing in this sector. In 1994 with the entry into force of the NAFTA, a competitiveness recovery was presented, going from - 0.42 to - 0.15, having a growth rate of 85% being a great incentive to the economy, especially to focus on export in captive to United States. Already for the years 2004 and 2005, concerning competitiveness values were more negative between - 0.68 and - 0.70 with a growth rate of only 3%, the largest number in the standard series.

China presents a growing trend from 1980 until 1989 with higher values than the unit fluctuating between 2.33 and 1.17, with growth rates of 17%, even before entering to the WTO, which speaks of a strong trend in this sector to be competitive and to export its products, following the economic policy of manufacturing export imposed by the government since the 1970s.

The elimination of the overvaluation of the Yuan and its convertibility in 1996, were key aspects of trade

¹⁶ Daniel Chiquiar, Edna Fragoso and Manuel Ramos Francia, “Comparative Advantage and the Performance of Mexican Manufacturing Exports during 1996-2005”, in *Working Papers*, Banco de México, México, 2007.

liberalization. Exporters were no longer penalized and the availability of foreign exchange was not limiting imports. Foreign companies responded to these reforms consistent with the market-oriented economy.¹⁷

The 1990-2003 period shows a sharp decline in the competitiveness of the textile industry in China finding results under the unit, but positive as always, ranging between 0.2 and 0.96, with growth rates of 340%, being the year 1996 the one that reported the lowest datum. For 1998 the Chinese Government had limited exports within the plan only to state-owned enterprises of foreign trade. In 1998

the part of exported goods for which marketing rights were monopolized or limited through the system of commercial designation, were lower than 4% of the total exports.

Since 2004, China has presented an increasing trend in its index of competitiveness, surpassing the unit; in fact, as the years pass it can be checked that China is increasingly taking over even more of the textile sector, not having a close competitor.

In next table, it is shown that the 1996 year is crucial to both economies: a slight recovery seen for Mexico and for China there is a decline in their competitiveness.

Table 1
Results of the calculation of competitiveness
(Vij): Mexico (Vij mex) and China (Vijch), 1980-2008

Año	Vij mex	VijCh
1980	-0.06	1.93
1981	-0.04	2.31
1982	-0.01	1.74
1983	-0.01	2.33
1984	-0.02	2.12
1985	-0.07	1.12
1986	-0.17	1.45
1987	-0.18	1.67
1988	-0.15	1.38
1989	-0.15	1.17
1990	-0.15	0.82
1991	-0.21	0.45
1992	-0.29	0.30
1993	-0.43	0.27
1994	-0.42	0.50
1995	-0.15	0.51
1996	-0.19	0.02
1997	-0.23	0.24
1998	-0.32	0.27
1999	-0.54	0.30
2000	-0.59	0.41
2001	-0.64	0.50
2002	-0.65	0.73
2003	-0.66	0.96
2004	-0.68	1.09
2005	-0.70	1.35
2006	-0.62	1.46
2007	-0.55	1.51
2008	-0.55	1.75

Source: Own estimate based on 2010 (UNCTAD).

¹⁷ J. D Sachs, "Fundamental Sources of Long-Run Growth", in *American Economic Review*, 87(2), 1997.

During the years 1987 and 1988 applied in Mexico new economic measures that reinforce the process of trade liberalization. The effect on the textile industry is a drop in their competitiveness. The result of these effects can be attributed to the lack of efficient policies in Mexico, like trying to restore macroeconomic balance and the deepening of trade liberalization and the deregulation of productive activities.

In table you can see clearly that the economic crisis in Mexico 1994, affected the competitiveness of the textile sector; at the end of that same year, the Bank of Mexico withdraws from the foreign exchange market, leaving to the market forces the fixing of parity (peso-dollar). This decision caused a drastic devaluation that makes Mexican total exports competitive, which failed to be reflected in the textile industry, with a decrease of 2.3%.

According to data provided by the Ministry of Economy (2006), at a domestic level, textile activity meant the more dynamic activity in the manufacturing sector, since it generated on average 1.5% of gross domestic product and the 7.1 % of the gross manufacturing domestic product during the period 1994-2004. Employment during the same period generated an average of 17.5% of national employment and 2.4% average of the gross fixed investment of the manufacturing sector.

With the gradual elimination of tariffs by NAFTA and the peso devaluation, occurred in late 1994, a positive evolution of exports was presented for this activity in the order of 7 and 10% of the total number of goods sold to the rest of the world, for the years 1994 and 2003, respectively.¹⁸

On the other hand it was found that China presents a slowdown from 1986, even reaching levels close to “zero” in competitiveness. Its entry to the WTO in 2001, gives again a competitiveness index greater than the unit, resulting in a competitive economy in this sector, since as result of the successive internal reforms and the gradual opening of the economy, by decision of the central Government of China, FDI was favored within the country for many transnational, thus becoming a destination of prosperous businesses in the world.

¹⁸ Secretaría de Economía (SE), “Inversión Extranjera Directa en la Industria Textil”, in *Dirección General de Inversión Extranjera*. México, 2002-2010: www.economia.gob.mx [March, 2011].

¹⁹ C. Mejía, “El desafío del comercio en la industria textil y de la confección españolas con los nuevos miembros de la UE (Bulgaria y Rumania) y China”. *IX Reunión de Economía Mundial*, Madrid, España, 2007.

²⁰ Roberto Hernández Hernández, “El comercio exterior de China. Una perspectiva mexicana”, *XI Congreso Internacional de ALADAA*, Departamento de Estudios del Pacífico, Universidad de Guadalajara, Guadalajara, Jalisco, México, 2007.

China has been the main world center of outsourcing manufacturing of a wide range of products, from the intensive labour to those with higher content of capital and technology. With part of that production orders are being fulfilled by the transnational corporations that place its products (made in China) competitively into other markets.

Dynamic comparative advantages and competitive advantages of China lie in low production costs by lower costs of labor, great economies of scale, cost of energy and subsidized loans from the State with the aim of promoting its exports to the world. This situation has led to China as the leading world importer of textile machine components.¹⁹

While the interpretation of an index allows to have a general overview of the current situation in the textile competitiveness, it is proposed, in order to make clearer this analysis, and in turn achieving compliance with the objectives set at the beginning of this investigation and that is: to determine the relationship between FDI and the competitiveness of the Mexican textile industry and at the same time to make a comparative analysis to determine their degree of competitiveness against China.²⁰

In this context, given its comparative advantages pattern with the ones of Mexico, it is concluded that China’s greater presence in the markets seems to be effectively representing a major shock on the attraction of FDI to the Mexican textile industry capacity.

Due to structural changes that both economies have suffered, from changes of economic policy and processes of trade liberalization to economic crises, the analysis was divided into 3 distinct periods: 1980-1985, 1986-1993, and 1994-2008. The next figure presents a summary of the change in exports to the first level of decomposition of the same.

The first breakdown level of the increase in exports is that both Mexico and China, for the whole period of study had a positive structural effect which means that exports from both countries were influenced positively by the increase in the global demand for textile.

The competitiveness effect indicates that the increase in Mexican and Chinese textiles exports to the world market during the entire period of study resulted from an increase in national competitiveness, with the exception of the 1980-1985 period during which both countries lost competitiveness coupled with a low market share, which was less than 3%.

Finally, the effect of the interaction shows that the performance of exports of both countries has been influenced positively, except for the first period of analysis to the case of China, by the market share and changes in the world demand for textiles. This effect can be explained by the economic conditions presented by China in those years.

The analysis shows that China's presence as one of the world most important textile exporters is more and more evident, increasing its market share of 3% in 1980 to 48% in 2008; leaving Mexico in a complicated situation to position itself in the global textile market.

Table 2
Change in Mexican and Chinese exports: 1980-2008

	Mexico			China		
	1980-1985	1986-1993	1994-2008	1980-1985	1986-1993	1994-2008
Change in Exports (Δq)	786059.3346	393619351.3	538354153	-672453602	13606578483	14980389003
<i>First breakdown level of exports</i>						
Structural effect	1096144.208	8237545.564	241209201	0.01385517	0.044552264	0.302892573
Competitiveness effect or residual	-310085.086	385381803.1	297144951	-672453602	13606578482	14980389003
Interaction Effect or second order	0.21259429	2.646349563	0.24013222	-0.01521968	0.416221057	0.199621733

Source: Own elaboration and estimation based on UNCTAD.

Bibliography

- ◆ Arceo, Eduardo, "Sector textil y confección. Oportunidades de Alianzas Estratégicas con Asia", in *Bancomext*, México, 2003. www.Bancomext.com, June 15, 2012.
- ◆ Arias Segura, Joaquín and Segura Ruiz Oswaldo, *Índice de ventaja comparativa revelada: un indicador del desempeño y de la competitividad productivo-comercial de un país*, Instituto Interamericano de Cooperación para la Agricultura (IICA), 2004.
- ◆ Arroyo, M. and L. Cárcamo, "Estrategias de mercado para la competitividad del sector textil y de la confección", Caso de estudio Original Mexican Jean Co., *Congreso Internacional de Negocios*, ITSON, México, 2008.
- ◆ Avendaño Ruiz, Belem Dolores, "Globalización y competitividad en el sector hortofrutícola: México, el gran perdedor", in *El Cotidiano*, núm. 147, 2008.
- ◆ Chiquiar, Daniel, Edna Fragoso and Manuel Ramos Francia, "Comparative Advantage and the Performance of Mexican Manufacturing Exports during 1996-2005", in *Working Papers 2007-12*, Banco de México, 2007.
- ◆ Hernández Hernández, Roberto, "El comercio exterior de China. Una perspectiva mexicana", *XI Congreso Internacional de ALADAA*, Departamento de Estudios del Pacífico, Universidad de Guadalajara, Guadalajara, Jalisco, México, 2007.
- ◆ Jepman, C.J., "Extensions of the Constant-Market-Shares Analysis With an Application to Long-term Export Data of Developing Countries", in *The Balance Between Industry and Agriculture in Economic Development. J.G.*, 1989.
- ◆ Martínez J. and Neme O., "La inserción de China y México en la Economía Internacional", in Roldán E. (Coord.), *Las relaciones económicas de China, OMC, México, Estados Unidos, Taiwán y la Unión Europea*, Asociación Mexicana de Estudios Internacionales, Ed. Plaza y Valdés, México, 2003.
- ◆ Mejía, C., "El desafío del comercio en la industria textil y de la confección españolas con los nuevos miembros de la UE (Bulgaria y Rumania) y China", *IX Reunión de Economía Mundial*, Madrid, España, 2007.
- ◆ OMC, Estadísticas de Comercio Internacional, 2001. http://www.wto.org/spanish/res_s/statis_s/its2001_s/its01_toc_s.htm
- ◆ Rendón, A. and T. Morales, "La competitividad industrial. Su medición", in *Política y Cultura* 13, Verano, México, 2000.
- ◆ Rodríguez, Carlos and Lizbteh Fernández, "Manufactura textil en México: Un enfoque sistemático", in *Revista Venezolana de Gerencia* Vol. 11, Número 35, Maracaibo, 2006.
- ◆ Sachs, J. D., "Fundamental Sources of Long-Run Growth", in *American Economic Review*, 87(2), 1997.
- ◆ Secretaría de Economía (SE), "Inversión Extranjera Directa en la Industria Textil", Dirección General de Inversión Extranjera. México, 2002-2010. www.economía.gob.mx [March, 2011]
- ◆ Vollrath, T., "A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage", in *Weltwirtschaftliches Archiv*.

Colaboraciones / Collaborations

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