國際學碩士學位論文

The Effect of Emergence of China on Mexican Export Growth

중국의 부상이 멕시코 수출성장에 미치는 영향

분석

2015년 2월

서울大學校 國際大學院

國際學科 國際地域學 專攻

金寶英

The Effect of Emergence of China on Mexican Export Growth

Thesis Presented

By

Bo Yeong KIM

to

Graduate Program in International Area Studies

in Partial Fulfillment of Requirements

for the Degree of Master

in the Subject of International Studies

February 2015

Graduate School of International Studies

Seoul National University

Seoul, Republic of Korea

中國의 浮上이 멕시코 輸出成長에 미치는 影響 分析

指導敎授 金 鍾 燮

이 論文을 國際學碩士 學位論文으로 提出함

2014年 **10**月

서울大學敎 國際大學院

國際學科 國際地域學 專攻

金寶英

金寶英의 碩士學位論文을 認准함

2014年 **11**月

委 員 長 _____安德根_____ (印)

副 委 員 長 _____李永燮_____ (印)

委 員 _____金鍾燮_____ (印)

Graduate School of International Studies
Seoul National University

THESIS ACCEPTANCE CERTIFICATE

The undersigned, appointed by

The Graduate School of International Studies
Seoul National University

Have examined a thesis entitled

The Effect of Emergence of China on Mexican Export Growth

Presented by **Bo Yeong KIM**

Candidate for the degree of Master of Art in International Studies and hereby certify that it is worthy of acceptance

Signature Committee Chair	_____ Dukgeun Ahn
Signature Committee Vice Chair	_____ Yeongseop Rhee
Signature Committee Member	_____ Chong-Sup Kim

Abstract

The Effect of Emergence of China on Mexican Export Growth

Bo Yeong Kim

American Area Studies Major

Graduate School of International Studies

Seoul National University

The impact of the emergence of China on Latin American states has intrigued many researchers. Mexico, among others, has the most similar export structure to that of China's compared to other Latin American countries and, at the same time, suffered a downfall in manufacturing industries, especially in maquiladora industries.

Given this background, the aim of this study is to find out whether there has been a change in the competitive composition between China and Mexico in recent years (2000-2013) and to identify which Mexican industries have been

affected by Chinese exports using Weighted Least Squares regression method and Revealed Comparative Advantage index.

The results indicate that there has been a negative China impact on Mexican textile industries and positive China impact on medium-tech and high-tech machinery manufacturing industries both in short term and long term. In other words, China still has a high level of comparative advantage in textile industries, which led Mexican exports to suffer in those fields until recent years. Meanwhile, Mexican exports on medium-tech and high-tech machinery manufacturing industries are enhancing its competitiveness. To explain such result, it is more likely that both countries are on their way of reinforcing comparative advantages and expanding market than that Chinese export growth has derived Mexican export growth.

Keywords: Emergence of China, Mexican Exports, Panel Regression

Student Number: 2012-22110

Table of Contents

List of Tables and Figures

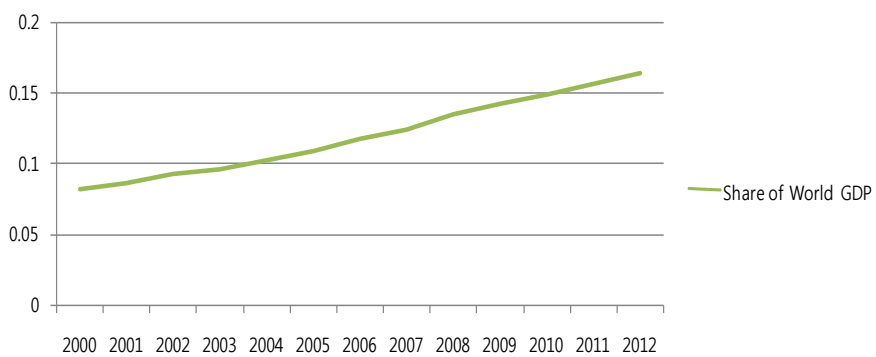
1. Introduction

1.1 The Emergence of China

After a long wait, China has been rising as the world's second biggest and fastest growing economy with 12% of average annual growth rate during the period of 2000-2012. All economic agents all around the world have been keeping a close watch and paying sharp attention to every possible impact that Chinese growth will have on them as the importance of China in global economy increases.

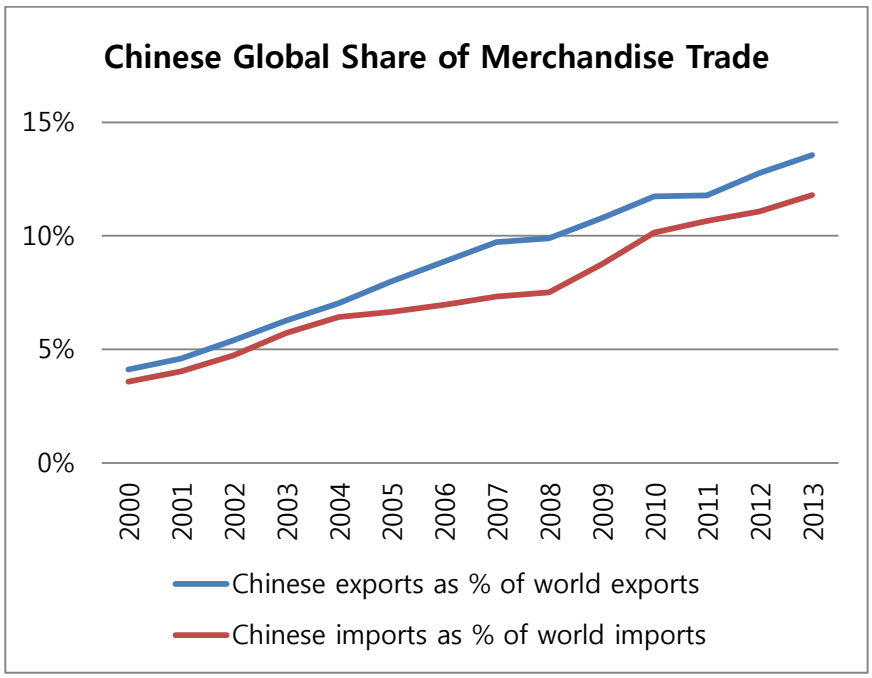
Figure 1 and Figure 2 illustrate how China is rising as one of the world's most important economic players. The PPP estimate of Chinese share of World GDP has been raised from 8% in 2000 to 16% in 2012. At the same time, Chinese global share of merchandise exports and imports has been marking a steady growth, and the figure has grown almost 3 times at 2013 compared to that of 2000.

Figure 1. Chinese GDP as share of World GDP at PPP



Source: own elaboration with World Bank data
(http://databank.worldbank.org/data/home.aspx)

Figure 2. Chinese global share of world exports and imports



Source: own elaboration with World Bank data
(http://databank.worldbank.org/data/home.aspx)

This remarkable growth is much indebted to a vast supply of low-cost labor, which moved from rural areas to urban areas accelerating industrialization. Flexible supply of cheap labor attracted global production facilities of multinational corporations, which made China the world's largest manufacturing power under the name of World Factory.

Moreover, china is getting more and more competitive not only in labor-intensive industries, but also in high-tech industries. After the mid-nineties, as China developed industrial structure, the share of labor-intensive light industry in total Chinese GDP has declined while the share of capital-intensive and technology-intensive industries has increased.

With this increasing China threat, this study will focus on the competitive

structure of China and Mexico.

1.2 China and Mexico: Competitive Partner?

Many literatures indicate that Mexico is the country most affected by Chinese economic growth in Latin America. For example, Rosen (2003) argues that Mexican maquiladora exports have fallen with rising Chinese competition.

Following preceding researches, I chose Mexico among other Latin American countries as the country of interest of this study. The rationale is the assumption that a country which has more similar export structure to that of China will be affected more easily by China threat. In other words, if both countries export similar products, than the competition in such categories will be harder.

To measure the degree of export structure similarity, I calculated Export Similarity Index[1] of Finger and Kreinin (1979) of Latin American countries with China as of the year 2013, and the result table is presented below.

Table 1. Major Latin American Economies' ESI with China in 2013

Mexico	Brazil	Argentina	Chile	Peru	Colombia
55.561	21.161	9.079	5.883	4.125	4.051

Source: own elaboration with UN Comtrade data
(http://comtrade.un.org)

If ESI of two countries reaches 1, it is interpreted that these countries have exactly same export structure and that the export products of these countries are in

[1] ESI measures the similarity of export patterns of countries 'a' and 'b' to market 'c' and is calculated as:

$$S(ab,c) = \left\{ \sum_i Min\left[X_i(ac), X_i(bc)\right] \right\} \times 100 .$$

competitive relations. On the contrary, an ESI close to 0 implies that the export structure of the countries of interest is completely different from each other's and that no significant competition is found in this relation. Compared to the fellow states in Latin American continent, Mexico marked 55.561, the highest score which is more than twice as much of Brazil's ESI. Therefore, according to ESI, Mexico would be the country that is most likely to have been hit hard by China among other Latin American states.

1.3 Research question

Given this background, the aim of this study is to find out whether there has been a change in the competitive composition between China and Mexico in recent years (2000-2013) and to identify which Mexican industries have been affected by Chinese exports. A common perception is that Mexican manufacturing industries have been suffering a downfall as a result of competition with China. This study also focuses on this issue and will find out if the rise of China is affecting Mexican manufacturing industries by using empirical methodology. Finally, a further analysis on whether China effect on a particular industry also appears in long term will be presented to complete the regression results.

2. Literature Review

2.1 Non-empirical Analysis

The emergence of China and its possible negative impact to Latin American exports have been a theme of interest for many researchers. Many of the literatures on this topic rely on non-empirical methodology to measure the magnitude of China impact on Latin America.

Lall, Weiss and Oikawa (2005) intend to map China's competitive threat to Latin America by comparing relative market share change from 1990 to 2002 in third markets. The authors classify the level of threat, and according to which they define four categories: direct threat when China is gaining market share while Latin America loses, partial threat when both have rising market share but China grows faster, reverse threat when Latin America gains while China falls; and no threat when both withdraw or Latin America grows faster than China. According to this analysis, most of the Latin American economies that have heavy reliance on primary product (Chile and Argentina, for example) performed poorly while Mexico and Costa Rica, which have most similar industry structure to China, show relatively sanguine results. Overall, although Latin American countries are losing competitiveness with the rise of China, the total share of commodities being threatened is not as much as that of East Asian countries. The results from Mexico in this study is noteworthy, because it shows that contrary to common expectation, there is less competition between China and Mexico in both the world and US markets. This can be attributed to Mexico's rapid growth after 2002.

Blázquez-Lidoy, Rodríguez and Santiso (2006) adopt two indices of trade

structure to measure the level of threat in the period of 1998-2002. The authors introduce the coefficient of specialization (CS) and the coefficient of conformity (CC). If both indices are close to 1, it is interpreted that the countries of analysis have exactly same export structure. In Latin America, Mexico and Costa Rica have the highest CS and CC, and South America has lower records. However, compared to other countries of interest, such as Asian countries, Latin American countries show relatively lower level of threat, which coincides with Lall, Weiss and Oikawa's analysis (2005). The authors also adopt the modified version of CS and CC to measure positive China effect, that is, the extent to which Chinese import conforms to Latin American export. Since Latin America mainly exports primary commodities and China is net importer of these commodities, it results in possible positive demand shock for Latin America in short term. However, the authors point out that Mexico could be an exception, as Mexico's specialization in maquiladora industries might be threatened by China in long term, provided that China can offer labor at even lower cost.

A more recent study of Gallagher and Peters (2013) focuses on a "triangular relationship" between China, Mexico and the US. Using Lall, Weiss and Oikawa's methodology, the authors find out that China is outcompeting Mexico especially in the US market and, at the same time, is competing the US in Mexican market. The authors identify Mexican industries that are losing market share in the US possibly because of China. The authors also find out that the share of the US market in total Mexican exports has declined significantly during the period of 2000-2009 while Chinese share in Mexican exports has increased. This "triangular relationship" denotes that China's rise threatens both Mexico and the US.

Ralph Watkins (2007) also relies on market share to analyze the competition between Mexico and China in manufacturing industries in the US market. The author points that although the imports from China have increased and Mexico's maquiladora industries have suffered a downfall, it does not necessarily mean that China is to blame for Mexico's loss of market share. Compared to other countries, Mexico is relatively doing well in maintaining its market share in the US. The author then identifies some key factors of how Mexico is meeting the China challenge and keeps its market share in the US. Those factors include lower transportation costs, less time from manufacture to market, easier communication, etc. Finally, the author points out that there is a North America supply chain where Mexico has been successfully integrated, which will protect Mexico to certain degree from China threat in the US.

There also exists a perspective that China and Mexico can go further than just remaining as competitors and be future partners by achieving division of labor. A study of Peters (2012) seeks potential cooperation between China and Mexico in automobile industries. China, as a global producer, has developed a number of domestic automobile and auto parts brands while Mexico specialized in being an export base for auto parts, thus being able to participate in a vast supplier network. The author concludes that for both countries, there is a room for taking advantage of such difference, and cooperation possibilities lie in institutional strengthening, connections between mid-actors to exchange knowledge and efforts from public sectors.

2.2 Empirical Analysis

Most of the literatures that rely on the analysis based on comparing market

share have some limitations. First, market share analysis based on relatively aggregate export or import categories can mix up different effects on sub-categories. For example, while Mexico's "fashion cluster" can appear affected by China, it is unlikely that Chinese textile fabrics export threatens Mexican travel goods exports. Second, if Chinese market share increases in world market and Latin American market share declines, it can only suggest that there may have been a possible China effect. It is possible that Chinese or Mexican export have increased or decreased because there have existed a demand shock in importer country, a supply shock in exporter country or a year-specific shock in the period of analysis. Therefore, it is hard to assert that a decline in Mexican export is due to negative China effect.

A study of Freund and Ozden (2006) addresses this problem by adapting an empirical methodology. The equation that the authors regress controls for exporter, importer, year and product specific effects, which enables them to estimate China effect more efficiently. The authors take the period from 1985 to 2004 and reclassify commodity codes into industrial goods and non-industrial goods. The countries of analysis are Latin American countries as a whole, Mexico and Central American countries (to have a closer look if manufacturing sectors of these countries are affected) and CACM countries. The authors find out that Latin American countries have been affected more in industrial sectors than in non-industrial sectors and that the negative impact of china was strong in North American regions and non-Latin American developing countries. The negative effect was especially strong for Mexico in the industrial products in the US market, and Central America had also been affected, but this effect seems dissipating.

This study will adopt Freund and Ozden methodology, for it can control for export growth and demand shock. It will estimate China effect on Mexican export in every SITC 2-digit industry level and provide more analysis to interpret the result.

3. Analytical Framework

3.1 Methodology

The advantage of Freund and Ozden (2006) methodology is that it can control for importer demand shock, exporter supply growth and product and year specific shock, thus making it possible to estimate China effect on Mexican exports. In other words, it shows whether Chinese exports are affecting Mexican exports more than third countries are affecting Mexican exports. This study will adopt this methodology for general case and apply it particularly to Mexican case to estimate China effect on industry level.

To draw the final regression equation, two export equations are presented to be a starting point.

(1) $\text{Exports}_{jt}=\gamma_{ij}\gamma_{it}\gamma_{jt}$

(2) $\text{China}_{jt}=\gamma_{chj}\gamma_{cht}\gamma_{jt,}$

Exports_{jt} is natural log of exports from country *i* to country *j* at time *t*. γ_{ij} is a country-pair fixed effect that will replace all country-pair time-invariant characteristics such as geographical distance, comparative advantage, demand difference, endowments difference, sharing a border, size, etc. between country *i* and partner country *j*. γ_{it} is an exporter-year idiosyncratic factor to pick up unexpected shocks to the sector at year *t*. γ_{jt} is a variable to capture importer-year time-varying characteristics such as demand conditions in the industry. China_{jt}, γ_{chj} and γ_{cht} are variables corresponding to China.

Accordingly, country *j*'s total imports from all countries other than China at time *t* can be written as

(3) $imports_{jt}=r_{jt}(\sum_i \gamma_{it}\gamma_{ij})$,

where, *i* is an exporter country other than China.

To control for the exporter-supply growth, assume that $\gamma_{it}=(1+g)^t+(1+\varepsilon_{it})$, in other words, γ_{it} grows at rate *g* with a multiplicative error that is independent and identical, then (3) can be rewritten as

(4) $E(imports_{jt})= \gamma_{jt}(1+g)^t\bar{\gamma}_{ij}$.

(1) and (4) can be written in log first differences as follows:

(5) $d(exports)_{ijt}=\alpha_{it}+\alpha_{jt}$ and

(6) $d(imports)_{jt}=\alpha_{jt}+\ln(1+g)$.

Putting together (5) and (6) yields

(7) $d(exports)_{ijt}=\alpha_{it}+d(imports)_{jt}-g$,

Meanwhile, suppose that in some industry there is a negative China effect and increasing Chinese exports to country *j* is replacing country *i*'s exports to country *j* at a factor *1/K*, which can be written as

(8) $Exports_{jt}=\gamma_{ij}\gamma_{it}\gamma_{jt}/K_{jt}China_{jt}$.

Including China variable, (7) can be rewritten as

(9) $d(exports)_{ijt}=\alpha_{it}+d(imports)_{jt}-d(China)_{jt}+\varepsilon_{ijt}$,

whereby the final regression equation yields:

(10) $d(exports)_{ijt}=\alpha_{it}+\beta_0 d(imports)_{jt}-\beta_1 d(China)_{jt}+\varepsilon_{ijt}$.

This equation is essentially to test if Chinese exports are ousting country *i*'s exports to a greater extent than other countries' exports in a particular market and sector, while controlling for overall exporter-supply growth. β_0 estimates the impact of all countries' exports other than that of China and country *i* in country *j* (in other words, the impact of country *j*'s imports from all other countries other

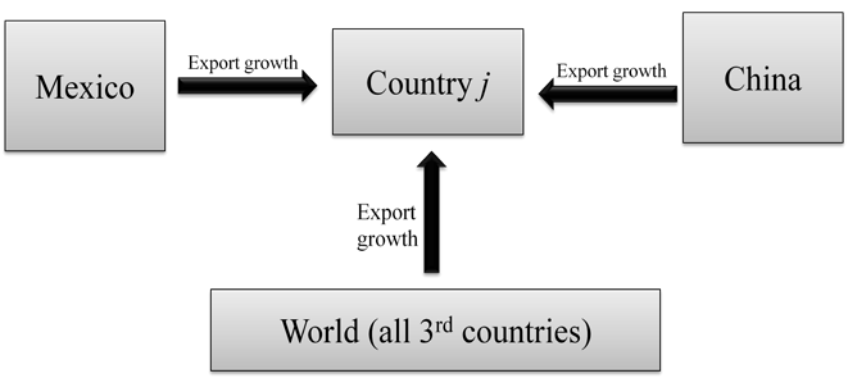
than China and country *i* to country *i*'s export to country *j* at time *t*). β_1 estimates the impact of China to country *i*'s export to country *j* at time *t*.

In this study, the country of interest is Mexico. Adapting (10) to fit Mexican case, I obtain

(11) $dln(Mexico)_{jt} = \alpha_{it}+\beta_0 dln(world)_{jt}-\beta_1 dln(China)_{jt}+\varepsilon_{ijt}$,

where $dln(Mexico)_{jt}$ and $dln(China)_{jt}$ represent Mexican and Chinese export growth to country *j* at time *t* respectively; $dln(world)_{jt}$ denotes export growth of all countries except China and Mexico to country *j* at time *t* (or country *j*'s import growth from all countries except China and Mexico).

Figure 3. Graphic representation of the equation (11)



Source: own elaboration

If China is displacing Mexico to a greater extent than other countries are displacing Mexico, β_1 would be negative. If Chinese exports complement Mexican exports, β_1 would be positive. If China has approximately same effect as other countries, β_1 would be closer to β_0. If China has no effect, then β_1 would be zero and β_0 would be closer to 1.

In the following chapter, regression results will be presented at industry level. To complement the results, two indices will be introduced. Revealed Comparative Advantage (Balassa, 1965) index measures a country's world export share of a commodity with the country's total export share of total world exports, thus depicting the country's specialization level of a particular commodity. Export Similarity Index measures how similar is two different countries' export structure. Greater ESI means greater competition, for greater exporter similarity increases the chance to compete each other.

The period of analysis is 2000-2013, and the data has been obtained from UN COMTRADE database at SITC Rev.3 2-digit level. All data was downloaded as import and then converted into export data to assure consistency between export and import data.

3.2 Hypothesis

As many studies have indicated, Mexican manufacturing industries (textile industries among others) have suffered because of China's low wage which propelled China to be the world's manufacturing hub. Moreover, China is getting more and more competitive in industries that require higher technology. Therefore, negative China effect can also be expected in such industries.

4. Empirical Analysis

4.1 Regression results

In this chapter, the results obtained by running the regression equation (11) will be presented.

The number of the industries with significant regression results is 27 out of 65, and that of the industries with significant China effect is 13. Regression results of all industries are tabulated in Appendix II. Table 2 and Table 3 show industries with significant regression result and significant China effect, respectively.

Table 2. Industries with significant regression results

SITC	*dlnworld*	*dlnchina*	R^2	observation
02	0.450 [0.30]	-0.598*** [-3.20]	0.47	221
05	0.937* [1.88]	0.159 [0.59]	0.29	1171
06	1.294* [1.72]	-0.122 [-0.62]	0.14	849
07	2.223*** [6.98]	0.166 [1.03]	0.60	1041
12	1.050* [1.69]	0.029 [0.21]	0.27	386
24	1.574** [2.63]	0.809*** [3.06]	0.53	276
26	1.795** [2.26]	-0.372** [-2.18]	0.24	612
27	0.178 [0.38]	0.326*** [2.68]	0.41	737
52	0.713** [2.04]	0.805** [2.14]	0.28	798
55	1.231* [1.66]	0.164 [0.61]	0.09	1170
56	-2.151* [-1.96]	0.185 [1.38]	0.29	361
57	1.152* [1.71]	0.349 [1.43]	0.18	827
63	1.399* [1.85]	0.038 [0.10]	0.20	733
65	1.553*** [3.37]	-0.599* [-1.85]	0.38	1221
67	1.791** [2.28]	-0.219 [-0.76]	0.32	978
68	1.700* [1.89]	0.285 [1.17]	0.23	826
69	-0.557 [-0.93]	1.202*** [3.01]	0.22	1366

71	0.960*** [3.01]	0.456** [2.58]	0.44	1170
72	0.309 [1.53]	0.714*** [3.29]	0.34	1103
73	0.547** [2.10]	0.248 [1.26]	0.26	845
74	1.617*** [4.07]	-0.003 [-0.01]	0.27	1405
75	0.186 [0.54]	0.470** [2.40]	0.18	1378
76	-0.233 [-1.49]	0.395** [2.08]	0.30	1388
77	0.448 [1.54]	0.868*** [4.38]	0.33	1441
78	1.579*** [3.81]	0.235 [0.92]	0.38	1284
84	-0.312* [-1.80]	-0.055 [-0.47]	0.36	1234
87	-0.235 [-1.01]	0.386* [1.85]	0.31	145

Weighted least squares, weights=trade value
*significant at 10%; **significant at 5%; ***significant at 1%
For details of each SITC code, see Appendix I

Table 2 reports the coefficients of *dlnworld* and *dlnchina* using exporter-2-digit-product-year fixed effect (hereinafter all regression tables report results using exporter-2-digit-product-year fixed effect). *dlnworld* is a control variable obtained by calculating the 1st difference of ln(Mexican import from all countries except China, i.e. export of all countries except China to Mexico) while *dlnchina* is the 1st difference of ln(Mexican import from China, i.e., Chinese export to Mexico), thus both variables reflect growth rate of each export data. The coefficient of *dlnworld* bigger than 1 implies that Mexico has been growing at a faster rate than other countries in the world except China. The China coefficient of about 0.80 can be interpreted that in a Chinese commodity with average growth rate of about 10%, the growth rate of Mexican commodity would be reduced by 0.08 percent points (later to be multiplied by Chinese market share in world market of that commodity to get better approximation).

Table 3. Industries with significant China effect

SITC	*dlnworld*	*dlnchina*	R^2	observation
02	0.450	-0.598***	0.47	221
24	1.574**	0.809***	0.53	276
26	1.795**	-0.372**	0.24	612
27	0.178	0.326***	0.41	737
52	0.713**	0.805**	0.28	798
65	1.553***	-0.599*	0.38	1221
69	-0.557	1.202***	0.22	1366
71	0.960***	0.456**	0.44	1170
72	0.309	0.714***	0.34	1103
75	0.186	0.470**	0.18	1378
76	-0.233	0.395**	0.30	1388
77	0.448	0.868***	0.33	1441
87	-0.235	0.386*	0.31	145

Weighted least squares, weights=trade value
*significant at 10%; **significant at 5%; ***significant at 1%
For details of each SITC code, see Appendix I

Table 3 illustrates the results of the regressions in which the coefficients of *dlnchina* are significant. The positive coefficients on *dlnchina* reflect positive correlation between Mexican export growth and Chinese export growth while the negative coefficients imply a negative correlation between export growth and Chinese export.

The table shows that only three industries have received negative China effect out of 13, which are dairy products and birds' eggs (02), textile fibers and their wastes (26) and textile yarn, fabrics, made-up articles, n.e.s., and related products (65).

Notwithstanding the common perception that Mexican manufacturing industries would have been suffering a downfall as a result of competition with

China, the number of industries that have been negatively affected are very limited, and they are mostly of textile industry, which is China's traditionally advantageous pillar industry. What is noteworthy is that the rest of the main manufacturing industries, mainly machinery manufacturing industries, remain positively correlated with Chinese export growth. A further analysis of such a result will be presented in the next section.

Table 4. Regression results of industries reclassified in accordance with Lall, Weiss and Oikawa's (2005) classification

SITC	*dlnworld*	*dlnchina*	R^2	observation
Resource based				
Mineral-based	0.456* [1.87]	0.106 [1.16]	0.11	3251
Agro-based	0.505* [1.90]	0.006 [0.12]	0.08	2699
Low technology				
Fashion cluster	0.960*** [4.79]	-0.214** [-2.37]	0.04	5232
Medium technology				
Engineering	0.526*** [3.70]	0.376*** [3.18]	0.14	3343
Process	0.227 [1.08]	0.198** [2.55]	0.05	6358
High technology				
Electronic	0.534*** [3.27]	0.537*** [5.77]	0.18	5342
Other HT	0.127 [0.68]	0.095 [0.89]	0.07	4239

Weighted least squares, weights=trade value
*significant at 10%; **significant at 5%; ***significant at 1%

Table 4 illustrates the regression results of industries reclassified in accordance with the classification of Lall, Weiss and Oikawa (2005), adjusted to fit the available data. The purpose of reclassification is to check bigger trends. Each group of manufacturing industries contains corresponding industries at SITC

2-digit level (for the details of the reclassification, see Appendix IV). China coefficients were significant in the following groups: fashion cluster, high-tech electronic machinery manufacturing, medium-tech engineering manufacturing and medium-tech processing machinery manufacturing. The only Mexican industry group with negative correlation with Chinese export growth is fashion cluster while high-tech electronic machinery manufacturing, medium-tech engineering machinery manufacturing and medium-tech processing machinery manufacturing appear to be positively correlated with Chinese export growth, which corresponds to the result of Table 3.

4.2 Further analysis

The regression results of the previous section are obtained through variables which are the 1st differences of natural log of trade data (i.e. growth rate), therefore, the results explain China effect only in short term. To compare with long-term effect, Revealed Comparative Advantage index (Balassa, 1965) of those industries where there was significant short-term China effect will be presented.

Revealed Comparative Advantage index (hereinafter referred to as RCA) is determined as follows:

$$RCA = (E_{ij} / E_{it}) / (E_{nj} / E_{nt}),$$

where, E=Exports; i=Country index; n=Set of countries; j=Commodity index; t=Set of commodities.

A comparative advantage gets “revealed” if RCA is bigger than 1.

Mexican RCA and Chinese RCA are calculated at two time points, 2000 and 2013, to capture the change in RCA over time. I divided the results into two groups; first group contains the industries with diverging trend of short-term and

long-term effect, and the second group contains the industries where China effects in short term and long term were consistent. The RCA table of Mexico and China featuring all commodity codes is attached in Appendix III.

Table 5. Industries with diverging trend of short-term and long-term effect

SITC Code	China coefficient	RCA			
		M2000	M2013	C2000	C2013
02	-0.598***	0.069	0.064	0.053	0.007
24	0.809***	0.122	0.075	0.249	0.142
26	-0.372**	0.466	0.295	0.892	0.591
27	0.326***	0.918	1.025	1.246	0.640
69	1.202***	0.922	0.863	1.542	1.784

Table 5 presents the result of the first group. Each commodity code is with their significant China coefficient and corresponding RCA. Code 02 and 24 are dropped, because their market share is too low in both countries that it would not mean so much even if there had been a negative China effect. M2000 and M2013 represent Mexican RCA in year 2000 and 2013, respectively, and the same applies in C2000 and C2013 for China. In Table 3, code 26 is an industry where negative short-term China effect is dominant with a coefficient of -0.372. Looking at the RCAs, however, Mexican RCA dropped from 0.466 to 0.295, and Chinese RCA also dropped from 0.892 to 0.591, which suggests that China and Mexico are both losing comparative advantage in world market of textile fibers. In this case, China and Mexico are moving in the opposite direction in short term, but in long term, they are moving in the same direction. Likewise, code 27 is an industry in which China coefficient is positive (0.326), that is, Chinese export growth and Mexican

export growth are positively correlated, and both are moving in the same direction in short term; but Mexican RCA has increased from 0.918 to 1.025 while Chinese RCA dropped from 1.246 to 0.640, showing that they are moving in opposite direction. Code 27 shows similar aspect.

Table 6. Industries with consistent China effect in short term and long term

SITC Code	China coefficient	RCA			
		M2000	M2013	C2000	C2013
52	0.805**	0.474	0.396	1.096	0.984
65	-0.599*	0.492	0.439	1.944	2.266
71	0.456**	1.400	1.588	0.466	0.636
72	0.714***	0.171	0.401	0.228	0.755
75	0.470**	1.227	1.484	1.495	4.137
76	0.395**	2.429	2.569	1.981	3.773
77	0.868***	1.293	1.294	1.042	1.709
87	0.386*	1.338	1.658	0.577	0.929

Table 6 presents industries where China effects in short term and long term are consistent. For example, code 71, power-generating machinery and equipment industry, has a positive China coefficient of 0.456, which means both countries are positively correlated in short term. At the same time, Mexican RCA of code 71 has increased from 1.400 to 1.588, and Chinese RCA has increased from 0.466 to 0.636, showing that both countries are enhancing their comparative advantages and moving upward. In all industries in the table except industry 52 and 65, China and Mexico are on their way of expanding comparative advantages in long term and are positively correlated also in short term.

To sum up the result of this section, the first to point out is that Mexican

industries that have suffered a negative China effect in both short term and long term were only limited to textile industries. This may suggest that there was competition. However, high-tech and medium-tech machinery and parts manufacturing industries had opposite result. Positive China effect was found in both short term and long term. Mexican growth would have been bigger without China, but under a situation that both countries are strengthening their competitiveness and expanding their market, it is hard to say that they are substitutes for each other. It is also hard to assert that China is helping Mexican growth in some way. It is more likely that both countries are growing together than Chinese export growth is directly contributing to Mexican export growth.

And finally, to complement regression analysis and RCA analysis and to check if long-term positive effect is dominant, ESI (Export Similarity Index) of Mexico and China is calculated for 2000, 2006 and 2013.

Table 7. ESI of Mexico with China

	2000	2006	2013
World	58.31321	58.15691	55.56098
USA	53.10058	50.03139	50.01399

Source: own elaboration with UN comtrade data (http://comtrade.un.org)

Table 7 shows that ESI keeps decreasing; it would possibly mean that negative effect was dominant in long term, which are contrary to regression results. Regression results show that in short term the number of industries with no China effect were bigger than that of industries with China effect. However, a long-term

decrease of ESI suggests that the export trends of Mexico and China are diverging or that negative China effect was dominant.

5. Conclusion and Policy Implication

The emergence of China as a world economic superpower has raised a number of questions. Each country and industry had to predict and prepare for the changing topography of power. However, Chinese impact was sometimes not clear and scalable, since it is hard to clarify causality and measure the degree of impact. Yet, Latin America, as another emerging continent and China's possible competitor, had to keep an eye on the change derived from China's rise. Mexico, among others, has most similar export structure to that of China, and many researchers found that Mexico's maquiladora industry has been hit hard by the emergence of China.

In this paper, I tried to figure out the degree of threat that Mexico is experiencing with Chinese export growth by using empirical methodology. I assumed that Mexican export growth to a third country may be affected by the third country's import growth and Chinese export growth to the third country. The regression results show that only textile and apparel industries have been negatively hit by China. This is as expected, for China's one of the biggest advantage lies in such industries. What did not coincide with the hypothesis is the latter part. Many past studies argued that negative China effect is found in Mexican high-tech machinery manufacturing industries. However, in this study the China coefficients on such industries were positive. To find if this is also true in long term, since the regressions run with growth rate only can reflect short-term China effect, Revealed Comparative Advantage index at two time points is introduced, first at the beginning of the period of analysis and second at the end of the period of analysis. Taking RCAs together in consideration, the main result stays the same. Mexican textile industry suffers from Chinese competition. And to interpret the

positive China coefficients on medium-tech and high-tech machinery manufacturing industries, it is more likely that both countries are on their way of enhancing comparative advantages in such industries and expanding market than that China have positively “affected” Mexico.

Given this result, policy implication can be found in both short term and long term. In short term, Mexico needs to keep promoting high-tech industries to maintain high comparative advantage facing Chinese growth. Since Mexico, as well as China, is becoming more and more competitive in industries where high-technology is required, it is essential not to lag behind in such industries. The main market of Mexican high-tech products is the US, and in securing the US market Mexico has a lot of advantages, which include cheaper transport cost, less language barrier, well-agreed trade custom, etc. To maintain its current position and plan for the future, it is recommended for Mexico to actively foster high-tech and higher value-added industries.

Meanwhile, as a long-term strategy, developing intra-industry trade and supply chain with China will help reduce negative China effect and ensure a win-win. It is possible to find some space for each country in global value chain, as each country stands as the regional center of manufacturing and becoming more competitive in a broader spectrum of industries. An effort to secure a greater cooperation in addition to enhancing own competitiveness will be a feasible plan for Mexico facing the rise of China.

References

Arroba, A. A., Avendano, R., & Estrada, J. (2008). *Adapting to the Rise of China: How Can Latin American Companies Succeed?* Paper presented at the World Economic Forum and OECD Development Center.

Balassa, B. (1965). Trade Liberalisation and “Revealed” Comparative Advantage. *The Manchester School, 33*(2), 99-123.

Blázquez-Lidoy, J., Rodríguez, J., & Santiso, J. (2006). *Angel or devil?: China's trade impact on Latin American emerging markets*: OECD.

Calderon, C. (2008). The Growth of China and India Is Not a Zero-Sum Game for Latin America and the Caribbean: Short-and Long-Term Effects. *China’s and India’s Challenge to Latin America. Opportunity or Threat*, 39-100.

Casanueva, C., & Rodríguez, C. (2009). La Productividad en la Industria Manufacturera Mexicana: Calidad de Trabajo y Capital Humano. *Comercio Exterior, 59*(1).

Cornejo, R. (2008). México y China: Diplomacia, Competencia Económica y Percepciones. *Foro Internacional*, 330-351.

Cornejo, R., & García, A. N. (2010). China y América Latina: Recursos, Mercados y Poder Global. *Nueva Sociedad, 228*, 79-99.

Devlin, R., Estevadeordal, A., & Rodríguez, A. (2006). *The Emergence of China: Opportunities and Challenges for Latin America and the Caribbean*: IDB.

Dimaranan, B., Ianchovichina, E., & Martin, W. (2007). Competing with Giants: Who Wins, Who Loses? *Dancing with Giants: China, India and the Global Economy*, 67-100.

Dimaranan, B., Ianchovichina, E., & Martin, W. (2009). How Will Growth in China and India Affect the World Economy? *Review of World Economics,*

145(3), 551-571.

Finger, J. M., & Kreinin, M. E. (1979). A Measure of Export Similarity and Its Possible Uses. *The Economic Journal*, 905-912.

Freund, C., & Ozden, C. (2006). The Effect of China's Exports on Latin American Trade with the World. *China's and India's Challenge to Latin America. Opportunity or threat*, 179-216.

Gallagher, K. P., Moreno-Brid, J. C., & Porzecanski, R. (2008). The Dynamism of Mexican Exports: Lost in (Chinese) Translation? *World Development, 36*(8), 1365-1380.

Gallagher, K. P., & Peters, E. D. (2013). Chinas Economic Effects on the US-Mexico Trade Relationship. Towards a New Triangular Relationship? *China and the New Triangular Relationships in the Americas: China and the Future of US-Mexico Relations*, 13.

Gereffi, G. (2008). Development Models and Industrial Upgrading in China and Mexico. *European Sociological Review, 25*(1), 37-51.

Gutiérrez, H. (2003). *Oportunidades y Desafíos de los Vínculos Económicos de China y América Latina y el Caribe*: United Nations Publications.

Guzmán, A., & Toledo, A. (2005). Competitividad Manufacturera en México y China en el Mercado Estadounidense. *Economía UNAM, 2*(004).

Javier, S. (2007). *Development Centre Studies The Visible Hand of China in Latin America*: OECD Publishing.

Jenkins, R. (2008). *China's Global Growth and Latin American Exports*: UNU-WIDER.

Jenkins, R., Peters, E. D., & Moreira, M. M. (2008). The Impact of China on Latin America and the Caribbean. *World Development, 36*(2), 235-253.

Jenkins, R. O. (2011). El "Efecto China" en los Precios de los Productos Básicos y en el Valor de las Exportaciones de América Latina. *Revista de la CEPAL*(103), 77-93.

Lall, S., & Albaladejo, M. (2004). China's Competitive Performance: a Threat to East Asian Manufactured Exports? *World Development, 32*(9), 1441-1466.

Lall, S., & Weiss, J. (2007). China and Latin America: Trade Competition, 1990-2002. *Development Centre Studies*, 85-107.

Lall, S., Weiss, J., & Oikawa, H. (2005). China's Competitive Threat to Latin America: an Analysis for 1990–2002. *Oxford Development Studies, 33*(2), 163-194.

Lederman, D., Olarreaga, M., & Rubiano, E. (2008). Trade specialization in Latin America: the impact of China and India. *Review of World Economics, 144*(2), 248-271.

León-Manríquez, J. L. (2006). China-América Latina: una Relación Económica Diferenciada. *Nueva Sociedad, 203*, 28-47.

Mesquita Moreira, M. (2007). Fear of China: Is There a Future for Manufacturing in Latin America? *World Development, 35*(3), 355-376.

Ordóñez, S. (2006). Crisis y Reestructuración de la Industria Electrónica Mundial y Reconversión en México. *Comercio Exterior, 56*(7), 550-564.

Pérez-Escatel, A. A., & Pérez Veyna, O. (2009). Competitividad y Acumulación de Capacidades Tecnológicas en la Industria Manufacturera Mexicana. *Investigación Económica, 68*(268), 159-187.

Peters, E. D. (2012). The Auto Parts-Automotive Chain in Mexico and China: Co-operation Potential? *The China Quarterly, 209*, 82-110.

Rosen, D. H. (2003). How China Is Eating Mexico’s Lunch. *The International*

Economy, *17*(2), 22.

Sevares, J. (2011). El Ascenso de China: Oportunidades y Retos para América Latina. *Nueva Sociedad*, *235*, 35-49.

Sun, H. (2013). The Strategic Partnership between China and Mexico: a Multilateral Perspective. *China and the New Triangular Relationships in the Americas: China and the Future of US-Mexico Relations*, 73.

Utar, H., & Ruiz, L. B. T. (2013). International Competition and Industrial Evolution: Evidence from the Impact of Chinese Competition on Mexican Maquiladoras. *Journal of Development Economics*, *105*, 267-287.

Watkins, R. (2002). Mexico versus China: Factors Affecting Export and Investment Competition. *Industry Trade and Technology Review*, 11-26.

Watkins, R. (2007). El Reto de China a las Manufacturas de México. *Oportunidades en la Relación Económica y Comercial entre China y México*, 137.

Wu, C. (2013). US-Mexico-China Relations in the Context of Regional Cooperation: a Chinese Perspective. *China and the New Triangular Relationships in the Americas: China and the Future of US-Mexico Relations*, 67.

김기현. (2011). 라틴아메리카 경제 붐은 어디서 왔는가? *라틴아메리카이슈*, *3*, 115-141.

임정훈. (2012). 멕시코 마킬라도라 산업의 공급 사슬 지배 구조에 관한 연구. *국제지역연구*, *16*(3), 223-252.

Appendix

Apendix I

SITC Rev.3 (Standard International Trade Classification, Rev.3)

SITC	Description
0	Food and live animals
00	Live animals other than animals of division 03
01	Meat and meat preparations
02	Dairy products and birds' eggs
03	Fish (not marine mammals), crustaceans, molluscs and aquatic invertebrates, and preparations thereof
04	Cereals and cereal preparations
05	Vegetables and fruit
06	Sugars, sugar preparations and honey
07	Coffee, tea, cocoa, spices, and manufactures thereof
08	Feeding stuff for animals (not including unmilled cereals)
09	Miscellaneous edible products and preparations
1	Beverages and tobacco
11	Beverages
12	Tobacco and tobacco manufactures
2	Crude materials, inedible, except fuels
21	Hides, skins and furskins, raw
22	Oil-seeds and oleaginous fruits
23	Crude rubber (including synthetic and reclaimed)
24	Cork and wood
25	Pulp and waste paper
26	Textile fibres (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric)
27	Crude fertilizers, other than those of division 56, and crude minerals (excluding coal, petroleum and precious stones)
28	Metalliferous ores and metal scrap
29	Crude animal and vegetable materials, n.e.s.
3	Mineral fuels, lubricants and related materials
32	Coal, coke and briquettes
33	Petroleum, petroleum products and related materials
34	Gas, natural and manufactured
35	Electric current
4	Animal and vegetable oils, fats and waxes
41	Animal oils and fats

42	Fixed vegetable fats and oils, crude, refined or fractionated
43	Animal or vegetable fats and oils, processed; waxes of animal or vegetable origin; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.
5	Chemicals and related products, n.e.s.
51	Organic chemicals
52	Inorganic chemicals
53	Dyeing, tanning and colouring materials
54	Medicinal and pharmaceutical products
55	Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations
56	Fertilizers (other than those of group 272)
57	Plastics in primary forms
58	Plastics in non-primary forms
59	Chemical materials and products, n.e.s.
6	Manufactured goods classified chiefly by material
61	Leather, leather manufactures, n.e.s., and dressed furskins
62	Rubber manufactures, n.e.s.
63	Cork and wood manufactures (excluding furniture)
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard
65	Textile yarn, fabrics, made-up articles, n.e.s., and related products
66	Non-metallic mineral manufactures, n.e.s.
67	Iron and steel
68	Non-ferrous metals
69	Manufactures of metals, n.e.s.
7	Machinery and transport equipment
71	Power-generating machinery and equipment
72	Machinery specialized for particular industries
73	Metalworking machinery
74	General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.
75	Office machines and automatic data-processing machines
76	Telecommunications and sound-recording and reproducing apparatus and equipment
77	Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including non-electrical counterparts, n.e.s., of electrical household-type equipment)
78	Road vehicles (including air-cushion vehicles)
79	Other transport equipment
8	Miscellaneous manufactured articles
81	Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s.

82	Furniture, and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings
83	Travel goods, handbags and similar containers
84	Articles of apparel and clothing accessories
85	Footwear
87	Professional, scientific and controlling instruments and apparatus, n.e.s.
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks
89	Miscellaneous manufactured articles, n.e.s.
9	Commodities and transactions not classified elsewhere in the SITC
91	Postal packages not classified according to kind
93	Special transactions and commodities not classified according to kind
96	Coin (other than gold coin), not being legal tender
97	Gold, non-monetary (excluding gold ores and concentrates)
I	Gold, monetary
II	Gold coin and current coin

Source: UN Comtrade
(http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=14)

Appendix II

All regression results

SITC	*dlnworld*	*dlnchina*	R^2	observation
00	-1.443 [-0.39]	0.437 [0.64]	0.92	73
01	0.974 [0.36]	-0.81 [-0.22]	0.29	201
02	0.450 [0.30]	-0.598*** [-3.20]	0.47	221
03	-0.998 [-0.90]	-0.010 [-0.03]	0.28	431
04	0.006 [0.02]	-0.052 [0.33]	0.13	751
05	0.937* [1.88]	0.159 [0.59]	0.29	1171
06	1.294* [1.72]	-0.122 [-0.62]	0.14	849
07	2.223*** [6.98]	0.166 [1.03]	0.60	1041
08	-0.097 [0.15]	-0.281 [-1.43]	0.48	462
09	0.502 [0.93]	0.002 [0.01]	0.17	968
11	0.358 [1.26]	-0.010 [-0.16]	0.24	1152
12	1.050* [1.69]	0.029 [0.21]	0.27	386
21	-1.191 [-0.68]	0.053 [0.19]	0.79	121
22	-0.183 [-0.48]	0.137 [1.17]	0.36	417
23	-0.785 [-0.82]	-0.034 [-0.17]	0.20	466
24	1.574** [2.63]	0.809*** [3.06]	0.53	276
25	-5.291 [1.08]	0.342 [0.44]	0.40	91
26	1.795** [2.26]	-0.372** [-2.18]	0.24	612
27	0.178 [0.38]	0.326*** [2.68]	0.41	737
28	1.136 [1.63]	0.124 [0.56]	0.30	423
29	0.520 [0.83]	0.338 [1.39]	0.20	943
32	.	.	.	34
33	-0.053 [-0.21]	0.194 [0.91]	0.20	608
34	.	.	.	31
41	1.186 [0.48]	-0.285 [-0.47]	0.28	97
42	0.324 [0.40]	0.138 [1.13]	0.53	439
43	0.307 [0.39]	0.117 [0.97]	0.14	313
51	-0.652 [-1.14]	0.176 [0.64]	0.24	990
52	0.713** [2.04]	0.805** [2.14]	0.28	798
53	0.607 [0.72]	0.035 [0.12]	0.20	1050
54	0.075 [0.56]	0.183 [1.22]	0.25	1269

55	1.231* [1.66]	0.164 [0.61]	0.09	1170
56	-2.151* [-1.96]	0.185 [1.38]	0.29	361
57	1.152* [1.71]	0.349 [1.43]	0.18	827
58	-0.104 [-0.51]	-0.247 [-1.54]	0.28	1048
59	0.520 [0.86]	0.269 [1.02]	0.28	1140
61	1.022 [1.18]	-0.223 [-0.68]	0.18	606
62	0.320 [0.51]	0.051 [0.19]	0.26	960
63	1.399* [1.85]	0.038 [0.10]	0.20	733
64	0.700 [0.91]	-0.120 [-0.49]	0.16	1154
65	1.553*** [3.37]	-0.599* [-1.85]	0.38	1221
66	0.298 [0.66]	0.487 [1.56]	0.29	1260
67	1.791** [2.28]	-0.219 [-0.76]	0.32	978
68	1.700* [1.89]	0.285 [1.17]	0.23	826
69	-0.557 [-0.93]	1.202*** [3.01]	0.22	1366
71	0.960*** [3.01]	0.456** [2.58]	0.44	1170
72	0.309 [1.53]	0.714*** [3.29]	0.34	1103
73	0.547** [2.10]	0.248 [1.26]	0.26	845
74	1.617*** [4.07]	-0.003 [-0.01]	0.27	1405
75	0.186 [0.54]	0.470** [2.40]	0.18	1378
76	-0.233 [-1.49]	0.395** [2.08]	0.30	1388
77	0.448 [1.54]	0.868*** [4.38]	0.33	1441
78	1.579*** [3.81]	0.235 [0.92]	0.38	1284
79	-0.083 [-0.16]	-0.021 [-0.08]	0.15	555
81	0.889 [1.61]	0.222 [0.42]	0.25	883
82	0.582 [1.18]	0.375 [1.31]	0.35	1011
83	0.265 [0.53]	-0.126 [-0.35]	0.29	816
84	-0.312* [-1.80]	-0.055 [-0.47]	0.36	1234
85	0.446 [0.59]	0.603 [1.27]	0.25	780
87	-0.235 [-1.01]	0.386* [1.85]	0.31	145
88	-0.263 [-0.58]	-0.290 [-0.87]	0.19	1110
89	0.550 [1.25]	0.562 [1.53]	0.16	155
93	0.117 [0.39]	0.045 [0.19]	0.19	595
96	-0.899 [-0.37]	-0.282 [-0.10]	0.78	53
97	4.778 [2.64]	-1.249 [-2.36]	0.99	74

Weighted least squares, weights=trade value

*significant at 10%; **significant at 5%; ***significant at 1%

Code 32 and 34 omitted for small number of observations
For details of each SITC code, see Appendix I

Appendix III

RCA of China and Mexico at all industry level

SITC	RCA			
	M2000	M2013	C2000	C2013
00	1.726	1.170	0.614	0.026
01	0.210	0.423	0.441	0.120
02	0.069	0.064	0.053	0.007
03	0.477	0.294	1.232	0.838
04	0.240	0.386	0.642	0.092
05	1.697	2.448	0.885	0.568
06	0.798	2.036	0.404	0.267
07	0.956	0.686	0.357	0.195
08	0.042	0.140	0.308	0.273
09	0.478	0.565	0.393	0.254
11	1.747	1.890	0.222	0.034
12	0.089	0.280	0.301	0.191
21	0.048	0.040	0.103	0.052
22	0.091	0.029	0.496	0.119
23	0.444	0.297	0.091	0.084
24	0.122	0.075	0.249	0.142
25	0.022	0.068	0.013	0.020
26	0.466	0.295	0.892	0.591
27	0.918	1.025	1.246	0.640
28	0.297	0.646	0.109	0.021
29	0.368	0.371	1.278	0.790
32	0.002	0.001	1.843	0.125
33	1.126	0.855	0.126	0.029
34	0.046	0.006	0.059	0.009
35	0.002	0.023	1.134	0.024
41	0.031	0.280	0.076	0.227
42	0.108	0.069	0.119	0.018
43	0.105	0.063	0.086	0.117
51	0.291	0.241	0.352	0.703

52	0.474	0.396	1.096	0.984
53	0.431	0.444	0.498	0.638
54	0.208	0.255	0.246	0.179
55	0.544	0.983	0.245	0.324
56	0.246	0.263	0.282	0.718
57	0.279	0.377	0.138	0.327
58	0.287	0.483	0.254	0.663
59	0.221	0.261	0.375	0.533
61	0.305	0.418	0.936	0.576
62	0.487	0.694	0.555	1.126
63	0.326	0.149	1.200	1.647
64	0.288	0.418	0.380	0.630
65	0.492	0.439	1.944	2.266
66	0.515	0.481	0.860	1.019
67	0.535	0.541	0.448	0.875
68	0.421	0.681	0.445	0.475
69	0.922	0.863	1.542	1.784
71	1.400	1.588	0.466	0.636
72	0.171	0.401	0.228	0.755
73	0.056	0.136	0.277	0.637
74	0.889	1.197	0.545	1.181
75	1.227	1.484	1.495	4.137
76	2.429	2.569	1.981	3.773
77	1.293	1.294	1.042	1.709
78	2.116	2.754	0.148	0.302
79	0.226	0.271	0.098	0.377
81	1.528	1.618	4.228	3.136
82	2.259	2.402	2.360	2.751
83	0.303	0.138	8.645	4.533
84	1.675	0.504	4.049	3.177
85	0.302	0.256	6.556	3.756
87	1.338	1.658	0.577	0.929
88	0.561	0.207	2.168	1.639
89	0.506	0.657	3.560	2.206
91	.	.	0.090	.

93	0.964	0.822	0.142	0.283
96	0.112	0.400	0.028	0.235
97	0.128	1.249	0.015	0.012

Appendix IV

Reclassification of industries in accordance with Lall, Weiss and Oikawa's (2005) classification

Manufacturing industries	
Resource based	
Agro-based	02, 11, 12, 25, 41, 42, 43
Mineral-based	28, 33, 62, 66
Low technology	
Fashion cluster	26, 61, 65, 83, 84, 85
Other LT	
Medium techonology	
Process	51, 52, 53, 56, 58, 59, 67
Engineering	72,73,74
High technology	
Electronic	75, 76, 77, 71
Other HT	54, 79, 87, 88

국 문 초 록

김보영

학과 및 전공: 국제학과 국제지역학

서울대학교 국제대학원

중국의 부상이 중남미 국가들에게 어떤 영향을 미쳤는가는 많은 연구자들의 관심의 대상이 되어왔다. 본고는 중국과 제조업 부문에서 경합을 벌이고 있는 것으로 알려진 멕시코를 분석 대상으로 하여 중국의 부상이 멕시코의 수출에 어떤 영향을 주었는지 알아보려 한다.

이를 위해 비교적 최근 기간인 2000 년-2013 년을 분석대상으로 하여 SITC 2 자릿수 상품코드에 대한 WLS 회귀분석을 실시하였다. 그 결과, 중국은 멕시코의 제조업 중 섬유 관련 산업의 수출에 악영향을 준 것으로 나타났으며 동시에 중간기술과 첨단기술이 요구되는 기계 산업의 수출에는 긍정적인 영향을 미친 것으로 드러났다. 다만 성장률을 통해 구한 회귀분석은 단기영향만 측정할 수 있으므로 현시비교우위(Revealed Comparative Advantage)를 통한 추가 분석을 통해 장기영향을 파악해보았고 비슷한 결과가 도출되었다.

중국이 현재까지 압도적인 비교우위를 보유하고 있는 섬유 산업에서는 멕시코가 타격을 받고 있지만 최근 멕시코가 선전하고 있는 분야는 주로 첨단기술산업 분야이다. 다만, 이 부문의 중국 상관계수가 양수라고 해서 중국의 수출성장이 멕시코 수출성장에 직접적으로 영향을 미쳤다고 보기는 어렵고, 두 나라가 모두 활발하게 경쟁력과 시장을 확대 중이기에 이러한 결과가 나온 것으로 해석할 수 있다.

분석 결과에 기반하여 정책적 시사점을 도출하자면, 멕시코는 현재의 경쟁력 우위를 유지하기 위해 첨단기술산업 부문을 지속적으로 육성하는 한편, 생산과정에서 중국과 산업 내 무역, 혹은 가치사슬을 통한 협업 등을 도모함으로써 중국과의 경쟁에 효과적으로 대비하는 것이 권고된다.

주요어 : 멕시코 수출, 중국의 부상, 패널 회귀분석

학 번 : 2012-22110