



Universidad Autónoma
de Madrid

Biblos-e Archivo
Repositorio Institucional UAM

Repositorio Institucional de la Universidad Autónoma de Madrid

<https://repositorio.uam.es>

Esta es la **versión de autor** del artículo publicado en:
This is an **author produced version** of a paper published in:

China & World Economy 23.4 (2015): 104-124

DOI: <https://doi.org/10.1111/cwe.12123>

Copyright: © Institute of World Economics and Politics, Chinese Academy of
Social Sciences

El acceso a la versión del editor puede requerir la suscripción del recurso

Access to the published version may require subscription

"This is the peer reviewed version of the following article: Lin, Yue. "Is China relinquishing manufacturing competitiveness to Mexico in US markets?" China & World Economy 23.4 (2015): 104-124, which has been published in final form at <https://doi.org/10.1111/cwe.12123>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions. This article may not be enhanced, enriched or otherwise transformed into a derivative work, without express permission from Wiley or by statutory rights under applicable legislation. Copyright notices must not be removed, obscured or modified. The article must be linked to Wiley's version of record on Wiley Online Library and any embedding, framing or otherwise making available the article or pages thereof by third parties from platforms, services and websites other than Wiley Online Library must be prohibited."

Is China losing Manufacturing Competitiveness to Mexico in US Markets?

Yue Lin*

Abstract

The present paper expands on the understanding of the competition between China and Mexico in US markets. Using the OECD International Trade by Commodity Statistics covering the period 2002–2012, we undertake both relative-market-share analysis and constant-market-share analysis. Through comparison of market share changes at both macro and micro levels, we find that on the one hand China's total negative impact on Mexican manufactured exports has been greatly reduced since 2007; on the other hand, China is increasingly aligned with Mexico in terms of its competitive position over the US market, consolidating its competitiveness in high and medium-to-high technology products and gaining mainly from the most advanced economies. This changing pattern suggests the intensification of competition between Mexico and China, but also a potential for cooperation, with the enhancing bilateral intra-industry trade as a result of different technology choices and specialization paths.

Key words: China, competitiveness, Mexico, international trade

JEL codes: F14, F20, O14

I. Introduction

China and Mexico are direct competitors in the US market. Given the overlap in their exporting structure, the export performance captured by their respective participation in the US market has been interpreted directly as an indicator of manufacturing competitiveness (Lall *et al.*, 2005; Gallagher and Porzecanski, 2007) or indirectly as a means to compare the efficiency of economic and industrial policies carried out by the two countries (Gereffi, 2009). Whereas China's penetration of the US market between 2001–2007 overshadowed that of Mexico, the recent strong recovery of Mexico's exports to the USA indicates the reverse of the trend, with the growth rate of US imports of manufactured goods from Mexico being higher than that from China since 2010. Such change, according to Kamil and Zook (2013), is likely to be “structural and persistent.” However, observations based on the variation of market share at the aggregate level are unable to answer questions such as to what extent Mexico's growing manufacturing exports to the USA could be attributed to China's loss, and even so, to what degree this is due to structural rather than cyclical factors. The answers to these questions are critical to understanding the international trade pattern and the organization of industrial production in the post-crisis period. Should the ongoing global crisis be considered as just a pure short-term external shock, or should it be treated as a turning point, a reorganization of global value chains, due to the long-term aftermath effects as a result of the modification of industrial policies in developed as well developing countries such as China. Moreover, the answers to these questions could be extremely important for the policy formulation in China that seeks to rebalancing the economy, the success of which depends ultimately on domestic industrial upgrading. In this context, readdressing the issue of Chinese–Mexican competition in US markets could serve as a useful means to reevaluate

*Yue Lin, Assistant Professor, Centro de Estudios de Asia Oriental, Universidad Autónoma de Madrid, Madrid, Spain. Email: yue.lin@uam.es. Financial support from the Spanish National Research Project No. FFI2011-25897 is gratefully acknowledged.

China's past industrial policies and shed light on the future challenges posed by the adjustment of its industrial structure and external trade mode.

In this paper, we analyze the recent trade data provided in the OECD's International Trade by Commodity Statistics (ITCS). Relative and constant market share models are applied at the disaggregate level, which allows us to reveal facts that are otherwise concealed. Our main findings, while confirming the erosion of China's competitiveness in the labor-intensive industries, highlight that the China–Mexico relationship in the US market cannot continue to be viewed as a zero sum game. In fact, over the past decade, China has caught up to Mexico in regards to its development level, and is nowadays aligned with Mexico in terms of its competitive position in the US market. Both countries, as upper middle-income economies, are gaining market share from the most advanced economies but are losing market share to less developed countries. Facing the same challenge of domestic industrial upgrading in order to surpass the middle-income trap, China and Mexico, as our analysis reveals, seem to be following different specialization paths as their industrial structures have become more complementary than competitive, particularly in the medium–high and high technology industries. Therefore, there exists a potential south–south win–win scenario where the previous direct competition could be replaced by mutually beneficial bilateral trade and investment.

The present paper commences with a review of the export-oriented industrialization strategies adopted in Mexico and China, as well as the resulting head-to-head competition between the two countries in the US market and the concern of China's threat from a Mexican perspective. A discussion of the so-called "China threat" is presented within the relative market share analysis in Section III. More detailed constant market share analyses follow in Sections IV and V that trace, compare and identify different factors of the evolving manufacturing competitiveness of two countries. Some practical political suggestions are given in Section VI, which concludes the paper.

II. China, Mexico and US Markets

Although geographically distant, China and Mexico share certain common features, such as having foreign direct (FDI)-friendly environments for multinationals, export-oriented industrialization and dependence on processing trade. However, China and Mexico differentiate from each other in their respective histories, politics and ideologies, as well as their regional integration processes. Mexico has embraced export-oriented industrialization since the 1980s. Mexican policy-makers, such as Salinas Gortari, who served as President of Mexico from 1988 to 1994, have engaged in a thorough redesign of industrial policy in favor of neutral and horizontal approach.¹ The implementation of the North American Free Trade Agreement (NAFTA) in 1994 was undoubtedly the hallmark of this liberalization strategy. In fact, from Mexico's perspective, globalization was almost a synonym to its own integration with the USA and the North American economic sphere. As discussed by Dussel Peters (2014), during this time, China and Asia (with the exception of Japan) were not envisioned as being a relevant part of Mexico's strategy. NAFTA quickly transformed both quantitatively and qualitatively Mexico's export structure. According to the OECD ITCS database (OECD, 2013), the share of petroleum in total exports fell from 36 percent in 1990 to less than 10 percent in 1995 and continued to fall until 2001. In the meantime, the exports of

¹Neutral, or horizontal, policies are well-known concepts in Latin America (particularly in Mexico over the past two decades) that refer to a set of policies, which attempt to make an impact on firms, sectors and regions, without any particular distinction, in contrast to policies based on import-substitution industrialization, which prioritize specific firms, sectors and regions based on criteria such as import substitution, value added, and innovation and technology.

manufactured goods² recorded a compound annual growth rate of 16 percent over the period 1994–2001, reaching US\$134.8bn in 2001, more than 11 times the value in 1990. While approximately 90 percent of Mexican manufactured goods were destined for the US market during this time, Mexico's export boost in the 1990s could be explained (if not completely) by the economic regionalization enhanced by NAFTA.

Mexico's integration with the USA was further manifested in the following two aspects. First, between 1990 and 2001, Mexico's imports of industrial intermediate items and capital goods from the USA increased by more than seven times in value, equivalent to US\$98.4bn in 2001; this represented 67 percent of Mexico's total imports of manufactured goods (OECD, 2013). Second, as Mexico's liberalization strategy was accompanied by the macroeconomic stabilization backed up by restrictive money and credit policies of the Mexican central bank, foreign investment became the main financing source of the new strategy. FDI inflows tripled during 1994 and 2001, accounting for as high as 21 percent of total gross formation of fixed capital in 2001. During this time, 65 percent of accumulated FDI inflows originated from the USA (CNIE, 2013). Thus, as US capital and inputs nurtured Mexico's export growth, Mexico's burgeoning manufacturing sector was incorporated into US industrial value chains, specialized in processing trade but with few linkages with the rest of Mexico's economy.³

Compared with Mexico, China's shift from self-reliance to openness has been a more gradual and regulated process. Contrary to horizontal policies observed in Mexico, which minimized the state intervention in economic arrangement, China's central government, partly inspired by the experiences of its Asian neighbors, has pursued active industrial policies through a full range of instruments and policies at the macroeconomic, sectoral and regional level. While Mexico has been substantially integrated into the US economy since the 1990s, the Chinese economy has taken advantage of the ongoing intraregional division of labor in Asia. As a later player in the world market, China's huge labor population concentrated in the agricultural sector made it an ideal processing center for Asian newly industrialized economies that sought to shed industries in which they no longer held a comparative advantage. According to Athukorala and Kohpaiboon (2009), East Asia's share in China's total manufactured imports increased from 19.9 percent in 1994–1995 to 25.6 percent in 1999–2000 and further up to 32.7 percent in 2006–2007, while its share in China's manufactured exports decreased from 53.3 to 43.4 and 32.2 percent correspondingly. Therefore, different from the Mexico case, China's openness provoked the regional integration in favor of a triangular trade relationship, generating intraregional concentration of China's trade deficits and extra-regional concentration of China's trade surplus.⁴ The USA, as one of the main destination markets for China's manufactured products, was the partner country with which China maintained the largest trade surplus.⁵ From the perspective of the USA, China displaced Japan in 2003 as the third largest trading partner only behind Canada and Mexico. The sheer size of China's trade volume threatened the NAFTA

²Manufactured goods in this paper refer to SITC Rev 3 categories 5–8 less 667 and 68.

³Over the period 1993–2004, firms located in Maquiladoras were responsible for over 40 percent of Mexico's total merchandise exports, and 78 percent of Mexican exports depended on temporary imports to be re-exported. As a consequence, the existence of a dynamic exporting sector has not led to satisfactory socioeconomic performance. Mexico's GDP per capita average annual growth rate for 1990–2000 was 1.8 percent, much lower than the levels between 1960 and 1980 when the import substitution industrialization strategy was applied. Real minimum wages, as well as real manufacturing wages, after NAFTA were surprisingly lower than that at the beginning of 1994. Labor productivity growth in Mexico in the period 1995–2000 was below the average of OECD countries.

⁴According to the Chinese National Bureau of Statistics, over the period 1998–2003, Taiwan of China, Korea, Russia, Malaysia and Japan were the top five economies with which China Mainland held the largest trade deficits through imports of raw materials and industrial parts and components.

⁵Due to the different reporting mechanisms and China–Hong Kong entrepôt trade, there are huge discrepancies between the official Chinese and US estimates of the bilateral trade balance (Feenstra *et al.*, 1999; Fung *et al.*, 2006). However, such discrepancies do not change the fact that US–China trade deficits are the largest in value among all net importing country partners with China.

integration and aroused the concern of Mexico, which was the last nation to agree to China's entry into the WTO in 2001.

The main challenge that Mexico would face was expected to occur in the labor-intensive industries. Using an export similarity index, Blázquez-Lidoy *et al.* (2007) claim that Mexico is the only Latin American country that presents high export similarity with China in the US market, and its competitiveness in textile and garment sectors would be jeopardized by China. Some empirical studies following China's accession to the WTO in 2001 justify this theoretical expectation of Mexico's loss of competitiveness in low-end labor-intensive industries to China. Duseel Peters (2005) finds that since 2001 China has displaced Mexico and Central America, becoming the USA's principal importer in the yarn-textile-garment chain, despite having much higher tariff rates than Mexico. Utar and Torres Ruiz (2013) analyze the Chinese effects at the micro level by employing a plant-level panel dataset that covers the universe of Mexican maquiladoras from 1990 to 2006, and reveal a significant negative impact on employment and plant growth, both through the intensive and the extensive margin, on the most unskilled labor-intensive sectors.

China was initially considered by Mexican policy-makers as a positive factor to promote the national industrial upgrading when the Mexican Government intended to eliminate a considerable portion of the least attractive maquila segment. Nevertheless, China's competitive advantages are not just based on its natural factor endowment, but also created through the industrial policies that promote development in key sectors, which would not be possible without government intervention (Wang and Wei, 2010). As Rodrik (2006) points out, thanks to Chinese industrial policies that have helped nurture domestic capabilities in consumer electronics and other advanced areas, China's export structure is significantly more sophisticated than what would normally be expected for a country at this income level. Therefore, China's rising supply capacity implies direct challenges to the full range of Mexico's industries, including machinery, electrical appliances and surgical medical furniture, which have become mainstays of the Mexican economy (Guzmán and Toledo, 2009). According to Hanson and Robertson (2009), China's exports cost Mexico 3 percentage points of export growth in metals, machinery, electronics, transport and industrial equipment. Further sector specific-studies have also found contractions of Mexican high technology sectors. Dussel Peters (2005) finds that during 2001–2003, the electronics industry in the State of Jalisco showed a decline of 21 217 individuals in direct employment and 23 880 in indirect employment, as well a US\$514m reduction in investment projects by companies that outsourced their activities to China.

However, observers are becoming more optimistic about Mexico's manufacturing outlook, as Mexico seems to be catching up to the Asian giant, principally due to the loss in momentum of Chinese manufactured exports to the US market since 2010. As Figure 1 shows, the race between China and Mexico in US markets has gone through three phases:

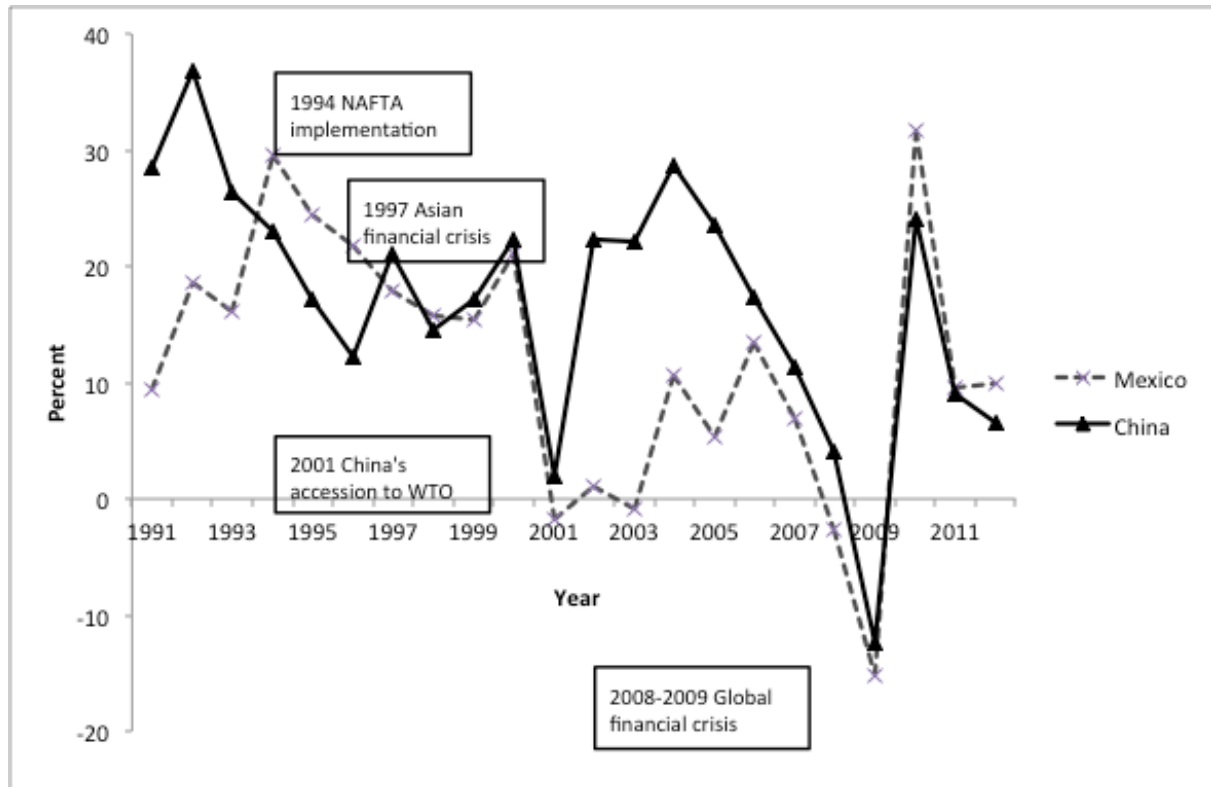
1 1994–1997: The implementation of NAFTA in 1994 gave Mexico an advantageous start. The average annual growth rate (AAGR) of the USA's imports of manufactured goods from Mexico reached 23 percent, while China lagged behind with an AAGR of 18 percent.

2 1997–2001: Due to the Asian financial crisis in 1997 and oil crisis in 1998, the growth of the USA's imports from Mexico and China stabilized at an AAGR of around 14 percent.

3 2001–2007: China's accession to the WTO boosted China's exports. The AAGR of the USA's imports of manufactured goods from China stayed at 18 percent, far ahead of the 5 percent in the case of Mexico. Following the crash of US imports that affected both China and Mexico during 2008–2009, we are observing a new phase emerging. The USA's imports from Mexico in 2010, for the first time since 1997, grew more rapidly than those from China. The trend continued in the 2 following years (which suggests that it is not an ephemeral phenomenon) and the gap between the two countries' market shares began to diminish.

However, as both Mexico's exports and China's exports to the US market are highly correlated with the total import demands of the USA, the partial correlation between the USA's imports from Mexico and those from China is statistically insignificant. In other words, neither the substitution effect nor the complementary effect can be justified at the aggregate level. In the following sections, we are going to apply both relative and constant market share analyses to the recent trade data at the disaggregated level, in order to draw a more detailed picture of the post-crisis China–Mexico competition scenarios.

Figure 1. Annual Growth Rate of US's Imports of Manufactured Goods from China and Mexico (1991–2012)



Sources: OECD ITCS and author's calculation

III. Measure China's Threat

China's threat, no matter how eloquently discoursed, needs to be quantified at an empirical level. Using relative market share (RMS) analysis, Lall *et al.* (2005) were among the first to measure China's potential threat to Mexico's exports. A tool borrowed from the business literature, RMS assumes that where China gains market share and the other country loses, China poses a "direct threat" to the other country; and where both countries are gaining market share but China is gaining faster than the other country, an "indirect threat" exists. Following the methodology conceived by Lall and his colleagues, we work on the trade data extracted from the OECD ITCS⁶ (OECD, 2013) to provide some new insights into the changing impact of China on Mexico's manufactured exports to the US market over the

⁶Compared with the often-used international trade data reported by the United States International Trade Commission (USITC), OECD data are broken down by commodity using the same classification registry, such as SITC, Revision 3, instead of mixing together the different versions of the classification codes as the USITC does. That makes the data more comparable through the years.

period 2002–2012. The year 2007 is chosen to divide the whole period into two sub-periods in order to take into account the effects of the global financial crisis on both countries' exports to the USA. US imports of manufactured items from Mexico are decomposed into five categories. Besides the trade under China's "direct threat" and "indirect threat," the rest of the trade is classified as (i) "China under threat," where China loses market share and Mexico gains; (ii) "no threat," where both countries gain market share, with China growing slower than Mexico; and (iii) "mutual withdrawal," where both China and Mexico lose market share.

Table 1 summarizes the results calculated at the three-digit Standard International Trade Classification (SITC) level. Through comparison between 2002–2007 and 2007–2012, we observe a clear improvement in Mexico's competitive position in manufacturing in the US market. The most significant change occurs in the distribution of Mexico's exports across two utmost important categories: "direct threat" and "China under threat." Among 157 manufacturing product groups over the period 2002–2007, 81 were under direct threat from China, which accounted for 51 percent of Mexican exports to the USA in 2007. However, between 2007 and 2012, the number of product groups under direct threat was reduced to 57, and the proportion of Mexican exports jeopardized directly by China was cut to 29 percent in 2012. At the same time, 18 percent of Mexican exports posed a threat to Chinese manufactured exports to the USA in 2012, while only 1 percent of its exports had a competitive advantage in US markets back in 2007.

Table 1. Mexico's Competitive Threat from China in the US Market

	2002–2007		2007–2012	
	Value (US\$m)	Distribution (%)	Value (US\$m)	Distribution (%)
Direct threat	78 046	51	57 997	29
Partial threat	50 914	33	35 686	18
China under threat	1499	1	35 589	18
No threat	22 278	14	55 618	27
Mutual withdraw	1099	1	16 771	8
Total	153 837	100	201 661	100

Sources: OECD ITCS and author's calculation.

However, this method has some drawbacks. First of all, the RMS results, as Lall and Albaladejo (2004) acknowledge, are only suggestive, because the data cannot, as they stand, prove that China causes the change in the export performance of the other country. Mathematically, it is true that the gains (or losses) in Mexico's share of the market in the USA equal the total losses (or gains) of all the other exporters. However, it is unclear how much of such changes should be attributed to a specific country like China. Second, even if we assume, like Lall *et al.* (2005) suggest, that wherever there is a gain in Mexico's market share and a loss in China's, they are causally related, this methodology cannot tell us the causes behind it. The rise and fall of specific activities could be due to the diverting exporting structures between the countries concerned and the changing importing structure of the importer country. For instance, between 2007 and 2012, the share of US imports of leather from Mexico increased by 7.79 percentage points, while that from China decreased by 1.26 percentage points. In the meantime, the share of US imports of telecommunication equipment from Mexico decreased by 2.83 percentage points, and that from China increased by 19.48

percentage points. Thus, China has become less competitive in making leather that is labor intensive, but has become more competitive in making telecommunication equipment that is more technology intensive. Declining Chinese competitiveness in leather does not mean that the Chinese economy as a whole is less competitive. The decline may just reflect its climb of value chain due to the changing endowments and industrial policies. More critically, the total imports of leather by the USA during the same period of time declined by 18 percent, while its international acquisition of telecommunication equipment grew by 40 percent. In this context, it is misleading to treat in the same manner the rise and fall of different activities. In fact, China seems to consolidate its competitiveness in the most dynamic sectors of the US market, and to demonstrate the active adaptation of its domestic industrial capacities to the dynamism of the global demand. Instead, the Mexican relative gain in “competitiveness” in exporting leather to the USA might reflect its slow and passive structural change while China is approaching a faster lane of development.

As a response to these methodological challenges imposed by the RMS analysis, in the next section, we will present the constant market share (CMS) analysis as an alternative analytic tool to compare the manufacturing competitiveness between China and Mexico.

IV. Compare Manufacturing Competitiveness between China and Mexico

The basic constant market share (CMS) model, as presented by Tyszynski (1951), aims to distinguish between structural effect and competitiveness effect in explaining the changes in the market shares of different countries. Leamer and Stern (1970) extend this basic model by adding one intermediate effect: the effect of the market distribution of a country’s exports. Despite the popularity of the CMS tool in applied studies of export development, it is criticized for its sensitivity to changes in the base year (Richardson, 1971; Bowen and Pelzman, 1984). Fagerberg and Sollie (1987) address this issue and develop a new version of the CMS model, by applying the initial years’ weights throughout the calculations, which not only makes the CMS method theoretically more consistent, but also introduces two additional effects that reflect a country’s ability to adapt its export structure to the changes in the commodity and market composition of world imports, respectively.

The model developed by Fagerberg and Sollie, when fitting to our dataset, would be written as follows:

$$\Delta K_H = K_H^{t+1} - K_H^t = \sum_{i=1}^z \left[\frac{X_{Hi}^t}{M_{Ui}^t} \times \left(\frac{M_{Ui}^{t+1}}{M_U^{t+1}} - \frac{M_{Ui}^t}{M_U^t} \right) \right] + \sum_{i=1}^z \left[\frac{M_{Ui}^t}{M_U^t} \times \left(\frac{X_{Hi}^{t+1}}{M_{Ui}^{t+1}} - \frac{X_{Hi}^t}{M_{Ui}^t} \right) \right] + \sum_{i=1}^z \left[\left(\frac{M_{Ui}^{t+1}}{M_U^{t+1}} - \frac{M_{Ui}^t}{M_U^t} \right) \times \left(\frac{X_{Hi}^{t+1}}{M_{Ui}^{t+1}} - \frac{X_{Hi}^t}{M_{Ui}^t} \right) \right] \quad (1) \quad (2) \quad (3)$$

where $t, t+1$ are subscripts that refer to the initial and final year of the comparison, respectively; M_U is the USA’s total imports of manufactured goods; M_{Ui} is the USA’s imports of commodity i , $i = 1, 2, 3 \dots z$; X_H is country H ’s total exports of manufactured goods to the USA; X_{Hi} is country H ’s exports of commodity i to US, $i = 1, 2, 3 \dots z$; and K_H is the macro market share of country H in US’s imports.

Let $a_{Hi} = (X_{H1}/M_{U1}, \dots, X_{Hz}/M_{Hz})$ be a row vector of dimension z of the micro shares of country H in US imports of commodity $i = 1, 2, 3 \dots z$; and $b_{Ui} = (M_{U1}/M_U, \dots, M_{Uz}/M_U)$ be a column vector of dimension z of the commodity shares in the US market of commodity $i = 1, 2, 3 \dots z$. The macro market share of country H in US

imports (K_H) is actually the inner product of the vector of its micro shares (a_{Hi}) and the vector of commodity shares of US imports (b_{Ui}): $K_H = a_{Hi} \times b_{Ui}$.

Using initial years' weights (Laspeyres indices) throughout the calculations, the above model attributes the change in the macro market share of a given country (China and Mexico in this paper) in US imports between the time t and $t + 1$ to the following three effects.

1 The product composition effect: This effect calculates what the aggregate market share of country H on the US market would have been if its market shares in individual commodity groups had remained constant. In other words, it captures the exogenous effect on the demand side. The sign of the “product composition effect” would be positive if country H had concentrated in the initial year on the export of commodities whose markets were growing relatively fast, and would be negative if H had been concentrated in slowly growing commodity markets.

2 The competitiveness effect: This effect calculates to what extent the macro share gain or loss of country H on the US market could be attributed to the sum of its gains and losses in micro shares on individual commodity. It is different from the “competitiveness effect” (the Paache index) calculated by Tyszynski or Leamer and Stern, as the effect is weighted by the shares of each commodity in US total imports in the initial year.

3 The relative adaptation effect: This effect indicates to what degree country H has succeeded in adapting the commodity composition of its exports to the changes in the commodity composition of the US market. The sign and value of this effect depends on the correlation between the product composition effect and the competitiveness effect. The sign of the “relative adaptation effect” would be positive if country H has adapted its export structure faster than the average of all countries exporting to the USA, by gaining market share in products for which demand was growing faster than average and/or losing market share in products for which demand was growing slower than average.

Table 2 presents the results of the CMS analysis of the same dataset as used in the prior section but disaggregated at the five-digit SITC level.⁷ As Table 2 reveals, Mexico's gain in market share took place in the second sub-period between 2007 and 2012. The rise in the share was equivalent to approximately US\$24.32bn in 2012, in addition to what was necessary to maintain constant its 2007 share of the US import market. However, the gains were just sufficient to recover what had been lost in the former period between 2002 and 2007. In other words, during the whole period between 2002 and 2012, Mexico just raised its share in the US import market by 0.54 percentage points, while China amplified its market share by a total of 12.54 percentage points.

Table 2. Gains and Losses of Mexico and China in US Manufactured Imports (Percentage)

	Mexico (%)			China (%)		
	2002–20	2002–20	2007–20	2002–20	2002–20	2007–20
	12	07	12	12	07	12
Aggregate effect	0.54	-1.05	1.59	12.54	9.35	3.19
Product composition effect (1)	0.31	0.10	0.05	-1.47	-0.70	-0.66
Competitiveness effect (2)	-0.08	-1.55	1.43	13.03	9.51	3.47
Relative adaptation	0.31	0.40	0.11	0.98	0.54	0.38

⁷The CMS model could not take into account the new commodities that the USA did not import in the initial year of comparison, nor the commodities that the USA stopped to import in the final year of comparison. As a consequence, the sum of the import values of the commodities disaggregated at the five-digit level does not equal that aggregated at the three-digit level. However, in any case, the difference is smaller than 5 percent.

effect (3)

Source: OECD ITCS and author's calculation.

The competitiveness effects account for most of the aggregate changes in market shares for both countries and in both sub-periods. However, compared with China's constant positive competitiveness effects, Mexican exports to the US market suffered from a negative competitiveness effect in the sub-period between 2002 and 2007, and enjoyed a positive effect in the sub-period between 2007 and 2012. Although the competitiveness effects dominate in each sub-period, they turned out to be minor for the whole period between 2002 and 2012 in the case of Mexico. The overall positive aggregate effect is achieved as a result of the positive product composition effect and the positive relative adaptation effect. Therefore, Mexico's gain over the whole period seems to rest on its exporting structure, which was not only tailored better initially to suit US demand, but also adapted quickly to the evolving demand. As some scholars have suggested (Gallagher *et al.*, 2008; Sargent and Matthews, 2009; Watkins, 2013), Mexico might, in the end, be able to compete on the basis of its geographic proximity to USA, rather than on its labor costs or technological edge.

We now focus on the competitiveness effects across product lines by technology level. To do this, we refer to the OECD's ISIC Rev. 3 technology intensity definition (OECD, 2011) and EUROSTAT's correspondence table (EUROSTAT, 2013) to classify the commodities into four categories according to R&D intensities of manufacturing industries to which they belong.

As Table 3 reveals, most of the losses in Mexico's competitiveness during the period between 2002 and 2007 were attributed to low-technology and high-technology industries, which together accounted for almost 94 percent of its negative competitiveness effects. In the meantime, as shown in Table 4, China built up significant competitiveness in the same two groups of industries. Therefore, it is highly probable that Mexico's losses in the first sub-period were caused by China's rise and its full integration into the world market after 2001. However, Mexico's regaining of competitiveness in the second sub-period between 2007 and 2012 has not occurred in areas where it had lost its competitiveness. It is rather the medium-high-technology industries where most of the positive competitiveness effects were concentrated. Meanwhile, it is curious to find that although high-technology industries remain China's most competent exporting sector, China also counts on its medium-high-technology industries to compensate for the loss in momentum in low-technology industries. Under this context, Mexico and China may compete head to head on the new battleground in the US market, and it is unclear whether Mexico's gain should be attributed to China's loss.

Table 3. Gains and Losses of Mexico's Competitiveness in US market (Technology Level)

	2002–2007		2007–2012	
	Value (US\$m)	Distribution (%)	Value (US\$m)	Distribution (%)
Low-technology industries	–8951	–43.14	–248	–1.13
Medium-low-technology industries	–196	–0.94	1088	4.98
Medium-high-technology industries	–1084	–5.22	18 254	83.50
High-technology industries	–10 523	–50.72	2766	12.65
Total	–20 749	–100	21 860	100

Sources: OECD ITCS and author's calculation.

Table 4. Gains and Losses of China's Competitiveness in US market (Technology Level)

	2002–2007		2007–2012	
	Value (US\$ million)	Distribution (%)	Value (US\$m)	Distribution (%)
Low-technology industries	38 855	30.58	8506	16.01
Medium-low-technology industries	11 193	8.81	934	1.76
Medium-high-technology industries	20 480	16.12	16 044	30.20
High-technology industries	56 401	44.39	27 625	51.99
Total	127 057	100	53 132	100

Sources: OECD ITCS and author's calculation.

V. Re-estimation of China's Effect

If the conventional CMS model improves on the RMS model by distinguishing the competitiveness effect from the product composition effect, it still falls short in telling us to what extent a country's gain or loss of competitiveness could be attributed directly to another country's loss or gain in competitiveness. Brazilian economist Jorge Batista (2008) explored the potentiality of the CMS method, and developed a new version of the CMS model that is able to distribute the gain or loss of one supplier to its competitors. The basic idea is that in a zero sum game, the gain or loss of market share of country H in a specific country market should equal all the losses or gains in market shares of the rest of the competitors. Thus, we have:

$$\Delta K_H = \sum_{J \neq H}^n \left(\frac{X_J^t}{M_u^t} - \frac{X_J^{t+1}}{M_u^{t+1}} \right),$$

where t , $t+1$ are subscripts that refer to the initial and final year of the comparison, respectively; subscript J refers to the competitor, $J = 1, 2, 3 \dots n$; M_u is the USA's imports of manufactured goods; X_J is country J 's exports of manufactured goods to the USA, $J = 1, 2, 3 \dots n$; and ΔK_H is the change in the macro market share of country H in US imports.

This basic model could be rearranged by multiplying and dividing each term by the same amounts:

$$\Delta K_H = \sum_{J \neq H}^n \left[\left(\frac{X_J^t}{M_u^t} \times \frac{M_u^{t+1}}{M_u^{t+1}} \right) - \left(\frac{X_J^{t+1}}{M_u^{t+1}} \times \frac{M_u^t}{M_u^t} \right) \right],$$

which would be rewritten as:

$$\Delta K_H = \sum_{J \neq H}^n \left[\left(\frac{X_J^t \times X_H^{t+1}}{M_u^t \times M_u^{t+1}} \right) - \left(\frac{X_J^{t+1} \times X_H^t}{M_u^{t+1} \times M_u^t} \right) \right].$$

The resulting identity enables us to distribute the gain or loss of market share of a given country (China and Mexico in the present paper) in US markets between the time t and $t+1$

to its competitors. We can use the method to calculate the distribution both at the aggregate level as well as at the disaggregate level by product group.

Tables 5 and 6 present the distribution of Mexico's gains and losses in the USA's total manufactured imports to its major competitors. As Table 5 shows, even in the worst years, Mexico still gained from the most advanced economies such as Japan, Canada, Taiwan of China and Hong Kong of China, while its losses were overwhelmingly attributed to China, which alone accounted for 76 percent of its total losses. In the second period of time, Mexico kept to gain from Canada and Japan and took over more market shares formerly captured by European countries, such as the UK and France, which were affected severely by the global financial crisis and the European sovereign debt crisis. In contrast, Mexico's losses have become more diversified by competitors, and China disappeared from the list of top 5 gainers from Mexico. It is Costa Rica that claimed the throne as the leading country, to which Mexico attributed its losses because of the INTEL effect.⁸

Table 5. Mexico's Gains and Losses in US Manufactured Imports by Competitors, 2002–2007

Gains	Values (US\$ billion)	Distribution (%)	Losses	Values (US\$ billion)	Distribution (%)
Japan	3.09	28	China Mainland	–17.37	76
Canada	2.33	21	Viet Nam	–0.83	4
Taiwan of China	0.95	9	India	–0.82	4
Philippine s	0.74	7	Austria	–0.56	2
Hong Kong of China	0.72	7	Germany	–0.53	2
Others	3.21		Others	–2.68	12
Total	11.04	100	Total	–22.78	100
Net loss	–11.75				

Sources: OECD ITCS and author's calculation.

Table 6. Mexico's Gains and Losses in US Manufactured Imports by Competitors, 2007–2012

Gains	Values (US\$ billion)	Distribution (%)	Losses	Values (US\$ billion)	Distribution (%)
Canada	7.40	27	Costa Rica	–0.75	25
Japan	4.66	17	Viet Nam	–0.69	23
Malaysia	1.92	7	Switzerlan d	–0.47	16
UK	1.68	6	India	–0.23	8
France	1.30	5	Poland	–0.15	5
Others	10.91	39	Others	–0.74	24

⁸In 1996, Costa Rica beat Mexico to win Intel's US\$300m investment for a microprocessor assembly and testing plant. Over the course of the next several years, Intel was committed to the investment expansion. By 2005, the Costa Rica campus reflected an accumulated investment of US\$770m. Relative to the small size of Costa Rica's economy, Intel's investment generated a significant direct impact on Costa Rica's GDP, FDI inflows and exports. For more details, see ECLAC (2004).

Total	27.88	100	Total	-3.03	100
Net gain	24.85				

Sources: OECD ITCS and author's calculation.

Comparing the distribution patterns of gains and losses between China and Mexico over 2007–2012, Tables 6 and 7 are identical, except for the magnitude of values. This might imply the end of the cutthroat battle between China and Mexico over the US market, and the rise of new common competitors led by other developing countries. China has rapidly transformed itself during the latest years to be aligned with Mexico in terms of its competitive position over the US market.

Table 7. China's Gains and Losses in US Manufactured Imports by Competitors, 2007–2012

Gains	Values (US\$bn)	Distribution (%)	Losses	Values (USbn)	Distribution (%)
Canada	15.79	27	Costa Rica	-1.58	25
Japan	9.96	17	Viet Nam	-1.47	23
Malaysia	4.09	7	Switzerland	-1.00	16
UK	3.59	6	India	-0.48	8
France	2.78	5	Poland	-0.31	5
Others	23.38	39	Others	-1.44	23
Total	59.58	100	Total	-6.29	100
Net gain	53.29				

Sources: OECD ITCS and author's calculation.

However, the former analysis may just tell part of the whole story. A more detailed analysis could be achieved once we apply the revised CMS model to the data disaggregated at the SITC three-digit level and by technology level, as arranged in Table 8.

Table 8. Classification of Manufactured Goods at SITC three-digit Level^a by Technology Intensity

Technology intensity	SITC Rev. 3 3-digit codes
Low technology	5921, 611, 612, 613, 633, 634, 635, 641, 642, 651, 652, 653, 654, 655, 656, 657, 658, 659, 821, 831, 841, 842, 843, 844, 845, 846 848, 851, 892, 894, 895 (less 8951), 897, 898 (less 8984 and 8985), 899 (less 8996)
Medium-low technology	5251, 579, 581, 582, 583, 621, 625, 629, 661, 662, 663, 664, 665, 666, 671, 672, 673, 674, 675, 676, 677, 678, 679, 691, 692, 693, 694, 695, 696, 697 (less 6973), 699, 711, 7187, 793, 811, 8122, 8139, 893, 8951
Medium-high technology	511, 512, 513, 514, 515, 516, 522, 523, 524, 5259, 531, 532, 533, 551, 553, 554, 562, 571, 572, 573, 574, 575, 591, 5922, 593, 597, 598, 6973, 712, 713 (less 7131), 716, 7181, 7189, 721, 722, 723, 724, 725, 726, 727, 728, 731, 733, 735, 737, 741, 742, 743, 744, 745, 746, 747, 748, 749, 771, 772 (less 7722 and 7723), 773, 775, 778 (less 7786), 781, 782, 783, 784, 785, 786, 791, 8121, 813 (less 8139), 882, 891, 8984, 8985
High technology	541, 542, 7131, 714, 751, 752, 759, 761, 762, 763, 764, 7722, 7723, 774, 776, 7786, 792, 871, 872, 873, 874, 881, 884, 885,

Note: ^aSome of the data are disaggregated at the SITC four-digit level to categorize more precisely the manufactured items according to their technology intensity.

Table 9 summarizes the results by adding up the gains and losses at each sub-group. China continues to stand out as the main gainer from Mexico in the product categories pertaining to medium-high and high technology industries, which caused a total loss equivalent to more than US\$3.4bn gains in 2012.⁹

Table 9. Mexico's Gains and Losses from/to China in US Manufactured Imports by Technology Level, 2007–2012 (US\$bn)

	Gains	Losses	Net gains/losses
Low technology	1.41	–1.06	0.35
Medium-low technology	0.41	–0.35	0.05
Medium-high technology	0.53	–2.45	–1.92
High technology	3.21	–4.73	–1.52

Sources: OECD ITCS and author's calculation.

Nevertheless, Mexico's general loss of market shares to China in the high-end industries should not conceal the concentration of its gains and losses in certain specific product groups, as reflected in Table 10. For example, once we dig deeper into the data related to the high technology sub-group mainly composed of the products used in the information communications technology industries (ICT), we find that Mexico's gains from China were overwhelmingly concentrated in one single segment of the computer sector (SITC 752), which alone accounted for more than 95 percent of the total gains obtained, while 84 percent of its losses in values were due to the significant loss of market shares in telecommunication equipment and parts (SITC 764). Therefore, it seems that both countries have experienced high specialization of their competitiveness in the post-crisis period, by expanding their exporting capacity in different manufactured products, which do not necessarily compete with each other in the US market. On the one hand, partly due to the relocation of foreign investment of some large multinationals, Mexico continues its specialization in the final stage of production of ICT products, reflected in the data by its net gains from China in automatic data-processing machines and units thereof (SITC 752), television receivers (SITC 761), and sound recorders or reproducers (SITC 763). On the other hand, Chinese companies, through technological learning associated with processing trade and Chinese industrial policies that favor the domestic innovation, reposition themselves in the value chains of the ICT industries, by manufacturing more intermediate goods such as parts and accessories for division 75 (SITC 759) and for division 76 (SITC 764). Mexico and China are now following different paths of specialization, making their comparative advantages more complementary than before.

Table 10. Breakdown of Mexico's Gains and Losses from/to China in High-technology Manufactures in US Imports, 2007–2012 (US\$m)

Aerospace	Gains/losses	Computer s-office machines	Gains/losses	Telecommunicatio ns	Gains/losses
-----------	--------------	----------------------------------	--------------	------------------------	--------------

⁹The loss is calculated by summing up the gains and losses experienced at each sub-group (SITC 3-digit) considered as products with medium-high or high technology embedded. The results can be quite different from those calculated at a higher aggregate level.

7131	0.10	751	–39.45	761	25.59
714	0.52	752	3093.75	762	–184.66
792	4.93	759	–124.78	763	52.97
				764	–3984.64
Pharmacy	Gains/losses	Scientific instrumen ts	Gains/losse s	Electronics, electronical machinery	Gains/losses
541	0.47	774	–26.53	7722	–9.00
542	–0.37	871	34.62	7723	–22.55
		872	–52.20	776	–61.79
		873	–49.35	7786	–60.63
		874	–62.66		
		8996	–17.93		

Sources: OECD ITCS and author's calculation.

In this context, there exists a potential for cooperation between Mexico and China through bilateral intra-industry trade. In other words, the competition between Mexico and China in the US market could be gradually transformed into a triangle trade relationship. As NAFTA's uninvited guest (Gallagher and Dussel Peters, 2013), China has increased its role in US–Mexican trade, outcompeting both countries in each other's markets. From a Chinese perspective, Mexico could become a trading hub to penetrate the US market. Such a trade linkage has occurred in the auto-parts-automotive (AAC) chain, where Mexico and China appear to be relatively complementary to each other. According to Dussel Peters (2012), the AAC in Mexico is profoundly integrated with that of the USA through the export orientation transformation since the mid-1990s. However, while over 84 percent of the automotive exports are directed towards the USA in 2010, the participation of the USA in Mexico's total imports of auto parts has decreased from above 75 percent in the 1990s to 53 percent in 2010. It was, indeed, China that transformed itself into Mexico's second largest importer in auto parts in 2010, with an average annual growth rate of 46.3 percent between 1995 and 2009.

VI. Concluding Remarks

The year 2012 marks the 40th anniversary of the establishment of diplomatic relations between China and Mexico, and the 10th anniversary of the foundation of their “strategic partnership” in 2003. However, the Chinese–Mexican bilateral relationship has not been as tight as a “strategic partnership” would suggest. US–Mexican relations are so far the backbone of Mexico's foreign policy due to the high degree of interdependency, encompassing such dimensions as economic and trade integration, immigration, remittances, transnational crime and security. From an economic perspective, Mexico will continue to benefit from its integration with the USA now that the worst of the current financial crisis has passed, particularly when Obama's reindustrialization policies and the shale-gas revolution start to draw American multinationals back home. Nevertheless, treating with the USA from a subordinated position, Mexico's manufacturing industries have suffered from a high vulnerability in bad years, and a polarization with limited domestic spillovers in good years. In this context, China's current rebalancing programs offer Mexico new opportunities to identify areas for cooperation, especially when Chinese–Mexican direct competition in US markets fades, and complementary cooperation in medium–high and high technology industries becomes possible. For this, the Mexican Government needs to adopt a pragmatic approach, maintain its autonomy and reorient its strategy toward China by avoiding viewing China–Mexico bilateral relations as a zero sum game.

From a Chinese perspective, the experience of Mexico's export growth and industrial development accentuates the importance of an irreplaceable competitive advantage for a developing country in the globalized world. Mexico's long border with the USA provides the country with an unbeatable advantage in manufacturing products that require lower transportation costs, less time from manufacture to market, easier communication and supervision of production, and greater flexibility for changes in production (Watkins, 2013). In comparison, China faces a tougher and more urgent challenge to reposition itself at a higher level of the international value chains, as it is expecting a rapid reduction in its labor cost advantage. Following years of technology learning by processing trade and the increasing public and private engagement in R&D, China's exporting structure had begun the shift even before the crisis. The diminishing role played by the low-end industries since 2007 makes China's competitiveness even more concentrated in the medium-high and high technology industries. Nevertheless, the international competitiveness of Chinese products, regardless of the technology intensity level, still largely counts on the scale effect. Therefore, Mexico and China seem to be following different specialization paths, making their manufacturing structure more complementary than competitive. Grand space of complementary cooperation between China and Mexico demands the refinement of China's "going out" policy in Latin America. So far, China's outward FDI (OFDI) in Latin America has been characterized by a concentration in resource-abundant countries due to natural resources seeking motivation, benefiting disproportionately Mexico according to its economic size (ECLAC, 2013). In fact, Mexico could and should be considered as an important long-term manufacturing investment destination, not only for the tariff advantage offered by NAFTA, but also for the adjacency to end users, who participate directly in the configuration and design of industrial products. The promotion of Chinese OFDI in the Mexican manufacturing sector is thus congruent with the Chinese Government's ambition to create global leading innovative national champions. Furthermore, such investment may also ease the growing concerns among Mexican citizens and policy-makers about the "deindustrialization" or "hollowing out" of the manufacturing sector due to the enlarging bilateral trade imbalance.

Most economists perceive that the world economy would not be the same because of the inevitable post-crisis rebalancing both in the net importer countries as well as in the net exporter countries. During this rebalancing process, the possibility of south-south cooperation does not stay only on the paper. Nevertheless, it is worth noting that the future of China-Mexico economic relations is not all rosy, especially when we take into account the potential tension that US-led TPP might cause. The possibility of cooperation between China and Mexico depends on the political wisdom from both parties in adjusting their strategies to the dynamism of post-crisis international relations.

References

- Athukorala, P.-ch. and A. Kohpaiboon, 2009, "Intra-regional trade in East Asia: The decoupling fallacy, crisis, and policy challenges," *ADB Working Paper* No. 177, Asian Development Bank Institute, Tokyo.
- Batista, J. Ch., 2008, "Competition between Brazil and other exporting countries in the US import market: A new extension of constant-market-shares analysis," *Applied Economics*, Vol. 40, No. 19, pp. 2477–87.
- Blázquez-Lidoy, J., J. Rodríguez and J. Santiso, 2007, "Angel or devil? China's trade impact on Latin American emerging markets," in J. Santiso, ed., *The Visible Hand of China in Latin America*, OECD, pp. 410–38.
- Bowen, H. P. and J. Pelzman, 1984, "US export competitiveness: 1962–77," *Applied Economics*,

Vol. 16, No. 3, pp. 461–73.

- CNIE (Comisión Nacional de Inversiones Extranjeras), [National Commission of foreign investments], 2013 [online; cited November 2013]. Available from: <http://www.economia.gob.mx/>.
- Dussel Peters, E., 2005, *Economic Opportunities and Challenges Posed by China for Mexico and Central America*, Bonn: German Development Institute.
- Dussel Peters, E., 2012, “The auto parts-automotive chain in Mexico and China: Co-operation potential?” *The China Quarterly*, Vol. 209, pp. 82–110.
- Dussel Peter, E., 2014, “Mexico and the Asian challenge, 2000–2012,” in J. Heine, C. J. Arnson and Ch. Zaino, ed., *Reaching Across the Pacific: Latin America and Asia in the New Century*, Washington: Wilson Center, pp. 187–251.
- ECLAC (Economic Commission for Latin America and the Caribbean), 2004, *Foreign Investment in Latin America and the Caribbean 2003*, Santiago: United Nations publication.
- ECLAC (Economic Commission for Latin America and the Caribbean), 2013, *Chinese Foreign Direct investment in Latin America and the Caribbean*, Santiago: United Nation publication.
- EUROSTAT, 2013, *Correspondence table ISIC REV. 3 – SITC REV. 3* [online; cited November 2013]. Available from: <http://ec.europa.eu/eurostat/ramon/>.
- Fagerberg, J. and G. Sollie, 1987, “The method of constant market shares analysis reconsidered,” *Applied Economics*, Vol. 19, No. 12, pp. 1571–83.
- Feenstra, R. C., W. Hai, W. T. Woo and Sh. Li Yao, 1999, “Discrepancies in international data: An application to China-Hong Kong entrepôt trade.” *The American Economic Review*, Vol. 89, No. 2, pp. 338–43.
- Fung, K. C., L. J. Lau and Y. Y. Xiong, 2006, “Adjusted estimates of United States–China bilateral trade balances: An update,” *Pacific Economic Review*, Vol. 11, No. 3, pp. 299–314.
- Gallagher, K. P. and R. Porzecanski, 2007, “What a difference a few years makes: China and the competitiveness of Mexican exports,” *Oxford Development Studies*, Vol. 35, No. 2, pp. 219–23.
- Gallagher, K. P., J. C. Moreno-Brid and R. Porzecanski, 2008, “The dynamism of Mexican exports: Lost in (Chinese) translation?” *World Development*, Vol. 36, No. 8, pp. 1365–80.
- Gallagher, K. P. and E. D. Peters, 2013, “China’s economic effects on the U.S.–Mexico trade relationship: Towards a new triangular relationship?” in E. Dussel Peters, A. H. Hearn and H. Shaiken, ed., *China and the New Triangular Relationships in the Americas*, Mexico City: CECHIMEX, pp. 13–24.
- Gereffi, G., 2009, “Development models and industrial upgrading in China and Mexico,” *European Sociological Review*, Vol. 25, No. 1, pp. 37–51.
- Guzmán, A. and A. Toledo, 2009, “Manufacturing competitiveness of Mexico and China in the US market,” *EconomíaUNAM*, Vol. 2, No. 4, pp. 94–137 (in Spanish).
- Hanson, G. H. and R. Robertson, 2009, “China and the recent evolution of Latin America’s manufacturing exports,” in D. Lederman, M. Olarreaga and G. E. Perry, ed., *China and India’s Challenge to Latin America: Opportunity or Threat?* Washington DC: The World Bank, pp. 145–78.
- Kamil, H. and J. Zook, 2013, “The big return,” *Finanzas & Desarrollo*, March, pp. 48–51 (in Spanish).
- Lall, S. and M. Albaladejo, 2004, “China’s competitive performance: A threat to East Asian manufactured exports?” *World Development*, Vol. 32, No. 9, pp. 1441–66.
- Lall, S., J. Weiss and H. Oikawa, 2005, “China’s competitive threat to Latin America: An analysis for 1990–2002,” *Oxford Development Studies*, Vol. 33, No. 2, pp. 163–94.
- Leamer, E. E. and R. M. Stern, 1970, *Quantitative International Economics*, Boston: Allyn and Bacon.

- OECD, 2011, ISIC REV. 3 technology intensity definition [online; cited November 2013]. Available from: <http://www.oecd.org/sti/ind/48350231.pdf>.
- OECD, 2013, *International Trade by Commodity Statistics database* [online; cited November 2013]. Available from: <http://www.oecd-ilibrary.org/statistics>.
- Richardson, J. D., 1971, “Constant-market-shares analysis of export growth,” *Journal of International Economics*, Vol. 1, No. 2, pp. 227–39.
- Rodrik, D., 2006, “What’s so special about China’s exports?” *China & World Economy*, Vol. 14, No. 5, pp. 1–19.
- Sargent, J. and L. Matthews, 2009, “China versus Mexico in the global EPZ industry: Maquiladoras, FDI quality, and plant mortality,” *World Development*, Vol. 37, No. 6, pp. 1069–82.
- Tyszynski, H., 1951, “World trade in manufactured commodities, 1899–1950,” *The Manchester School*, Vol. 19, No. 3, pp. 272–304.
- Utar, H. and L. B. Torres Ruiz, 2013, “International competition and industrial evolution: Evidence from the impact of Chinese competition on Mexican Maquiladoras,” *Journal of Development Economics*, Vol. 105, pp. 267–87.
- Wang, Zh. and Sh.-J. Wei, 2010, “What accounts for the rising sophistication of China’s exports?” in Robert C. Feenstra and Shang-Jin Wei, ed., *China’s Growing Role in World Trade*, Chicago: University of Chicago Press, pp. 63–108.
- Watkins, R. J., 2013, “Meeting the China challenge to manufacturing in Mexico,” in E. Dussel Peters, A. H. Hearn and H. S., eds, *China and the New Triangular Relationships in the Americas*, Mexico City: CECHIMEX, pp. 37–55.