Latin America's trade specialization and China and India's growth*

Daniel Lederman**
Marcelo Olarreaga***
Eliana Rubiano****

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Abstract

This paper explores the extent to which the rapid growth of China and India in world markets is affecting Latin America's trade specialization pattern. To this end we construct a measure of Revealed Comparative Advantage (RCA) by 3-digit ISIC sector, country and year, which accounts for both imports and exports (Vollrath, 1991). We then explore the correlation of these RCA measures between LAC and the two Asian economies. Results suggest that the specialization pattern of LAC economies –with the exception of Mexico—has been moving in opposite direction to the trade specialization pattern of China and India. Labor intensive sectors (both unskilled and skilled) are the more likely to be negatively affected by the growing presence of China and India in world markets, whereas natural resource and scientific knowledge intensive sectors are likely to benefit from China and India's growth.
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** Development Research Group, The World Bank, 1818 H Street, NW, Washington DC 20433, USA. Email: dlederman@worldbank.org.
*** Chief Economist Office for Latin America and the Caribbean, Banco Mundial, Carrera 7, no. 71-21, Piso 16, Bogota, Colombia, and CEPR, London, UK. Email: molarreaga@worldbank.org,
**** Chief Economist Office for Latin America and the Caribbean, Banco Mundial, Carrera 7, no. 71-21, Piso 16, Bogota, Colombia, and Pontificia Universidad Javeriana, Bogota Colombia. Email: erubiano@javeriana.edu.co.

Introduction

In 1980 the Latin America and Caribbean region (LAC) was twice as large as China and India, which jointly represented 3 percent of world GDP. By 2004, due to the relative rapid growth of the Asian economies, LAC was 20 percent smaller than China and India.[1] Today China is the sixth largest economy in the world when measured in terms of GDP and India the 10th largest economy. Together they account for 6.4 percent of world GDP, with China being roughly three times larger than India.

The fast economic growth of China and India was also accompanied by their rapid integration to world markets, while Latin America's integration to world markets lagged behind. LAC had a trade to GPD ratio roughly equal to the trade to GDP ratio of China in the late 1980s, and two times larger than the trade to GDP ratio of India. By 2004, the trade to GDP ratio of China was 35 percent larger than the trade to GDP ratio of LAC, and India's trade to GDP ratio was only 14 percent smaller than LAC's. China is the third largest trading economy in the world (just behind the United States and Germany), while India ranks 25th in terms of trade value.

The fast growth of China and India and their rapid integration into world markets has probably affected the trade-specialization patterns of other economies. They consistently have been taking market share away from Latin American exporters in world markets, but the growing demand in China and India may benefit other exporters. The importance of China and India as a destination for Latin American exports increased four-fold since 1990 when they represented less than 1 percent of LAC exports. This signals a significant increase in opportunities, even though the levels remain quite low –generally representing less than 10 percent of total imports (see Figure 1). On the other hand, the share of China and India in total LAC imports also increased significantly over the period, signaling that their growing presence may be hurting some firms in LAC (see Figure 2).

[1] Note that by 1990 Latin America was still 65 percent larger than China and India. Since then Latin America's GDP grew at an average annual rate of 4.4 percent, India at 5.7 percent, and China at 12.9 percent.

The objective of this paper is to explore the extent to which Latin American economies are being pushed into a different trade specialization pattern by the growing presence of China and India in world markets. Are LAC economies adjusting? And if yes, are their exports becoming more intensive in natural resources, scientific knowledge, skilled or unskilled workers? How does the adjustment pattern differ within LAC? The answers to these questions should help policy markers accompany the adjustment process with long and short term policy instruments, such as education, technical training, innovation policies, and perhaps trade-adjustment assistance programs for workers.

Regarding competition in third markets, there is a small and growing literature that argues that there is no strong trade competition between China and LAC, with the exception of Mexico and some Central American countries (e.g., Blazquez-Lidoy, Rodriguez and Santiso, 2006). These authors based their conclusion on the low export similarity across industries between Latin America and China.[2] There are two problems with the indices of export similarity. First, they fail to capture the importance of each product in world markets. That is, China and LAC can have very different shares in products that are heavily traded in world markets, and very similar ones in products that are not heavily traded, thus understating the degree of similarity. In other words, by focusing on the two countries shares on their own exports, they fail to capture the relative importance of their bilateral competition *vis à vis* their competition with other exporters. Second, by focusing only on exports they fail to capture two important phenomena: the growing intra-industry trade in intermediate goods and the opportunity that the growing economies of China and India represent for LAC economies. These second aspect is discussed within the Argentinean context by Castro, Tramutola and Monat (2005), who argued that an important share of the recent export boom in commodities experienced by Argentina is due to China's growing demand for commodities over the last 15 years (see Figure 3). Evidence of the important impact that the growth of China and India had on commodity markets is also provided by Calderon (2006). Using a gravity type model, Lederman, Olarreaga, and Soloaga (2006) also provide estimates that suggest that the

[2] More precisely their index of export similarity is given by $1 - 1/2 \sum_n \left| s_n^{LAC} - s_n^{China} \right|$, which with the exception of Mexico are all below 0.5.

growth of China, in particular, and India to a lesser extent, had a significant positive impact on LAC exports.[3]

In order to address the two problems associated with export similarity indices, and provide some sector level evidence of how China and India's growing presence in world markets may be affecting the specialization pattern of LAC economies we proceed as follows. First, we construct an index of revealed comparative advantage (RCA) at the global level that accounts for exports, but also imports, as well as the relative size of world markets to capture the overall competitiveness of each country by sector (Vollrath, 1991).[4] We then explore the correlation between LAC's RCA on the one hand, and Chinese and Indian RCAs on the other hand. These exercises provide an idea of the extent to which LAC is competing in the same markets as China and India, as well as whether Chinese and Indian markets represent opportunities for LAC exports. We also explore the evolution of these indices over time to analyze whether competition and/or opportunities have been increasing over the last two decades. Finally, and after determining the factor intensities of LAC's economies in each sector (see Appendix), we systematically explore the direction in which Chinese and Indian growth is shaping the specialization of LAC in terms of use of factors of production.

Our results suggest that the specialization pattern of LAC economies –with the exception of Mexico—has been moving in opposite direction from the trade specialization pattern of China and India. This indicates that LAC's trade patterns are becoming increasingly complementary to the specialization pattern of China and India. China's specialization pattern at the end of the period studied (early 2000s) was negatively correlated with the specialization pattern of most LAC economies (again Mexico being an exception). India's specialization pattern, however, seems to be positively correlated even at the end

[3] There are two other problems with indices of export similarity. First, similar products can be exported to different markets, thus representing little competition in specific markets. Second, exports of similar products to the same market can be subject to demand complementarities, due for example to the growing presence of production networks. Evidence provided by Lederman, Olarreaga, and Soloaga (2006) suggest that these complementarities can be large, at least at the aggregate level. However, these two problems will not be addressed in this paper.

[4] In order to be able to compare RCAs across time and countries we do a simple correction to Vollrath's index, which is discussed in the next section.

of the period with those of most LAC economies (with the exception of the Andean countries). In terms of the opportunity that the internal market of these two economies may represent for LAC economies, we found no evidence that their bilateral trade has a significant impact on LAC's specialization pattern, beyond the impact that China and India's trade pattern with the world has on LAC's specialization pattern. This is probably due to the still relatively small size of the bilateral trade between LAC economies, and China and India. Finally, we found that labor (both unskilled and skilled) was the factor that was more likely to be negatively affected, whereas natural resources and scientific knowledge were likely to benefit from the growing presence of China and India in world markets.

The rest of this paper is organized as follows. Section 2 provides *prima facie* evidence regarding the level and evolution of the correlation between the Latin America's RCAs and the RCAs of the two Asian economies. Section 3 describes the more systematic empirical methodology we used to identify the direction China and India are pushing the specialization pattern of LAC economies, and discusses the results. Section 4 concludes.

2. How similar are LAC, Chinese, and Indian patterns of trade specialization? *Prima facie* evidence

In order to answer the question above, we start by constructing an index of revealed comparative advantage for China, India and thirteen LAC economies for which there is reliable trade data available at the sector level (ISIC 3 digit) from 1990 to 2004.[5] We then explore the evolution of China, India and Latin America's economies RCAs over the last 15 years to provide *prima-facie* evidence regarding the extent to which China and India's specialization pattern is correlated with the specialization pattern of LAC.

2.1 Constructing RCA indices

[5] These thirteen economies are Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Costa Rica, Guatemala, Mexico, Nicaragua, Peru, Uruguay and Venezuela. Together they represent 98 percent of the Latin America's GDP.

The measure of RCA we used is the one advanced by Vollrath (2001), which corrects for three problems associated with the traditional Balassa measure of RCA.[6] First, it eliminates any double counting problem by excluding the sector, and country trade values in the aggregates that are used as benchmarks to compare a country/sector RCA. Second, it is based on a measure of net exports, which allows the RCA to capture the growing importance of intra-industry trade. Third, Balassa's index is asymmetric as it varies between 0 and infinity, with values between 0 and 1 indicating that the country does not have a comparative advantage and values between 1 and +infinity signaling that the country has a comparative advantage in that sector. The measure proposed by Vollrath (2001) is symmetric with positive values indicating a revealed comparative advantage and negative values a revealed comparative disadvantage. The symmetry of the RCA index is an important feature for our econometric estimates in the next section.

More formally, the RCA proposed by Vollrath (2001) is given by:

$$RCA_{s,t}^{c} = \ln\left(RXA_{s,t}^{c}\right) - \ln\left(RMA_{s,t}^{c}\right) \tag{1}$$

where

$$RXA_{s,t}^{c} = \left(X_{s,t}^{c}\right) / \left(X_{-s,t}^{c}\right) / \left(X_{s,t}^{-c}\right) / \left(X_{-s,t}^{-c}\right) \tag{2}$$

$$RMA_{s,t}^{c} = \left(M_{s,t}^{c}\right) / \left(M_{-s,t}^{c}\right) / \left(M_{s,t}^{-c}\right) / \left(X_{-s,t}^{-c}\right) \tag{3}$$

where $X_{s,t}^{c}$ are exports of country *c* in sector *s* at time *t*, $X_{-s,t}^{c}$ are total exports of country minus exports of good *s* at time *t*, $X_{s,t}^{-c}$ is world exports in sector *s* at time *t*, minus $X_{s,t}^{c}$, and $X_{-s,t}^{-c}$ is total world exports minus $X_{s,t}^{-c}$ and $X_{-s,t}^{c}$. *M* stands for imports and subscripts and superscripts are defined in the same way as in the case of exports.

[6] Balassa's measure of RCA of country *c* in sector *s* is given by: $RCA_{s}^{c} = \left(X_{s}^{c} / X^{c}\right) / \left(X_{s}^{w} / X^{w}\right)$, where are exports of country *c* in sector *s*, X^{c} are total exports of country *c*, X_{s}^{w} is world trade in sector *s*, and X^{w} is total world trade.

There is one problem with Vollrath (2001) index if one needs to make comparisons across countries and time. The average value of $RCA^{c}_{s,t}$ across sectors *s* will vary across countries and time. The average value will depend on the degree of concentration of exports and imports in each country/year. So in order to make inferences regarding which country has a stronger comparative advantage in apparel, or whether a country's comparative advantage in apparel has increased through time, we need to normalize all $RCA^{c}_{s,t}$ values by their country/year mean. More formally, the measure of RCA we will be using is given by:

$$\hat{RCA}^{c}_{s,t} = RCA^{c}_{s,t} - \sum_{s} \frac{RCA^{c}_{s,t}}{n} \tag{4}$$

where *n* is the number of sectors *s*.

Table 1 provides summary statistics for $\hat{RCA}_{s,t}$ calculated according to (4) by ISIC 2 digit sector in the years 1990 and 2004 for LAC as a whole, the Andean countries (Bolivia, Colombia, Ecuador, Peru and Venezuela), Central America (Costa Rica, Guatemala and Nicaragua), Mexico, the Southern Cone (Argentina, Brazil, Chile and Uruguay), China, and India.

A quick look at Table 1 suggests that in 1990 LAC's comparative advantage (when $\hat{RCA}_{s,t} > 0$) laid in commodities: agriculture (ISIC 11), logging (ISIC 12), fishing (ISIC 13), crude petroleum (ISIC 22), ore mining (ISIC 23), food manufacturing (ISIC 31), basic metal industries (ISIC 37) and electricity and gas (ISIC 41).[7] In 1990 China's comparative advantage was relatively similar. It was concentrated in logging (ISIC 12), fishing (ISIC 13), coal mining (ISIC 21), crude petroleum (ISIC 22), other mining (ISIC

[7] Their comparative disadvantage laid on some commodities such as coal mining (ISIC 21) and other mining (ISIC 29), but mainly in manufacturing: textile and apparel (ISIC 32), wood products (ISIC 33), paper products (ISIC 34), chemicals (ISIC 35), non-metal products (ISIC 36), fabricated metal products (ISIC 38), and other manufacturing (ISIC 39).

29), food manufacturing (ISIC 31), non-metal products (ISIC 36), and other manufacturing (ISIC 39). Thus of the eight two digit sectors on which LAC had a comparative advantage in 1990, there were four on which China also had a comparative advantage. The comparative advantage of India in 1990 was also relatively similar to the one observed in China, and to a lesser extent in LAC. It was concentrated in agriculture (ISIC 11), logging (ISIC 12), fishing (ISIC 13), ore mining (ISIC 23), food manufacturing (ISIC 31), textiles and apparel (ISIC 32), non-metal products (ISIC 36) and other manufacturing (ISIC 39). Thus, of the eight sectors on which India had a comparative advantage in 1990, there were six on which China also had a comparative advantage and five on which LAC also had a comparative advantage.

However, between 1990 and 2004 the specialization pattern of LAC and the two Asian economies seemed to have moved in opposite directions. By 2004 China and LAC only shared two sectors on which they both had a comparative advantage. With India, the number of sectors remain unchanged, suggesting a less pronounced decline. But Table 1 also provides information regarding industries that have experienced a significant change in comparative advantage (of more than 0.5 points in their RCA) by indicating the values of the RCAs in those industry/regions in bold when there is an large increase, and by underscoring the values of the RCA in the presence of large falls. An impressionistic look at Table 1 suggests that India and China had large increases in their comparative advantage in the manufacturing sector, and large falls in their comparative advantage in commodities (agriculture, fishing, logging, and mining). In LAC on the other hand, changes have been rather modest, suggesting a more stable specialization pattern.

But LAC's relatively stable specialization pattern hides some interesting regional differences. For example, Mexico and to a lesser extent Andean countries and Central America have a similar pattern to the one observed in China and India, although not as pronounced. For the Southern Cone, the opposite is true, as these countries seemed to have experienced large increases in their comparative advantage for commodities, while the saw their comparative advantage in manufacturing experience some large falls.

Overall this first look at the data suggests that the specialization pattern of LAC in 1990 was relatively to the one of China and India. However, on aggregate LAC's specialization pattern seemed to have been moving apart from China and India's who have shifted towards manufacturing industries, while LAC's specialization pattern remained relatively stable. However, this hides some interesting differences across regions, with Mexico moving in the same direction as China and India, while the Southern Cone moved in opposite direction. The evolution of Andean countries and Central America's specialization pattern is in between the evolution of the two other LAC regions.

2.2 Correlation between LAC's and Chinese and Indian RCAs

To see whether LAC is competing in the same products with China and India in a more systematic manner, we calculate the correlation between LAC's RCAs and those of the two Asian economies by year. Positive values for the correlation of RCAs indicate that countries tend to have similar specialization patterns, and therefore will be competing in the same markets. Negative values for the correlation of RCAs indicate that the specialization patterns complement each other, and that the growth of China and India is an opportunity for Latin American firms, as China or India's net import demand will be large when LAC's net export demand is large. We also explore the evolution of the correlation between 1988 and 2004.[8]

Figure 4 shows the evolution through time of the correlation between Chinese and Indian RCAs and the RCAs for the aggregate of thirteen LAC countries in our sample. The blue line shows the correlation with China and the red line the correlation with India (we will discuss the green line in section 2.3 below). At the beginning of the period the correlation between Chinese and Indian RCA's on the one hand, and LAC RCAs was positive but modest (around 0.2), suggesting that China and India were specializing in the same product as LAC. However, the trend is clearly downwards and by the end of the period,

[8] It is important to note that the growing presence of China and India can be a threat or a complement for LAC exports, regardless of the signs of these correlations. Indeed, there may be demand complementarities between goods offered by LAC on the one hand, and China and India on the other. Thus more exports of China and India may lead to more exports of LAC of the same product. See Lederman, Olarreaga and Soloaga (2006) for evidence of this being the case at the aggregate level.

the correlation with China was around -0.2 and the correlation with India was close to zero. This suggests that by the end of the period LAC's trade specialization pattern was complementary to the Chinese specialization pattern and orthogonal to the Indian one.

Figures 5, 6, and 7 show the correlation between Andean countries, Central America, Mexico, and the Southern Cone, on the one hand, and China and India on the other. Again, Mexico is not included in the Central American aggregate, because its RCAs and the correlation of its RCA is very different from the ones observed for the rest Central American and LAC. In the case of the Andean countries (Figure 5) the pattern is very similar to the one observed for LAC as a whole. In the case of Central America (Figure 6) the correlation with China shows a similar trend, but the correlation with India remains relatively stable and positive, suggesting that India had a specialization pattern that evolved in the same direction as Central America's trade pattern. For Mexico, the pattern is quite different. The trend is upwards in both cases since the early 1990s, suggesting that Chinese and Indian trade is becoming more similar to Mexico's, but we cannot overstate the fact that his finding does not necessarily mean that Chinese and Indian exports are hurting Mexican export prospects, since both could be rising together perhaps as a result of the operation of global production networks. In the case of the Southern Cone, both correlations show a declining trend, which suggests that the Southern Cone is moving away from the specialization pattern of China and India. Note, however, that in the case of India, the correlation is still positive and relatively high by the end of the period (around 0.2).

Thus, with the exception of Mexico, China and India seem to be specializing in a different direction when compared to LAC, and their trade patterns are becoming more complementary suggesting that the growth of China and India may be good news for LAC with the exception of Mexico.

2.3. Why is the correlation of LAC's RCAs with China and India's RCA falling?

The fact that the specialization pattern of LAC is moving away from the specialization pattern of China and India may be due to different forces. On the one hand, LAC may be

specializing in a few products (concentrating its exports) where China's presence is not very strong or declining. On the other, LAC may be diversifying its export bundle into new sectors. In order to disentangle what's driving the evolution of the correlation of RCAs, Figures 4 to 7 also show the evolution of an export concentration Herfindhal index (higher values indicate a more concentrated export bundle), where the right hand side vertical axis provides the scale, and the green line the evolution of the index. The evidence suggests that LAC as a whole has been moving towards higher concentration of its export bundle throughout the period. This trend is mainly driven by a strong move towards concentration of exports by the group of Andean countries since the mid 1990s and some mild trend towards concentration in the Southern Cone. In contrast, Central America has shown some strong diversification of its export bundle, and Mexico some mild diversification. During the same period China moved towards a more concentrated export bundle, in particular since the mid 1990s, whereas India has shown some diversification. Overall this suggests that the explanation behind the falling correlation between LAC and China is that LAC and China are moving towards more specialization but in a different set of products. In the case of India, the trend would also be explained by the diversification of India's export bundle.

Some key questions remain unanswered. For example, in which sectors is LAC specializing and what are the sectors in which China and India are specializing? In order to answer these questions we look at the evolution of RCAs between 1990 and 2004 at the 3 digit level of the ISIC for LAC, the Andean group, Central America, Mexico, the Southern Cone, China and India. In order to focus on the observed negative trend in the correlation between RCAs of LAC and those of China and India, we identify 5 potential cases which can explain this trend:

1. China/India RCA increases, and LAC (or any of the LAC sub-groups) RCA remains constant (China/India is specializing in a product where LAC comparative advantage remains stable). LAC is becoming relatively less competitive (or a larger importer of this product).

2. LAC RCA increases, and China/India RCA remains constant (LAC is specializing in a product where China/India's comparative advantage remains stable). LAC is becoming relatively more competitive.
3. China/India RCA increases, and RCA LAC declines (China/India is specializing in a product where LAC is withdrawing). China/India is a threat for LAC.
4. LAC RCA increases, and China/India RCA declines (LAC is specializing in a product where China/India is withdrawing as an exporter). LAC is taking the opportunity offered by China/India's withdrawal as an exporter.
5. China/India RCA declines, and LAC RCA remains constant (China/India is withdrawing as an exporter from a product where LAC's comparative advantage remains stable). China/India's withdrawal as an exporter does not seem to have an effect on LAC.
6. LAC RCA declines, and China/India RCA remains constant (LAC is withdrawing as an exporter from a product where China/India's comparative advantage remains stable). LAC's withdrawal as an exporter does not seem to be caused by China/India.

Explanations 2 and 4 are probably good news for LAC, whereas explanations 1 and 3 are probably bad news. Explanations 5 and 6 are neutral.

We then categorize each industry according to one of these six categories that could potentially explain the fact that LAC and China and India's specialization patterns are moving a part and becoming more complementary. Industries where the observed RCA trends cannot help explain the negative trend in RCAs correlations are categorized with a value of "0". These are industries that could either explain a positive or a zero trend in the correlation between LAC RCAs and the RCAs of China and India.

Table 2 provides the full categorization by industry for LAC as a whole and for each of the sub-groups. The evidence suggests that the trend is mainly explained by the evolution of RCAs in agriculture, fishing, forestry and mining. But the explanation has more to do with a declining comparative advantage of China, due to its growing demand in these

sectors, without observing an increase in the comparative advantage of LAC. It seems that in these sectors LAC is partly missing the opportunity offered by the growth in demand in China and India.

Generally, the negative trend cannot be explained by the evolution of RCAs in the manufacturing sector (mostly "0"). There are some exceptions: food manufacturing and beverages, where LAC increased its RCA whereas China's and India's RCA declined (partly due to their growing demand); professional and scientific equipment, where China's RCA is declining; tobacco, textiles and iron and steel where China's RCA is rising and LAC's is declining; printing, paper, pottery, non-metalic mineral products and fabricated metal products where either China or India experienced rising RCAs, but without any discernable trend in the RCA of LAC in these sectors.

There is little heterogeneity across LAC sub-groups with the exception of Mexico where "0"are more common. The evolution of Mexican, Chinese, and Indian RCAs by industry cannot explain a negative trend in the correlation of RCAs between Mexico and China and India. This is not surprising given that Mexico was the only sub-group for which we observed a positive trend in the correlation of RCA with China and India's RCAs.

Thus, the good news is that LAC's specialization pattern seems to be moving away from that in China and India, leading to more complementary trade specialization patterns. However, this is mainly due to the evolution of their relative RCA in agriculture, fisheries, forestry and mining, but not in manufacturing (with a few exceptions), where RCAs of China and India are moving in the same direction as the RCAs of LAC countries (with a few exceptions such as food manufacturing, beverages, and professional and scientific equipment). The bad news is that LAC economies do not seem to be taking advantage of the growing appetite of China for raw materials, as they maintain the same level of RCA as China's comparative advantage declines.[9] Thus, as world markets for these products increase, LAC is not able to grab a bigger share of this growing pie.

[9] Note that because the size of these markets is growing, this is not all bad news for LAC.

3. Where are China and India pushing LAC's specialization pattern?

The objective of this section is three fold. First, we explore with a more systematic approach and controlling for country*year effects whether China and India RCAs are moving together or in opposite directions. Second, we explore the role played by their bilateral trade on their overall specialization pattern. Finally, we identify the broad categories of products –defined according to their factor use— that are experiencing stronger competition or demand from China and India. Are unskilled intensive sectors being hurt by the enhanced specialization of China and India in these products? Are natural resource sectors experiencing stronger demand from China and India than other sectors? What about skilled-intensive sectors and sectors intensive in scientific knowledge? The answers to these questions would help target the correct factor of productions when designing policies to help maximize the opportunities offered by the growth of China and India, while minimizing the adjustment costs.

3.2 Empirical Methodology

The empirical methodology is straightforward. We explain the RCAs of LAC economies with the RCAs of China and India, as well as the bilateral exports of each LAC economy with China and India, controlling for country*year fixed effects. That is, our empirical model can be written as:

$$RCA_{c\in LAC,s,t} = \beta_0 + \beta_{c\in LAC,t} + \alpha_1 RCA_{CHINA,s,t} + \alpha_2 RCA_{INDIA,s,t} + \alpha_3 XN_{CHINA\leftrightarrow c\in LAC,s,t} + \alpha_4 XN_{INDIA\leftrightarrow c\in LAC,s,t} + \varepsilon_{c\in LAC,s,t} \quad (5)$$

where $RCA_{c\in LAC,s,t}$ is the RCA of country *c* (belonging to our thirteen LAC countries) in sector *s*, at time *t*, *XN* are net bilateral exports of each LAC economy to either China or India depending on the variable, and $\varepsilon_{c\in LAC,s,t}$ is an error term where we allow for clustering of the error term within each industry every year. We estimated these models for the pooled sample of thirteen LAC countries, but also for the 4 sub-groups (Andean, Central America, Southern Cone, and Mexico).

A positive coefficient on the RCA of China or India would indicate that LAC's specialization pattern is similar to the one observed in China and India, whereas a negative coefficient would indicate that the specialization pattern of LAC is complementary to the specialization pattern of China and India. A positive coefficient on the bilateral net export variable would indicate that exports to China or India are concentrated in sectors where LAC's comparative advantage lies, and that at least through this direct channel the growth of China and India is shaping the specialization of LAC economies.

In order to see the factors of production that may be hurt or helped by increased competition from China and India, we also estimated equation (5) with dummies for unskilled labor intensive sectors, skilled labor intensive sectors, natural resource intensive sectors, and scientific knowledge intensive sectors, as well as their interaction with the RCAs of China and India. The interpretation of the coefficients on the interaction variables is similar to the one discussed above.

One challenge for this approach is that researchers need to define the sectoral factor intensities. There are broad classifications for some of these factors, but they are not specific to LAC. At the level of aggregation at which we work, sectors that are unskilled intensive in OECD countries may be skilled intensive in LAC (e.g., textiles) as discussed by Feenstra and Hanson (2003). Moreover, to our knowledge there is no worldwide classification of factor-intensity at the 3 digit level of the ISIC (our level of disaggregation). Consequently there is no other solution but to estimate the factor intensities of each sector. To do this, we follow Kohli (1991), Harrigan (1997), and Redding (2002) revenue function approach and estimate the sign and statistical significance of the Rybcynski elasticities for each of the four factors of production in each of the ISIC 3 digit industries for the pooled sample of thirteen LAC countries. The full methodology used to estimate the factor intensities and the results are discussed in the appendix.

3.3 Results

The conditional correlation of LAC and each of the four sub-regions' RCAs with the RCAs of the two Asian economies estimated following equation (3) are shown in Table 3. Looking at the first column of Table 3, LAC's RCA is negatively correlated with China's RCA, although the coefficient is not statistically significant. This suggests that China's RCA is at worst not correlated with LAC's RCA, and therefore one shouldn't expect much competition from China in world markets, but rather a mild reinforcement of LAC's RCA on products due to larger Chinese demand. On the other hand, the correlation with India's RCA is much larger, positive and statistically significant, suggesting that competition from India in world markets may be more of a challenge for LAC's economies. As India's size in world markets is only about a fifth of China's size, this may be not be a problem today, but rather in the future if India continues to grow at its current rates, whereby in less than twenty years India would have the same size as China today.

Bilateral net exports are insignificant in all regressions, suggesting that LAC's exports to China and India are neither positive nor negatively correlated with LAC's comparative advantage once we control for China and India's RCAs (and country*year dummies). The fact that we are controlling for China's RCA and that the Chinese RCA tends to be negatively correlated with Latin America's RCAs suggests that the insignificant coefficient on bilateral net exports of LAC to China may be due to the fact that these variable is correlated with China's RCA, i.e., the bilateral net exports of LAC to China are correlated with the overall Chinese RCA. It also reflects the relatively small bilateral trade between LAC and the two Asian economies.

There are some interesting differences across regions. China's RCA has a positive and significant coefficient for the sub-sample of Andean countries. The coefficient is also positive for Mexico, but statistically insignificant. These positive coefficients suggest that for these countries the Chinese competition in third markets may be stronger than for LAC as a whole. In the case of Central America and the Southern Cone the coefficient on the Chinese RCA is negative and significant, suggesting that the Chinese specialization pattern may be more complementary to the specialization pattern in these two regions. In

contrast, the specialization patterns of these two regions seem to be more similar to the specialization pattern of India with large positive and significant coefficients on India's RCA. The coefficient on the Indian RCA is also positive for Mexico, but the coefficient is statistically insignificant. In the case of the Andean countries, the coefficient on the Indian RCA is small, but negative and significant suggesting that the trade specialization pattern of the Andean countries tends to be a bit more complementary with the specialization pattern of India than the one of LAC or Mexico.

Table 4 provides the results for the specifications where we introduce in equation (5) the interaction terms between China and India RCA and the four factor intensity dummies (unskilled labor, skilled labor, natural resources and scientific knowledge), as well as the four factor intensity dummies separately. The coefficients on the dummies suggest that on average throughout the period LAC's comparative advantage lies in sectors that are intensive in natural resources, scientific knowledge and unskilled labor, in decreasing order. Its comparative disadvantage lies in skilled-labor intensive sectors. There is some heterogeneity across regions, however. Andean countries' factor intensities reflect the one observed for LAC as a whole. Central America has its comparative advantage in sectors intensive in natural resources and unskilled labor (although the latter is not statistically significant), and they have a comparative disadvantage in sectors intensive in scientific knowledge and skilled labor. Mexico's comparative advantage seems to lie in unskilled- and skilled-labor intensive sectors, and natural resources, whereas its comparative disadvantage lies in sectors intensive in scientific knowledge (although none of the coefficients are statistically significant). The Southern Cone comparative advantage lies in natural resource intensive sectors, skilled labor and scientific knowledge, whereas its comparative disadvantage lies in unskilled intensive sectors.

Which factors will be more affected by the growth of China and India in world markets? The coefficients on the interaction terms reported in Table 4 allow us to answer this question. In the case of the pooled sample for the thirteen LAC countries all the interaction terms are statistically significant with the exception of the interaction of China's RCA with the dummies for sector intensity in unskilled labor and scientific

knowledge. Sectors intensive in unskilled labor would suffer from the rising competition from India in world markets, but these sectors show some small (and statistically insignificant) complementarity with the specialization pattern of China. Sectors that are intensive in the use of skilled workers would be suffering from the rising competition from India and China in world markets, although it is worth noting that these industries may be unskilled-labor intensive in China and India (as sectors' factor intensities were estimated in a sample that only included LAC countries). Sectors intensive in scientific knowledge show strong complementarity with India's specialization pattern. Finally, natural resource intensive sectors show some strong complementarities with the specialization pattern of both China and India.

There are some mild differences across LAC regions. For example, in Central America and the Southern Cone complementarities seem to be concentrated in natural-resource intensive sectors, and not scientific knowledge intensive sectors. On the other hand in Mexico complementarities are concentrated in scientific-knowledge intensive sectors. not large qualitative differences between LAC's results and the results for each of the sub-regions. However, overall these results suggest that the growth of China and India is more likely to affect negatively sectors that are relatively labor intensive (skilled and unskilled), whereas natural-resource and scientific-knowledge intensive sectors in LAC are likely to benefit from China and India's growth in world markets.

4. Concluding Remarks

Is LAC competing in the same products with China and India's exporters, or is the growing demand of China and India in world markets helping Latin American exporters? We answer these questions by exploring the correlation between the trade specialization patterns of Latin American economies on the one hand, and the specialization patterns of China and India on the other.

Results suggest that overall the specialization pattern of LAC economies –with the exception of Mexico—has been moving in opposite direction to the trade specialization pattern of China and India. This indicates that LAC's trade specialization pattern is

becoming more complementary to the specialization pattern of China and India. China's specialization pattern at the end of the period studied (early 2000s) was negatively correlated with the specialization pattern of most LAC economies (again Mexico being an exception). India's specialization pattern, however, seems to be positively correlated even at the end of the period with those of most LAC economies (with the exception of Andean countries). However, given the smaller size of India (it represents a fifth of China in world markets), this may not be bad news so far.

Regarding the potential effects that China and India as export markets for LAC may have on the specialization patterns of LAC economies, we found no evidence of significant effects. The bilateral net exports of LAC to the two Asian economies do not seem to have a discernable impact on LAC's specialization pattern in spite of their rapid growth, probably due to the still relatively small size of the bilateral trade of LAC economies with China and India. Jointly they represent but 5 percent of LAC's exports and 7 percent of LAC imports.

Finally, regarding the factors of production that are likely to be affected by the growing presence of China and India in world markets, we found that labor (both unskilled and skilled) was the factor that was more likely to be negatively affected, whereas natural resources and scientific knowledge were likely to benefit from the growing presence of China and India in world markets. LAC governments may need to envisage policies aiming at mitigating the potential adverse effect of the growth of China and India on unskilled and skilled labor by targeting workers in the affected industries, rather than by raising protectionist barriers to trade since the latter will also hurt domestic consumers, and users of imported intermediate goods, which will reduce the potential export gains by sectors that are benefiting from the emergence of China and India. In this regard, this paper contributes to this policy discussion by identifying the specific sectors that may be shedding skilled and unskilled workers as a consequence of the growth of the two Asian economies.

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Appendix: Determining factor intensities by industry in Latin America

In order to determine industries factor intensity, we will estimate Rybcynski elasticities for four factor of production (unskilled labor, skilled labor, scientific knowledge, and natural resources).

Following Kohli (1991), Harrigan (1997) and Redding (2002) we assume a translog GDP function which depends on goods prices, factor endowments and total factor productivity. The translog function is sufficient flexible to locally approximate the true underlying revenue function quite closely. We assume the GDP function is common across all countries (the thirteen Latin American economies in our sample) and time (except for common Hicks neutral technology differences across time). Imposing the symmetry of cross effects, assuming linear homogeneity of degree 1 in factor endowments and prices, taking the first order condition and rearranging we obtain a share equation where the contribution of each industry in GDP is explained by the log of all goods prices, the log of all factors of production and the log of the common TFP. We further assume that goods are homogenous and traded freely so that all goods prices are equal. This allows us to replace all prices by year dummies, which will also capture the common TFP. Thus, the final share equation is explained by the log of factor endowments and year dummies, allowing us to focus on the impact that an increase in each factor endowment would have on the level of production in each industry in Latin America. The equation to estimate for each industry is:

$$s_{ct} = \alpha \ln(unskilled_{ct}) + \beta \ln(skilled_{ct}) + \gamma \ln(scientific\_knowledge_{ct}) + \lambda \ln(natural\_resources_{ct}) + \delta_t + \varepsilon_{ct} \quad \text{(A.1)}$$

where $s_{ct} = value\_added_{ct} / GDP_{ct}$ is the share of each industry's in the country's GDP. The other variables are the per capita factor endowments by country and year. Skilled and unskilled endowments come from from the Barro and Lee (2000) dataset on education. Unskilled individuals are defined as those with incomplete secondary education. Skilled individuals are those with complete secondary education or higher. Scientific knowledge is proxied by the number of scientific journals per capita, and natural resources by arable

land. Data for these two other endowments and GDP comes from the World Development Indicators. Data on value added by industry comes from UNIDO. Regressions are run for the thirteen Latin American economies in our sample. The time coverage is potentially from 1988 to 2004, but this depends on data availability (in particular value-added). For a description of data availability for trade and value-added see Nicita and Olarreaga (2006).

We will determine that a good is intensive in one of the four factors above if the coefficient in front of that factor is positive and significant at least at the 10 percent level. Appendix Table 1 shows when this occurs in each 3-digit ISIC industry, by providing the estimated coefficient for those variables that are positive and significant in each regression. Note that some industries may be intensive in several factors of production. For example, agriculture is intensive in natural resources and unskilled labor, whereas mining is intensive in unskilled labor and scientific knowledge. On the other hand, for footwear and other manufacturing industries could not estimate their factor-intensities.

We also calculated RCAs by factor intensity for the years 1990 and 2004 for LAC as a whole. Results are reported in Appendix Table 2.[10] In 1990 LAC had a strong comparative advantage in natural resource intensive sectors, and a strong comparative disadvantage in unskilled labor. There has been little movement by 2004, with a slight improvement in the comparative advantage of sectors intensive in unskilled labor and scientific knowledge, and a decline in the comparative advantage in natural resources and skilled labor. The are small differences within the region, with the exception of Mexico that has a the comparative advantage in scientific-knowledge intensive sectors and a comparative disadvantage in skilled-intensive sectors.

[10] One should note that there is some double-counting involved as, for example, some sectors are intensive in both unskilled labor and natural resources.

Appendix Table 1: Estimating factor intensities in LAC industries

INDUSTRY		FACTOR INTENSIVE				
ISIC CODE	NAME	UNSKILLED LABOR	SKILLED LABOR	NATURAL RESOURCES	SCIENTIFIC KNWOLEDGE	R^2
311	Food production				0.333 (0.144)	0.1303
313	Beverage industries		0.926 (0.191)			0.2648
314	Tobacco manufactures	1.309 (0.349)	0.577 (0.116)			0.4306
321	Manufacture of Textiles	3.59 (0.555)	0.73 (0.177)			0.3865
322	Wearing apparel					0.1660
323	Manufacture of Leather	0.892 (0.17)	0.346 (0.052)			0.5149
324	Manufacture of Footwear					0.2020
331	Manufacture of Wood			0.077 (0.033)	0.5188* (0.028)	0.1153
332	Manufacture of Furniture	0.338 (0.113)			0.041 (0.010)	0.2777
341	Manufacture of Paper				0.227 (0.044)	0.2782
342	Printing, publishing	0.902 (0.200)	0.208 (0.0642)		0.0401 (0.0186)	0.3348
351	Industrial Chemicals	2.098 (0.968)	0.532* (0.289)		0.216 (0.093)	0.4552
352	Other chemical products	2.813 (0.707)			0.284 (0.066)	0.1848
353	Petroleum refineries		1.546* (0.830)	0.606 (0.266)		0.1744
354	Miscellaneous products					0.1273
355	Rubber products	0.533 (0.151)			0.083 (0.013)	0.3803
356	Plastic products				0.090 (0.021)	0.1796
361	Manufacture of Pottery	0.388 (0.087)	0.045 (0.022)			0.2053
362	Manufacture of Glass				0.054 (0.009)	0.4276
369	Other non metallic products			0.062 (0.03)		0.1952
371	Iron and steel basic industries				0.317 (0.044)	0.3808
372	Non-ferrous metals				0.496 (0.166)	0.1799
381	Fabricated metal prod				0.126 (0.036)	0.2981
382	Machinery except electrical	1.980 (0.320)			0.341 (0.029)	0.6117
383	Electrical machinery	2.303 (0.371)			0.328 (0.036)	0.5015
384	Transport equipment	3.676 (0.631)			0.546 (0.0579)	0.5506
385	Professional and scientific	0.177 (0.054)	0.0760 (0.018)			0.3631
390	Other manufacturing industries					0.1360
1	Agriculture	328.78 (33.508)		296.69 (9.247)		0.5187
2	Mining	1.277* (0.727)			1.401 (0.144)	0.1591

Note: We only report coefficients that were positive and statistically significant at the 10 percent level. Standard errors are provided in parentheses. * Denotes significance at the 10%; for all other reported coefficients their statistical significance is higher.

Appendix Table 2: RCAs by factor, 1990-2004

	LAC		Andean		Central America		Southern Cone		Mexico	
	1990	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**
Unskilled	-1.13	-0.95	-0.40	-0.56	-0.89	-0.74	-0.40	-0.56	-0.33	-0.35
Skilled	-0.25	-0.32	-1.09	-0.73	-1.29	-0.62	-1.09	-0.73	-0.54	-0.43
High Tech	-0.21	0.16	0.50	0.55	0.02	0.36	0.50	0.55	0.57	0.75
Natural Resources	1.60	1.11	0.99	0.74	2.17	1.00	0.99	0.74	0.30	0.03

Note: Authors' calculations as described in the text of the appendix.

Figure 1: Share of China and India in Latin American exports, 1990 versus 2004

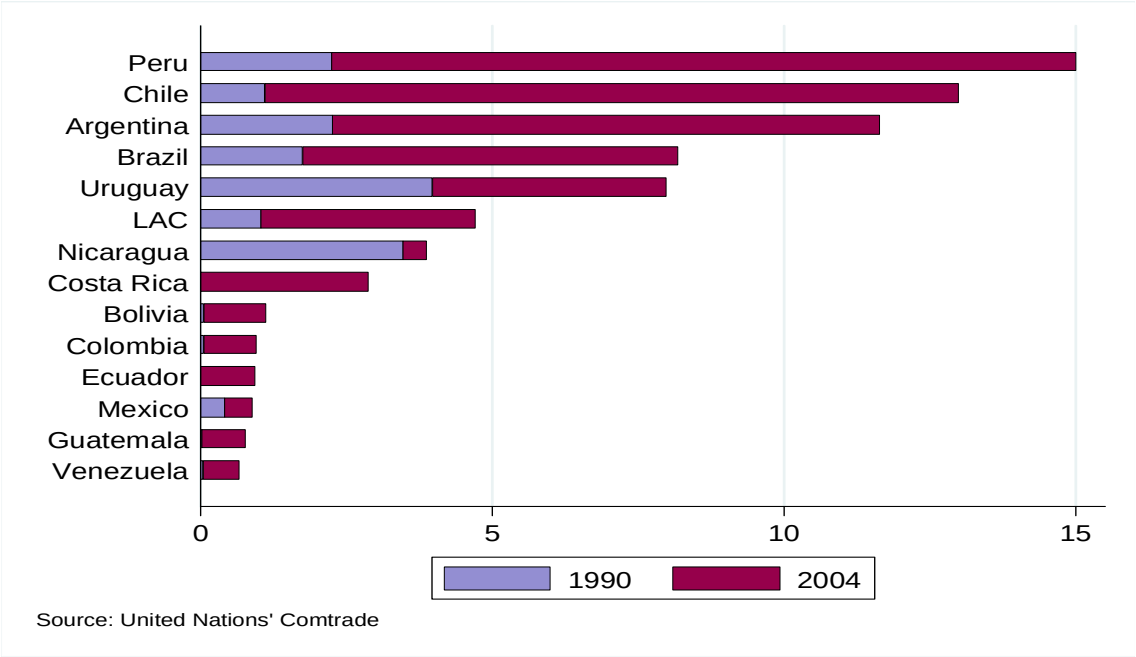


Figure 2: Share of China and India in Latin American imports, 1990 versus 2004

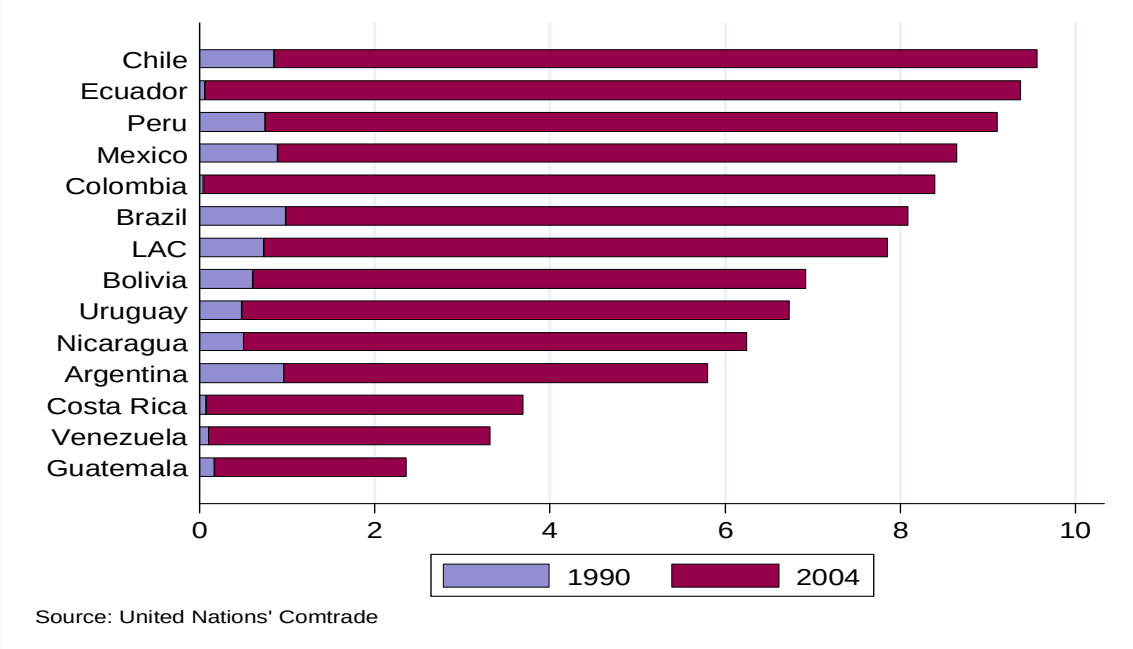


Figure 3: The growing Chinese appetite for Commodities

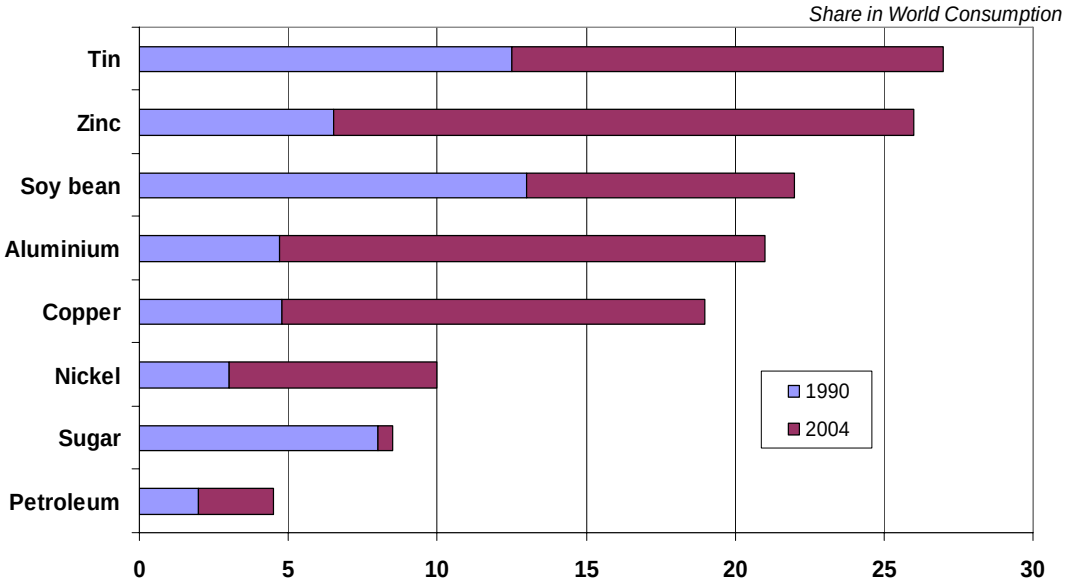
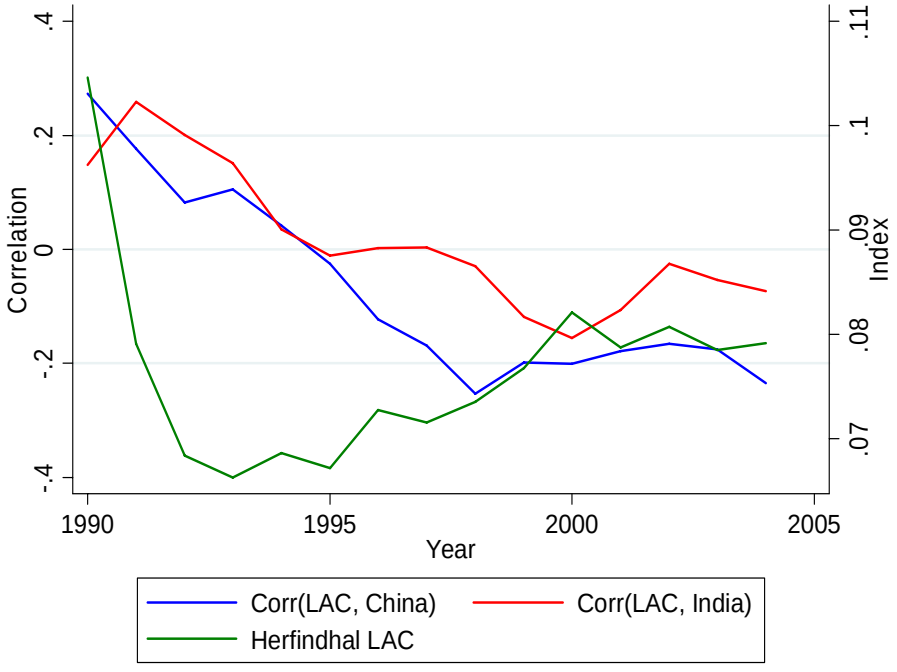
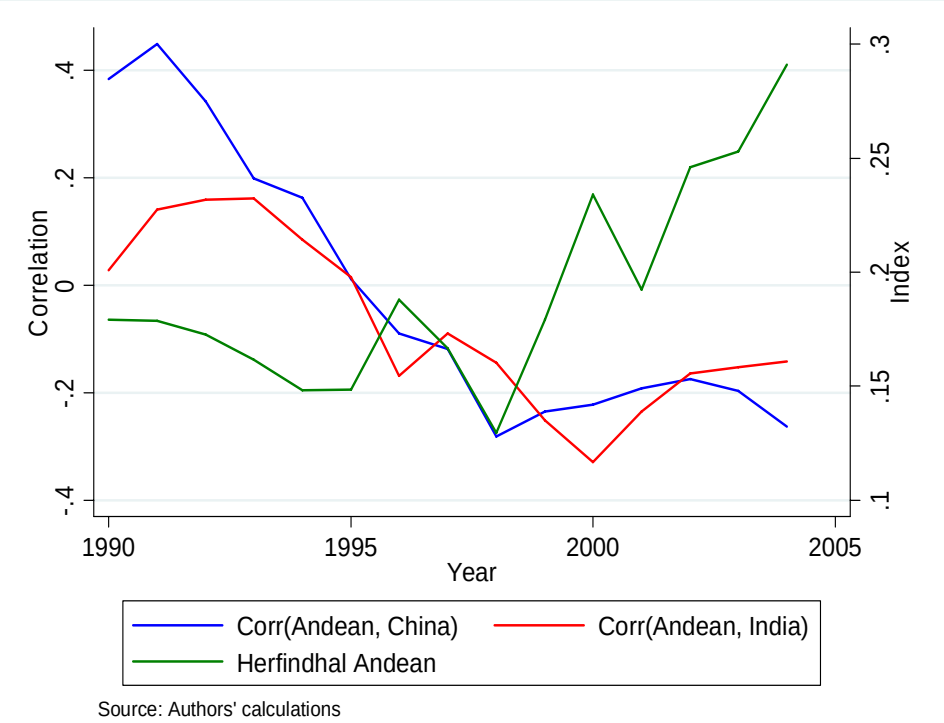


Figure 4: Is LAC competing in the same products as China and India?



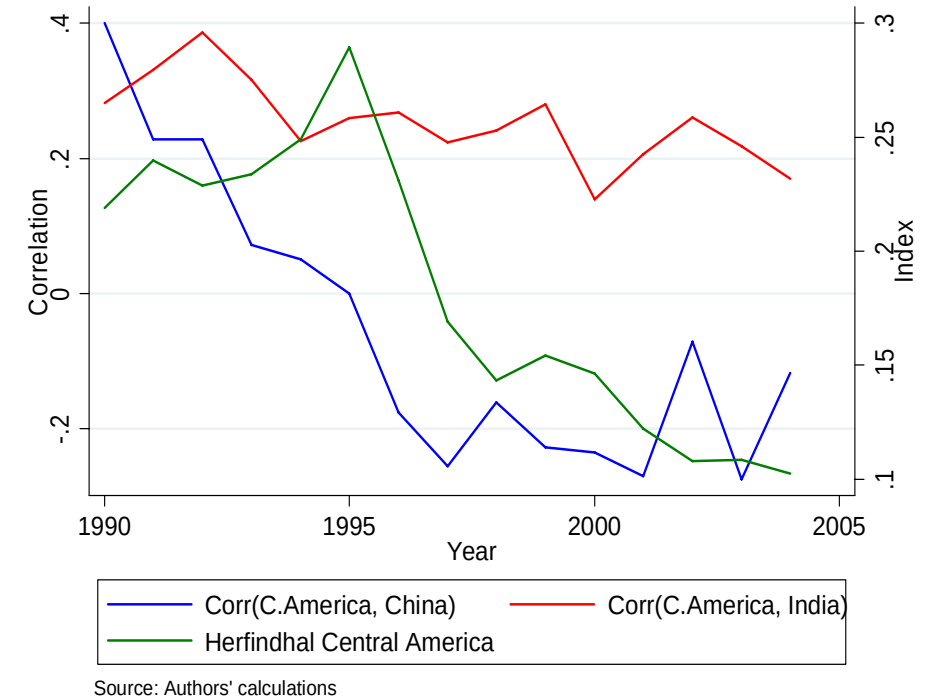
Source: Authors' calculations

Figure 5: Are Andean countries competing in the same products as China and India?



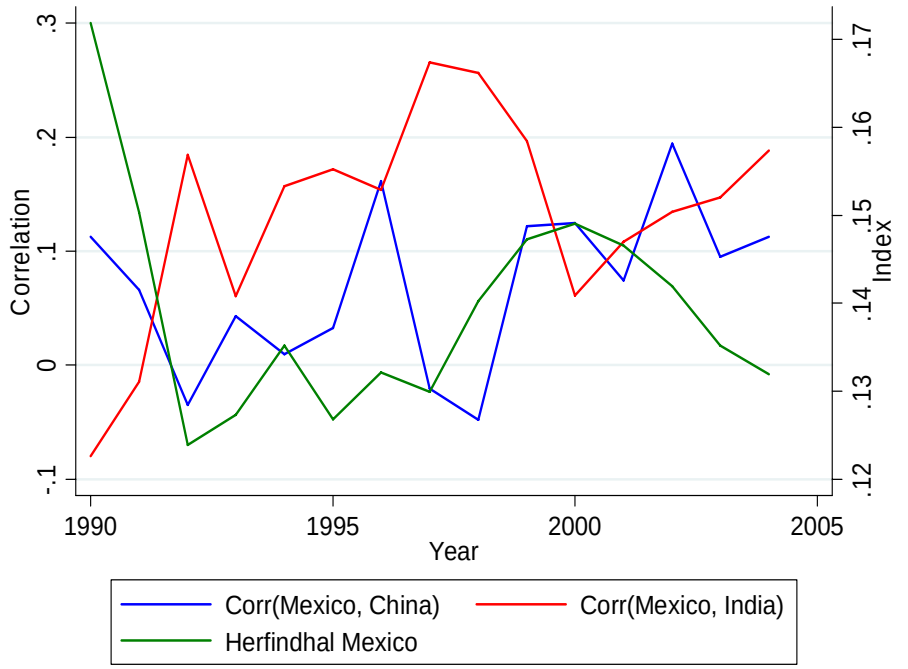
Source: Authors' calculations

Figure 6: Is Central America competing in the same products as China and India?



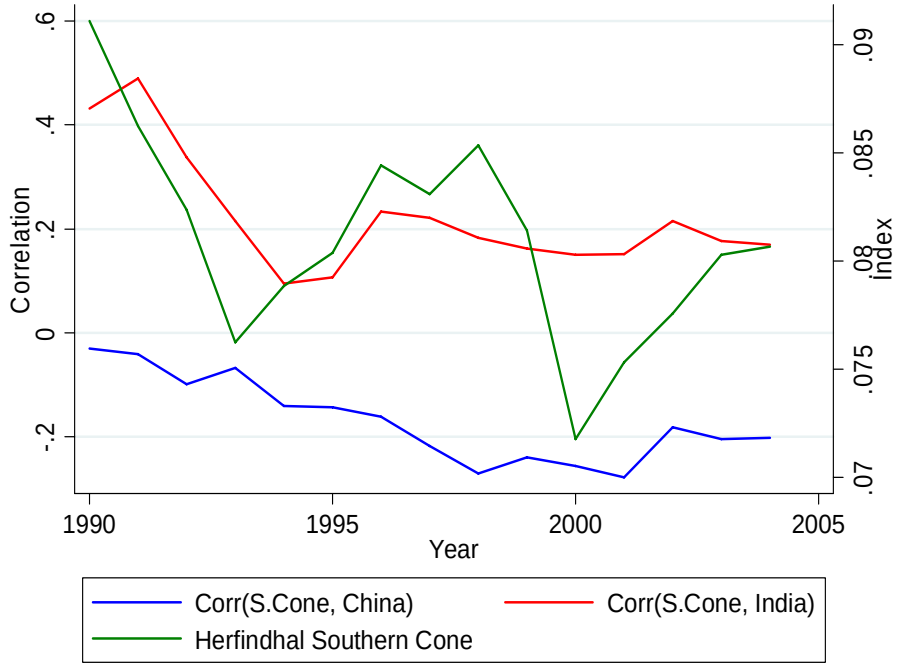
Source: Authors' calculations

Figure 7: Is Mexico competing in the same products as China and India?



Source: Authors' calculations

Figure 8: Is The Southern Cone competing in the same products as China and India?



Source: Authors' calculations

Table 1. RCA indices by sector and country/region in 1990 and 2004

		LAC		Andean		Central America		Southern Cone		Mexico		China		India	
ISIC	**Name**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**
11	Agriculture.	0.77	0.54	0.27	-0.05	3.46	2.17	1.93	1.52	0.17	0.20	-0.13	-1.10	1.93	0.72
12	Logging	0.95	0.55	-0.71	-0.60	2.72	1.64	2.37	1.37	0.08	0.32	0.07	-1.46	0.78	-0.70
13	Fishing	1.61	1.65	3.96	1.59	3.39	2.53	**1.56**	**2.13**	2.93	1.32	2.40	0.73	5.13	4.51
21	Coal Mining	-0.67	-0.23	3.75	2.97	0.72	-∞	**-7.63**	**-6.33**	-3.15	-6.66	2.15	1.85	-3.45	-3.23
22	Crude petr.	2.70	1.32	5.97	3.29	-0.99	-0.72	**-3.18**	**-0.78**	5.42	2.81	2.61	-2.70	**-10.34**	**-5.80**
23	Ore mining	**1.73**	**2.31**	**1.71**	**4.17**	-∞	-1.81	2.13	2.57	1.10	0.39	-1.96	-3.51	3.25	1.89
29	Other mining	-0.29	-0.58	-1.98	-1.78	-0.57	-0.77	0.33	-0.23	0.72	0.32	3.05	-0.23	**-1.81**	**0.33**
31	Food manuf.	0.13	0.37	-1.08	-0.76	1.50	0.84	1.94	1.89	**-1.54**	**-0.39**	0.14	0.17	1.69	0.30
32	Textile&App.	-0.04	-0.50	-0.37	-0.73	0.60	0.37	1.24	0.15	**-0.85**	**0.11**	**0.71**	**1.87**	3.64	2.36
33	Wood prod.	**-0.38**	**0.62**	0.02	0.29	1.82	0.27	1.35	1.75	**-1.08**	**0.92**	**-0.86**	**1.87**	**0.01**	**0.81**
34	Paper prod.	-1.28	-0.92	**-2.59**	**-1.79**	**-0.96**	**-0.38**	0.53	0.46	**-2.19**	**-1.19**	**-2.07**	**-1.10**	**-2.50**	**-1.28**
35	Chemicals	-1.60	-1.58	**-2.33**	**-0.47**	-0.94	-0.72	-0.66	-1.18	-0.79	-0.92	-0.97	-0.66	**-0.57**	**0.43**
36	Non-metal prod	-0.71	-0.47	-1.05	-0.76	-0.03	-0.85	-0.11	-0.05	0.17	0.27	0.75	1.10	0.40	0.78
37	Basic metal ind	0.41	0.26	**-0.56**	**0.61**	-0.37	-0.10	2.00	1.31	-0.22	-0.39	**-1.32**	**-0.63**	-1.10	-0.77
38	Fabricated metal	**-2.66**	**-1.29**	**-4.79**	**-3.61**	**-2.41**	**-0.50**	-1.67	-1.65	**-1.45**	**0.28**	**-2.00**	**-0.07**	-1.11	-0.96
39	Other manuf.	-1.10	-0.88	-0.28	-1.24	0.26	-0.35	-0.43	-1.05	**-0.84**	**0.13**	**0.46**	**2.66**	4.04	0.64
41	Electricity&gas	0.46	-1.23	NA	-1.13	**-8.20**	**-1.62**	-1.69	-1.80	**1.57**	**2.54**	**-3.01**	**1.18**	NA	NA

Note: When the RCA takes the value of -∞, this indicates that the country did not export that product in that year, but that it imported some, when it takes the value of +∞, it indicates that the country did not import that product in that year, but that it exported some; NA indicates that the country neither import, nor export that product in that year. Numbers in **bold** indicate that there was an increase of the RCA of that industry in that country/region of more than 0.5 points between 1990 and 2004, and numbers that are underscore indicate that there was a decline of the RCA of that industry in that country/region of more than 0.5 point between 1990 and 2004. All other industry-country combinations are within the -0.5 and +0.5 point change in the RCA.

Table 2: Which industries help explain that LAC's specialization pattern is moving away from China and India? And what is the adjustment?

ISIC CODE	Name	LAC	Andean Countries	Central America	Southern Cone	Mexico
111	Agriculture & livestock	5,0	0,0	5,0	5,0	5,0
113	Hunting & trapping	5,1	5,0	0,3	5,0	0,3
121	Forestry	5,0	0,0	5,0	0,0	5,0
122	Logging	0,0	4,4	5,1	0,1	0,1
130	Fishing	5,0	0,6	5,0	0,0	0,0
210	Coal Mining	0,0	0,0	0,0	0,0	0,0
220	Crude Petroleum & Gas	5,0	5,0	4,0	4,0	0,0
230	Metal ore mining	5,5	0,0	0,3	5,5	0,0
290	Other Mining	5,1	5,1	5,1	5,1	5,3
311	Food Manufacturing 1	4,4	4,5	4,0	4,4	4,2
312	Food Manufacturing 2	4,4	0,3	0,0	3,3	0,0
313	Beverage Industries	3,0	0,0	4,4	4,4	4,4
314	Tobacco	3,6	3,0	3,0	3,0	3,0
321	Textiles	0,0	3,6	3,0	3,0	3,0
322	Wearing Apparel	0,0	0,0	0,0	3,0	0,0
323	Leather and products	0,0	6,0	1,5	0,5	0,0
324	Footwear	0,0	0,0	3,6	0,0	0,0
331	Wood and products	0,0	3,0	3,2	0,2	3,6
332	Furniture and fixtures	1,5	2,0	0,1	1,0	0,0
341	Paper and products	0,1	3,0	0,0	0,1	0,1
342	Printing and products	1,0	2,0	1,0	1,0	1,0
351	Industrial chemicals	0,1	2,0	0,1	0,1	0,3
352	Other chemical products	0,1	0,3	4,0	0,0	0,1
353	Petroleum refineries	0,3	0,0	0,1	0,0	0,3
354	Miscell. petroleum products	0,0	2,2	0,0	0,0	0,0
355	Rubber products	0,0	0,0	0,0	0,0	2,0
356	Plastic products	0,0	1,0	0,0	0,0	0,0
361	Pottery, china & earthenware	1,0	2,0	1,0	1,0	0,0
362	Glass and products	0,1	0,0	0,2	0,0	6,3
369	Non-metallic mineral products	0,0	1,1	0,0	0,0	0,0
371	Iron and steel basic industries	1,1	0,0	6,0	3,1	1,1
372	Non-ferrous basic industries	0,0	0,0	2,0	0,0	0,0
381	Fabricated metal products	2,2	1,1	1,1	1,1	1,1
382	Machinery except electric	0,0	0,0	6,6	1,0	0,0
383	Electrical machinery	0,0	0,0	0,0	0,0	0,0
384	Transport equipment	0,0	0,0	1,0	0,0	3,0
385	Professional and scientific	4,0	4,0	6,0	4,0	4,0
390	Other industries	0,0	0,6	6,6	0,0	0,0

Note: The first number corresponds to the relation between China and LAC, the second one refers to India and LAC. The significance of each number is explained below and discussed in the text.

0. The pattern observed would either explain a positive trend, or the absence of a trend in the correlation between LAC RCAs and China/India's RCAs.
1. China/India RCA Index increases and LAC RCA Index is stable over time
2. China/India RCA Index is stable and LAC RCA Index grows over time
3. China/India RCA Index increases and LAC RCA Index decreases over time
4. China/India RCA Index decreases and LAC RCA Index increases over time
5. China/India RCA Index decreases and LAC RCA Index is stable over time
6. China/India RCA Index is stable and LAC RCA Index decreases over time

Table 3. Linear regression model. Dependent variable: RCA Index

	LAC	Andean Countries	Central America	Mexico	Southern Cone
RCA China	-0.02	0.18	-0.11	0.09	-0.26
	(0.04)	(0.08)*	(0.04)**	(0.06)	(0.05)**
RCA India	0.16	-0.06	0.36	0.03	0.36
	(0.03)**	(0.06)	(0.06)**	(0.05)	(0.05)**
Bilateral net exports of LAC to China	-4.47e-06	8.27e-07	1.51e-06	-6.71e-08	8.63e-09
	(2.62e-06)	(4.49e-07)	(9.80e-07)	(2.21e-07)	(9.52e-08)
Bilateral net exports of LAC to India	-1.84e-06	1.08e-07	-1.9e-05	-7.94e-07	1.01e-07
	(3.59e-05)	(1.97e-06)	(1.57e-05)	(1.64e-06)	(7.95e-07)
Constant	-0.32	0.02	-0.26	-0.21	0.09
	(0.36)	(0.37)	(0.23)	(0.06)**	(0.33)
R^2	0.06	0.05	0.15	0.02	0.12
Observations	8376	3236	2538	650	2587

Note: All regressions have country*year dummies (in the case of Mexico only year dummies). Standard errors are in parenthesis, and are corrected non-parametrically for clustering within industry-year (except in the case of Mexico where standard errors are White robust); * stands for statistical significance at 5%. ** stands for statistical significance at 1%.

Table 4: Where is China and India's competition stronger?

	LAC	Andean countries	Central America	Mexico	Southern Cone
RCA China	0.03	0.05	-0.06	0.12	0.05
	(0.05)	(0.10)	(0.07)	(0.07)	(0.09)
RCA India	0.25	0.31	0.20	0.08	0.27
	(0.04)**	(0.09)*	(0.06)*	(0.06)	(0.07)*
RCA China*unskilled	-0.09	-0.23	0.07	-0.30	-0.11
	(0.05)	(0.09)*	(0.08)	(0.07)**	(0.08)
RCA China*skilled	0.39	0.38	0.22	0.42	0.44
	(0.06)**	(0.12)**	(0.10)**	(0.09)**	(0.11)**
RCA China*scien_K	0.04	0.27	0.11	-0.02	0.17
	(0.06)	(0.11)*	(0.09)	(0.09)	(0.10)
RCA China*nat_res	-0.21	-0.26	-0.49	0.51	-0.01
	(0.08)*	(0.15)	(0.13)**	(0.14)**	(0.15)
RCA India*unskilled	0.25	0.15	0.37	0.03	0.45
	(0.04)**	(0.08)	(0.07)**	(0.06)	(0.08)**
RCA India*skilled	0.23	0.34	0.01	0.18	0.12
	(0.05)**	(0.09)**	(0.09)	(0.07)**	(0.09)
RCA India*scien_K	-0.41	-0.92	-0.06	-0.24	-0.16
	(0.05)**	(0.10)**	(0.08)	(0.08)**	(0.09)
RCA India*nat_res	-0.37	-0.27	-0.18	-0.04	-0.78
	(0.05)**	(0.10)**	(0.09)**	(0.08)	(0.10)**
Unskilled	0.15	0.27	0.14	0.15	-0.09
	(0.06)*	(0.11)**	(0.09)	(0.09)	(0.09)
Skilled	-0.21	-0.20	-0.71	0.06	0.11
	(0.06)**	(0.12)	(0.11)**	(0.10)	(0.11)
Scientific Knowledge	0.55	0.81	-0.23	-0.09	0.85
	(0.07)**	(0.13)**	(0.10)**	(0.10)	(0.13)**
Natural Resources	2.44	2.88	1.93	0.21	2.53
	(0.08)**	(0.15)**	(0.12)**	(0.12)	(0.15)**
Bilateral next exports of LAC to China	-4.13e-06	8.67e-07	1.58e-06	-8.71e-08	-9.84e-09
	(2.22e-06)	(4.29e-07)*	(8.36e-07)	(2.03e-07)	(7.73e-08)
Bilateral net exports of LAC to India	-7.32e-06	-1.18e-07	-2.1e-05	-3.46e-07	2.27e-07
	(3.46e-05)	(1.74e-06)	(1.43e-05)	(1.48e-06)	(6.58e-07)
Constant	-1.45	-1.44	-0.50	-0.48	-1.05
	(0.34)**	(0.34)**	(0.21)**	(0.10)**	(0.30)**
R^2	0.16	0.20	0.31	0.16	0.30
Observations	8376	3236	2538	650	2587

Note: All regressions have country*year dummies (in the case of Mexico only year dummies). Standard errors are in parenthesis, and are corrected non-parametrically for clustering within industry-year (except in the case of Mexico where standard errors are White robust); * stands for statistical significance at 5%. ** stands for statistical significance at 1%.