Angel or Devil ?

Chinese Trade Impact on Latin American Emerging Markets [1]

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Abstract: China's progress since it first opened to foreign investment and reform in 1978 has been dazzling. Over the last 20 years, and after a long period of economic autarky, the country emerged as a major player in world trade. In this context, the China's accession into World Trade Organisation (WTO) in 2001 could be considered as a milestone. China emerged as both a threat and an opportunity for Latin American emerging markets. On average, and in spite of some exceptions, Latin America is a clear trade winner from Chinese global integration. In order to analyse the Chinese trade impact, we study the exporting and importing structure of the country. We used a database of 620 different goods and built two indexes of trade competition in order to compare Chinese impact over the period 1998-2002 on 34 economies of which 15 are Latin American countries. In general terms, the results confirm that there is no relevant trade competition between China and Latin America. Not surprisingly, those countries that export mainly commodities face lower competition. This is an expected result since China is a net importer of raw materials. The results also hint at Mexico facing the strongest commercial competition. In fact, only Rumania, Hungary and Thailand suffer from tougher potential competition from China. On the other hand, and more surprisingly, Mexico could also be one of the potential big winners of Chinese world trade integration.

Key words: China, Latin America, Trade Competition.

JEL classification: F00, F02 and F13

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1. Introduction

Over the past two decades, China has become a major global economic player. In less than twenty years its GDP has grown at an impressive rate of nearly 9.5 percent according to official figures [3] and its share of world trade has jumped from a meagre 1 percent to more than 6 percent. China's economic integration in the world economy is, already, one of the major events of the past decades. In 2003, it was already the sixth largest economy in the world, at market exchange rate [4], the fourth-largest global trader and the major recipient of foreign direct investment in the world. If its growth of trade holds, sooner China will emerge as the third-largest trading economy in the world, overcoming for the first time Japan and rank behind the United States and Germany.

As underlined by almost all Wall Street analysts, China's emergence has become the issue of the decade. Messianic terms became *de rigueur* when discussing the country's 1.3 billion consumers. Goldman Sachs, an investment bank, predicts that by 2040 China

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[3] Uncertainties about Chinese statistics abound. In 2003, for example, the official GDP growth rate was of 9.1% but almost all economists following China suspected that figure was over 11%. On the contrary, Alwyn Young form Chicago University, estimated that the GDP growth over the period 1978-1998 was 1.7 points of percentage below the official one.

[4] China is the second-largest economy at Power Purchasing Parity (PPP) behind the USA.

[5] Goldman Sachs had an aggressive strategy to enter in China over the past years. This US based global investment bank runs its business in Asia Pacific region with an office in Hong Kong as headquarters. Goldman Sachs also has offices in Beijing and Shanghai for China business contacts. In Asia it employs over 1000 people and 150 of them are dealing with China businesses. See on Goldman Sachs challenges in China Yao, Dhar, Iskenderov, Li, and Tolan (2003). "Goldman Sachs' China HR Challenges", *Norwegian School of Economics MIB Paper* (unpublished).

[6] The worries about the Chinese currency intensified during the 2003-04, an electoral year in the US (Eichengreen, May 2004).

[7] On the Chinese banking system, see Deutsche Bank study (Deutsche Bank, 2004) and also Bank of Spain mimeo (Banco de España, April 2004). Over the past two decades the rush of foreign banks into the Chinese financial system has also intensified, reflecting the deeper trade relations between China and the world. HSBC, Citgroup, Scotia, Crédit Lyonnais and BNP Paribas are among the foreign commercial banks with the highest representation. Among the investment bankers, the most active are Goldman Sachs, Morgan Stanley, Deutsche Bank, JP Morgan, UBS and CSFB. In 2003, investment banks shared more than USD 200 million in fees for IPOs of China-based companies according to estimates by *Dealogic* releasing by the *Financial Times* (an amount however not enough to compensate them for their expenditure).

2

will overtake America as the world's biggest economy [5]. Much of the analysis might be overly optimistic, inviting some analysts to wonder if China's growth surge was being driven by an investment bubble while others ring the bell of a hard-landing or worried about the Chinese currency peg [6] and the banking system [7]. According to other analysts, China's developing capitalism is not solidly based on law, respect for property rights and free markets. Finally, it is unclear if Chinese public banks allocate their capital according to capitalist economic criteria and, then, if they are quite vulnerable to negative shocks. But what is pretty evident is the rush to the (Chinese) gold experienced nearly in all markets. This is the case for example in bond markets with Chinese bond issuances. By mid-October 2004, China issued a Euro 1 billion 10 year bond that has been more than four times oversubscribed by large European investors ranging from Finnish pension funds to Italian asset managers. The spreads of 50-60 basis points over US Treasuries were largely comparable to the ones of Chilean investment grade and even to the ones of developed countries like the 20 basis points paid by the Kingdom of Spain the same week of the issuance.

Whatever the statements, the appetite of foreign investors to the Chinese *gold mines* has become also impressive. Economic historians would, however, blend this Chinese boom and emergence, suggesting that it's not totally new or without precedents [8]. China was already the largest economy for much of recorded history and until the XVth century China had the highest income per head of the world. In 1820, even it has been already overtaken by Europe long before in terms of GDP per person, it still accounted for 30% of world GDP. As it is also underlined by the IMF, the recent Chinese experience can easily be compared with that of Japan or the Asian emerging economies and indeed, China's share of world trade is still far below that of Japan for example (IMF, 2004). That study emphasises that China's rising share in the world output and economic integration is already having significant impacts all around the world. This is the case for Asia (Ahearne, Fernald, Lougnai and Schindler, 2003) but also for far more remote areas of the world like, for example, Latin America.

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[8] See the study of Angus Maddison for the OECD Development Centre (Maddison, 1998) for an historical perspective on Chinese economy and the papers of Carol Shiue and Wolfgang Keller released in 2004.

The growing impacts of China on Latin America have raised the interest of major institutions involved in Latin America. The Inter-American Development Bank (IADB), for example, has multiplied the studies on the Chinese impact on Latin America (see for example Lora, 2004a) and has developed a dense research network and agenda to encourage research between Asia and Latin America [9]. In the Annual Meeting of the IADB in Lima, the candidacy of China as a new member of the institution has been made official and the 2005 annual meeting has been scheduled to take place in Japan. On October 1st 2004, the IADB organized a major event on China and Latin America in Washington, in cooperation with the Asian Development Bank, and published an extensive report (IADB, 2004). As underlined by one the panellists and also the President of the IADB, Enrique Iglesias, it was the first time in the history of the institution that such event took place.

BBVA, a major European bank with a large Latin American franchise, also published several studies trying to assess the impact of China on the region. In its monthly review, *Latinwatch,* BBVA published two issues where China's impact on the region was studied. On the one hand, *Latinwatch* (June 2003) published an article entitled "Mexico and China in World Trade". That article suggested that the emergence of China as a trade global player was a negative event for Mexico. On the other hand, *Latinwatch* (April 2004) included another article on China and Argentina, "China's Economic Potential and Opportunities for Argentina". The results for Argentina were just in the opposite direction for those for Mexico. The fact that the same review published two case studies with contradictory results is, at least, surprising. The perception about the impact of the emergence of China on Latin America seems therefore to be rather contradictory. On the one hand, Chinese very low labour costs and, then, strong competitiveness is a risk for other economies. On the other hand, China's enormous domestic market presents an opportunity. Is China an angel or a devil for Latin America?

In this paper, we assess the trade impact of China on Latin America derived from the emergence of China as a global player. In fact, this paper is in the line of Rumbaugh and Blancher (2004). That paper studies risks and opportunities of China's emergence, but

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[9] See the web site of LAEBA, a joint project of the IADB and the Asian Development Bank,

on a global scale. Unfortunately, Rumbaugh and Blancher (2004) excludes Latin America. Most of the studies on Chinese trade impact on emerging markets tend to concentrate on Asia where China's exports tend to crowd out the exports of other Asian countries as stressed by Eichengreen et al.. (2004). In fact, much of the increase in America's imports from China has been at the expense not of countries like Mexico or central America (protected by proximity) but by Asian economies like Japan or other emerging ones of the area. For example, back to the 1980´s, by 1988, nearly 60% of the American shoe imports came from South Korea or Taiwan, compared to a meagre 2% from China. By 2003, China had a share of more than 70% while US imports from Souht Korea and Taiwan faded away.

This Chinese trade emergence as a global player is in many ways exceptional by its speed and depth. China is already a much more open economy than most of emerging markets. In 2004, the sum of exports and imports of goods and services are likely to reach more than 70% of GDP while in the US, Japan or Brazil is 30% or less (the Chinese trade performance is however comparable to some Latin American countries like Chile or Mexico with ratios of 60-65%, comparable also to some developed countries like Spain). The growth trend seems also sustainable over the medium term driven both by external and internal demand. According to Soler (2003) trade growth will be accompanied by a 1% yearly productivity growth in China between 2003-2012 that leads us to think that current Chinese growth is sustainable in the medium term. Probably, the rate of growth will decelerate as China develops, but it will still be significant. This paper assesses the impact of growth and trade not only in the short term, but also in the long term.

The paper is structured in the following way: section 2 insists on the emergence of China as a global trade player; Section 3 is about the trade structure of China; Section 4 focus on Chinese trade competition. Section 5 is centred in trade opportunities from strong China's demand and deals with geographical aspects and its impact on trade with China. Section 6 is about China's impact in the long term. And finally, we will draw our main conclusions.

2. The Emergence of China as a Global Trade Player.

China's progress since it first opened to foreign investment and reform in 1978 has been dazzling. The average annual GDP growth rate reached 9.4% during the period 1978-2002 [10]. Over the last 20 years, and after a long period of economic autarky, the country emerged as a major player in world trade. In this context, China's accession into the World Trade Organisation (WTO) in December 2001 could be considered as a milestone. During those years, China significantly reduced its tariffs and progressively joined global trade. Nowadays, the weighted average tariff is 6.4% vs. 40.6% 10 years ago.

Table 1: Chinese tariffs

	Unweighted average	Weighted average	Dispersion (standard deviation)	Maximum
1982	55.6	…	…	…
1992	42.9	40.6	…	220.0
1997	17.6	16.0	13.0	121.6
2002	12.3	6.4	9.1	71.0

Source: Based on World Economic Outlook (2004).

In this process of commercial opening, the Chinese share in global market grew quickly. However, when compared to some Latin American countries, China's growth rate for exports looks less impressive in relative terms. During the 90s for example, countries like Mexico, Chile or Costa Rica, have seen registered a growth rate of exports more impressive than China during the same period (Lora, 2004b). The positive evolution of exports allowed China gained market share in developed markets. By definition of market share, this gain was achieved at the expense of other economies.

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[10] See on this performance and its sustainability Yifu Lin (2004); Zijian Wang and Wei (2004).

Table 2: Chinese exports market shares in major markets

	1960	1970	1980	1990	2000	2002
Japan	0.5	1.4	3.1	5.1	14.5	18.3
USA	…	…	0.5	3.2	8.6	11.1
EU	0.8	0.6	0.7	2.0	6.2	7.5

Source: Based on World Economic Outlook (2004).

This is one of the reasons why China is perceived by most emerging countries as a tough trade competitor [11]. Some countries even blame China for the poor performance of their exports in recent years [12]. In fact, China is taking the place of other emerging countries in world markets. This negative perception increased after 2001 when, finally, China joined the WTO. The accession to WTO opened up global markets to Chinese goods and it made, even more obvious, the Chinese ability to compete successfully in those markets. As a matter of fact, it is clear that there is strong competition between China and other economies, which specialise in exporting industrial goods with a relatively low added value. Then it is clear that in the short-term, some costs will appear.

To ratify the perception, the share of China in world exports [13] has increased rapidly over the last 20 years. In 1980 China amounted to 0.9% of world exports and in 2002 China represented 5%. In 2003, it reached nearly 6% and by the end of 2004 China was becoming the world's third biggest exporter (after America and Germany). From 1990 to 2002, world exports grew around 90% and Chinese ones around 425%. This evolution of Chinese exports implies, by definition, that other countries are losing

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[11] One indicator of this increasing competitive tensions generated by the emergence of China is also the rising anti-dumping investigations against China. China became over the past years the top anti-dumping target, see (Chua and Prusa, April 2004).

[12] For example, the poor performance of the industrial sector in the United States of America, despite its significant economic growth during the period 2002-2004, is attributed indirectly to China. There is an "off shoring" process and, in this context, US corporations are transferring their manufacturing activities to China, due to its low labour costs. In the same sense, some analysts claim that the poor performance of Mexican exports in recent years is due to China.

[13] According to WTO database.

market share. It is clear that in the short-term, some costs will appear. China can produce goods of low added value at a very low cost. The reason is that there is a labour force relatively more abundant in China than in other economies. For example, wages are four times lower in China than in Latin American countries (on average). On average, in 2002 the Chinese monthly salary in the manufacturing sector was 112 dollars while it was around 440 dollars in Mexico and 300 dollars in other urban *maquiladoras* districts of Central America like Costa Rica, El Salvador or Panama. But all these facts might be interpreted, in too naïvely a way, in an exclusively negative way.

On the positive side, we find that there are benefits to be hand from trade with China. China has an enormous domestic market. The development of China will be accompanied by a flowering of its market. The emergence of China entails long term benefits from trade. Developing countries like those of East Asia, which have established a strong trade and investment relation with China, could benefit from this process.

3. **The trade structure of China**

In order to analyse the short-term impact derived from the Chinese trade evolution, it is necessary to study first the exporting and importing structure of the country.

The first relevant point is that there is an enormous gap between exports and imports of goods. In fact, the difference between exports and imports is 30.4 billions of US dollars. But, as it is mentioned in the previous section, this feature of the Chinese trade balance should be a temporary characteristic. In other words, we expect a more sustainable trade balance in the long-term.

In order to carry out this section, we use the UNCTAD database.[14] This database considers 620 different goods, using the three-digit *Standard International Trade Classification*. But, for presentation purposes we use the UNCTAD one-digit classification.

From the exports side, we find three key sectors in 2002: manufactured goods, machinery and transport equipment and, finally, miscellaneous manufactured goods. These three sectors add up 83% of total exports.

Table 3: Exporting Structure of China (% of total exports)

	1998	1999	2000	2001	2002
Machinery & transport equipment	28.0	31.1	34.2	36.8	40.3
Miscellaneous manufactured goods	37.3	36.2	33.7	31.9	30.2
Manufactured goods	16.0	15.3	15.4	14.8	14.5
Food & animals	5.8	5.4	4.9	4.8	4.5
Chemicals products	5.4	5.1	4.6	4.7	4.5
Mineral fuel & lubricants	2.8	2.3	3.1	3.1	2.6
Commodities	2.1	2.1	1.9	1.9	1.8
Crude material (ex. Food&fuel)	1.7	1.8	1.6	1.4	1.2
Beverages & tobacco	0.5	0.4	0.3	0.3	0.3
Animal & vegetable oil/fat/wax	0.4	0.3	0.3	0.3	0.2

Source: Based on Intracen 2002.

We should highlight the impressive evolution of machinery and transport equipment. In 1998 this sort of merchandise amounted to 28.0% of total exports. Five years later, it represented 40.3%, i.e. a 12.3 points increase. On the contrary, miscellaneous manufactured goods are quickly reducing their share.

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[14] This database can be found on line at www.intracen.org.

As for as imports are concerned, we find that manufactured goods, machinery and transport equipment and chemicals products are the relevant sectors. Thus, these add up to 75% of total imports in 2002. The relatively similar structure of exports and imports suggests that a significant intra-industry trade is taking place. In fact, this evidence reflects that China has turned into a regional production centre and manufacturing point for re-exports.

Table 4: Importing structure of China

	1998	1999	2000	2001	2002
Machinery & transport equipment	38.8	40.5	40.3	42.3	45.3
Manufactured goods	22.5	21.2	19.0	17.7	17.2
Chemicals products	13.8	13.8	12.7	12.4	12.3
Crude material (ex. food&fuel)	7.5	7.6	8.8	9.0	7.6
Miscellaneous manufactured goods	7.8	7.3	6.1	7.7	7.6
Mineral fuel & lubricants	4.9	5.5	9.2	7.2	6.6
Food & animals	2.7	2.2	2.1	2.0	1.8
Commodities	1.1	1.5	1.4	1.3	1.2
Animal & vegetable oil/fat/wax	0.6	0.4	0.2	0.1	0.2
Beverages & tobacco	0.1	0.1	0.2	0.2	0.1

Source: Based on Intracen 2002.

As in the previous case, machinery & transport equipment is increasing rapidly. On the other hand, manufactured goods are losing weight in the importing structure. These data however does not reveal any information on Chinese advantages or disadvantages. To study the impact on other countries, a more detailed analysis is needed.

4. **The short-term costs: the Chinese trade competition.**

Even though we think that China will benefit from other emerging economies in the long-term, some costs could arise in the short-term. In particular, China is competing with other emerging economies in developing markets. In the case of Latin American countries, anecdotal evidence suggests that Mexico is a paradigmatic example of these short-term costs.[15]

In order to assess the short-term costs stemming from Chinese competition, we have built two indexes of trade competition. The aim of these indexes is to compare the exporting structure of China with those of other emerging economies in a particular period of time. If the exporting structure between two countries is quite similar, then trade competition is more likely.

These indexes are built using UNCTAD database. The indexes are modified versions of the well-known coefficient of specialisation (CS) and coefficient of conformity (CC).

$$CS = 1 - \frac{1}{2} \sum_n \left| a_{it}^n - a_{jt}^n \right|$$

$$CC = \frac{\sum_n a_{it}^n a_{jt}^n}{\sqrt{\sum_n (a_{it}^n)^2 \sum_n (a_{jt}^n)^2}}$$

Where a_{it} y a_{jt} represents the share of good "n" in total exports of country "i" in period "t". In this case, one country will always be China and other selected economy. If two countries (i,j) have exactly the same exporting structure, then both indexes are equal to 1. In this case, the potential trade competition is high. On the contrary, both indexes equal 0 if there is no coincidence. We build two indexes, instead of one, to make sure that our results are consistent.[16] We calculate CS and CC, comparing Chinese

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[15] See, for example, "El Ataque del Dragón" ("The Attack of the Dragon"), (December 26th, 2003), *America Economia.com* (www.americaeconomia.com) and "Challenges From China Spur Mexican Factories to Elevate Aspirations", (March 5th, 2004), *Wall Street Journal*.

[16] The correlation between both indexes is 0.94. This figure shows that both indexes report the same information.

competition with 34 economies of which 15 are Latin American countries. The period is 1998-2002. Obviously, we calculate CS and CC for each year.

To sum up, the exporting structure of China is compared with regard to 34 countries. This comparison is carried out for 5 different years (1998-2002). Finally, we use two different indexes for each year. To present the results in the simplest way we aggregate the previous information. The final figure, which we name as CI, is the arithmetic average of both indexes (see table below).

Table 5: Chinese trade competition

	CS	CC	CI
Paraguay	*0.10*	*0.04*	*0.07*
Venezuela	*0.11*	*0.08*	*0.10*
Bolivia	*0.14*	*0.08*	*0.11*
Chile	*0.16*	*0.06*	*0.11*
Panama	*0.14*	*0.09*	*0.11*
Russia	0.17	0.08	0.12
Honduras	*0.18*	*0.08*	*0.13*
Guatemala	*0.23*	*0.10*	*0.16*
Uruguay	*0.21*	*0.12*	*0.17*
Peru	*0.22*	*0.12*	*0.17*
Argentina	*0.22*	*0.12*	*0.17*
Colombia	*0.25*	*0.15*	*0.20*
El Salvador	*0.31*	*0.19*	*0.25*
Brazil	*0.32*	*0.25*	*0.28*
Costa Rica	*0.32*	*0.26*	*0.29*
Pakistan	0.30	0.35	0.32
Slovakia	0.40	0.26	0.33
Philippines	0.36	0.31	0.33
Spain	0.43	0.25	0.34
Japan	0.40	0.35	0.38
India	0.44	0.32	0.38
Bulgaria	0.42	0.40	0.41
Indonesia	0.45	0.39	0.42
Croatia	0.45	0.39	0.42
Czech R.	0.45	0.40	0.43
Singapore	0.41	0.46	0.43
USA	0.44	0.44	0.44
Malaysia	0.43	0.48	0.46
Poland	0.46	0.45	0.46
Korea	0.47	0.49	0.48
Turkey	0.46	0.52	0.49
Mexico	*0.50*	*0.50*	*0.50*
Rumania	0.46	0.59	0.52
Hungary	0.52	0.57	0.55
Thailand	0.55	0.59	0.57

Source: own data

Chinese trade competition

**Chinese trade competition**
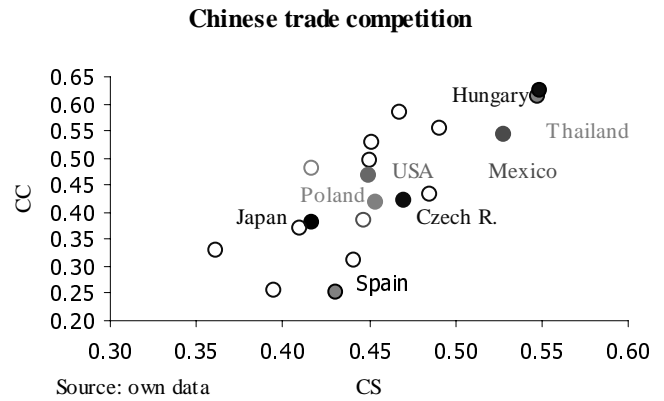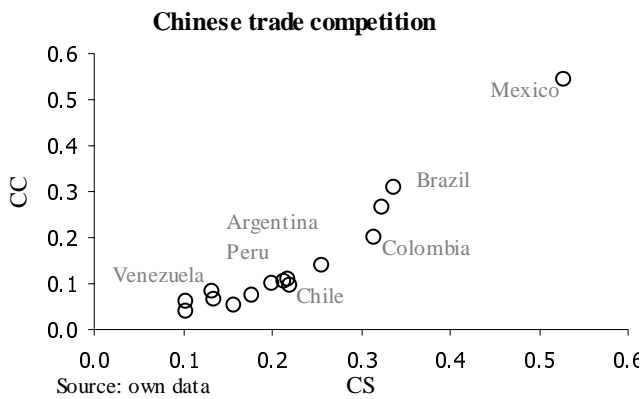
The results are quite interesting. Figures are relatively low for all Latin American economies except Mexico. In general terms, the results suggest that there is no trade competition between China and Latin America. Not surprisingly, countries that export mainly commodities face lower competition. This is an expected result since China is a net importer of raw materials. Paraguay, Venezuela Bolivia and Chile are those that exhibit the lowest figures among 34 selected economies, i.e. those are the countries that suffer less from Chinese trade competition. Brazil could be considered as an intermediate case between Mexico and Venezuela.

When we compare Latin America to other emerging countries, and particularly those located in Asia, we observe that Chinese competition is not a problem in general terms. Thus, we might conclude that there are few, if any, short term trade costs for Latin America, if any, from the trade point of view. In fact most Latin American countries are witnessing a tremendous increase in their exports to China. Over the past years, China has, for example, become Brazil's fastest-growing export market, purchasing 80 percent more from Brazil in 2003 than in 2002. Bilateral trade has more than quadrupled over the past four years. Five commodities - soybeans, iron ore, steel, soy oil and wood - accounted for 75 percent of Brazil's exports to China last year. China bought 6.2 percent of Brazil's USD 73 billion of exports in 2003, up from a level of 1.4 percent in 1999. Some big Brazilian companies like Aracruz, Latin America's largest wood pulp maker,

14

had more than doubled its sales to China in the past two years to 12 percent of the company's exports [17].

Mexico is, clearly, another story. The results hint at Mexico facing strong commercial competition.[18] In fact, only Rumania, Hungary and Thailand suffer from tougher potential competition. In this case, anecdotal evidence backs formal analysis. Even more, Chinese trade competition increases over time, as our synthetic index (CI) points out. [19]

Chinese commercial competition with Mexico
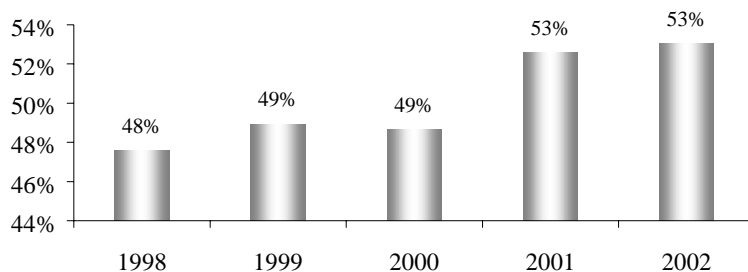
Source: based on Summer and Heston database

Our analysis suggests that China could jeopardise some Mexican exports in foreign markets. Again, some anecdotal evidence supports this point. The largest market for Mexican exports is, by far, the United States of America (US). Thus, the US market absorbed 89% of Mexican exports in 2002.[20] In year 2003, and according to the US *Bureau of Economic Analysis* (BEA), the market share of China was 12.1%, beating Mexico for the first time in its history. In fact, the Mexican share in the US market decreased to 11.0% from 11.6% in 2002. Berges (2004) studies in detail these trends.

Mexico is specialised in IT & consumer electronics, electronic components, clothing, transport equipment and miscellaneous manufacturing, according to the Balassa index.[21]

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[17] In May 2004, Brazilian President Luiz Inacio Lula da Silva took with him more than 400 executives to China, the biggest Brazilian official delegation to realize a trade trip.
[18] Soler (2003) finds the same conclusion: China jeopardises Mexican exports. But the final impact on Mexico depends not only on trade competition, but also on the evolution of capital flows.
[19] For other countries see Appendix 1.
[20] The source is LatinFocus, March 2004.
[21] This information is available on line at www.intracen.org.

This index measures the revealed comparative advantage according to the Balassa formula. This index compares the share of a given sector in national exports with the share of this sector in world exports. If this index is above 1 then the country is specialised in that sector. Finally, there are 14 different sectors.

On the contrary, China is specialised in IT & consumer electronics, electronic components, clothing, miscellaneous manufacturing, textiles, basic manufactures and leathers products. Then, China and Mexico specialise in similar sectors. Form the Mexican point of view, transport equipment is the only one in which China's competition is not relevant.

Table 6: Specialisation index (Balassa)

	China	Mexico
Wood products	0.46	0.27
Leather products	4.53	0.34
Chemicals	0.50	0.35
Processed food	0.60	0.51
Textiles	2.48	0.52
Minerals	0.27	0.67
Basic manufactures	1.03	0.74
Non-electronic machinery	0.49	0.75
Fresh food	0.83	0.77
Miscellaneous manufacturing	*1.73*	*1.10*
Transport equipment	0.27	1.43
Clothing	*4.16*	*1.52*
Electronic components	*1.05*	*1.56*
IT & Consumer electronics	*1.72*	*1.96*

Source: Own data based on Intracen 2002.

Some economists argue that the Mexican exporting model could be at risk. In 1994, the North American Free Trade Agreement (NAFTA) came into force. Mexico specialised in manufactures of low value added, i.e. *maquilas*. China can also produce these kinds of goods, but at a lower cost. Labour force is relatively more abundant in China than in Latin America. As it is mentioned before, wages are four times lower in China than in

Latin American countries (on average). In addition China's authorities foster these sort of labour-intense industries through their '*One-Stop Shop Programme*'. This programme grants tax exemptions and technical assistance. The adhesion to WTO gave China accession to the US market.

The current exporting structure of Mexico will probably change because of Chinese competition. For example, Singapore, Taiwan and South Korea are already changing their exporting structure. These countries are reducing their exports of manufactured goods, machinery and transport equipment. On the other hand, chemical products and energy production (gas, oil and electricity) are gaining weight in the structure of exports of the aforementioned countries.

Nevertheless it is difficult to foresee the direction of the change in the case of Mexico and to assess the future impact of China if we take into account other dimensions than only production and labour costs. There is clearly a competitive advantage that Mexico has in comparison to China: distance to the US. Economists have been insisting on the related issues of transport costs and trade costs in order to capture the penalty of distance (see Hummels, 2001a). Distance also introduces delays into completion of trades, freight costs and transaction costs. But, as argued by Harrigan and Venables (2004), and Hummels (2001b), an important element of the cost of distance in trade issues is also time, that is the time taken in delivering final and intermediate goods. Time costs are not only a quantitatively important aspect of proximity but it also matters qualitatively, in terms of synchronization of activities, delivering issues, thus creating incentives for clustering activities. Probably one aspect to consider for Mexico, would be to identify sectors and products where this issue of distance and time are key comparative and competitive assets.

In a detailed study Evans and Harrigan (May 2003) developed a theoretical model where timely delivery matters and products are therefore developed near the source of final demand, where wages will be higher as a result. In their model, timely delivery is a key asset because it allows retailers to respond quickly and efficiently to fluctuating final demand without holding costly inventories, and timely delivery is only possible where location is nearby final demand. This theoretical model is consistent with empirical examples and trends during the 1990's that witnessed some shifts in the

17

location of production away from lower-wage based producers like China toward higher-wage locations like Mexico. This shift occurred for example in the sourcing of US apparel and it is concentrated precisely on goods where timeliness is essential. Based on a detailed empirical data from a major department store, they found strong evidence that nearby producers are specialised in goods where time and timeliness matters, as predicted by their theoretical model.

One can argue that for Mexico working on reducing trade costs could bring back a strategic advantage for the NAFTA country as trade costs have become much more important than production costs (Deardoff, February 2004). Some studies find a modest decrease in the elasticity of trade to distance, though most of them point to no or little change, and more surprisingly to a modest increase (Disdier and Head, January 2004), while gravity equation estimates from panel data over long temporal horizons tend to find an increase (Brun et al., 2005). According to the estimates of Anderson and van Wincoop (2003) trade costs are on average nearly twice as large as production costs. This implies that trade costs are significant determinants of comparative advantage, perhaps even more than production costs where China has its competitive advantage.

In fact, and contrary to conventional wisdom, the effect of distance on trade has not decreased but rather increased over the past decades (for a survey see Anderson and van Wincoop, April 2004). Hummels (1999) provided evidence, using detailed data on shipping costs that ocean freight rates have in fact increased while US air cargo rates indicates large cost reductions between 1955 and 1997 (a result confirmed for overland US transport costs by Glaeser and Kohlhase, July 2003). So the reduction of transport costs seems not to be uniform over time. In fact, as shown by Berthelon and Freund (November 2003) there has been a significant and increasing impact of distance on trade in more than 25% of the nearly 770 industries studied, that is in more than 30% of trade, and there are almost no industries for which distance has become less important. Carrère and Schiff (December 2003) reached a similar conclusion examining the level and evolution of distance of countries' trade over time. They found that the distance of trade (DOT), an indicator of a country's proximity to the world centre of economic activity, declined over time for a majority of countries with the exception of the US during the period 1962-2000. In other words, countries (still) benefit from proximity to the centre of world activity while others are penalized for being far from it. In a systematic survey

of empirical research on how distance effects have fallen or not over time (856 distance effects examined in 55 papers), Disdier and Head, in the previous mentioned paper, found that the negative impact of distance on trade is not shrinking but increasing over the last century.

Another issue for Mexico, and also other Latin American countries, will be to reduce transport costs and boost infrastructure efficiency. For most Latin American countries, transport costs are even greater barriers to US markets than import tariffs [22]. In a detailed analysis of shipping costs to US market, using a database of more than 300 000 observations per year on shipment products, Clark, Dollar and Micco (2004) found that port efficiency is an important determinant of shipping costs [23]. This is a relevant issue as with the lowering of average tariff barriers, both in Asia and in Latin America, the relative importance of transport costs as a determinant of trade has increased. When Mexico is excluded, Latin American average freight costs are similar or even in some cases higher than the Asian competitor.

For some countries, like Chile or Ecuador, transport costs exceed by more than 20 times the average tariffs they face in the United States. Lowering transport costs, and therefore increase infrastructure efficiency, could boost trade performance of Latin American exporters [24]. Focusing on the effects of port efficiency on transport costs, Clark et al. found that improving port efficiency from the 25th to 75th percentiles will reduce shipping costs by more than 12%. In the case of Mexico, which benefits from US proximity, an improvement in port efficiency to the levels observed in countries like France or Sweden will reduce the transport costs around 10%. In the case of Brazil or Ecuador, it would reduce their maritime transport costs by more than 15% according to the estimates of the authors. As Latin America is an area perceived as being one of the least efficient ports. This is also a region with significant problems at customs levels with median delay in clearing customs of 7 days (the worst performers being Ecuador and Venezuela with respectively 15 and 11 days), high costs of handling containers

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[22] In this sense, the Panamá-Puebla highway –a new infrastructure project- could generate a significant increase of trade among Central American countries, Mexico and the US.

[23] They also show that distance matters and that it has a significant (1%) positive effect on transport costs: a doubling in distance roughly generates an 18% increase in transport costs. See table in Appendix 2.

[24] Limao and Venables showed that raising transport costs by 10% reduces trade volumes by more than 20%. They also underlined that poor infrastructure accounts for more than 40% of the predicted transport costs (Limao and Venables, 2000).

inside the ports and important organized crime activity in seaport infrastructure, clearly the room of manoeuvre for improvements is relevant. All in all, an improvement in port efficiency from 25th to 75th percentiles will reduce shipping costs more than 12%, which would be equivalent to 5 000 miles in distance according to the estimates of the authors.

5. **The short-term opportunities: China's strong demand.**

As shown, Chinese impact on Latin America is in general positive with a few exceptions. But even for the countries like Mexico that are facing an increasing competition pressure in the US market, China could be, at least in theory, an opportunity, a potential exporting market for intra-trade exchanges for example.

In order to assess the potential benefits from Chinese increasing demand, we build two indexes. As in the previous case, we have used the UNCTAD database that considers 620 different goods. These indexes compare the exporting structure of 15 Latin American countries with the importing structure of China. If the exports of a considered country are similar to the imports of China, then there is a potential trade gain for Latin American economies. It is important to point out that the Latin American country and China do not necessarily trade, in spite of these indexes value is near to one. We must highlight that there is a potential gain and an obvious commercial opportunity.

The indexes are, again, modified versions of the well-known specialisation coefficient (CSm) and the conformity coefficient (CCm).

$$CSm = 1 - \frac{1}{2} \sum_n \left| a_{it}^n - a_{jt}^n \right|$$

$$CCm = \frac{\sum_n a_{it}^n a_{jt}^n}{\sqrt{\sum_n (a_{it}^n)^2 \sum_n (a_{jt}^n)^2}}$$

Where a_{it} represents the share of good "n" in total exports of the Latin American country "i" in period "t". On the other hand, a_{jt} is the share of good "n" in total imports of China in period "t". Both indexes are equal to 1 if there is a perfect correspondence

among Chinese imports and exports of the Latin American country under consideration. Again, we build two indexes to ensure that our results are consistent. Here, we proceed as in the previous section Again, the considered period is 1998-2002 and we calculate CSm and CCm every year. Finally, for presentation purposes we aggregate the previous information in a new index (CIm).

Table 7: Potential trade with China

	CSm	CCm	Cim
Honduras	0.13	0.04	0.08
Panama	0.11	0.06	0.08
Paraguay	0.11	0.10	0.10
Bolivia	0.16	0.13	0.14
Peru	0.18	0.12	0.15
Uruguay	0.20	0.11	0.15
Guatemala	0.22	0.11	0.16
Chile	0.19	0.15	0.17
El Salvador	0.23	0.11	0.17
Venezuela	0.18	0.31	0.25
Costa Rica	0.24	0.26	0.25
Colombia	0.25	0.28	0.27
Argentina	0.32	0.28	0.30
Brazil	0.39	0.33	0.36
Mexico	0.44	0.51	0.47

Source: Own data

The results are not very encouraging. The main reason is that Latin American countries are exporters of commodities and the potential trade with China is concentrated on a small basket of goods. In other words, intra-industry trade is not very likely with Latin America, given its exporting structure, with the exception of Mexico.

Table 8: Specialisation Index (Balassa)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wood products	0.44	**2.13**	**4.53**	0.76	0.27	0.59	---
Leather products	2.61	3.68	---	1.21	0.34	---	---
Chemicals	0.75	0.63	0.63	**1.09**	0.35	0.35	0.48
Processed food	**5.57**	**3.11**	**2.68**	**1.50**	0.51	**5.24**	0.29
Textiles	0.34	0.60	0.25	0.88	0.52	0.80	---
Minerals	**1.42**	0.69	**1.33**	**2.68**	0.67	**1.80**	**6.69**
Basic manufactures	0.79	1.44	3.68	0.92	0.74	3.18	1.30
Non-electronic machinery	0.30	0.75	0.08	0.11	0.75	0.14	---
Fresh food	**5.58**	**3.84**	**4.01**	**4.24**	0.77	**2.49**	0.28
Miscellaneous manufacturing	0.30	0.34	0.20	0.49	1.10	0.33	0.06
Transport equipment	0.68	**1.13**	0.12	0.32	**1.43**	---	0.09
Clothing	---	0.15	---	1.47	1.52	2.73	---
Electronic components	0.10	0.24	0.05	0.19	1.56	0.06	---
IT & Consumer electronics	---	0.38	---	---	1.96	---	---

Source: Own data based on Intracen 2001

Where (1) is Argentina, (2) Brazil, (3) Chile, (4) Colombia, (5) Mexico, (6) Peru and (7) Venezuela. We present the export specialisation index only for larger countries for the sake of simplicity. In the above table, the figures in bold type represent those sectors in which Latin America is specialised and China is not, i.e. wood products, processed food, minerals and perishables. Those sectors are clearly raw materials. Colombia also specialises in chemicals [25] and Mexico and Brazil in transport equipment.

In general terms, Latin America specialises in exporting commodities. This fact means that potential trade gains are limited to few items. Furthermore, trade with China could entail a deeper specialisation in those goods, because of current strong Chinese demand of commodities. In fact, China is also becoming also a global demander in some raw materials markets. In year 2003 China was the world's largest importer of cotton,

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[25] However, China imports chemical products mainly from East Asian countries. This sector is one in which those Asian economies are specialised. See Ianchovichina and Walmsley (2003).

copper, soybean and the fourth largest importer of oil.[26] In recent years China's demand for raw materials has been growing. In particular, the Chinese demand for copper and soybean are growing 50% yearly. In the case of oil, the rate of growth is 19% every year. China in 2003 is already the first importer of copper in the world. The combination of a heavy industrial expansion and a booming economy also created also a huge demand for oil that suppliers are straining to keep up with and caused the country to leapfrog Japan to become the second-largest oil consumer just behind the US. In 2003, China alone was responsible for a third of the rise in daily global oil consumption.

Table 9: Rate of growth of imports (%, yearly average 1997-2002)

	China	World
Soybean	75	11
Copper	63	5
Oil	19	2

Source: Based on USDA, World Metal Statistics and BP

Despite trade would be concentrated in a small basket of commodities, China's strong demand of raw material is good news for Latin America. In economic terms, this event could be considered as a positive demand shock.[27] Even more, there is a positive impact on the region, even though direct trade with China does not rise. The reason is that commodities are *almost homogenous* goods. For example, if China increases its demand for crude, oil-producer countries should rise their production. Otherwise prices will increase. Already in 2004, China's growing thirst for oil has been driving oil prices to their highest levels since oil futures started trading on the New York Mercantile exchange in 1983. According to the Paris based International Energy Agency, China accounted for one million of the 1.8 million-barrel increase in daily oil use during the first quarter of the year 2004. From 2000 through 2003, China accounted for nearly 40 percent of the entire growth in world oil demand (CERA, 2004) [28].

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[26] Using 2002 data, China amounted 23.2% of world imports of soybeans, while in 1997 Chinese share was only 7.4%. In the case of copper, China's imports were 16.8% in 2002, while, in 1997, this figure represented 5.0%. Finally, Chinese imports of oil added up to 4.2% in 2002, whereas in 1997 China was 2.3% of world imports.

[27] See, for example, *Análisis Macroeconómico y Financiero* (2003). This issue analyses the benefits for Argentina from trade with China.

[28] On Asian oil market, see also the study carried out by the Honolulu based east-West Centre: http://www.eastwestcenter.org/stored/pdfs/api070.pdf

The four main commodities in Latin America are copper, oil, soy and coffee. These commodities amount to 66% of total exports of raw materials. China absorbs an important share of these commodities, excluding coffee.

Table 10: Latin American Exports (% of total)

	Foods	Fuels	Metals	Manufactures
Mexico	6	10	2	81
Brazil	31	1	9	54
Argentina	49	12	2	34
Colombia	32	31	1	31
Peru	35	7	39	17
Chile	25	1	48	16
Venezuela	2	83	2	12

Source: Based on LatinFocus 2004.

Another relevant fact is that Latin America is relevant world producer of commodities. The region produces 47% of world soybean's crop, 40% of copper and 9.3% of crude oil.

Chinese strong demand represents an opportunity for most Latin American countries in the short-term, because of their exporting specialisation in commodities. If this vigorous demand holds in time, a positive impact on the region is very likely. However, we should expect a deeper specialisation. The Latin American dependence on commodities will deepen and countries will remain exposed to terms of trade shocks.

6. **The Chinese impact on trade in the long-term.**

The negative interpretation regarding Chinese impact, raised previously will be, a transitory one. In the long term, as predicted by economic theory, the positive evolution of the Chinese economy and the increase in world trade would be beneficial from other

countries. In this sense, the *World Economic Outlook* (2004), released by the International Monetary Fund, presents two alternative scenarios analysing the Chinese impact on world trade and growth. Despite this we have to be cautious with the results, both of them shows a positive impact on the rest of the world in the long-term. Most regions will benefit from a stronger demand generated by China's rapid growth. Albeit, regions where labour relatively face stronger competition from China and, thus, they benefit less. In addition, this study emphasises that countries that get more benefit are those structurally more flexible. These results are similar to those by Ianchovichina and Martin (2003).

The current episode, characterised by the emergence of a global trade player, is however not new.[29] To illustrate this point we could compare the current situation with the Japanese experience of the 50's and 60's.[30] In the beginning of 21st century, Japan was a key economy. It represented around 9% of world Gross Domestic Product (GDP). But after the Second World War the country was devastated. At that time, Japan was a country characterised by its relatively low salaries. During more than 20 years Japan carried out an economic policy that boosted growth and exports. That policy turned Japan into the second largest economy. Nowadays, it is clear that a positive performance of the Japanese economy benefited from world economy as a whole (Latin America included).

In some ways, the evolution of Chinese economy is similar to the Japanese experience in the mentioned years. So, we find a clear correspondence between both countries. The evidence matches up with the period of higher growth in Japan: 1952-1972. And the considered period for China is 1979-1999. In these periods the growth of both countries was similar, exhibiting an average growth of 8,5%. In addition, the average annual growth of trade [31] was around 13%.[32]

But not only the evolution of trade and growth were similar. The weight of both countries in relation to world economy during the periods mentioned is also similar.

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[29] See, for instance, the *World Economic Outlook* (April 2004), International Monetary Fund. This issue also analyses the emergence of East Asia.
[30] This comparison has been suggested by Yang (2003).
[31] In this paper we define trade as the sum of exports and imports.
[32] We have used the Summers and Heston database (PWT 6.1). See Heston and Summer (1997).

Consequently, both countries have contributed to world growth, in average, approximately 0.6 percentage points every year. In other words, during the period 1952-1972 the world GDP grew in average 5,8% and the Japanese GDP performance explains 0.6 points of that growth. And during the period 1979-1999 the average annual world growth was 3.7% and Chinese growth explains 0.6 points.

Share of world GDP
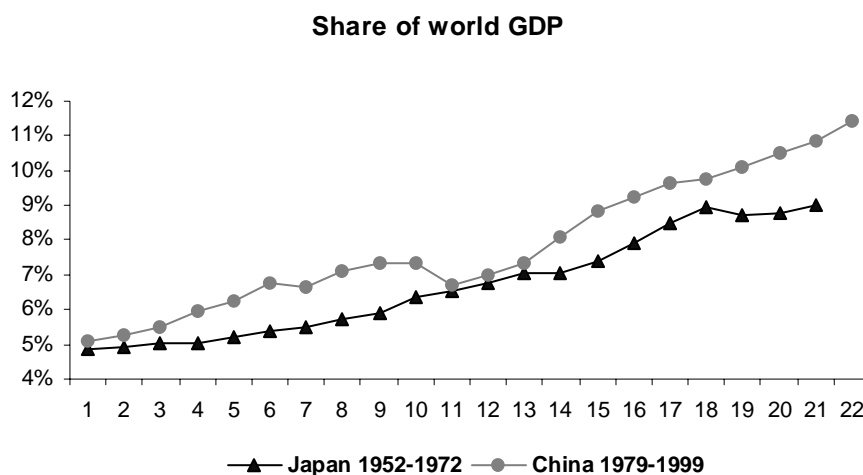
Source: based on Summer and Heston database

However, some outstanding differences appear in this comparison. The composition of Gross Domestic Product was quite similar in the early 50's in Japan and in the early 80's in China. Around 60% of GDP was consumption, 15% was investment and over 25% was net exports[33]. Throughout the periods mentioned the composition of GDP changed significantly. In the case of Japan, one can observe that there was a reduction in consumption and net exports to GDP that was offset by investment. But in the case of China, there was a decrease in consumption and it was replaced by an increase in net exports and investment.

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[33] We define net exports as the difference between exports and imports in real terms.

Table 11: Components of GDP (% of total GDP)

Japan	1953	1972
Consumption	60	53
Investment	14	35
Net Exports	26	11

China	1979	1999
Consumption	57	47
Investment	17	21
Net Exports	27	32

Source: Based on Summers and Heston database

These figures reveal why China is perceived as a rival instead of a trade partner. The data show that China exports much more than imports. So, other countries perceive that Chinese growth is not spreading. But this situation is not sustainable in the long-term. Eventually, China will import massively and net exports will reduce.[34] In fact, according to WTO database in year 2002 Chinese merchandise imports totalled 4.4% of world imports. On the other hand, Chinese exports amounted to 5,0% of world exports. The difference between exports and imports of merchandises adds up 30.4 billions of US dollars. This amount is similar to the nominal GDP of Ecuador. By mid 2000's Chinese manufacturers are already sucking in imports and dictating global prices of nearly everything from copper to microchips.

Another important difference between the two countries is that Japan had a more developed economy and China had, and still is, a developing one. The Chinese GDP *per capita* in 2000 was around 50% below the world average. According to Summers and Heston database [35], Chinese GDP *per capita* is similar to the one of Ecuador. This evidence suggests that despite it's impressive performance over the last 20 years a deeper convergence process might take some time. In other words, China could still enjoy a high rate of growth for a long period.

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[34] Ianchovichina and Martin (2001) share this opinion about the future of net exports. They expect a significant increase in China's imports.

[35] The GDP per capita is calculated in PPP terms.

GDP *per capita* / *W*orld GDP *per capita* ratio
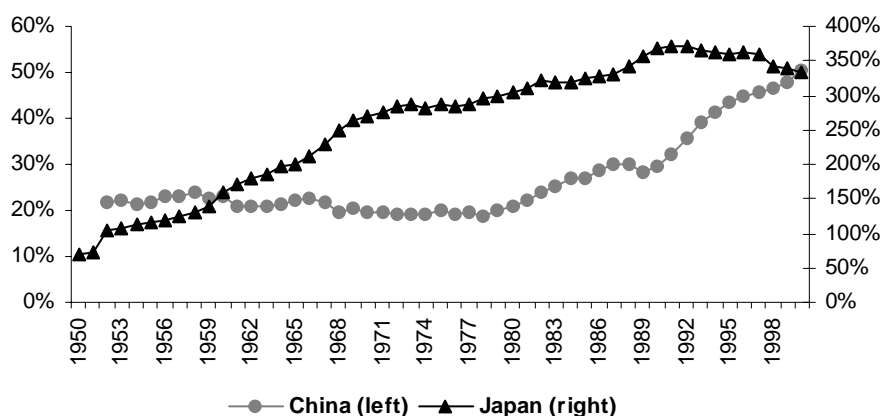
Source: based on Summer and Heston database

In this sense, we have built some simple projections to evaluate the future weight of the Chinese in relation to world economy [36]. In the 90s China grew 10,1% in average, the world 3,3% and Latin America 3,4%. If these rates hold in the next 20 years, China will become the largest economy, beating by far the US.

Table 12: Share of world GDP (%)

	2002	2010	2020
China	12.7	21.1	40.1
Latin America	7.9	7.9	8.0

Source: own data

On the other hand, Chinese imports of goods represent 4.4% of world imports. During the 90s, Chinese imports grew around 16% on average and world imports (ex-China) around 7%. If these figures hold, China will amount to 8% of world imports in the year 2010 and it will add up to 18% in the year 2020.

It is hard to foresee, in detail, the long-term impact of Chinese emergence on other economies and on international trade. Nevertheless, we know that the aggregate impact has to be positive. But, it is also true, that the impact could be asymmetric. Some sectors could benefit and others harmed due to Chinese competition. In particular, China has a competitive advantage in labour intensive sectors and, then, the potential benefits in

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[36] We have used IMF database.

those sectors is lower. The opposite effect takes place in the case of capital intensive sectors.[37]

Conclusions

Chinese trade impact on Latin America is, on the short and medium run and in general terms, positive. The results of our study are consistent with other like the one produced by IMF economists. On average, and from the point of view of trade impact, Latin America will benefit from increased Chinese demand and growth. In comparative terms, as stressed by the IMF, the only net looser will be South Asia, while for Latin America the welfare effect will be positive. For sector like agriculture in Latin America, the estimated impact of faster Chinese integration around 2020 is clearly positive (with output up by 4%). The clear losers will be however sectors like textiles and from the point of view of countries, the ones specialized in labour-intensive manufactures exports.

In terms of trade relations, China and Latin America have been intensively developing their relations over the past decade [38]. The trade volume between China and Latin America rose from US$2 billion in the early 1990s to US$15 billion in 2001, according to Chinese statistics. Since 2000, Brazilian and Chinese trade has leapt nearly threefold, a blessing for the Brazilian indebted economy and especially for the exporters of soya beans, steel and iron ore, which accounted for two-thirds of the goods exported. In general, Latin America, has a surplus commodity endowment that boost synergize with China needs and strategy to secure food and energy imports in order to avoid shortages.

One of the consequences of Chinese booming demand on Latin America might be however not as positive. First, with the increasing commodities demand from China, Latin American countries and re-deepening their trade specialization toward

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[37] See the World Economic Outlook (April 2004).
[38] Initial trade contacts between China and Latin America are now however new at all. They date back to the 1570s, when sino-Latin American trade started to flourish across the Pacific with Chinese exports of silk, porcelain and cotton yarn to Mexico and Peru via Manila. See Shixue, 2004.

commodities, goods that have been traditionally characterized by a strong price-volatility. In fiscal terms, this also could increase fiscal receipts volatility. Second, with the intensification of the links with China, the region is becoming more exposed to this Asian economy. In 2003 delivery bottlenecks and demand from China have pumped up prices of raw materials and commodities but Chinese industrial use is susceptible to swings due to recessions and booms. The growing Chinese dependence of Latin American exports expose also the area to be more aware of growth dynamics in Asia and China. In 2003, China became the second largest destination of Brazilian exports around the world according to ECLAC [39]. In 2004, China will account for half the increase in Brazil's exports earnings, which the government expect to rise in total to more than USD 80 billion from USD 73 billion in 2003. That would make China a key driver of Brazilian growth dynamics and a responsible for a quarter of Brazil's official targeted 3.5 per cent growth of the GDP. With China trying to cool down its overheated economy, Brazil's export growth could dampen.

Another issue, not developed in this paper and that deserves further analyses, is capital flows. While foreign direct investment (FDI) to Latin America is tumbling, China is experiencing a boom. Between 2001 and 2003, FDI into Mexico declined from nearly USD 27 billion to USD 11 billion and recovered in 2004. Brazil also experienced an abrupt slowdown with a drop of 52% of the FDI to the country in 2003 compared to the previous year (versus 30% for Mexico over the same period). Meanwhile China has simply become the major recipient of FDI in the world, reaching levels of USD 55 billion in 2003 (nearly twice the total that flew to all Latin American countries in 2003, a mere USD 36,5 billion [40]). In other words, every week, more than 1 billion of dollars of foreign direct investment is flowing into the country [41]. In 2002, US firms were already investing 10 more times in China than ten years before. The prospect of a huge domestic market of 1.3 billion of costumers has lured countless companies to rush into

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[39] See CEPAL, 2004.

[40] See 2004 ECLAC report on Foreign Direct Investment (FDI) in Latin America: http://www.eclac.cl/. The 2003 FDI flows level to China in fact reached nearly the record level of FDI inflows toward Latin America (USD 88 billion in 1999).

[41] On FDI in China see the research of MIT based economist Huang (2003). See also US Congressional hearing http://www.cecc.gov/pages/hearings/092403/huang.php

China, in spite of that in the country capitalism is not solidly rooted on law, protection of property rights and free markets [42].

Some studies already suggest "flow diversion" in favour to China with the process of full integration of China's huge labour force into the international division of labour. In the case of Asean countries like Indonesia, Malaysia, the Philippines and Thailand, this process might cause significant welfare losses if foreign direct investment is redirected away from these countries to China. There is a risk for them to experience a de-industrialization process and to return to the roles they had in the 1950s and 1960s as primary commodity exporters (McKibbin and Thye Woo, 2003).

However, a "blessing in disguise" of Chinese investment in term of capital flows could be the development in the future of Chinese foreign investment overseas. China is no longer only a Foreign Direct Investment (FDI) absorber but had also made a leap forward in its investments overseas. Over the period 1991-2003, Chinese foreign direct investments reached roughly USD 35 billion. In 2003, China's outward investment more than doubled year on year to more than USD 2 billion (still a low level however). The need to secure food and commodities resources is boosting FDI through strategic international partnerships. Chinese firms have already targeted resource sector investments in Angola, Algeria, Australia and Indonesia. Chinese companies are already prominent investors in Africa, mainly in energy and raw materials. According to a survey of one-hundred investment promotion agencies released by UNCTAD, China ranked fifth, after the US, Germany, the UK and France as one of the leading overseas investors in the near future [43].

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[42] Investing in China might however become a risky business, as underlined by the growing disputes between foreigners and their Chinese partner. In 2004, for example, Syngenta, a Swiss agrichemicals company suied a Chinese competitor for allegedly pirating one of its patented insecticides, joining the growing club of foreign investors resorting to courts to protect their intellectual property. The profitability of Chinese investments can also be questionable. Foreign brewers for example squandereted hundreds of millions of dollars in China over the past decade. Meanwhile, according to The Economist, the average net profit margin of these investments is meagre: for the top 400 brewers operating in China (including foreign joint ventures) is just 0,5%. Compared with Latin America the data is interesting. According to a study realised by *China Economic Quarterly*, direct and indirect profits made by all American affiliates operating in China amounted to just 2.8 billion of dollars in 2001, nearly twice less than the 4.4 billion of dollars made in Mexico the same year (and with a population more than 10 times less). According to another empirical study on political control and firm performance in China's listed companies, the decision-making power of local party committees (relative to the largest shareholders) is positively associated with firm performance (Chang and Wong, March 2003; see also Wong, Opper, and Hu, 2004).

Latin America seems also to be in the radar of Chinese companies. By 2001, China had set up more than 300 enterprises in Latin America with contractual investments of over USD 1 billion. In 2003, Baosteel, China's biggest steelmaker, has realized China's biggest ever overseas foreign direct investment, worth USD 1,5 billion of dollars, in Brazil. Plans of USD 2 billion investments in the Brazilian aluminium industry were also announced in 2004 by China. China also already controls, through Shougang Group, Peru's major iron ore mine, owns a major stake in and Ecuadorian oil field and is trying to produce fuel in Venezuela and reactivated gold mines in this country. In Brazil, it is also expected Chinese investment in railways and ports, and in general in all Latin America Chinese interest on logistical infrastructure is high in order to facilitate transport of commodities to ports. In Argentina, China has already committed to invest USD 25 million in a grain port and another USD 250 million in a road from Argentina to Chile in order to facilitate exports of Argentine raw materials from Chilean ports. We will also starting to witness agreements such as the one signed in October 2004 by Telefónica, the leading Spanish firm with a regional Latin American franchise, and Chinese giant telecommunication operator Huawei, the former offering to the later facilities to enter Latin American markets.

Latin American companies are also looking for business opportunities in China as exemplified by the official trip to China of the Brazilian President Lula and nearly 400 Brazilian businessmen in 2004. Some large Latin American companies already have rushed to China, as for example Embraer, a Brazilian aircraft-maker, that sells and produces jets in China or Marcopolo, another Brazilian company which makes bus bodies and is planning to set up a factory in the Asian country.

Clearly, as for trade flows dynamics, capital flows between China and Latin America deserve more analyses and invite for further research, expanding the first paper here presented.

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[43] See UNCTAD, 2004.

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Appendix 1:

Trade competition between China and Latin America

Chinese commercial competition with Mexico
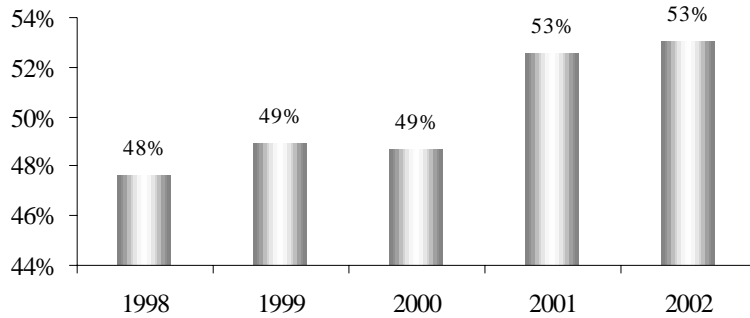
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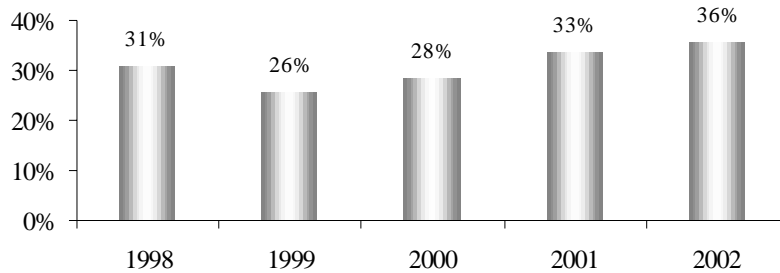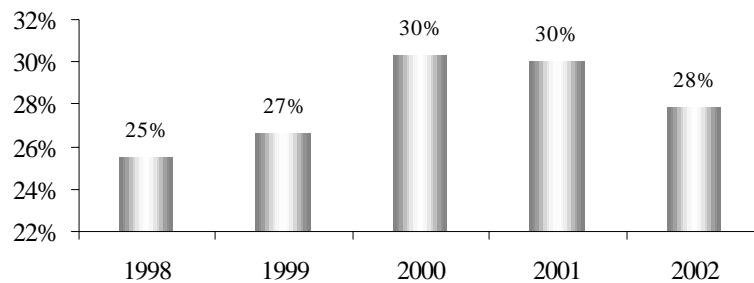
Chinese commercial competition with Brazil

Chinese commercial competition with El Salvador
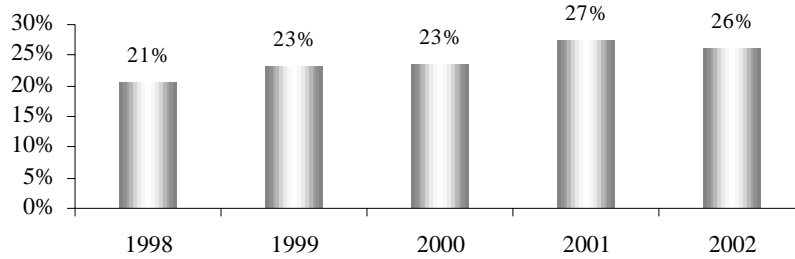
Source: based on Summer and Heston database

Chinese commercial competition with Colombia

Source: based on Summer and Heston database
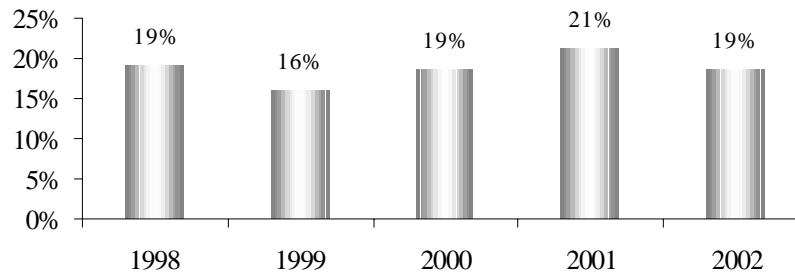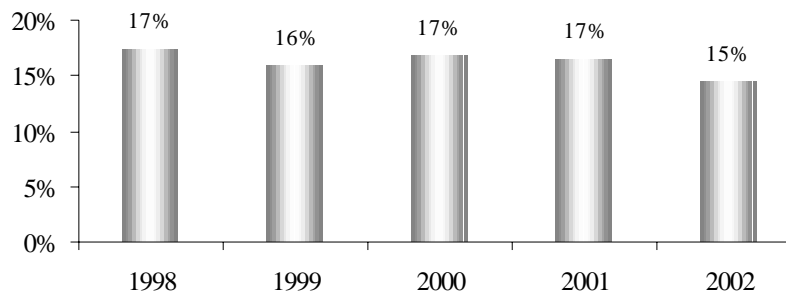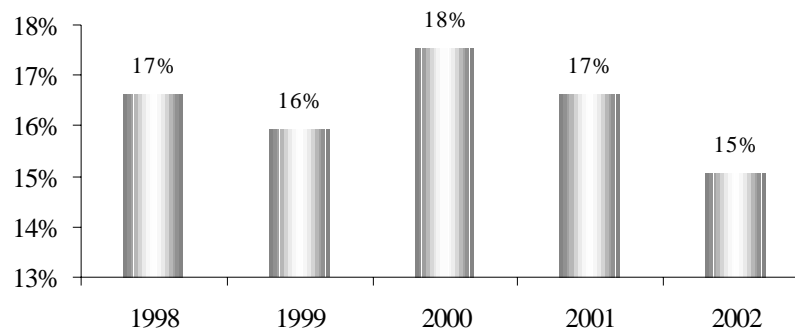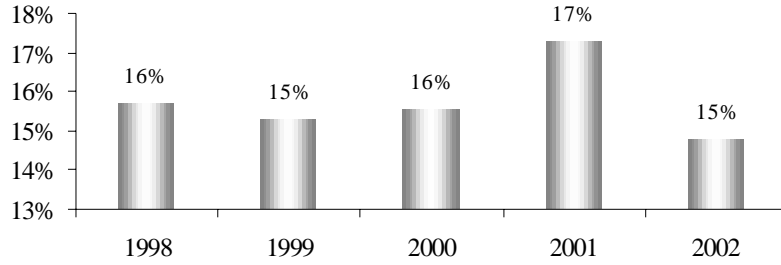
Chinese commercial competition with Peru

Source: based on Summer and Heston database
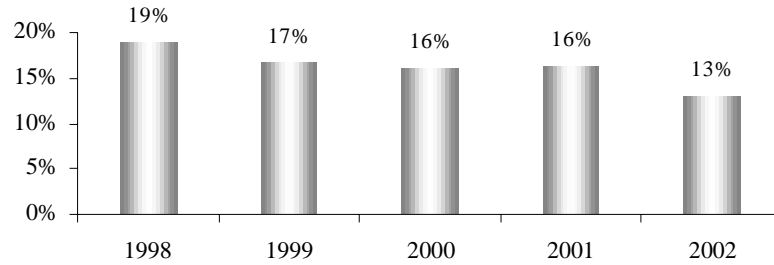
Chinese commercial competition with Argentina

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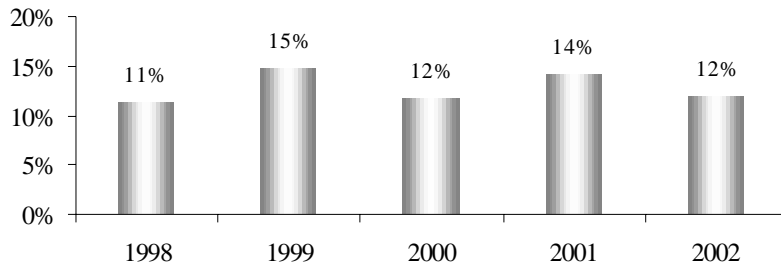
Chinese commercial competition with Guatemala

Source: based on Summer and Heston database

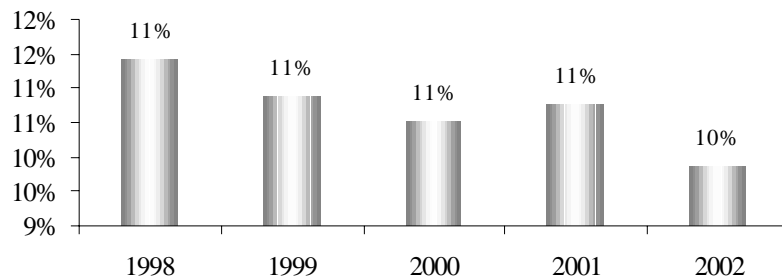## Chinese commercial competition with Uruguay

Source: based on Summer and Heston database

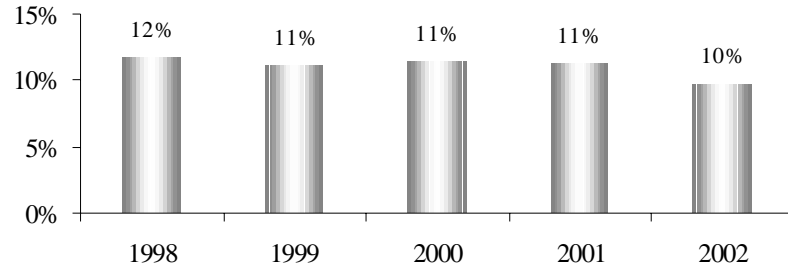## Chinese commercial competition with Honduras

Source: based on Summer and Heston database

Chinese commercial competition with Chile

Source: based on Summer and Heston database

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Chinese commercial competition with Panama

Source: based on Summer and Heston database

Chinese commercial competition with Bolivia

Source: based on Summer and Heston database
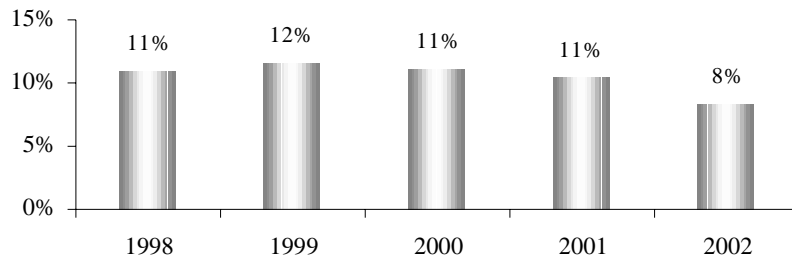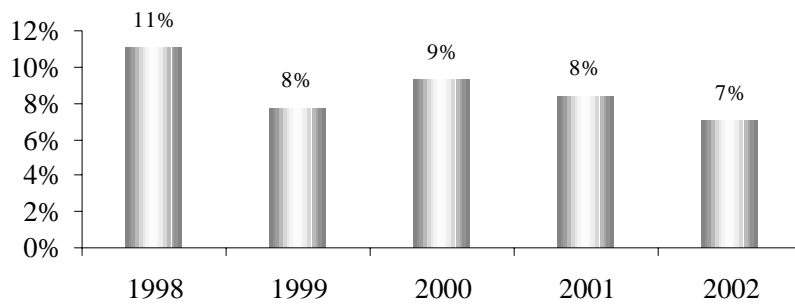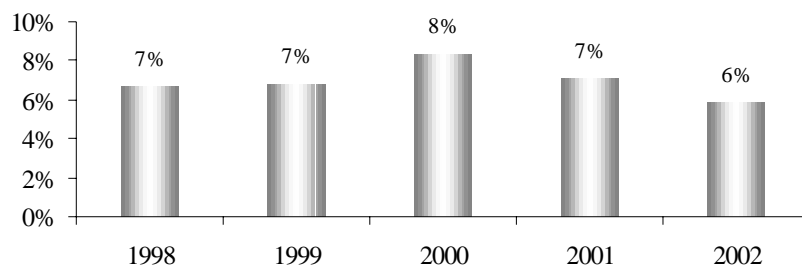
Chinese commercial competition with Venezuela

Source: based on Summer and Heston database

Chinese commercial competition with Paraguay

Source: based on Summer and Heston database

Appendix 2:

Country	Cargo Handling Restriction Index	Mandatory Services Index	Price Fixed Agreements Index	Cooperative Agreements Index	Median Clearance time (Days)	Port Efficiency Index (1-7)	Crime Index (1-7)	Container Handling Charges		
								World Bank	CMPCH Index	LSU Index
Singapore	1	0.38	0	0.33	2	6.76	6.72	117	NA	NA
Hong Kong	0	0.25	0	0	NA	6.38	5.46	NA	NA	NA
Taiwan	0.5	0	0	0	NA	5.18	4.49	140	163	NA
Japan	0.75	0.13	0.89	1	NA	5.16	5.16	250	202	NA
Malaysia	0	0.25	0	0.38	7	4.95	5.76	75	NA	NA
Spain	0	0.06	1	0	4	4.88	6.08	200	105	NA
Korea	0	0.38	0	0	NA	4.12	5.22	NA	NA	NA
Thailand	0.5	0.63	0	0.38	4	3.98	5.12	93	NA	NA
Argentina	0	0.13	0	1	7	3.81	4.52	NA	139	NA
Vietnam	0	0	0	0.5	NA	3.81	5.02	NA	NA	NA
Chile	0	0.25	0.43	1	3	3.76	6.05	202	100	NA
China	0.5	0	0	0	7	3.49	4.44	110	NA	NA
Indonesia	1	0.06	0	0.38	5	3.41	4.06	NA	NA	NA
Mexico	0.5	0.38	0	1	4	3.34	2.61	NA	NA	NA
Venezuela	0	0	1	1	11	3.28	3.63	NA	NA	NA
El Salvador	0	0	0	1	4	2.95	2.3	NA	NA	61
Brazil	0.5	0.75	0	1	10	2.92	4.45	328	292	NA
Peru	0.5	0	0.5	1	7	2.88	3.32	NA	142	NA
India	0	0	0	1	NA	2.79	4.28	NA	NA	NA
Philippines	0.5	0	0	0.38	7	2.79	3.51	118	NA	NA
Ecuador	0	0	0.43	1	15	2.63	3.65	NA	139	NA
Costa Rica	0	0	0	1	4	2.46	3.28	NA	NA	68
Colombia	0.5	0.13	0.5	1	7	2.26	1.88	NA	NA	NA
Bolivia	NA	NA	NA	NA	9.5	1.61	4.38	NA	NA	NA
Uruguay	0	0	0	1	5	NA	NA	NA	NA	NA

NA: Not Available

Source: Data for the first 4 columns was kindly provided by Carsten Fink, Aaditya Mattoo, and Ileana Cristina Neagu* (2002).

Source: Clark, Dollar and Micco (2004)